User manual for

winautomation

Version 8

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1. WinAutomation

1 WinAutomation

1.1 About Softomotive

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Softomotive offers sharp Robotic Process Automation solutions, as one of the leading worldwide providers of RPA products , trusted by more than 6.000 companies worldwide.

With 10+ years in the software automation market, Softomotive offers the most reliable and scalable RPA solutions, bridging the gap between state-of-the-art technology and unparalleled ease of use.

Our automation solutions are proven to deliver operational efficiency, reduce costs and empower brands.

- Feel free to contact us at: info@softomotive.com

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- For Support, if you are an active SAP User: Support@softomotive.com
- For Professional Services: professionalservices@softomotive.com

1.2 Software Requirements

Client Operating System: s Vista, Windows 7, Windows 8 or 8.1, Windows 10 (both 32 bit and 64 bit versions)

Server Operating System: Windows 2008 or Windows 2012 or Windows 2016

Internet Explorer version: 8.0 or higher

1.3 Editions

WinAutomation is available in three different editions:

Basic Edition:

Includes only the basic set of features, such as Triggers, Basic Actions, Daily Logging etc, expect from the further features provided in the Professional and Professional Plus editions only, which are listed below.

Professional Edition:

Includes all the features of the Basic Edition plus:

- The Process Compiler 148 which allows the user to compile any Process into a stand-alone .net exe file that can be distributed and run on other computers.

- The Autologin 126 feature that will unlock or login to the workstation before running a Process.

- The Secure Screen feature, which enhances Security for Processes that are scheduled to run unattended, in order to run without the user being able to see the screen. This option will turn the screen blue while the Process is running. The only visible window will be the Notification Window.

- Password Protected Processes, which allows the user to set a password for a Process and protect sensitive data. Once setting a password, the user will be able to run the Process normally, however for editing it they will be prompted to enter the password.

- Maximum Running Time for Process(s), which allows the user to set a maximum running time for a Process, to avoid situations where it is not executed as intended.

- Concurrency Policy and Queuing Processes, according to which the user can limit the number of Process instances running concurrently and he is given the option for queueing or discarding Processes once the set limit of instances is reached.

- Macro and Web Recorder for automatic task development.

- Custom Dialog box designer, for generating any kind of input interface the user needs.

- Error-Exception Handling in action, block of actions, process and global level.

- Find Process feature to search for Processes within the database.

- Advanced Excel actions for efficient Excel automation.

- A wide variety or Triggers that can fire a Process upon a specific event's occurrence.

- Schedules which fire Processes to run on a specific time intervals or periodically based on the user's specifications

- Step by step process logging.

- Include monitor Screenshots to the logs.

- Text-Functions-Variables Search and Go to line functionalities

- Vast variety of some more advanced actions.

winautomation **Professional Plus Edition**:

Includes all the features of the Professional Edition plus:

- Mozilla Firefox Support.

- Google Chrome Suport.

- Exchange Mail Server Support.

- OCR actions (supporting Microsoft MODI and Google Tesseract).

- PDF actions, along with new ones for Merging and Splitting PDF files.

- Outlook actions, for automating your Outlook account emails.

- Command Line sessions support for maintaining a cmd session to which the user can send command lines.

- Synchronization actions in order to orchestrate the Processes execution, in cases where more than one processes need to access a resource that can server one client at a time.

The differences between the three Editions can be found at:

http://www.winautomation.com/edition-comparison/

NOTE: Any process exported by an upper edition WinAutomation, cannot be imported to a lower edi

1.4 Release History

⊟ Version 8.0

General New Features

o "Set expiry date" in Schedule, now includes the time also.

o The option to provide the Autologin password via a Command Line

o “Automatic Logging” to log ALL actions and their execution timing in the Logs

o The ability to get a Screenshot of the monitor(s) and add it in the logs, upon an exception (Set from the Process Properties of from the Exception handling)

o Additional details of an error, available in the Process Designer and not only through the Console Logs

o Add a WinAutomation shortcut while installing for easy and quick access

o Web Automation enhancement with supporting IE, Mozilla Firefox and Google Chrome

Note: The term "Robot" which was used for the automated tasks/processes has been replaced by "Process"

Process Designer

o "Find Usages" for Functions, displaying a list of where each Function is being used for ease of troubleshooting

o "Sort Images" in the Images Repository by Name or Date for ease of access

o "Go to Line" Functionality in the Process Designer to enable better troubleshooting in large processes

o "Text Search" within the Process Designer to search for any text present in the actions, comments or regions

o Image magnifier tool is now showing in all Image related actions, for more accuracy in Image capturing

o Mass Function delete. The option to select more than one Functions and delete them all

New Actions:

o Mozilla Firefox and Google Chrome support for better Web-Automation

o "Run Excel Macro" New Action in order ton Run an Excel Macro by its name

o "Execute JavaScript on Web Browser" New Action in order to run JavaScripts on a webpage

o "Save Excel" New Action, that will help in saving an Excel file without having to close it

o "Extract PDF Pages to New PDF" New Action, for splitting a PDF file into smaller parts

o Time Zone added to "Get Current Date and Time" Action

o Support for OCR with two engines: MODI and Tesseract

o New conditional actions for decision making "Switch-Case"

o Supporting Microsoft Exchange with new Email actions

Improvements & Fixes:

o “Wait for Hotkey” action was not throwing an exception if it failed to bind the key in runtime

o Problem with renaming a Process while using special characters

o “Event Log Trigger” issue for event id “4625” which was not triggering correctly

o “Get Files in Folder” action when including Sub-Folders throwing an error

o Console to remember the size/position/column width and save it correctly when the relevant option is checked in the “Options > General”

o "Invoke Web Service” action does not return Response and Headers in case of Error code.

o Action “Read Text from File” was stuck due to special character

o Action “Paste Cells to Excel Worksheet” was throwing an error message

o In the Controls’ repository, the Desktop Icons items were not shown correctly

o Folders Control was not appearing when restoring the layout.

o Logs not showing the folders upon installing a new version

o “Get Files in Folder” and “Get Subfolders in Folder” were not erroneous in cases where the root directory itself was denied

o “Stop Process” action is now stopping the Process even in an exception handle block

o The ability to delete a folder that contains more than 2000 Process

o “If Process is late” in a schedule’s option was not working in some cases

o “Close Excel” action. There were cases where the excel process was still present even after the file was closed

o The Hotkey for Stopping All Processes was failing to register correctly

o “Read From Excel” action was throwing an error when reading only one cell’s value using a restricted cell range targeting only that one cell

- Values of variables defined in the Variables Manager, were not show correctly before running the Process

- Variables that were set in exception handling were not having their types recognized correctly

- When using the option “Default Layout” the “Main” Function was not being docked.

- Exception that was happening when adding control in action Expand/Collapse Tree Node other than a Tree node control

- When copying action “Drag and Drop Element in Window”, controls were not being copied along

- Reopening a Process with a variables search filter was only showing the filter's variables

- If a process name contained any of Windows Invalid file name characters the Process was not starting

- Improve the way temp files are used from WA when it needed

- Obfuscation in generated executables for data encryption

- “Run Process” action, to indicate and find the child Process by its path, then by its guid and then by the same folder

- Adding a scroll bar in the “Find Usages” results for better navigation.

- Renaming a Processes Folder, the arrow keys to navigate to a certain letter in the title had no effect.

- Improved the Options Tab in the WinAutomation Console for better User Experience.

⊟ Version 7.0

General New Features

- Find Process: A new option in the console, with which you are now able to search for your Processes.

o WinAutomation Controller: New option using the controller to export information about a specific process or the full database in XML.

Process Designer

o Images Repository: Introducing the images repository. Similar to the control repository, now all the images are being stored in the images repository.

o Remove Unused Controls: New option, to remove unused controls from the control repository. This option, is offered in the images repository as well.

o Reorder Selectors: Now, you have the ability to reorder the selectors in the control repository.

o Find Usages: New feature with which actions are using a particular control.

o Exception Handling: New exception handling rules such as "Set Variable" and option to set rules for "All Exceptions"

o Copying actions with their associated controls: Copying an action from one process to another, copies the associated controls as well.

New Actions:

o Exception Block Actions: Introducing the Exception Block actions, with which you can set an exception handling rule for all the actions located within the block.

o Set & Get Screen Resolution Actions: New actions, with which you have the ability to get the resolution of your screen or set another resolution to your screen.

o Open - Close SQL Connection Actions: New actions, with which you can open and close an SQL connection

o CMD Session Actions: Introducing the CMD session group of actions to execute commands and get responses.

o Additional Excel actions: Introducing a group of new Excel actions such as options to Insert or Delete columns on a spreadsheet.

o Outlook Actions: Introducing Outlook actions with which you can interact with MS Outlook.

o Synchronization Actions: Introducing Synchronization actions and Lock Handles with which you can avoid one process affecting another while execution.

o PDF Actions: Introducing this new group of actions with which you can extract text and images from PDF files.

Version 7.0.2

Improvements and Corrections:

o WinAutomation Console is now remembering the layout changes.

o Handling temp files in a much more efficient way, creating a WinAutomation subfolder in the Temp.

o Autologin improvement, as now the password is being checked for being valid or not before proceeding to the autologin.

o Issue with gear icon window visibility, in the properties of an action, when panes are undocked is now resolved.

o Invoke Web Service action works now as expected in case of Error Code.

o Action "If Image" while checking the option to "Find All Images in List", was taking under consideration only the second image.

o Correction in the "Retrieve Email Messages From Outlook" action when the sender is a user of the same domain.

o Images captured from WinAutomation version 6 or earlier can now be opened.

o The error message thrown in action "Process Emails", while trying to move mails to a folder that does not exist, is now refined.

o Run Dos Command" action is not hanging anymore on specific commands.

o Action "Read Text from File" correctly handling special characters without breaking the process.

o Invalid Windows file name characters, are no longer acceptable in process names.

o When copying "Drag and Drop Element in Window" action, controls were not copied along

⊟ Version7.0.1

Improvements:

o Default value in "Wait for Image" action, "Wait for Image to" action's input is now "Appear".

o Special characters in a process's title are not allowed,when creating one.

o Outlook accounts are now being read by name, case insensitive.

Corrections

o Certain Processes' properties in General, Run&Concurrency Policy were not being saved correctly.

o "Find Usages" option in variables, was generating an error when double clicked, after deleting a variable or its associated actions.

o Error in Logs, appearing when terminating a process from the Task Manager is now fixed

o "Display Notification popup Window" option now preserves the users setting (checked-unchecked) after restarting the machine.

o Closing all functions in a Process Designer, was not allowing the opening of other functions.

o Action "Stop Process" with error message was not working correctly.

o Action "Get First Free Row on Column from Excel Worksheet" was not working correctly.

o In action "Set DropDown List Value on Web Page", in Advanced tab, field "If a Pop-Up Dialog Appears", when choosing option "Press a Button" the value set in the menu that was not being saved.

o The Tab button was not working correctly in some actions' properties window.

o When selecting the "Default Layout" option in the Process Designer, functions should revert to their tab based view (or close).

o "Get Details of Window" action, when getting a Window's title was not returning any value

Version 6.0

General New Features

New modern interface: New design Interface for the Console and the Process Designer with new icons. The Process Designer has now configurable panes for Variables, Errors, Control Repository, Functions and Actions. You can customize the layout as you wish by hiding or making visible different panes. Also the Console is changed and equipped with a ribbon bar containing tabs for Processes, Triggers, Scheduler, Logs and Options.

Autologin **(Pro Edition Only)**: A Process can unlock/login to a workstation upon its running time when initiated by a trigger of a scheduler. This is a very helpful feature especially when interactive Processes should have a user logged in, while running unattended.

Status Monitor: A new Status Monitor Window is introduced which lists all the running Processes and the Processes that are put in the queue, waiting to start. Even more information, than just the running Processes' name is provided, like the Instance id, the Start time and the Cause of execution (manual or triggered). An option to stop all running Processes is also available.

Improved Performance-UIAutomation v3.0:Using the new UIAutomation v3.0 makes the UI/Windows more efficient and improves the overall performance making the actions more powerful, while more elements in desktop applications are now visible and accessible with WinAutomation.

Secure Screen **(Pro Edition Only)**: Enhanced Security for Processes that are scheduled to run unattended in order to run without the user being able to see the screen. This option will turn the screen blue while the Process is running. The only visible window will be the Notification Window.

Password Protected Processes **(Pro Edition Only)**: Option to set a password for a Process and protect your sensitive data. Once setting a password, the user will be able to run the Process normally, however for editing it they will be prompted to enter the password.

Maximum Running Time **(Pro Edition Only)**: Setting a maximum running time for a Process to avoid situations where it is not executed as intended.

Concurrency Policy and Queueing **(Pro Edition Only)**: You now have the ability to limit the number of Process instances than can run concurrently. Also, there is a new option for queueing or discarding Processes once the set limit of instances is reached.

Triggers can be enabled/disabled independently: For Processes with more than one triggers attached, there is now the option to enable/disable a specific trigger, instead of removing it.

View logs for specific Processes: Improved Logs viewer that can display logs for more than one Processes.

Machine does not enter in idle state when a Process is running: A running Process is considered a user activity postponing the screen saver timeout or AutoLogout.

Improved command-line control: WinAutomationController for ListRunning returns more information; when running multiple instances or a Process ALL the instances will be listed.

Process Designer

Search for actions: Enhanced "Search for Actions" in the Actions pane of the Process Designer where the user can search by keyword, action name or action initials.

Variables pane: A dedicated pane for the Processes Variables where you can view the variables' values, search, pin, sort or rearrange the variables.

Pause Process: A new option in the Process Designer to pause the execution of the Process while running. Very useful especially when one wants to review some variables' values at the pause point.
Variables Viewer: By double clicking on a variable in the Variables pane while the Process is being executed step by step, or stopped at a breakpoint or paused, the user has the option to view the details of a variable in the variable window and also edit its value. The variable viewer window will depend on the variable's data type.

Rename Variables: An helpful new option to massively rename variables, either within a specific function or in the whole Process. For very big Processes with many functions renaming a variable used to be a difficult and time consuming task. Not anymore.

Variables Live Editor: New option to change a variable's value dynamically while the Processes is being executed from the Process Designer, after pausing it or executing it step by step.

Control Repository: A repository that will hold all the controls (Windows, Browsers, Buttons, Elements, etc...) that the Process will access through its different actions. The user also has the ability to modify any control, its selectors by using variables, its name, remove existing, add new and keep them all neat.

UI Spy: Ability to preview the UI or Web Control's tree and attributes in the WinAutomation UISpy window while accessing it and before adding it to your Control

Repository. This gives an overview of the control’s information, as well its location within the application (web or desktop).

Resizable action properties: "Write text to file", "Execute SQL statement", "Run JavaScript", "Run VBScript", "Run PowerShell Script", "Send Email", "Write XML to File" Actions Properties window are now resizable for readability purposes.

Actions advanced editor: "Execute SQL statement", "Run JavaScript", "Run VBScript", "Run PowerShell Script" Actions now include advanced Text editor which enables syntax highlighting.

Actions:

XML Actions: Introducing the XML group of actions to manipulate XML files, apply XPath queries on them, retrieve or set attributes or elements values.

Environment Variables Actions: Introducing OS Environment variables actions that can set, get or delete an Environment variable. They can be used to store or retrieve global data, reachable from multiple Processes simultaneously.

"Read from CSV File" and "Export to CSV File" Actions: The new "Read CSV File" and "Export to CSV File" action allow direct read from a csv file storing data into a data table type variable and direct export a table variable to a CSV file.

"Attach to running Excel" Action: New action for automating an already opened Excel spreadsheet, without having to launch it through the Process. A Process attach to an open Excel document by its name or full path, store its instance into a variable and apply further Excel actions on to it.

"Escape Text for Regular Expression" Action: This action will escape a minimal set of characters by replacing them with their escape codes of an existing test.

"Merge Lists" Action: A new action that will merge two lists into one, appending the items of the second list after the first one. The two the initial will remain unmodified.

"Hover Mouse over Element on Web Page" Action: There are cases in web pages where elements/menus appear, or buttons get enabled, only after the mouse is over them. This new action will cope with situations as such.

"Run PowerShell Script" Action: This action allows for PowerShell scripts to run directly through the Process and store their output to a variable for further use.

Move mouse to image: When sending the mouse to an image, there is an option for the Process to wait before sending the mouse click.

Version 6.0.5

Improved: Reduced the time of execution of the "Zip Files" action.

Improved: Improved the "Email" group of actions.

Corrected: After upgrading to the latest Windows 10 Creators Update, not being able to capture UI Controls is now fixed.

Corrected: "Get Processes Path" action returned a different text value when running from the console from when running through the Process's Designer is now fixed.

Corrected: "Unzip action" is able to unzip empty folders.

Corrected: "Invoke Web Service" action does not fail when the Expect: 100-continue is set as a header.

Version 6.0.4

Improved: Adding a control with the same name in a control repository add the suffix (2), (3) and so on

Improved: Better screenshots are now taken for the controls in the control repository

Improved: Autologin for Professional Edition supports usernames and passwords containing spaces.

Corrected: Processes not being able to run due to error message with multiple conditionals not being ended correctly (if-else-end if) is now fixed.

Corrected: If more than one label had the same name case sensitive e.g 'Foo' and 'foo' an internal exception was occurring.

Corrected: While on the Schedule Properties window, after clicking on the "Add Date" option, clicking OK while leaving the date field empty was generating an “Oops” exception.

Corrected: “Run PowerShell” action was hanging after its completion on certain machines, not moving forward to the next action.

Version 6.0.3

Improved: "If Window" action when the window is set to "is open". If Window is not found the correct value is returned.

Corrected: Fixed password encryption Process issue

Corrected: "Connecting to Server..." state upon installation fixed. The connection to the Server is totally restored upon installation.

Corrected: "Schedule Type: Monthly" option "Last day of Month" or "Last Working Day of Month" selected, was showing nothing in the "Next Scheduled Run" field.

Corrected: In the time stored in the scheduler, the 12hour format was always used regardless of the user's date pre-set format.

⊟ Version 6.0.2

Improved: Process Error Messages: The name of the action is now mentioned in the error message displayed in the notifier and also in the log-entry

Improved: WinAutomation Processes when they run through the MachineAgent, are now getting launched using the credentials of the user that owns the Process

Improved: UserAgent, MachineAgent, Console: Fixed a long-standing issue which was causing memory consumption of these processes to increase considerably every time a Process with Web or UI Automation Actions would run

Improved: Processes crashing, are no longer crashing the whole WinAutomation Console

Improved: The Properties Dialogs of the UI Automation Actions, is no longer becoming too large when the title of the targeted Window is too lengthy

Corrected: UI Selectors: contains word "~=" match method was not working if the word is at the beginning or the end of value

Corrected: Process Error Handling Settings: If a Process gets auto-terminated due to having reached the MaxRunningTime threshold (specified in its Process-Properties), the error-handling settings (either global or process-specific) were not activated

Corrected: UI Elements in the QuickLaunchBar of the Windows Taskbar should now appear as such

Corrected: Boolean expressions such as %NewVar > 10% are now evaluating to BooleanVariants as intended again

⊟ Version 6.0.1

Improved: XML Variant Visualizer: Make the visualizer resizable

Improved: Data Table Variant Visualizer is now resizable

Improved: TextVariant Visualizer is now Resizable

Improved: Data Table/Row Visualizers: Columns are now resizable and also appear with best-fit pre-applied right when the visualizer is first-shown each time

Improved: Console Options Page: Check for the authentication password supplied by the user and if it is not valid then display a warning icon

Improved: When using the "Error Handling" option to send an email in case the Processes fails the body now also contains the error info

Improved: Invoke Web Service: Use advanced editor for the multiline-textboxes

Improved: When adding a control to Control Repository make UISpy an optional step

Improved: Improve Autogenerated Selectors while using "Add Control" to the repository

Corrected: Add "contains" operator in Visual Selector Builder

Improved: SecureScreen: added support for multiple screens

Improved: WinAutomation Server Module: Startup time optimized.

Improved: Eliminate unnecessary attributes being retrieved in UISpy

Corrected: Options-Page v6 Autostart Setting: Even if the corresponding checkbox was unchecked the User-Agent still auto-started on user-login

Corrected: UISpy: when trying to select a menu item the menu closed when ctrl was pressed.

Corrected: In "Wait for Window Content" action when the value in the "Fail on timeout" field is too large an unhandled exception was risen

Corrected: Data Row/Table Variants Visualizers: Unhandled Exception error fixed.

Corrected: WinAutomationController: Command Line Arguments were not getting passed on to Processes as they ought to

Corrected: In "Start Process" Action if "Wait Process to Complete" is set the caller Process would not wait more than 3 minutes

Corrected: Read From Excel Action: When the action is set to use the first row for setting column names, then the resulting column names were not named as intended if 3 or more column-names have the same name

Corrected: "Get Environment Variable": failed to retrieve some of the environment variables

Corrected: "Input Dialog Message" field in "Display Input Dialog" action was not stored correctly

⊟ Version 5.0

Major New Features

Functions: a Process can be now broken down into smaller parts (or functions) that can be called by any other part of the Process. This leads to a more modular design where different segments of a Process can be used over and over from different points. It is also possible to jump to a function for handling an exception.

UI Automation: WinAutomation is now capable of distinguishing among the different controls within a window. A large set of actions has been added under the "UI/Windows" category for directly manipulating Windows Applications and their controls, as well as extracting data from them.

Macro Recorder: The Macro Recorder leverages the "UI Automation" technology described above and now has a "Smart Recording" mode enabled by default. In this mode the recorder records the interactions of the user with the various controls of an application instead of just recording mouse coordinates. Of course, the simpler mode of recording coordinates is still available for use when appropriate.

Live Helpers: In all Web Automation actions the user can now select a web page element by clicking on any open Internet Explorer window. Respectively, for UI Automation actions the user can specify a Windows control by clicking on the target application.

Custom GUI: The new "Display Custom Dialog" action includes a Form Designer tool that allows the user to design and present custom dialogs with all kinds of controls in them.

New Actions:

"Use Desktop" action to perform taskbar related operations

"Get Window" action to retrieve a specific window or the foreground window (also replaces the "Get Foreground Window" action)

“Select Tab in Window” action to activate a tab in a tab group

“Click Element in Window” action to click on a specific control in a window

“Select Menu Option in Window” action to select a menu item in a window’s menu bar

“Drag and Drop Element in Window” action to perform a drag and drop operation within a window or from one window to another

“Expand/Collapse Tree Node in Window” action to expand/collapse nodes in a tree control.

“Focus Text Field in Window” action to move the input focus to a specific textbox

“Populate Text Field in Window” action to set the text of a specific textbox in a window

“Press Button in Window” action to click on a button control in a window

“Select Radio Button in Window” action to select a radio button in a button group

“Set Checkbox State in Window” action to check or uncheck a checkbox in a window

“Set DropDown List Value in Window” action to select a value in a dropdown list (aka combobox)

“Get Details of Window” action to get the value of properties of a specific window (or its text)

“Get Details of Element in Window” action to get the properties of a specific control in a window

“Get Selected Checkboxes in Window” action to retrieve the state of a checkbox or the names of the selected checkboxes in a group

“Get Selected Radiobutton in Window” action to retrieve the state of a radiobutton or the name of the selected radiobutton in a group

“Extract Data from Window” action to retrieve the text of a window or a specific control in the form of a single value, a list or a table

“Run Javascript” action to execute some custom Javascript code and retrieve its output into a variable.

“Get Default Printer Name” action to get the name of the printer that is currently set as default

“Show Desktop” action to minimize all windows

“Display Custom Dialog” action to design a custom dialog for requesting or presenting data to the end user

Improved Actions:

In “Wait for Hotkey” action a new option allows for setting a maximum time to wait for

In “Read Text from File” action it is now possible to specify the encoding of the file to be read

In “Write Text to File” action two new encodings (Unicode without BOM and UTF-8 without BOM) have been added

In “Send Keys” action the Period and the Comma have been added in the Special Keys menu

In “Send Email” action variables are now accepted for SMTP Server properties

In “Replace Text” action an option is added to enable the interpretation of escape sequences like '\t', '\xA0', '\u' as actual characters

In “Add to DateTime” action it is now possible to add/subtract months or years to/from a date time value

Plus numerous performance improvements, various bug fixes (mostly obscure ones) and minor improvements.

⊟ Version 5.0.4

Improved: "Use Desktop" action: A new option has been added in the advanced settings of the action so that users can specify if left-clicking on an app's icon on the taskbar should cause a new instance of the application to be launched.

Improved: "Extract Data From Web Page" action & "Get Details of Element on Web Page" action: The text-extraction mechanism has been fortified to handle certain corner-case scenarios more elegantly, which should result in more accurate text being produced.

Improved: Web Automation actions: Users now have the ability to suppress a broader range of errors that might occur while these actions are being executed. More specifically javascript errors should no longer cause the actions to terminate the Process if/when the user has put exception-suppression in place, say, in actions like Extract Data From Web Page.

Improved: Custom Dialog: The help-entry for the action has been enriched to mention which flags are supported by the datepicker control.

Corrected: "Retrieve Emails" action: The internal email-handling mechanism has been improved to detect the main-content of an email. This should address an issue in certain kinds of emails where the .BodyText property of the EmailInstanceVariant was not reporting the text of the main-content of the underlying emails correctly.

Corrected: "Retrieve Emails", "Download From Web", "Take Screenshot of Web Page": These actions should now be able to handle saving to files using filenames more than 230 characters long. Such filenames get automatically clipped to 230 characters so as to work along the limitations imposed by the underlying filesystem.

Corrected: Console: Exporting a Process with a name longer than 230 characters should now be working as intended. The name of the resulting .waj file is set to the first 230 characters of the Process being exported.

Corrected: Console: Moving a folder into another folder which contains a sub-folder with the same name as the one being moved should now be working as intended.

Corrected: "Wait for Window" action: Fixed an issue which was causing the action to fail with an error message when set to wait for an excel application to reach a certain window-state.

Corrected: "Press Button in Window" action: The exception-handling for this action should now be working as intended when the button is not found when the action gets executed.

Corrected: All Window-Manipulation actions: Fixed an issue which was causing these actions to hang indefinitely -especially under Windows10- regardless of which window they were instructed to target.

Corrected: "Get Window" action: Fixed a bug which was causing the wrong window to be picked in certain corner cases.

Corrected: "Get Window" action: Fixed a bug which was causing the action to fail in finding the window of the 'Edge' browser under Windows10.

Corrected: "Use Desktop" action: The helper of the action should now be able to select the start button in the taskbar of Windows10.

Corrected: Web Automation Helpers & Web Recorder: Fixed an issue affecting certain websites, which was preventing the options-menu to pop-up when the 'appskey' would be pressed on the keyboard.

Corrected: Web Automation Helpers & Web Recorder: Fixed a bug which was causing these components to get clogged when attempting to select specific elements in the product-results of Ebay.

Corrected: Web Automation Helpers & Web Recorder: Fixed an issue which was causing highlighters to disappear permanently unless the webpage was scrolled up or down.

Corrected: "Extract Data From Web Page" action: Fixed a bug which was preventing the action from successfully navigating from one page of results to the next when the next-page element would be based on <img>.

Corrected: "Extract Data From Web Page" action & "Get Details of Element on Web Page" action: The text-extraction mechanism has been fortified to handle certain corner-case scenarios more elegantly, which should result in more accurate text being produced.

Corrected: Web Automation actions: Manually setting the selector of any web automation action to a custom selector which contains nested selectors ala div:has(> a:contains('foo'), > a:contains('bar')) should no longer be causing the action to error out when executed.

Corrected: "Rename File" action: Fixed a bug by which, when the action was set to overwrite-mode, the original file was getting deleted if/when the eventual filename specified was the same as the original file name, only different casing-wise. (The action used to simply throw a cryptic error.)

⊟ Version 5.0.3

Improved: “Web Automation” actions: RunScript exceptions can now be handled through the exception handling mechanism.

Improved: Numeric Variants: Numbers are now always getting parsed using US formatting conventions, that is comma ',' for separating thousands and the dot '.' for separating the decimal component (old behaviour was to use the regional settings of the host machine).

Improved: “Populate Text Field on Web Page” action: Optimized to be faster when the 'emulate typing' option is checked.

Improved: “Open Secure FTP Connection” action: Upon setting 'SFTP' as the type of the connection, the 'Active Mode' checkbox should now be getting hidden as intended, since it's not applicable to 'SFTP'.

Corrected: “Read from Excel” action: The action should no longer throw an exception when attempting to read the value of a cell containing a number written in scientific notation like 602E23.

Corrected: “Open FTP Connection” action: Now has 'Passive' as its default mode (used to be 'Active').

Corrected: “Custom Dialog” action: Fixed an issue which was causing the delete key to not be handled properly by 'Multiline Textbox' controls.

Corrected: “Run VBScript” action: Printing non-ASCII characters -such as the pound sign (£)- to standard output/error streams should no longer cause the output variants of the action to contain garbled text.

Corrected: “Invoke FTP Command” action: Should no longer be failing when/if the “acceptable return codes” list is left empty.

Corrected: “Move Mouse” action: Should now be working as intended when set to move the mouse instantly in relation to the active window.

Corrected: Compiled .exe Processes: Custom dialog was falsely not present on the taskbar after getting minimized for the first time. It should now be visible as intended.

Corrected: Fixed an issue affecting certain websites, which was causing the Web Automation actions and the Web Helpers to not work as intended.

Version 5.0.2

Improved: Macro Recorder. Filling forms by typing into textboxes and pressing tab in between is now resulting in alternating distinct Populate Text Field / Send Key {Tab} activities

Improved: The “Populate Text Field in Web Page” action now can optionally de-focus the populated element as in some web pages this is required for the new element value to be accepted

Improved: UI selectors, introduce the :disabled, :visible and :enabled Selectors and also the :password selector which will target elements with the password attribute set

Improved: The CSS Theming textbox in Display Custom Dialog Action Properties UI, now accepts Tab and Enter keystrokes

Improved: Macro Recorder’s better handling of Arrow Up/Down keystrokes when sent to spinner controls

Improved: “Extract Data from Window” action. When getting the file names from a File Explorer window, file titles are now extracted correctly

Improved: Caching mechanism implemented in Macro Recorder and UI Automation Helpers so that subsequent clicks to the same elements are sped up

Improved: In UI Automation the :is pseudo-selector is introduced ad works like it's counterpart :not selector

Improved: Macro Recorder. The “Get Window” activities that get deleted by hand do also take down with them those “Send Keys” actions that target the affected window

Improved: Better logging support for File Monitor Trigger

Improved: The “Create New Folder” action allows the creation of a folder given its full path/name instead of entering the parent folder and the new folder name

Improved: “Get Details of Element on Web Page”, “Extract Data from Web Page” the text extraction mechanism now removes invisible zero width characters (e.g. control characters) from the extracted text

Improved: Better generated description for “Press button in Window” action

Improved: “Click Element in Window Action”, “Get details of element in Window” actions. When the element of a File Explorer window is out view, the action scrolls the view to scan the data-grid and find the element.

Improved: Macro Recorder is now creating more efficient UI selectors for element of the File Explorer window

Improved: Macro Recorder now records the entire trajectory of the mouse when in coordinates mode and one of the mouse buttons is pressed.

Corrected: Installation errors on Windows Servers & XP fixed

Corrected: “Invoke FTP” action, correction in the second-line description

Corrected: Visibility and positioning issues resolved for web content when displayed in Web Helpers

Corrected: Mathematic calculations within expression that provided false results, due to regional settings, have now been corrected

Corrected: “Wait for hotkey” action timeout would sometime result in a runtime error

Corrected: Custom dialog, now takes into account the enter/escape buttons

Corrected: Better second-line description for the “Create Folder” action

Corrected: The “:eq()” Operator now selects the correct window, when two or more windows are of the same class/title

Corrected: Consistency of “Close Internet Explorer” action. There were incidents where the targeted browser stayed open despite this action

Corrected: UI Automation. Better detection of scroll up/down buttons of the Windows 7 File Explorer window

Corrected: “Go To Web Page” and “Click Link on Web Page” actions, now have better mechanism for detecting whether a web page has fully loaded or not.

Corrected: Move mouse animation relative to the foreground window, honors the actual delays of the animation.

Corrected: Macro Recorder now resumes recording activities, after the user attempts to close the dialog, but presses Cancel in the confirmation dialog that pops up

Corrected: UI/Automation. Better handling of spinner controls

Corrected: Web Automation, unhandled exceptions have been addressed on certain web pages and web page elements.

Corrected: Macro Recorder, switch keyboard layout activity is now captured correctly

Corrected: Custom Dialog. When set to be initially maximized the Custom Dialog scrollbar is more accurate to the window limits.

Corrected: Web Automation, better waiting mechanism to wait for all frames of a web page to be loaded completely

Corrected: Macro Recorder now captures accurately CTRL+Letter key combinations

Corrected: Better generated error messages in Custom dialog

Corrected: WinAutomation can now convert text representing numbers written in exotic formats (such as Scientific Notation) to the proper Numeric Variants

Corrected: Output of “Subtract Lists” action. The result list is of the same type, as the original ones

Corrected: Custom Dialog Designer. Pasting text into a control now works correctly for every type of control.

Corrected: Custom Dialog size from compiled exe is shown as specified

Corrected: Macro Recorder is now generating the correct action when accessing windows preview in the task bar.

Corrected: Select Menu option is now generated when clicking on the menu options of the System Tray Icons

⊟ Version 5.0.1

Improved: in "Display Custom Dialog" action an option has been added for a password text control to be required, i.e. to be mandatory for the user to enter e value.

Improved: The Macro Recorder now generated better and more reliable selectors for UI Elements.

Improved: The exit codes of the WinAutomationController have been rearranged to report all possible exceptions.

Improved: A hotkey for resuming the execution of a Process stopped by a breakpoint has been introduced.

Improved: The Macro Recorder now operates as an independent process resulting in a more stable application execution.

Corrected: The File Monitor Trigger permanently stopped watching a remote folder if the connection to the folder was temporary unavailable.

Corrected: In Web Automation, some web pages failed to be automated in v5 although they worked fine in previous versions.

Corrected: The "Click Link on Web Page" action failed for some links that contained Javascript

⊟ Version 4.0

New Actions:

o "Log Message" action to log a custom message into the WinAutomation Event Log.

- "Wait for HotKey" action to pause the Process execution until the user presses a specified hotkey.

- "Run VBScript" action to execute some custom VBScript code and retrieve its output into a variable.

- "Retrieve Emails" action that retrieves emails and attachments from an IMAP server based on specified criteria

- "Process Emails" action that moves emails into a mailbox folder, deletes them from the server or marks them as unread.

- "Clear List" action removes all the items of a list.

- "Reverse List" action that reverses the order of the items of a list.

- "Truncate Number" action that truncates a number or rounds it up to the closest integer value.

- "Invoke Web Service" action that sends an HTTP request and retrieves its response allowing the user to specify all the low-level details, such as custom headers of the request body.

- "Else If" action to allow more complex conditional structures

- "Launch New Internet Explorer" action to open a browser for Web Automation or attach to an already running browser window.

- "Go to Web Page" action, to navigate the browser to a web page, refresh it and move back or forward.

- "Click Link on Web Page" action to send a mouse click on a link or to any other web page element.

- "Click Download Link on Web Page" action to click on a link that results in a file download.

- "Close Internet Explorer" action to close an IE window opened by the "Launch New Internet Explorer" action for Web Automation.

- "Focus Text Field on Web Page" action to move the input focus to a text box of a Web Page.

- "Populate Text Field on Web Page" action to type a value into a web form field.

o "Set Checkbox State on Web Page" action to check or uncheck a checkbox in a web form.

o "Select Radio Button on Web Page" action to select a radio button in a web form.

o "Set Dropdown List Value on Web Page" action to select one or more options for a dropdown list in a web form.

o "Press Button on Web Page" action to press a button and submit a web form.

o "Extract Data from Web Page" action to retrieve different chunks of data from a web page in the form of single values, lists or tables.

o "Get Details of Web Page" action to retrieve info related to the web page such as its title, its metadata, etc.

o "Get Details of Element on Web Page" action to retrieve an attribute value for a specific HTML element of the page.

o "Take Screenshot of Web Page" action to capture the image of an entire web page or of a specific web page element.

o "If Web Page Contains" action to check whether some text or element exist in a web page or not.

o "Wait for Web Page Content" action to pause the execution of a Process until a specific text or element appears or disappears on the Web Page.

Updated Actions:

o In "Write Text to File" action the user now has the choice whether a newline will be appended or not after the text.

o In "Run Application" the action can be set to wait up to one hour for the application to load or complete.

o In "Download from Web" action a timeout property has been added.

o The "Open Secure FTP Connection" action now supports authentication using a private key, or a private key plus a passphrase.

o In "Display Select from List" dialog, when multiple selection is allowed, the user can set some options of the list to appear preselected.

o In "Move Mouse" and "Move Mouse to Image" actions there is an additional option to specify whether the mouse should jump or move smoothly to the new position.

o In the "If" action the "Is Not Empty" operator has been added.

o In the "If" action the "Is Empty" and "Is Not Empty" operators have now a different meaning if the operand is a list (contains/does not contain any items), a datatable (contains/does not contain any rows), a folder (contains/does not contain any files) or a file (whether it is an empty file or not).

o Window-related actions now handle correctly window titles than contain non-English characters.

o The "Comment" action now supports different background colors and cannot be disabled.

o In "If Image", "Wait for Image" and "Move mouse to image" actions property dialogs the captured images are displayed over a colored background for their boundaries to become visible.

o The "Download From Web" action is moved under the category "Web Automation/Direct Access".

o In the "Run Process" action if no action to run is specified, an error is displayed in the editor, instead of when the Process runs.

Process Designer:

o Web Recorder, to record the user's activity on the web and convert it into actions for replaying them later.

o Collapsible Regions added for visually separating groups of actions.

o Keyboard interface added in Process Designer. The user can now move though the actions and select them using the keyboard.

o Disabled actions display their icon grayed out.

o While the Process is running from within the Process Designer the actions are scrolled so that the action after the currently executing is always visible.

WinAutomation Console:

o New, redesigned dialog for the "Create New Process" option that includes the Web Recorder.

o When a Process execution is canceled by the user, the number of the last executing action is displayed.

Triggers:

o New "Email Trigger" monitors an email account and runs a Process when an email that matches some specified criteria arrives.

o Correction for Schedule Trigger; when it was set to fire only on the last day of month it didn't work as expected.

Process Compiler:

o New, redesigned "Compile Process" dialog.

o Compiled Processes can now have a custom icon and custom info such as company, version number and copyright statement.

o Each Process remembers the information entered by the user in the last compilation.

o When a Process contains a "Run Process" action it cannot be compiled and instead a warning is displayed to the user to replace the "Run Process" with a "Run Application" action.

o A compiled Process has the option to display a Notification Window (like the Processes that run from within WinAutomation) to inform the user of the currently executing action.

o A Process has the option to be compiled as "Single Instance" meaning that only one instance of the Process can run at the same machine at any time.

⊟ Version 4.0.6

Improved: Performance improvement when selecting an option from a SELECT element in a web page, through the "Set Drop Down List Value on a Web Page" action

Improved: When WinAutomation fails to open a Process because it has been created with a newer version of the application, a descriptive message is displayed.

Corrected: The "emulate typing" checkbox in the "Populate Text Field on Web Page" action properties dialog defaulted to true every time a new textbox was selected using the Web Helper.

Corrected: CSS Selectors in Web Automation actions that included a comma within the :contains selector where not interpreted correctly.

Corrected: The WinAutomation installation process now makes sure that the service is up before any other process is launched. Additionally it refuses to proceed if the WinAutomation Console of the previously installed version is still running.

⊟ Version 4.0.5

Improved: The error message produced by the "Wait for Web Page" action when a timeout occurred has been changed to a more descriptive one.

Corrected: The "Invoke Web Service" action failed to transmit the cookies correctly when specified in the Custom Headers property.

Corrected: The highlighter of the Web Helper window of every Web Automation action failed to locate the correct element when the user manually inserted the * selector in the "CSS Selector" property of the action.

Corrected: The "Take Screenshot of Element on Web Page" action failed to capture the correct picture when the element is at the bottom of a web page and the vertical scrollbar is part of a nested frame instead of a the top most document.

Corrected: "Focus Text Field" action does not work properly for non focusable-elements such CAPTCHA images that lie at the bottom of a web page and the one of the scrollbars is part of a nested frame/div while the other scrollbar is part of the top most document.

Improved: When using a WebBrowser Instance or Excel Instance type variable without having been initialized a null reference exception occurred. This is now replaced by a descriptive error message.

Improved: Any Web Automation action not set to wait for the web page to load, does not impose a 3 seconds delay any more before moving the the next action, resulting to a faster Process execution.

Corrected: By manually selecting a collapsed region in the Process Designer using the keyboard, only the "Start Region" action was selected, instead of the whole region.

Corrected: In the "Search Action" textbox of the Process Designer the Select, Copy, Cut and Paste hotkeys (Ctrl-A, Ctrl-C, Ctrl-X, Ctrl-V) affected the Process's actions and not the search textbox.

Improved: A Process created by a newer edition of WinAutomation that the one installed is now prohibited from running and being edited by the older edition.

Corrected: Memory leak occurred in some rare cases when an exception occurred while opening a Process.

Corrected: When opening a Process that contained external actions from an addon that was not installed, the mouse pointer remained hourglass instead or reverting to default style.

Modified: The Cut/Copy/Paste menu items are now removed from the File Menu of the Console.

Improved: Error message for opening a Process containing unknown/missing actions changed to a more descriptive one.

Corrected: While uploading files to some SFTP servers through the "Upload Files to to FTP" action, the action attempted to change the permissions of the uploaded files, sometimes resulting to the abortion of the operation.

Corrected: Text file attachments downloaded by the "Retrieve Emails" action became corrupted if the file used a non-ASCII encoding.

Improved: Memory footprint of the "Retrieve Emails" action has been significantly reduced for large emails download.

Corrected: Actions related to windows manipulation matched a random window if only the window class was provided to the action and the title was empty (instead of matching a window with an empty title).

Corrected: When the user selected the "Exit WinAutomation" menu item in the WinAutomation agent context menu and then clicked cancel in the confirmation dialog the service stopped nonetheless.

Improved: A more descriptive error message is now displayed by the "FTP Upload Folder" action when attempting to upload a folder that already exists on the server.

Corrected: In Image Recognition based actions, specifying a zero-size subregion to search in for the desired image resulted in an error.

Corrected: when the foreground window is momentarily unavailable, the error is suppressed and the operation is repeated.

Corrected: the "Invoke FTP Command" action failed in some cases when sending a command to an SFTP server.

Corrected: forcing the Process Designer to close while a Process was running in debug mode sometimes caused the WinAutomation Console to crash.

Corrected: FtpFile/FolderVariants that start with Double Forward Slashes, cause errors when attempting to retrieve the base directory of the path via the .Directory property.

Corrected: the "Move Mouse" action, if the "Relative To Current Mouse Position" property and an animation scheme is selected, moved the mouse to double the amount of the offset needed.

Improved: communication mechanism between the WinAutomation agent and the Notification window has been improved for the latter not to introduce a performance bottleneck in tight loops.

Corrected: In some websites using yahoo libraries certain div elements get mistaken for rich text editors resulting in erroneous extraction of their content by the "Extract data from Web Page" action.

Improved: The save button and the insert new region button in the Process Designer are now disabled while a Process is being run from within the Process Designer.

Improved: In some cases the macro recorder failed to record a modifier key due to a delay in the process of intercepting its state.

Modified: The text "Choose your weapon" in the Create New Process dialog has been changed to "Choose a tool".

Corrected: Web Recorder and Web Helper for Data Extraction: When a header of an html table that's has been selected for extraction contains a % sign it is now automatically escaped so as to avoid phantom errors about missing variables

Corrected: when multiple users were accessing the same WinAutomation service instance through terminal services sometimes the notifications were routed to the wrong user.

Version 4.0.4

Improved: Support added for new IE10.

Improved: The variable generated by the "Launch New Internet Explorer" action which holds the web browser instance, now has a .Handle property that returns the handle of the browser's window. The value can be passed to Window-related actions (move, resize, focus window etc) which accept a window handle as input.

Corrected: The "Open Secure FTP Connection" action failed to establish connection with certain FTP servers.

Corrected: The web element selection engine can now handle the rare cases where the browser returns an empty value instead of the tag of an element.

Improved: The "Extract Data From Web" action now identifies the pager element ("Next Page") even in more complex configurations.

Corrected: "Take Screenshot" action did not perform as intended in some cases.

Modified: Windows related actions do not display the window picker icon in their property dialogs when they are set to matching a window by its handle.

Corrected: All WinAutomation windows when restored from a minimized state, now make sure that they are displayed in a visible portion of the screen.

Improved: The "Set Drop Down List Value on Web Page" action can now select options even when their values is an empty text.

Corrected: The "Download Folder from FTP" action, now does not modify the working directory.

Corrected: The utility that retrieves the email folders in the "Retrieve Emails" and Process Emails" actions as well as in the Email Trigger would freeze the UI for a while if wrong settings have been entered in the IMAP account section.

Modified: The "Parse Text" action now throws an exception if the regex provided is invalid.

Corrected: The "Display Notification" action now always outputs its message to the command prompt console when the Process is compiled as a console application (even when the "Display Notifications" option in the Compiler dialog is unchecked).

Corrected: Exception thrown by FTP actions when used through a secure FTP connection, now have more descriptive messages.

Corrected: When a Process with triggers attached was copied, the triggers of the newly copied Process were not functioning until the WinAutomation service was restarted.

Corrected: The highlighter of the Web Helper sometimes was displayed off-position when highlighting an element within a frame.

Corrected: Rich Text Editors, in some cases were difficult to select using the Web Helper.

Corrected: The "Extract Data from Web Page" action now extracts the data from the first page only, when a negative value is provided to be the number of pages to extract data from.

Improved: The "Set Drop Down List Value on Web Page" action now accepts a list variable when more than one values need to be selected.

Improved: The extraction of the inner text of a Web Page element now removes any additional info injected into the page by the Skype plugin.

Improved: The "Focus Web Element" action now scrolls the web page to bring the focused element into view.

Corrected: The "Extract Data from Web Page" action when instructed to extract all the options of a drop down web element, it returned only the selected options.

Improved: The "Click download Link on Web Page" action is now able to handle download dialogs that are already open, when the CSS selector property is empty.

Improved: There is now a way to execute arbitrary javascript code on the automation browser.

Modified: Windows Related action now throw an exception if both window name and window class are not set.

Corrected: In some extreme cases the "Retrieve Emails" action failed to parse the email's body.

Corrected: "Download from Web" and "Invoke Web Service" actions fail for urls which contain double quotes, or specify a port and are not explicitly preceded by http or https

Corrected: When the "Send Keys" action was instructed to type a number preceded by zeros the zeros were trimmed upon closing the properties dialog of the action.

Corrected: The "Synchronize FTP Directory" action sometimes fails if the working directory was not explicitly set by a "Change Working Directory" action.

Corrected: In the "Invoke Web Service" action the "Connection Timeout" property ignored the value set by the user and always defaulted to 30 seconds.

Version 4.0.3

Modified: The properties dialog of the Schedule Trigger cannot be dismissed any more if no dates are specified.

Corrected: in some cases a Schedule Trigger fired a couple of minutes before the scheduled time resulting to a double execution of the Process.

Corrected: A Schedule Trigger with the "Skip Process" option checked did not skip the Process in question when the machine is resuming from hybernation/suspension state.

Corrected: Execution of a WMIC command through the "Run DOS Command" action failed when ran in Windows XP.

Corrected: The "Take Screenshot of Web Page" action produced images with black areas when invoked through the Web Automation Browser and the scrollbars did not appear properly.

Corrected: The "Take Screenshot of Web Page" action produced inaccurate screenshots for elements residing within iframes or when zooming is applied.

Corrected: The exception handling portion of the "Take Screenshot of Web Page" action, when executed fired the wrong exception.

Corrected: The extraction of the inner text of a page or an element returned inaccurate result when encountered HTML tags with attributes that had non-ascii characters and/or digits or when an element contained exotic characters that were rendered as whitespace.

Corrected: The extraction of the inner text of a page now takes into account the value property for buttons and text boxes.

Improved: Actions that extract data from a web page or a web element can now retrieve the inner HTML, the outer HTML and the new HTML5 data-related attributes of an element.

Modified: The "Extract Data from Web Page" action now treats a a hidden element as non-existent, Meaning that the "exists" attribute will return "FALSE" for an element that exists in the page, but is hidden.

Improved: The "Extract Data from Web Page" action in order to identify which element of the page acts as a pager, now is able to utilize information from parent elements of the pager for more accurate results.

Improved: The Web Helper window for the "Extract Data from Web Page" action now performs much faster when a large number of table cells need to be highlighted.

Corrected: The Web Helper window for the "Extract Data from Web Page" action failed to highlight the selected pager element if this element was placed within an iframe.

Corrected: The Web Helper window for the "Extract Data from Web Page" action highlighted all elements matching the specified CSS selector, even when in "Single Value" mode.

Corrected: The Data Extraction Preview in the Web Helper window for the "Extract Data from Web Page" action did not take into account any regular expressions specified in the settings for generating the preview.

Corrected: The "Extract Data from Web Page" action did not apply any regular expressions specified when extracting element values in "Single Value" or in "List" mode.

Corrected: The "Extract Data from Web Page" action and the "Get Detail of Element on Web Page" action failed to retrieve the STYLE attribute of an HTML element.

Improved: The "Single Instance" option is now available as an option in the Compiler Properties Dialog when the application type is "Command Line Application". Moreover, it is unchecked by default.

Improved: Processes compiled with the "Single Instance" option set, now return an exit code of -1 when the user attempts to run them while another instance of the same executable is already running.

Corrected: In Windows XP the "Generate Exe" dialog produces an irrelevant warning message when the Compile button is pressed.

Corrected: Compiled Processes did not report their version number when inquired through WMI in Windows XP.

Corrected: Compiling Processes to executables failed if the Company Name or the Copyright Notices contained double quotes or trailing backspaces.

Improved: Processes compiled as "Windows Application" now display the EXE file name as the title of the form displayed when running the compiled Process.

Corrected: The notifications popup windows displayed by compiled Processes were not positioned correctly when the message to be displayed was too long.

Corrected: The "Populate Text Field on Web Page" action didn't respect the MaxLength and Enabled attributes of the target INPUT element when "Emulate Typing" setting was unchecked.

Corrected: The "Populate Text Field on Web Page" action, when handling File Upload Inputs, always waited for the web page to complete loading even when the respective option was unchecked.

Corrected: The "Populate Text Field on Web Page" action failed when instructed to set the text in a Rich Text editor and the value to be written contained one or more double quotes.

Improved: The "Populate Text Field on Web Page" action can now set the value of hidden fields.

Improved: The "Populate Text Field on Web Page" action now supports INPUT elements with TYPE=COLOR

Corrected: "Wait for Web Page Content" action threw an error when set to wait for an element located within a frame.

Corrected: Attaching to the foreground Internet Explorer window through the "Launch new Internet Explorer" action did not wait for the browser to complete loading the current web page.

Corrected: All web automation actions that makes sense only in the context of HTML pages now throw an exception when they are used on an Internet Explorer instance that holds a non-HTML document (such as an image or a PDF document).

Corrected: The "Go to Web Page" action threw an exception when instructed to navigate to a non-HTML document and the "Wait for Page to Load" option was checked.

Corrected: The "Get Details of Web Page" action failed to return the correct when the assigned browser instance displayed a non-HTML document

Corrected: The "Retrieve Emails" action failed to save any attachment if the ContentType was set to text/plain.

Improved: The "Retrieve Emails" and "Process Emails" action properties dialogs do not attempt to retrieve the list of email folders when the mail account username or password is given as a variable.

Modified: In the "Comment" action properties dialog the comments text box now has the default focus.

Improved: The "Variables Manager" dialog closes when the Esc key is pressed.

Corrected: The "Open FTP Connection" and "Open Secure FTP Connection" actions failed to execute when no password was provided.

Version 4.0.2

Corrected: When a web page produced a Javascript error the error message was not suppressed preventing the normal execution of the Process.

Corrected: "Set Checkbox State on Web Page" action changed the checkbox state twice effectively resulting in no change.

Corrected: When retrieving the text of a web page the values of web form fields are included in the resulting text.

Version 4.0.1

Web Automation actions now work in web pages that contain frames/iframes

Corrected: "Run VBScript" action failed in Windows XP and in later Windows versions when the name of the logged in user contained spaces

Corrected: "Wait for Web Page Content" and "If Web Page Contains" actions in some cases failed to return the correct value if the text to wait for was hidden.

A link to the generated file has been added in the message box displayed upon successful compilation of a Process.

Improved: Performance for "Extract Data from Web Page" action.

Corrected: "Invoke Web Service" action did not handle correctly some custom headers.

After importing a .waj file the newly imported Process becomes selected in the WinAutomation Console.

After creating a new folder in the WinAutomation console, this folder becomes selected.

Corrected: In the "Wait for Image" action if set to wait indefinitely and search within a subregion the action failed to find the image on the screen.

In the Error Handling tab of both the Options and Process Properties dialogs the "Process to Run" was not visible if the path to the Process was to long.

Corrected: When a Process is compiled as "Command-Line Application" the "Display Popup on Error" setting now has no effect.

If a Process compiled as "Command Line Application" fails to run, the executable's name is now included in the error message.

Corrected: The "Open Secure FTP Connection" action failed to connect properly for some SSH versions.

The dropdown list displayed by the "Select From List Dialog" action has become taller in order to display more list items

Breakpoints on disabled actions are now rendered in gray.

Actions' properties dialogs now open centered to the Process designer window and within the screen boundaries.

⊟ Version 3.0

Service

- WinAutomation's service is now more lightweight and more stable.
- All errors with 64bit versions of windows have been fixed.
- You can now stop WinAutomation's service by right clicking on the tray icon of the Agent and selecting: "Exit WinAutomation"
- WinAutomation's service has been redesigned, to require less system resources.
- There is no longer an option to start and stop the service through the console. Opening the console will automatically start the service and you cannot stop the service through the tray icon if the console is open.

Console

- The general options have been enriched; check "Tools - Options" in the console window to test the new options. Specifically:
  - There is now an option to stop all Processes that are currently running with a HotKey (General tab)
  - There is an option that allows you to control if WinAutomation's service will start when the machine boots (Service tab)
  - You can now disable the system tray icon (Notifications tab)
  - The "balloon" that used to notify the user whenever a process started or ended has been replaced by a special Notification Popup Window that you can show or hide (Notifications tab)
  - You can globally decide which file types will be treated as ASCII files by the FTP actions (FTP tab)
  - There are some "Global Error Handling" options that you can set in the case that your Processes fail to complete such as Write the Event to a log file or Send Email (Error Handling tab). In the case that you decide to send an email, you will have to set the SMTP options (SMTP Server tab)
- There is a new logging system; check "Tools - View Logs" to see the changes. You can filter the log events based on date, type of event or source of event. There is also a new pane in the console that shows the most recent Log Records.

- You can now open multiple Processes and still be able to interact with the console

- You can view the logs for a specific process (Right click on the process and select "View Logs for the specific process" option)

- The Processes are now saved in a database that you can backup, restore and compact ("Tools - Manage Processes Database")

- The Processes are now exported to a new file type (*.waj), however, there is backward compatibility (you can import old xml files but you can't open waj files with WinAutomation 2)

- You can import multiple Processes at once

- There is a special executable in WinAutomation's installation directory (WinAutomationController.exe) that allows you to run and stop your Processes through the command line.

Process Designer

- All actions have been redesigned and in their property dialogs the main tab is now divided in 2 sections: "Action Input" and "Action Output".

- A new special "gear" icon has been introduced, that allows you to select from variables that have been created/used earlier in the process. This icon can be used only in fields that reside in the "Action Input" section of the action's properties window.

- There are a lot of internal features like automatic variable handling (automatically create a new variable when it's declared and delete when it's not used) and the addition of new types of variables (files, folders etc) that intend to make interaction with variables much easier. For example, you do not need to use the "Define New Variable" option now: you just place a variable name in the field and if it does not exist, it is automatically created.

- There are no longer yellow and white background colors in forms: whenever you want to use a variable, you will have to enclose it in percentages (e.g %MyVar%).

- The image recognition system has been significantly changed: it is now more accurate and stable, and the tolerance option is now more versatile (in version 3, it does not only understand differences in color tones but it also indicates the amount of different pixels that is allowed).

New Actions

- Download From Web (Web category): This action acts like a browser and can handle http requests, supporting both, get and post method for posting data.

- Get Command Line Arguments (WinAutomation actions category): This action retrieves the command line arguments that can be provided through the command line or if the process is compiled.

- Get Process's Path (WinAutomation actions category): This action retrieves the path to the executable (obviously works only if the process is compiled)

- Wait For Mouse (Wait category): You can now use this action for specific type of applications where the only indicator that you have for a complete task is the mouse icon

- Press/Release Key (Mouse and Keyboard category): Presses (and holds) or releases a moifier key. This new action allows you to combine any of the known modifiers (Control, Alt, Shift) with a mouse move/click.

- Set Key State (Mouse and Keyboard category): You can use this key to ensure that Caps Lock, Scroll Lock and Num Lock are on the state that you want them to be during the execution of a specific process.

- Display Notification (Message Boxes category): This action can be used to print useful information about the process execution in the Notification window that pops up whenever you run the process through the console (unless you have specified that this window does not appear). Also, it will print the information that you specify in the console window that will appear if you compile your process as a "Console Application".

- Display Select Date dialog (Message Boxes category): Allows you to prompt the user to select a date or a date range.

- Get Special Folder (Folders category): This action will return the path of special Windows folders (e.g Desktop). It can prove really useful if you want to create a process that does not depend on the user's Windows version (XP/Vista).

- Open Secure FTP Connection (FTP category): Allows you to open a secure FTP connection (sFTP or FTPs, implicit or explicit)

- Download Folder(s) (FTP category): Allows the download of a folder and its contents through FTP

- Upload Folder(s) (FTP category): Allows the upload of a folder and its contents through FTP

- Invoke FTP Command (FTP category): Allows you to send a custom FTP command to an FTP server

- Change Text Case (Text Actions category): Allows you to change the case of a specific text (possible options to convert to: lowercase, UPPERCASE, Sentence case, Title Case)

Changed Actions

- Start Process Action (WinAutomation actions category): There is now an option to "Wait for process to complete". The process that is called through this action, can now use the variables that are declared in the main process.

- Display Input Dialog (Message Boxes category): This action can now prompt the user for a password, and accept multiple lines as input.

- Display Select from List Dialog (Message Boxes category): You can now allow the user to select multiple items and disallow the empty selection.

- Get Files in Folder (Files category): Allows you to sort the files that you retrieve based on specific attributes (e.g Size, Last Modified etc)

- Get SubFolders in Folder (Folders category): Allows you to sort the folders that you retrieve based on specific attributes (e.g Creation Time, Last Modified etc)

- Download File(s) from FTP (FTP category): Allows you to select "Auto" as a transfer type.

- Upload File(s) to FTP (FTP category): Allows you to select "Auto" as a transfer type.

- Open FTP Connection (FTP category): You can now use use a variable as password

Compile Process to Exe

- There are new options to choose from when you are generating an executable: you can specify how the exe will deal with a possible exception (e.g Return error code = 1) or if you want to compile the process as a windows or a console application.

Version 3.1.6

Corrected: Numbers with trailing sign (e.g. 12-) were incorrectly parsed as legal negative numbers.

Modified: All numbers are now parsed using en-US regional settings (i.e. the decimal separator is always the dot).

Corrected: "If Window" action did not function correctly when "Is focused" was selected and a window class was specified.

Corrected: When a Process was exported and the folder containing that Process was deleted, the Process failed to import correctly into the same database.

Modified: The upper limit for the number or retries in the Exception Handling portion of an Action has been increased (from 5 to 25), along with the seconds to wait for, between retries (from 120 secs to 3600 secs).

Modified: The limit for the OffsetX and OffsetY properties in the "Move Mouse to Image" Action has been increased from 300px to 1000px.

Version 3.1.5

Corrected: Numbers with a decimal point were not accepted in expressions. The Process failed to compile.

Corrected: The "Run Process" action failed with an error message when the Process contained a variable of type DataRow that didn't contain any value at the moment when the "Run Process" action was executed.

Modified: In the "Exception Handling" tab of the action properties' dialog, the selected action is now displayed in white text for better readability.

Corrected: The "Wait for Window" action in some cases failed to wait for a window if configured to wait for the "Lose Focus" event.

Corrected: The WinAutomation icon in the system tray remained visible after a restart and until the WinAutomation Console window opened, even when set to not visible.

Version 3.1.4

Corrected: In some cases, while a Process had completed its execution, the notification window remained open and in the WinAutomation Console the Process continued to appear as running.

Version 3.1.3

Corrected: Under certain circumstance an error occurred when opening the properties dialog of the "Delete Files" action.

⊟ Version 3.1.2

Corrected: A syntax error with the message "Division by zero" occurred in expressions that included a division, regardless of the value of the operands.

⊟ Version 3.1.1

Corrected: When a copy/paste operation was followed by an undo/redo sequence in some cases an extra action would be added in the Process.

Corrected: The text value returned by the "Download from Web" action is now stripped from all non-printable characters.

Corrected: In certain cases a "Cannot Unload Domain" exception would occur when stopping a running Process.

Modified: The Numeric data type now holds larger values with more precision.

⊟ Version 3.1.0

Added: Support for add-ons - external action packs.

Added: The "Write Text to File" action has an additional property for specifying the encoding used for the text to be written into the file.

Added: The "Download from Web" action has a new "Encoding" property for specifying the encoding used for the web page. If the value is set to "Auto-detect" the action uses the encoding specified by the web server.

Added: The "Download from Web" action has a default value for the "User Agent" property.

Added: In Process Designer, a "Start from Here" menu item has been added in the Context Menu (right click menu) allowing the user to start the execution of a Process from a specific action.

Added: Toolbar buttons and menu items in Process Designer are now disabled when a process is executing through the Debugger.

Added: While debugging the "Execute Next Action" button can be pressed with a hotkey. The designated hotkey can be specified in the Process Designer Options dialog.

Added: While debugging the Process scrolls automatically so that the currently executing action is always visible.

Modified: The File Monitor Trigger variable %FileTriggerFilePath% now contains a file object instead of text making easier to retrieve info regarding the file that triggered the Process.

Modified: The Dialog box displayed by the "Display Select From List Dialog" action is now resizable to facilitate the selection of long list items.

Corrected: The "Send Mouse Click" action presses the correct mouse button when the functions of the left and right mouse buttons have been swapped.

Modified: The "Get Special Folder" action now contains a label that displays the path for the selected special folder.

Added: In the "Action Properties" dialog the F1 key is now used for opening the help topic for the specific action.

Added: The "Wait for Window" action can now wait for a window to get the focus (to become the foreground window) or lose the focus.

Added: The "If Window" action can now determine whether a specific window is focused (is the foreground window) or not.

Added: The "If Service" action can now determine whether a specific service is installed on the computer or not.

Added: New Action: "Get Foreground Window" action retrieves the title and handle of the Window that has the focus.

Added: New Action: "Generate Random Number" action, to get a random number or a list of random numbers.

Added: New Action: "Shuffle List" action, to randomly permute the items of a list.

Added: In the "Parse Text" action there is now an option to perform case-insensitive matching

Corrected: In certain cases, some actions issued a "Reference not set to an instance of an object" error when run through the debugger.

Modified: If a Process runs for more than 24 hours, now the Notification dialog also displays the total days in the running time field.

Added: New Action: "Get Mouse Position" action, to retrieve the position of the mouse cursor on the screen.

Added: The actions "Move Mouse" and "Send Mouse Click" now accept variables for mouse coordinates and the new mouse position can be relative to the current mouse position.

Added: New Action: "Terminate Process" action, to immediately stop a running process.

Added: New Action: "Ping" action, for sending a ping message to a remote computer.

Added: The "Sort List" action can now sort a list of objects, through specific properties

Corrected: When an IP address was entered in an action's property, depending on the regional settings of the computer, sometimes it was mistakenly interpreted as a number.

Added: New Action: "Synchronize FTP Directory" action, to synchronize the contents of a local and remote directory.

Added: The "Move Mouse to Image" action has now an option to wait if the image is not initially found as well as an option to send a click after the cursor is moved over the image.

Added: New Action: "If Image" action, to check whether an image exists or not on the screen.

Added: The "If" action now includes the following operators: "Starts with", "Does not start with", "Contains", "Does not contain", "Ends with", "Does not end with" and "Is Empty". All these new operators (except the last one) work both in case-sensitive and case-insensitive mode.

Added: The Process Designer can now save the Process automatically upon running the Process through the debugger. This option can be specified through the Process Designer Options Dialog.

Corrected: In some cases the Console didn't close successfully, leaving a ghost process running.

Added: New Action: "Remove Duplicate Items from List" action, to remove multiple occurrences of the same item in a list.

Added: New Action: "Empty Folder" action, to delete the contents of a folder without deleting the folder itself.

Modified: The "Get Process's Path" action now retrieves the path (folder plus process name) of non-compiled Processes too.

Modified: The "Download from Web" action can download a file and keep its original name as specified by the web server. When this option is selected, only the destination folder needs to be provided, instead of the full local path.

Added: In the "Replace Text" action there is now an option to perform case-insensitive matching

Modified: The "Replace With" property of the "Replace Text" action now accepts multi-line values.

Added: The "Convert Text to DateTime" action has now an option for converting dates that are represented in a non-standard format.

Corrected: The "Write Text to File" action crashed the designer when an extremely long text was entered as the value to be written into the file.

Added: The "Clear Logs" dialog allows you to archive the events into a different file before deleting them.

Corrected: In Windows Vista/7 for the event log to be cleared the Console should run with elevated privileged (as administrator).

Added: In the "Run DOS Command" action a new output property has been added for retrieving any error messages issued by the command or the console application.

Added: In the "End Process" action a new property has been added for specifying the Exit Code for Processes that are compiled.

Modified: In the "Exception Handling" tab of an action's properties dialog, exceptions that are handled (have some behavior assigned) are displayed in bold.

Corrected: When two or more Process designers were open simultaneously the same Undo history was shared between the different designers.

Added: Support for persistent variables that keep their value between subsequent executions of the same Process. For compiled Processes, persistent variables are stored into a satellite file and can be encrypted.

Added: A Welcome window is displayed when launching the WinAutomation console, that contains video tutorials and educational material.

Added: In the Options window there is an additional option that sets the application to remember the size and layout of the Console and Process Designer windows.

Corrected: In the "Rename Files" action, when renaming a file and specifying as a new name the name it already had, and the "Overwrite" selection was chosen, the file was deleted.

Modified: In the "Run Process" action the list of Processes to choose from, now appears sorted.

Version 3.0.3

Corrected: When deleting an action sometimes the window didn't refresh properly.

Corrected: An error occurred in the "Run Process" action if the Process had already launched an Excel instance

Corrected: The "Unzip files" action would not unzip files that their names started or ended with a dot (.)

Corrected: In rare cases the Notification Window was displayed below other windows. In other cases it could steal the keyboard focus from the foreground window.

Corrected: The "Find Common List Items" action returned the first list instead of the intersection of the two provided lists

Corrected: The "Capture" function in the "Move Mouse to Image" and "Wait for Image" actions produced an error if an empty region was selected

Added: A message box is displayed to inform the user after an attempt to export a Process that contains illegal characters in its name.

Corrected: The "Rename File(s)" action in the Designer did not display correctly the "Add DateTime before/after" property value in the designer.

Version 3.0.2

Corrected: Processes performance deteriorated when variables contained large amount of data.

Corrected: SendKeys action failed to send correctly the characters ~, %, ^, (,), +, [and].

Corrected: Exception occurred in very large Processes (more than 3000 actions).

Corrected: In some cases, a process would stop when the user pressed Enter because the "Stop Process" in the notification window had the focus by default.

Version 3.0.1

Corrected: Schedule Trigger's "Monthly" option is now working as intended.

Corrected: Subtract Lists action bug corrected.

Added: Minimum Delay Between Keystrokes (Send Keys action) is now 0

Corrected: A known issue with "Send Keys" action where in rare cases duplicate keystrokes were sent.

Added: Send Keys now works in remote desktop

Added: Send Keys now works in Console Window

Added: Multiple repetitive keystrokes can be sent in the format {X:n}

Corrected: "Delete FTP Directory" action now deletes directories even when they are not empty (recursively)

Corrected: A normal exception thrown by the "Unzip Files" action could result in an unhandled exception

Corrected: When "Display Big Icons" setting was selected in Process Designer the icons failed to display properly.

Corrected: "Open FTP Connection" could fail if the agent was launched before the service. It has now been fixed.

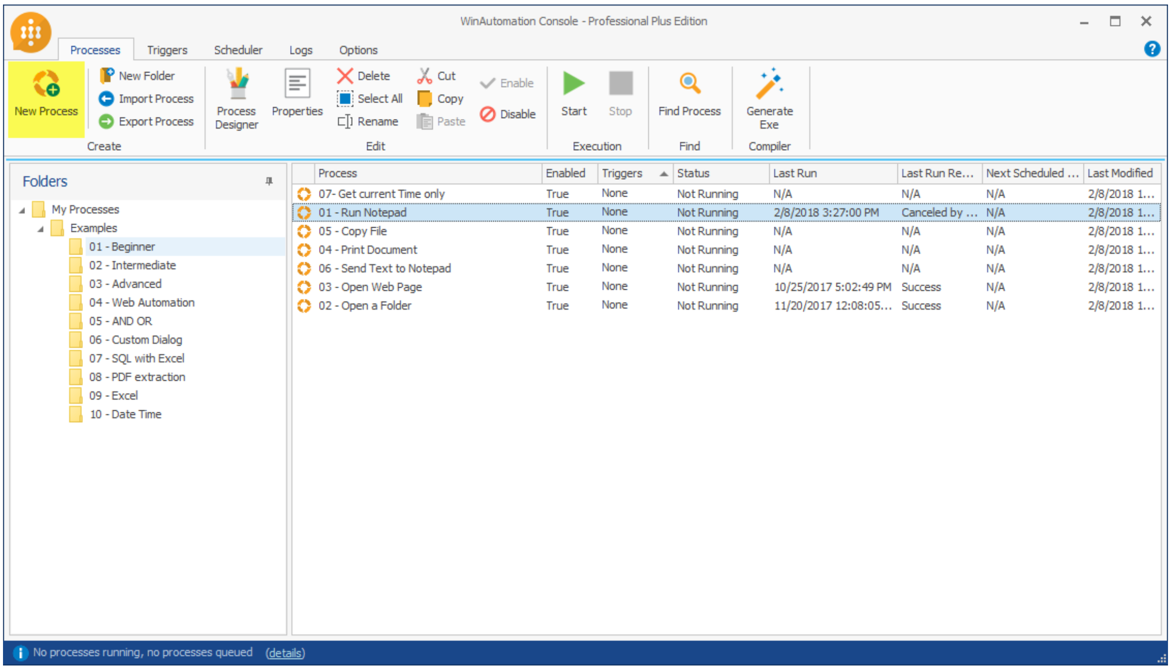
2. Getting Started

2 Getting Started

2.1 Create a simple Process - Part 1

We'll start with an overly simple example. In fact, it will be useless as it is not automatic, nor is it faster than just doing the process manually - you'll write a two-step Process that will create a Folder named TestFolder on drive C: and then tell you that it did that. You want it easy to start, so you'll also set up a Trigger so that it will run when you enter a Hotkey. This Process is an introductory statement; it is easier to do without WinAutomation, but it will demonstrate how to get started and use some key features.

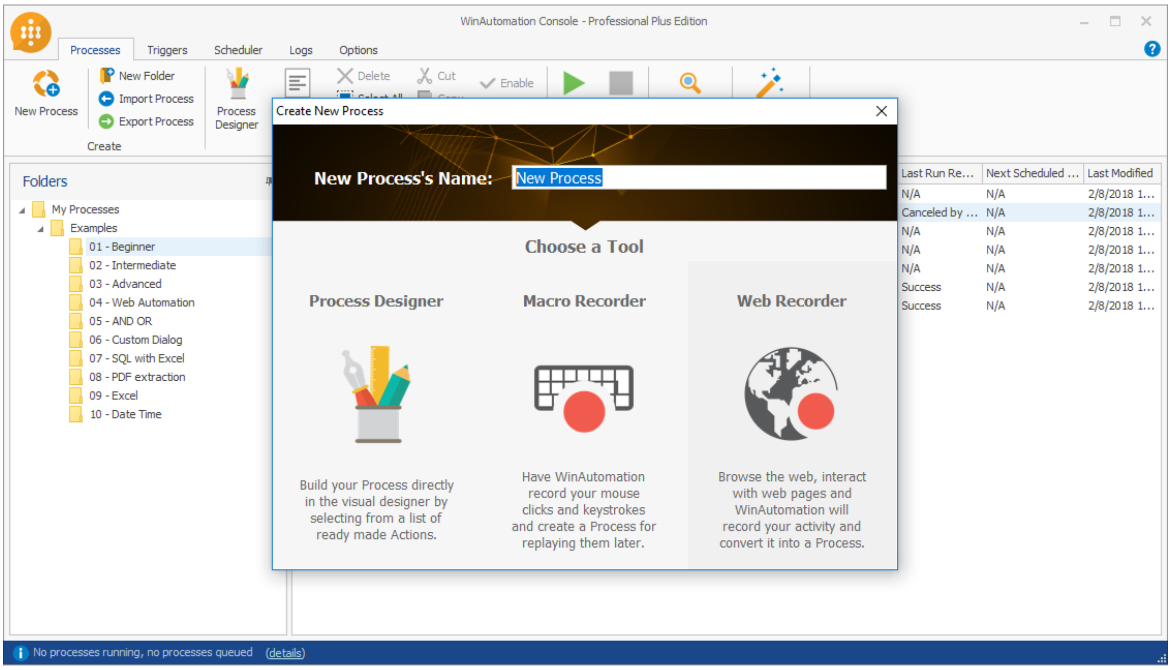
Now you know what you want to do and you know that the Actions can do this easily. A flowchart would look like: Create Folder and name it TestFolder; put up a message to show it's done. So step one is to create the Process. Click on New Process:



Process	Enabled	Triggers	Status	Last Run	Last Run Re...	Next Scheduled ...	Last Modified
07- Get current Time only	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
01 - Run Notepad	True	None	Not Running	2/8/2018 3:27:00 PM	Canceled by ...	N/A	2/8/2018 1...
05 - Copy File	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
04 - Print Document	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
06 - Send Text to Notepad	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
03 - Open Web Page	True	None	Not Running	10/25/2017 5:02:49 PM	Success	N/A	2/8/2018 1...
02 - Open a Folder	True	None	Not Running	11/20/2017 12:08:05...	Success	N/A	2/8/2018 1...

No processes running, no processes queued (details)

and type in "Create New Folder" for the name of the new process. Click on the "Process Designer" icon to open the new Process in the Designer Window and start building it.



Create New Process

New Process's Name: New Process

Choose a Tool

Process Designer

Build your Process directly in the visual designer by selecting from a list of ready made Actions.

Macro Recorder

Have WinAutomation record your mouse clicks and keystrokes and create a Process for replaying them later.

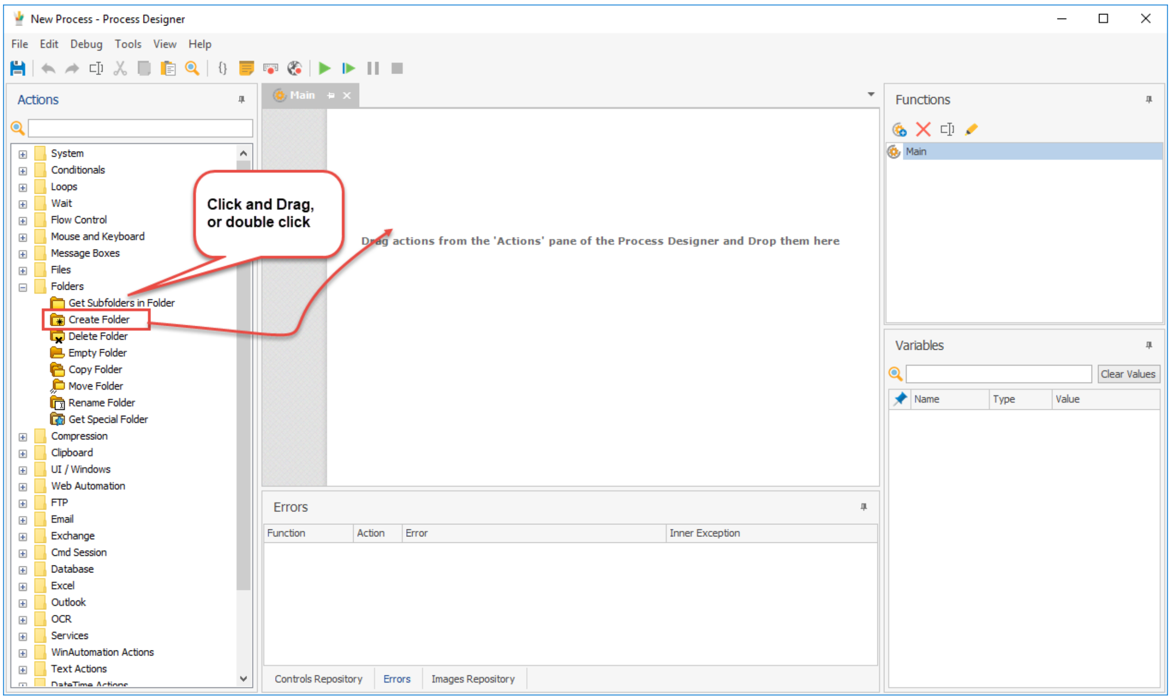
Web Recorder

Browse the web, interact with web pages and WinAutomation will record your activity and convert it into a Process.

Last Run Re...	Next Scheduled ...	Last Modified
N/A	N/A	2/8/2018 1...
Canceled by ...	N/A	2/8/2018 1...
N/A	N/A	2/8/2018 1...
N/A	N/A	2/8/2018 1...
N/A	N/A	2/8/2018 1...
Success	N/A	2/8/2018 1...
Success	N/A	2/8/2018 1...

No processes running, no processes queued (details)

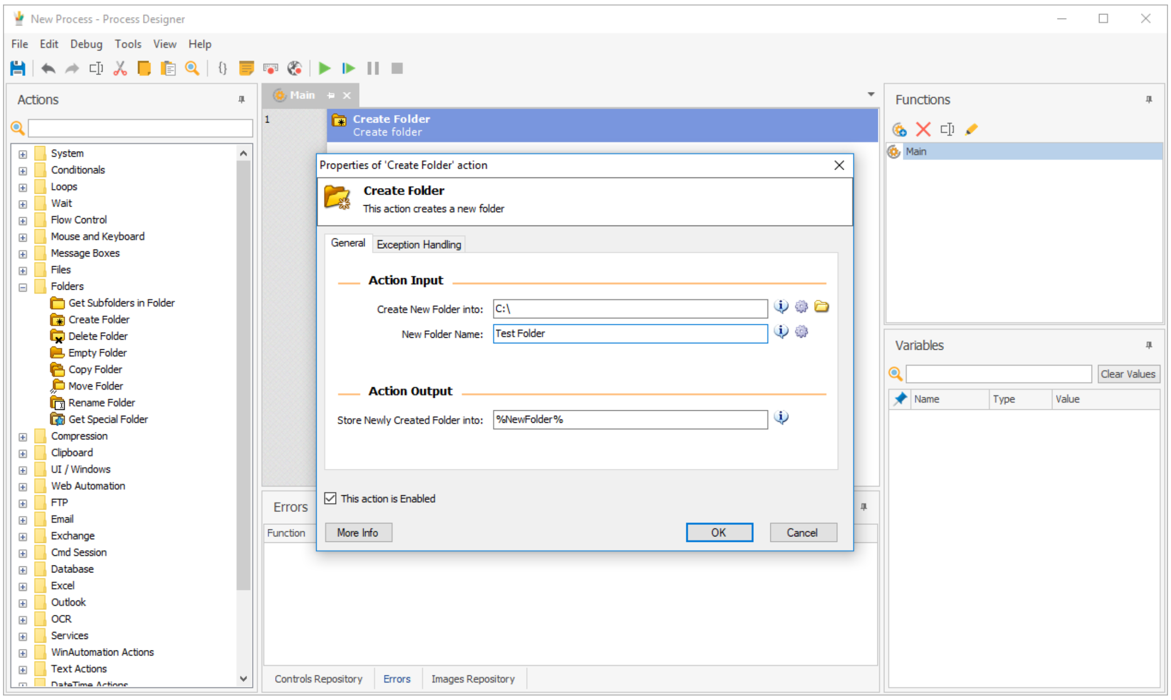
Now to write the actual Process in two steps. First, open the Action category of Folders and drag the Action Create Folder and drop it to the Action Sequence. You could also double-click on the Action Create Folder.



Click and Drag, or double click

Drag actions from the 'Actions' pane of the Process Designer and Drop them here

This opens the Create Folder property Window, and we enter a location (C:\ ) and a name ("TestFolder") in the fields.



Properties of 'Create Folder' action

Create Folder

This action creates a new folder

General | Exception Handling

Action Input

Create New Folder into: C:\

New Folder Name: Test Folder

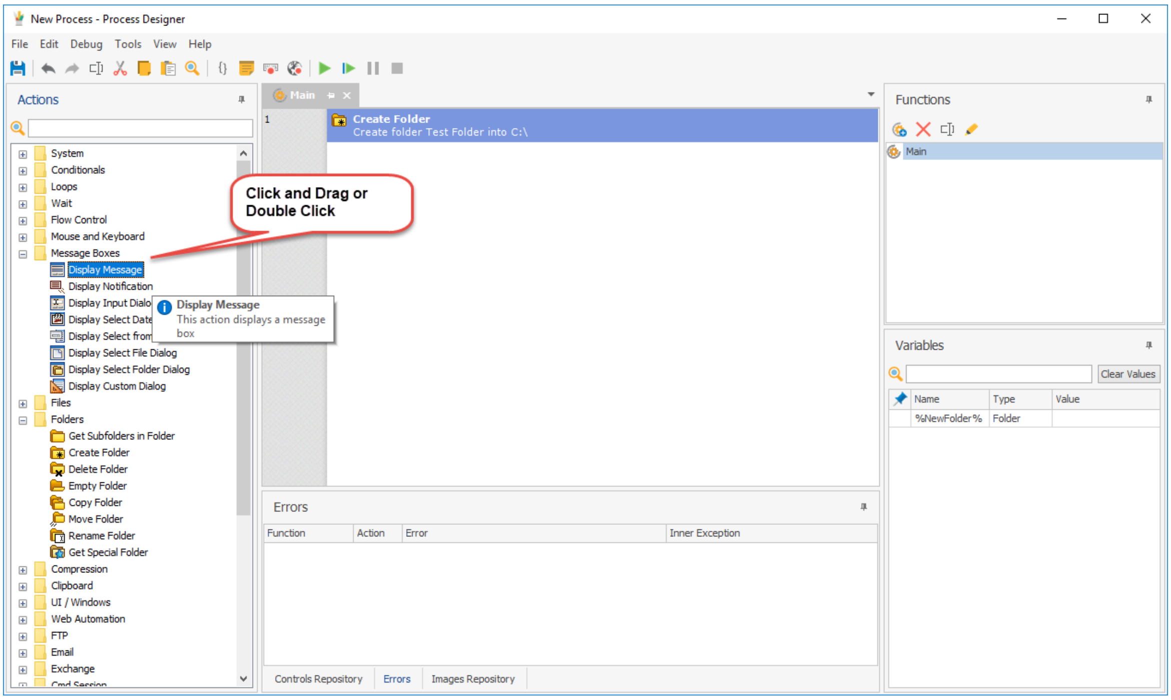
Action Output

Store Newly Created Folder into: %NewFolder%

☑ This action is Enabled

You won't need to store the Folder for later, so ignore the Action output for now. Hit OK and the properties Window closes.

For the second step, open the Action category of Message Boxes and Drag and Drop the Action Display Message.



1 **Create Folder**
Create folder Test Folder into C:\

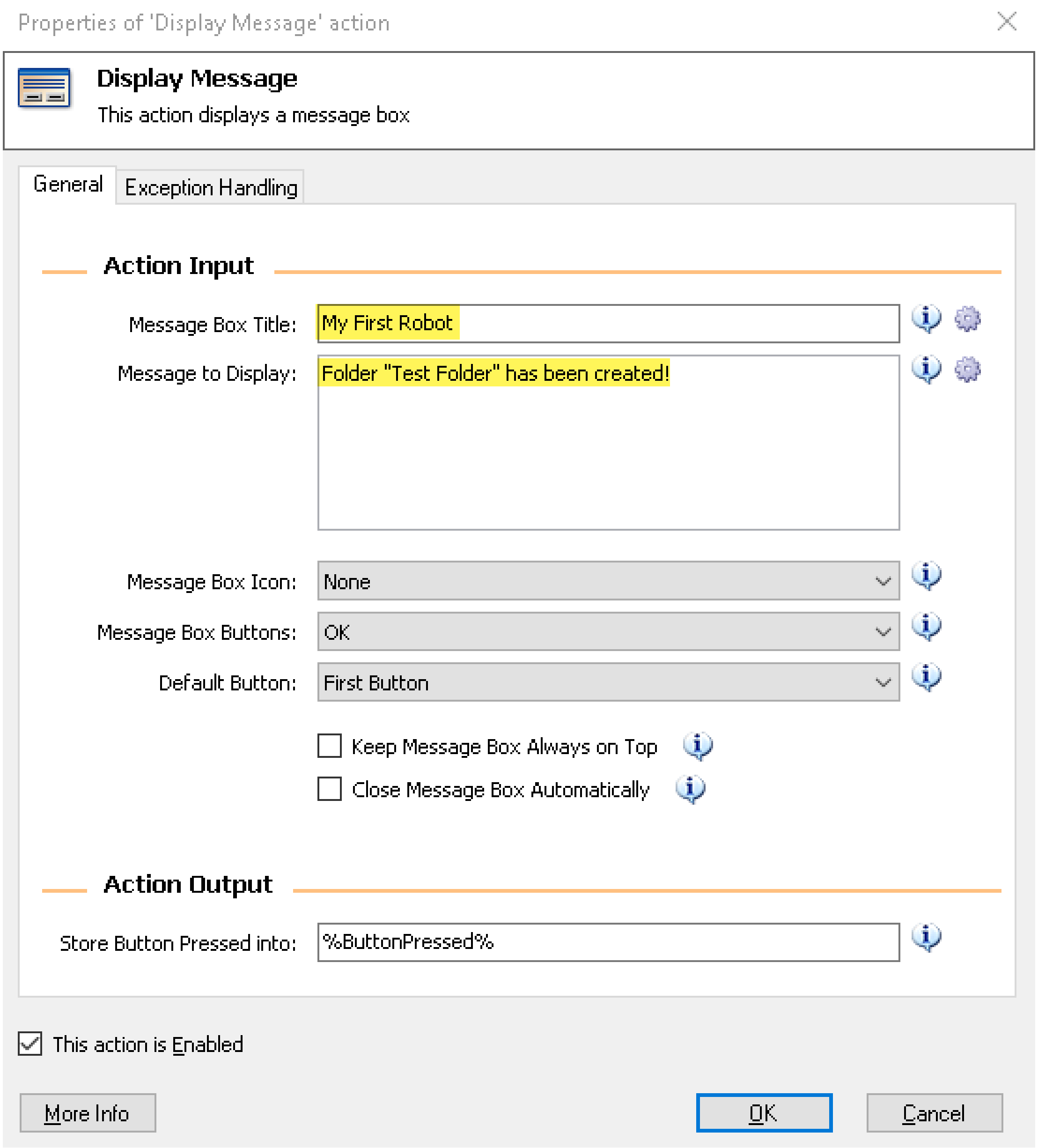
Click and Drag or Double Click

Display Message
This action displays a message box

Function	Action	Error	Inner Exception

Name	Type	Value
%NewFolder%	Folder	

In that property Window, enter a Title ("My First Process") and a Message ("Folder "TestFolder" has been created!") and then close the box.



Properties of 'Display Message' action

Display Message

This action displays a message box

Action Input

Message Box Title: My First Robot

Message to Display: Folder "Test Folder" has been created!

Message Box Icon: None

Message Box Buttons: OK

Default Button: First Button

□ Keep Message Box Always on Top

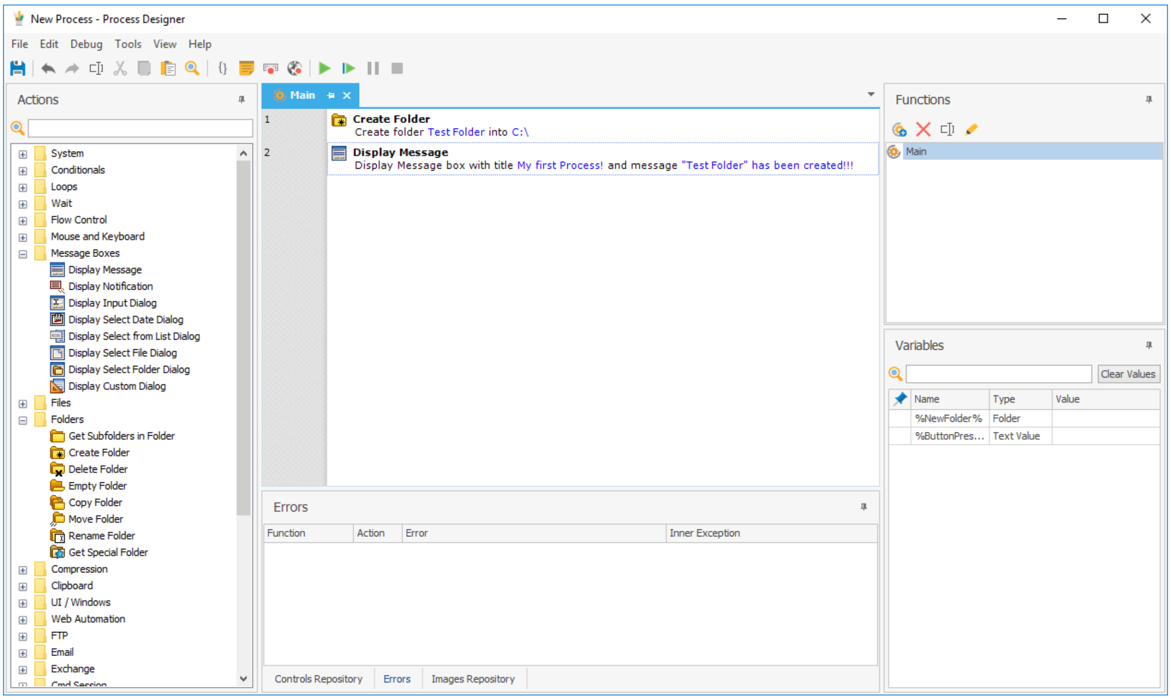
□ Close Message Box Automatically

Action Output

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled

Your Process Designer Window should look like this:

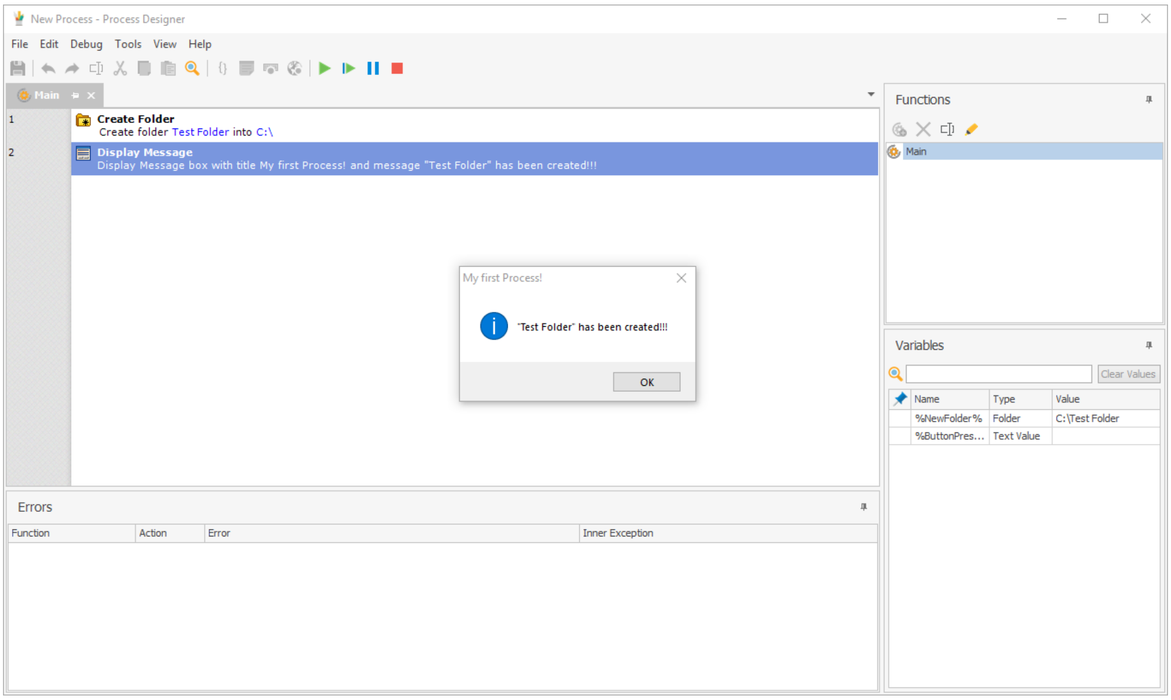


New Process - Process Designer

1	**Create Folder** Create folder Test Folder into C:\
2	**Display Message** Display Message box with title My first Process! and message "Test Folder" has been created!!!

Name	Type	Value
%NewFolder%	Folder	
%ButtonPres...	Text Value	

And done! Run the Process from the Process Designer Window to make sure everything works as expected. The windows change as the Process runs, and then a Message Box appears with, "Folder "TestFolder" has been created!". There is also a new folder at C:\TestFolder, so the Process is now complete.



New Process - Process Designer

1	**Create Folder** Create folder Test Folder into C:\
2	**Display Message** Display Message box with title My first Process! and message "Test Folder" has been created!!!

My first Process!

"Test Folder" has been created!!!

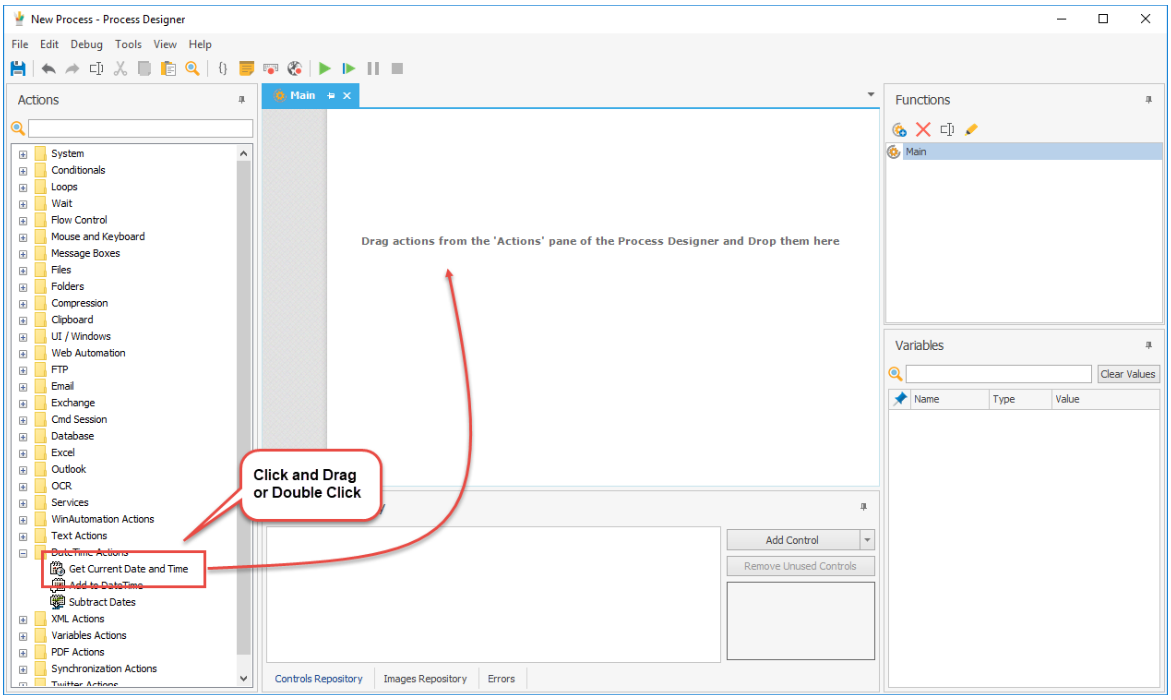
Name	Type	Value
%NewFolder%	Folder	C:\Test Folder
%ButtonPres...	Text Value	

Close the Process Designer Window and save the Process. Congratulations - you have created your first Process!

2.2 Create a simple Process - Part 2

One of the most powerful features of WinAutomation is its use of Variables to carry information from one Action to another. This allows you to get information and then use it in later steps, copying data and using it, moving it, or incorporating it into other Actions. Now you will create a Folder as in the first example. This time, the name of the folder will be the time and date that it was created. This Process has practical applications: as you can create unique folders, differentiated by time - perhaps to organize pictures. To do this, you will need four steps: get the current time; change it from a time value to text, so it can be used as a name; create the folder with this name; and then put up a message that the Process is finished.

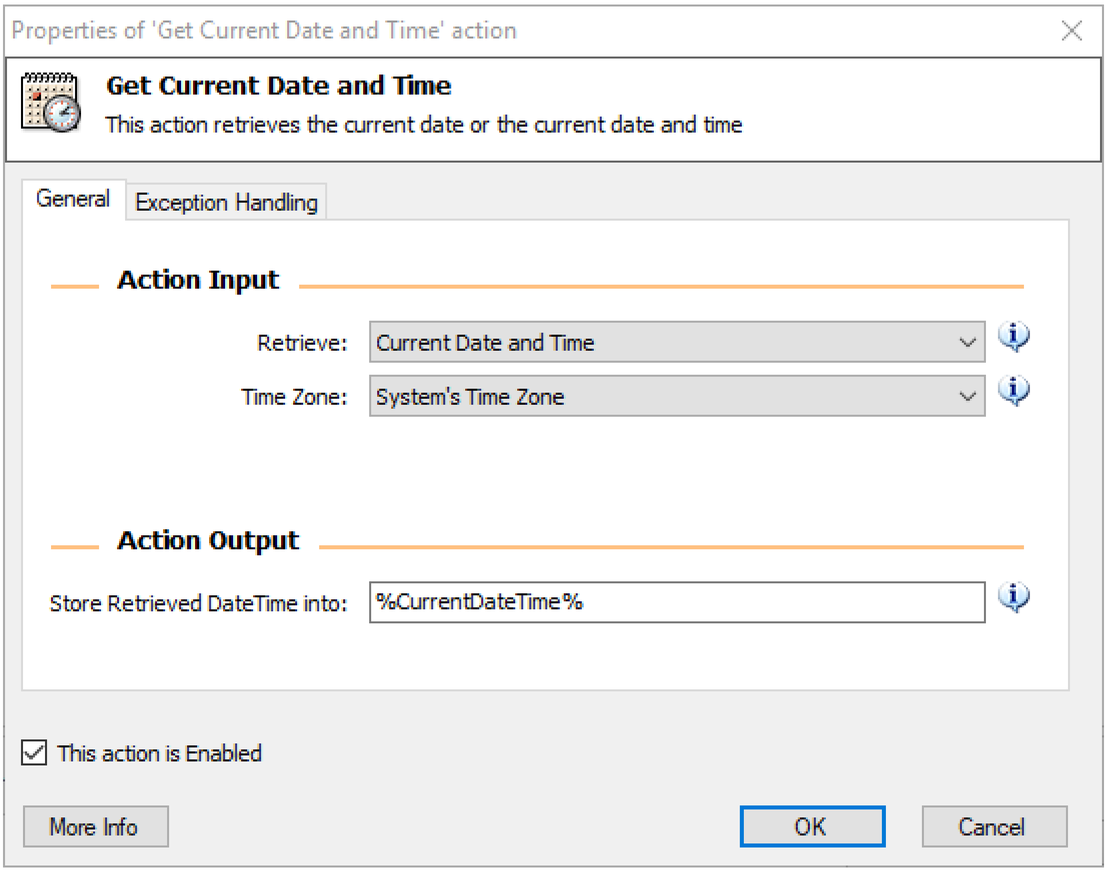
First, of course, create, name, and open the new Process. The first Action is to Get Current DateTime under the category DateTime Actions.



Drag actions from the 'Actions' pane of the Process Designer and Drop them here

Click and Drag or Double Click

Once we've Dragged and Dropped this Action, we want to retrieve the information to a Variable called "%CurrentDateTime%". This allows us to access the information later in the Process.



Get Current Date and Time

This action retrieves the current date or the current date and time

Action Input

Retrieve: Current Date and Time

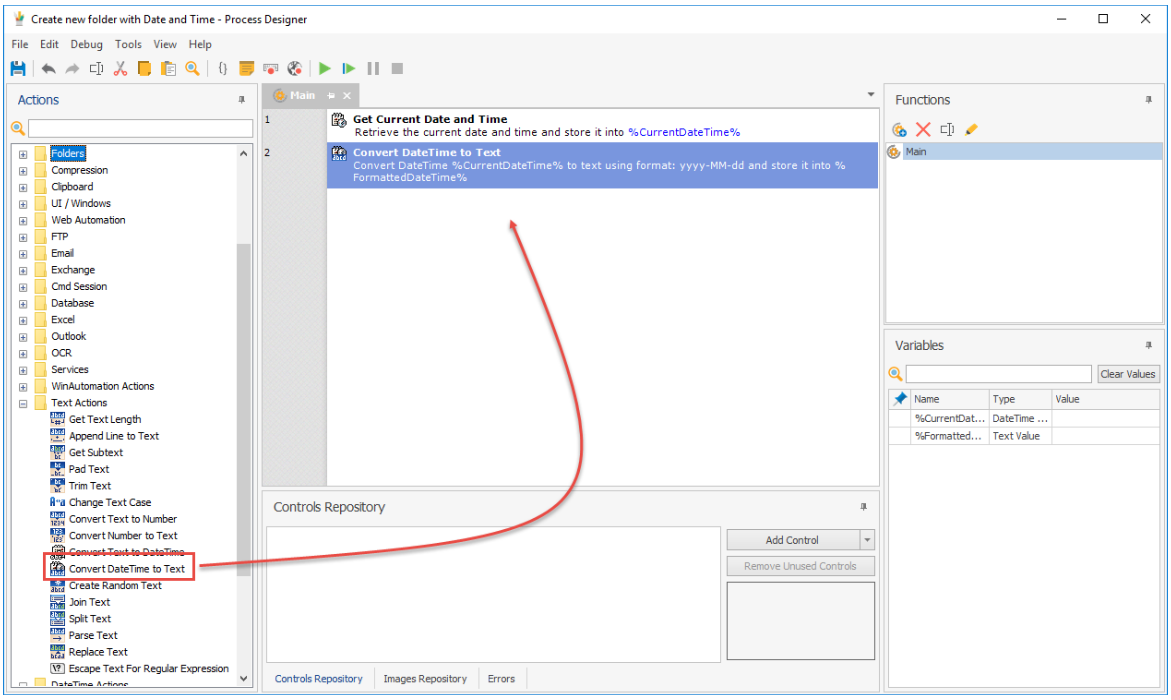
Time Zone: System's Time Zone

Action Output

Store Retrieved DateTime into: %CurrentDateTime%

☑ This action is Enabled

As you'll learn in Data Types, a DateTime value is not text, although it be used as such. But since a DateTime can be represented in many ways, to get it in the format that you prefer you'll have to convert the DateTime value to text with Convert DateTime to Text, under the category Text Actions.

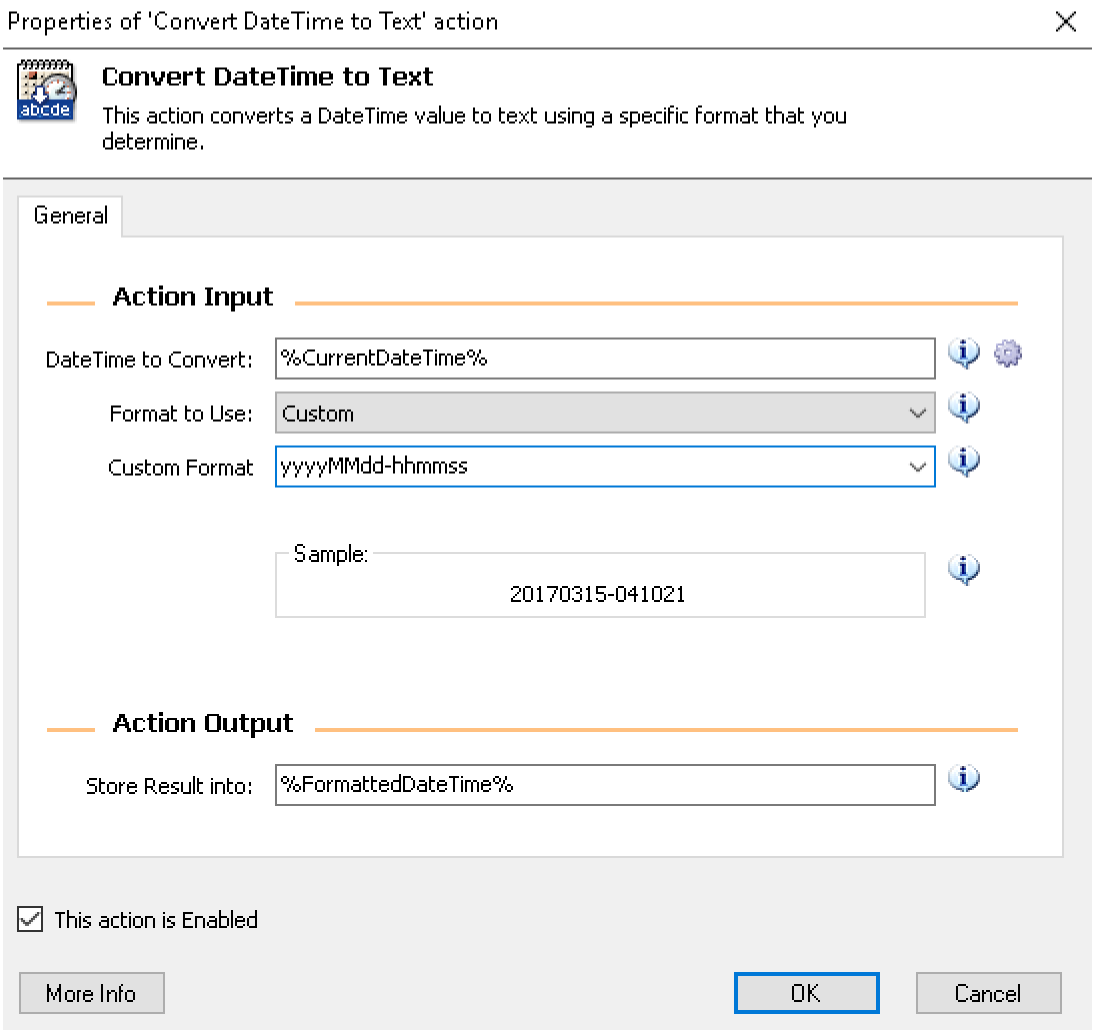


1 **Get Current Date and Time**
Retrieve the current date and time and store it into %CurrentDateTime%

2 **Convert DateTime to Text**
Convert DateTime %CurrentDateTime% to text using format: yyyy-MM-dd and store it into % FormattedDateTime%

Name	Type	Value
%CurrentDat...	DateTime ...	
%Formatted...	Text Value	

In the Convert DateTime to Text property box, you will select the Variable you created in the last Action, "%CurrentDateTime%". For the Format to Use, choose Custom and look at how DateTimes are expressed: yyyy-MM-dd gives four digits for the year, two for the month, and two for the day - experiment here to see how different formats look - time is often hh:mm:ss). In this case enter yyyyMMdd-hhmmss to create a sortable representation of the current date and time



Properties of 'Convert DateTime to Text' action

Convert DateTime to Text

This action converts a DateTime value to text using a specific format that you determine.

Action Input

DateTime to Convert: %CurrentDateTime%

Format to Use: Custom

Custom Format yyyyMMdd-hhmmss

Sample: 20170315-041021

Action Output

Store Result into: %FormattedDateTime%

☑ This action is Enabled

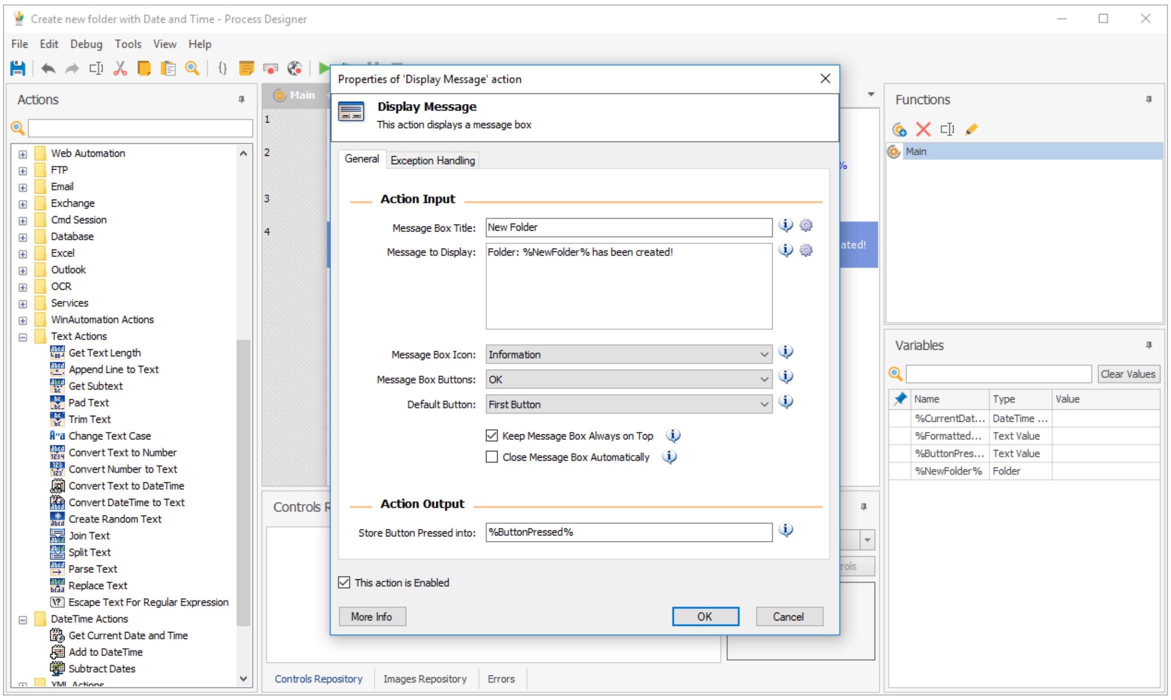
The output will be "%FormattedDateTime%" - now as text.

The final two Actions are the same as Example 1. You will Create a Folder with name "%FormattedDateTime%", and store the output to "%NewFolder%" and then Display a Message with a title, "New Folder Created" and the message,

"Folder:

%NewFolder%

has been created!"



Properties of 'Display Message' action

Display Message

This action displays a message box

General | Exception Handling

Action Input

Message Box Title: New Folder

Message to Display: Folder: %NewFolder% has been created!

Message Box Icon: Information

Message Box Buttons: OK

Default Button: First Button

☑ Keep Message Box Always on Top

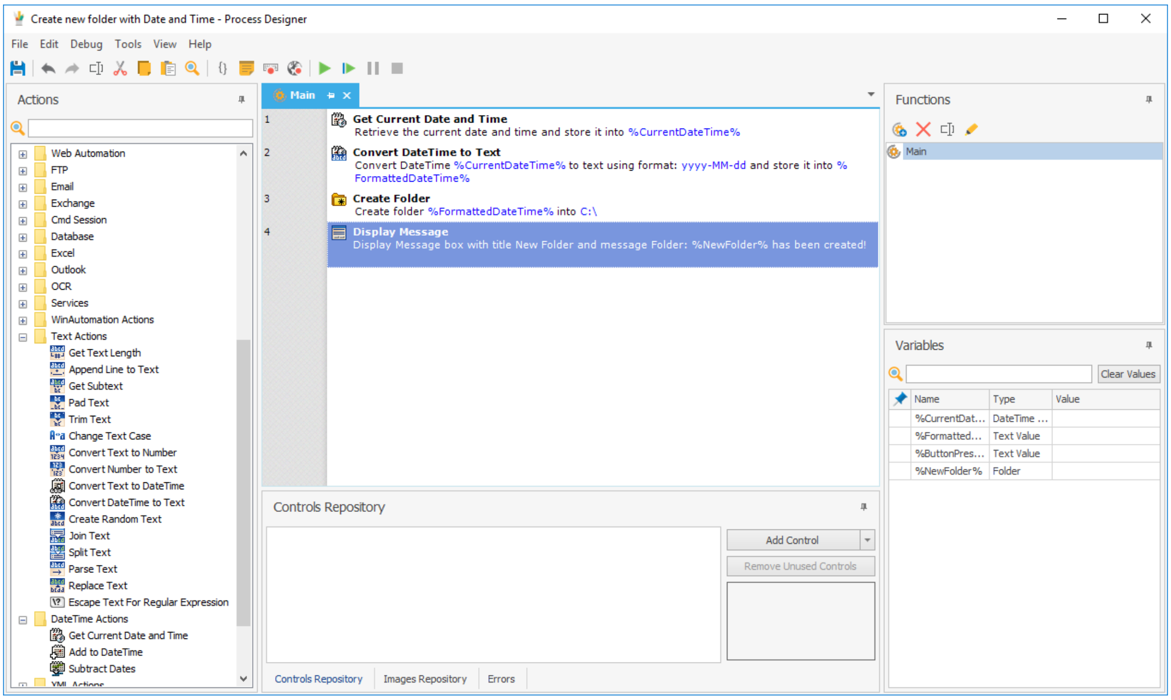
□ Close Message Box Automatically

Action Output

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled

Now, your Process Designer Window should look like this:



1 **Get Current Date and Time**
Retrieve the current date and time and store it into %CurrentDateTime%

2 **Convert DateTime to Text**
Convert DateTime %CurrentDateTime% to text using format: yyyy-MM-dd and store it into %FormattedDateTime%

3 **Create Folder**
Create folder %FormattedDateTime% into C:\

4 **Display Message**
Display Message box with title New Folder and message Folder: %NewFolder% has been created!

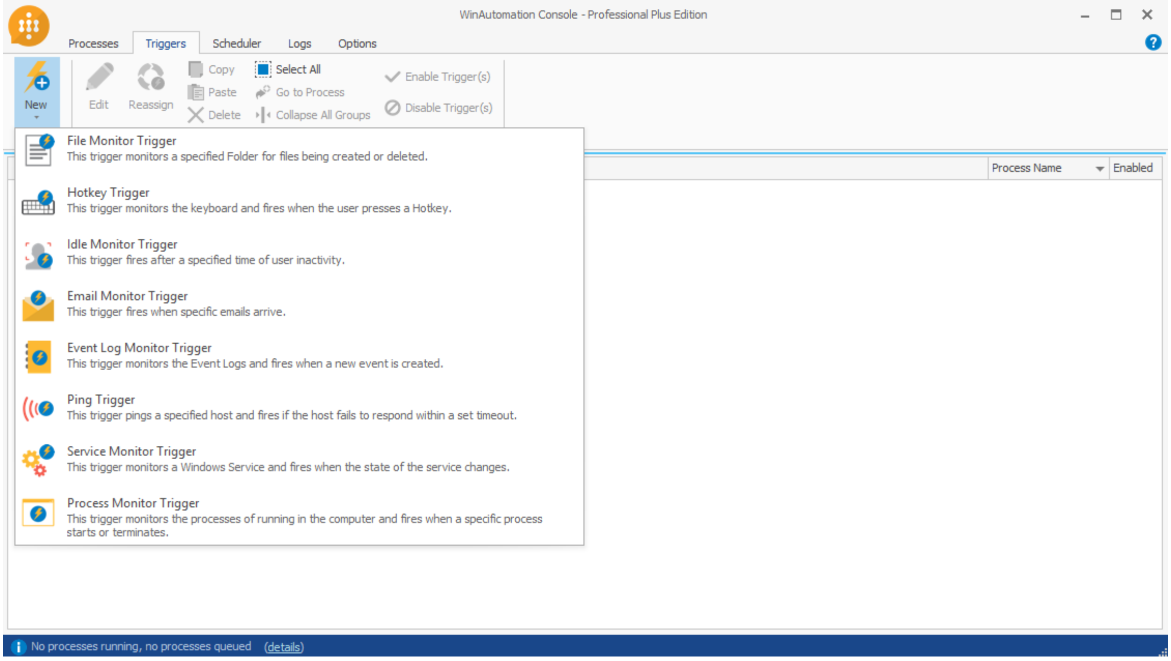
Name	Type	Value
%CurrentDat...	DateTime ...	
%Formatted...	Text Value	
%ButtonPres...	Text Value	
%NewFolder%	Folder	

Again, run the Process to test it, and see that things work the way they should. If everything works well, exit and save the Process.

2.3 Create a simple Process - Part 3

Next, it is easy to add a Trigger or a Schedule. WinAutomation supports many different kinds of Triggers and Schedules and this will allow the Process to be run automatically, for example when you enter a Hotkey, or, with Ping Trigger, whenever you are offline, or at specific times. Today you'll set up the two most common ones - at a certain time (Schedule) and at the touch of a Hotkey (Trigger). Make sure you have the WinAutomation Console open, and have a finished Process - the "Create New Folder with DateTime" you created in Part 2 is good.

Click on the Triggers Tab and select "New". Form the Available Triggers select "Hotkey Monitor Trigger" and select the hotkey you want, on the window that will popup:



File Monitor Trigger
This trigger monitors a specified Folder for files being created or deleted.

Hotkey Trigger
This trigger monitors the keyboard and fires when the user presses a Hotkey.

Idle Monitor Trigger
This trigger fires after a specified time of user inactivity.

Email Monitor Trigger
This trigger fires when specific emails arrive.

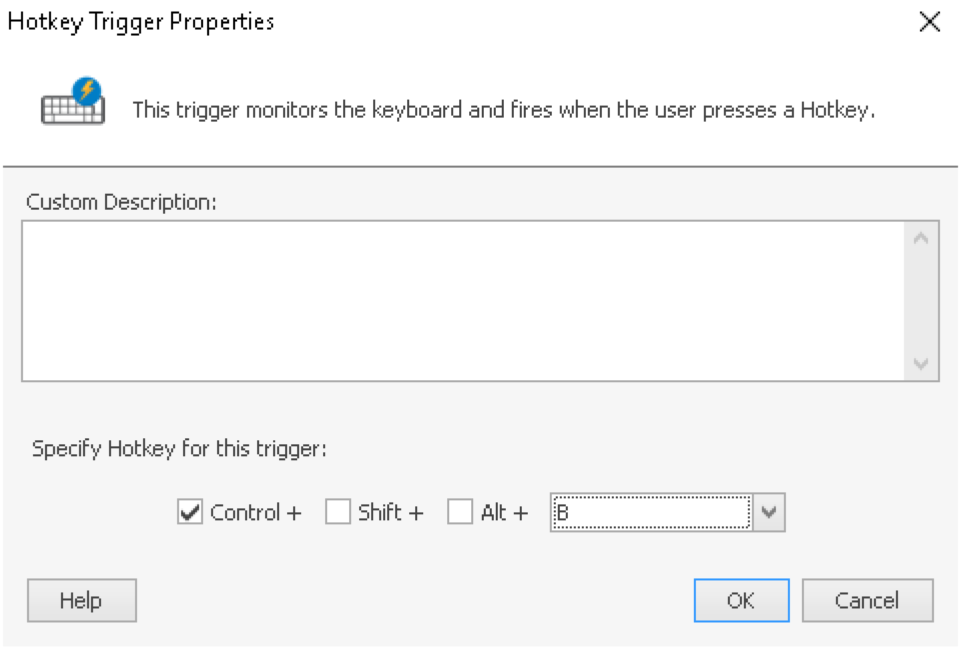
Event Log Monitor Trigger
This trigger monitors the Event Logs and fires when a new event is created.

Ping Trigger
This trigger pings a specified host and fires if the host fails to respond within a set timeout.

Service Monitor Trigger
This trigger monitors a Windows Service and fires when the state of the service changes.

Process Monitor Trigger
This trigger monitors the processes of running in the computer and fires when a specific process starts or terminates.

No processes running, no processes queued (details)



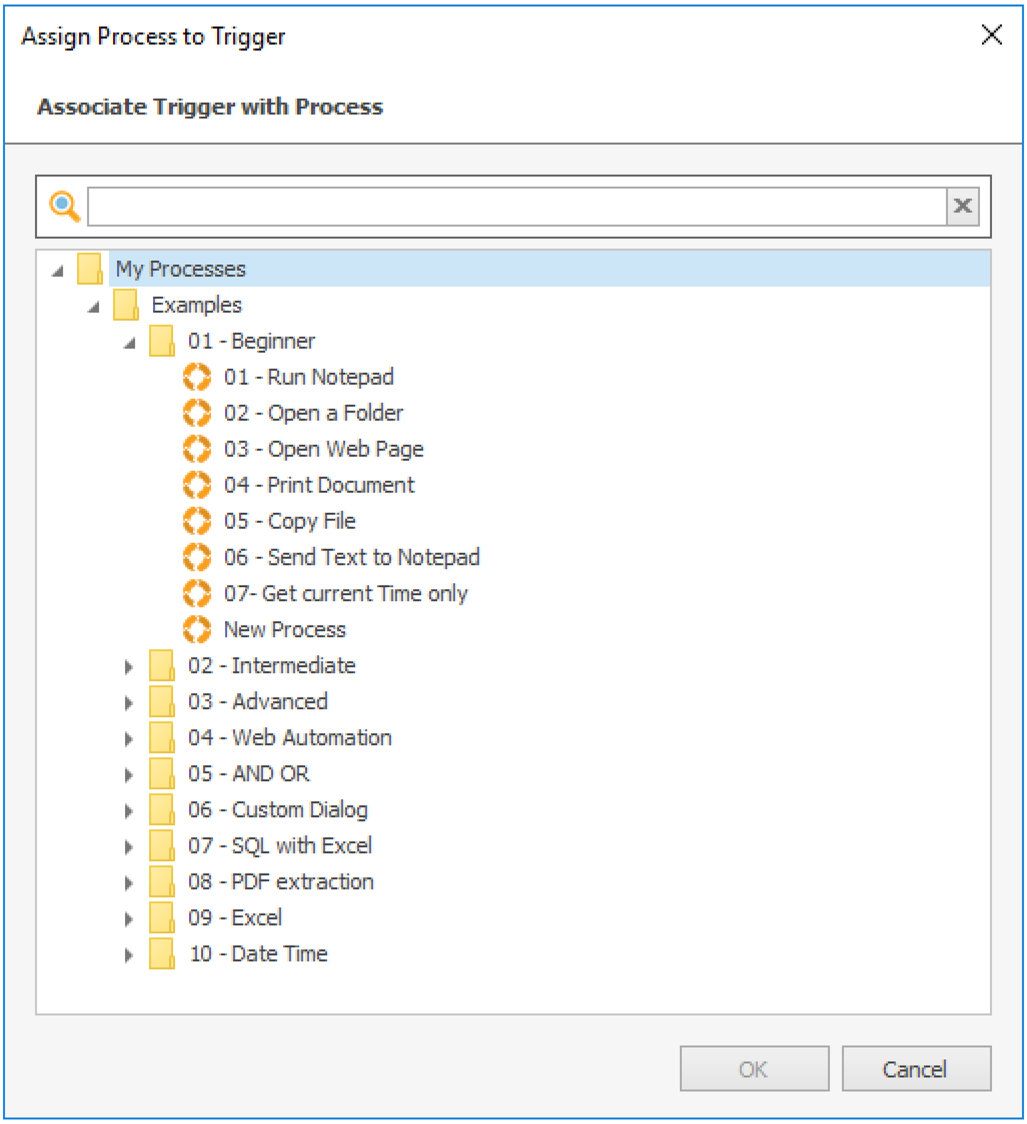
This trigger monitors the keyboard and fires when the user presses a Hotkey.

Custom Description:

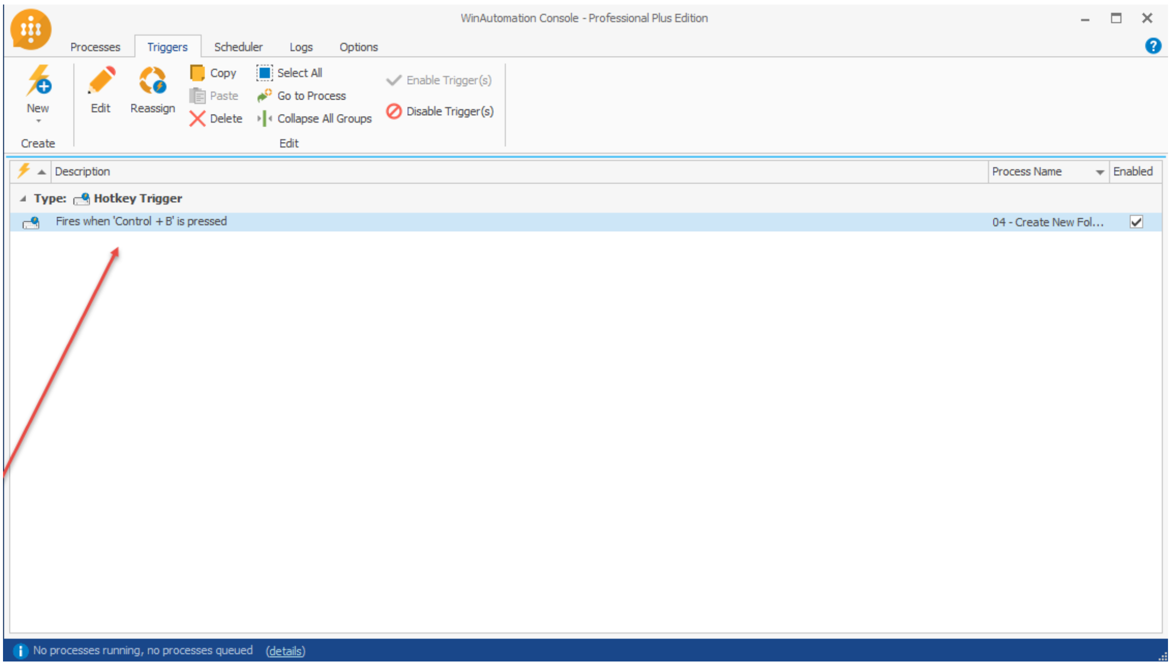
Specify Hotkey for this trigger:

☑ Control + □ Shift + □ Alt + B

The next dialog that open "Assign Process to Trigger" lists all the Processes that you have created. You can choose the Process that you want to attach the trigger to.



The newly created Trigger is now listed in the Triggers main pane.



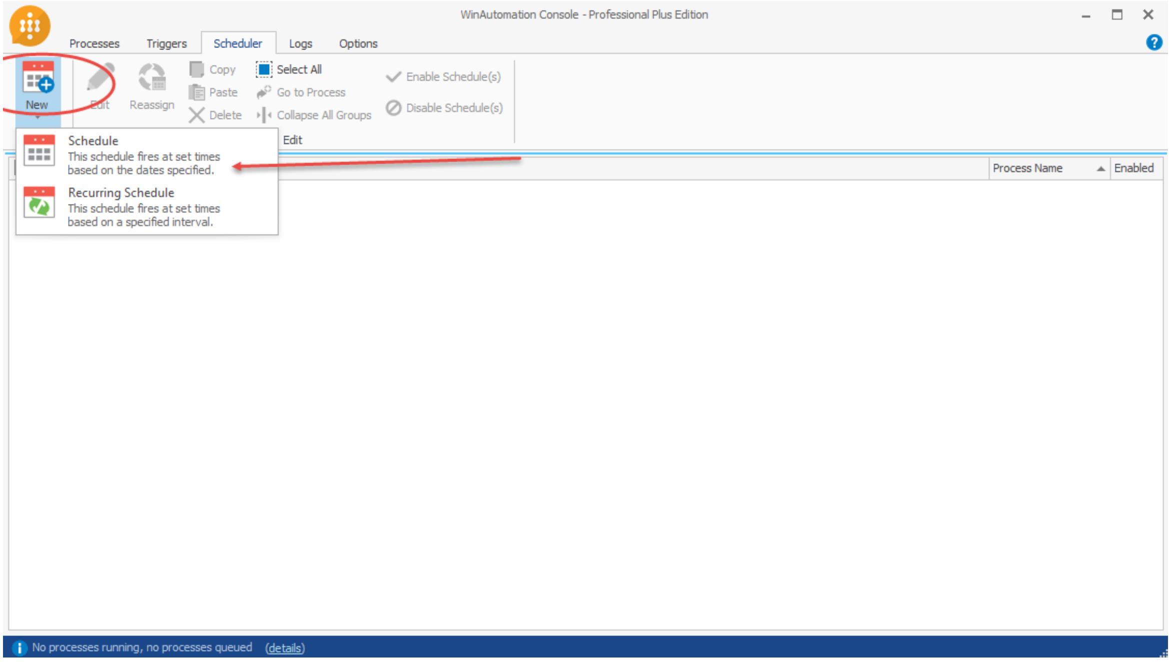
Type: Hotkey Trigger

Description	Process Name	Enabled
Fires when 'Control + B' is pressed	04 - Create New Fol...	☑

No processes running, no processes queued (details)

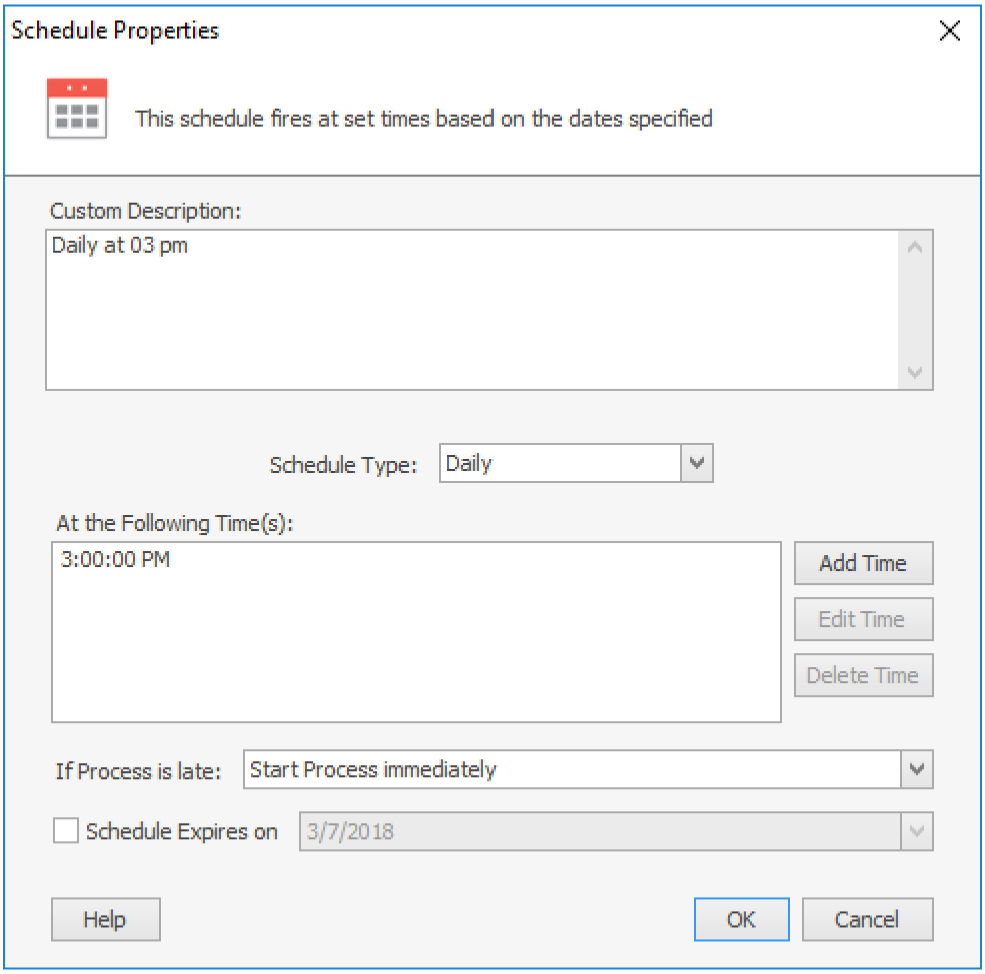
Now try it out. When you press Ctrl+B, the Process will run, you will get a folder with the current date and time as the name and a Message that it was created. Press Ctrl+B again and you will get another folder with a different time, if only by a few seconds.

Apart from the Triggers you also have the option to attache a Schedule to a your Process. For this, you would have to click on the "Scheduler" tab, click on "New" select the "Schedule".



WinAutomation Console - Professional Plus Edition
Processes
Triggers
Scheduler
Logs
Options
New
Edit
Reassign
Copy
Paste
Delete
Select All
Go to Process
Collapse All Groups
Enable Schedule(s)
Disable Schedule(s)
Edit
Schedule
This schedule fires at set times based on the dates specified.
Recurring Schedule
This schedule fires at set times based on a specified interval.
Process Name
Enabled
No processes running, no processes queued (details)

Enter a Custom Description and then choose a frequency and time to run the Process, for example Daily at 3 p.m.



Schedule Properties

This schedule fires at set times based on the dates specified

Custom Description: Daily at 03 pm

Schedule Type: Daily

At the Following Time(s): 3:00:00 PM

If Process is late: Start Process immediately

□ Schedule Expires on 3/7/2018

Decide whether you want the Process to run immediately or be skipped for the day if the Process is delayed (for example the computer wasn't on) and choose an expiration date if you want one. We'll accept the default on both of these. Again the "Assign Process to Schedule" dialog will appear to select the Process to which the Schedule will be attached.

Now you have a Trigger and a Schedule attached to your Process. This way the Process will run automatically every day at 3:00pm OR when you press Control+B.

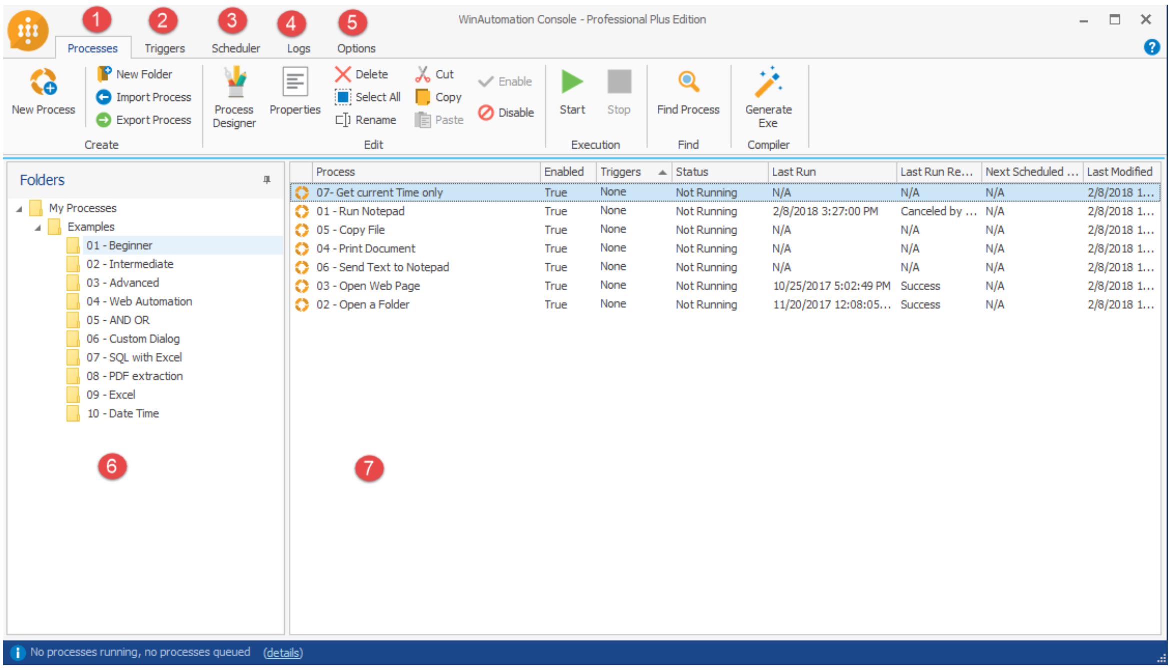
3. Using WinAutomation

3 Using WinAutomation

3.1 The Console

The Console is the first Window you see when you start up WinAutomation. From here, you will access all other parts of the software. This is where you perform most of your tasks other than building or editing a Process.

The 7 parts of the window are:



- My Processes
  - Examples
    - 01 - Beginner
    - 02 - Intermediate
    - 03 - Advanced
    - 04 - Web Automation
    - 05 - AND OR
    - 06 - Custom Dialog
    - 07 - SQL with Excel
    - 08 - PDF extraction
    - 09 - Excel
    - 10 - Date Time

Process	Enabled	Triggers	Status	Last Run	Last Run Re...	Next Scheduled ...	Last Modified
07- Get current Time only	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
01 - Run Notepad	True	None	Not Running	2/8/2018 3:27:00 PM	Canceled by ...	N/A	2/8/2018 1...
05 - Copy File	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
04 - Print Document	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
06 - Send Text to Notepad	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
03 - Open Web Page	True	None	Not Running	10/25/2017 5:02:49 PM	Success	N/A	2/8/2018 1...
02 - Open a Folder	True	None	Not Running	11/20/2017 12:08:05...	Success	N/A	2/8/2018 1...

No processes running, no processes queued (details)

1 - Processes Tab 83

2 - Triggers Tab 95

3 - Scheduler Tab 110

4 - Logs Tab 115

5 - Options Tab 120

6 - Folders Pane: In this pane you are able to view your Processes folders structure.

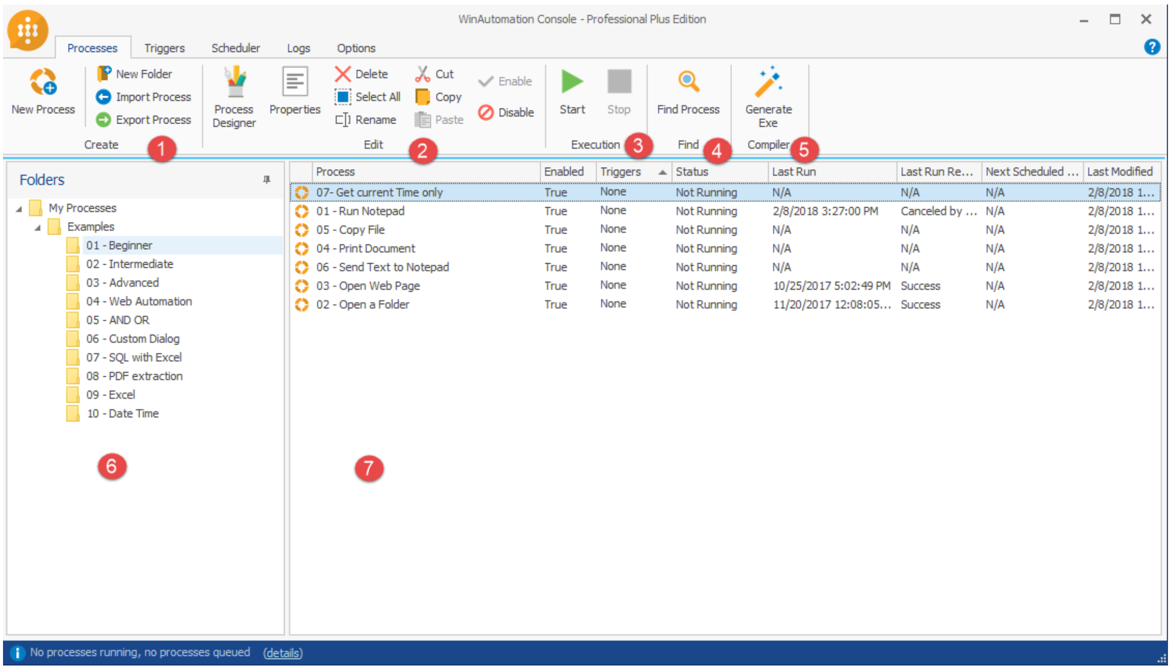
7 - Processes Pane: In this pane you can see all the Processes that are saved in a specific folder. You can click on a folder in the Processes' Folder pane and all its Processes will be listed in the Process's pane.

3.1.1 Processs

In the Processes Tab in the WinAutomation console you will find all the options to manage your Processes, explained in detail in the topics below.

3.1.1.1 Processs Tab

The Processes Tab has four menu groups and two panes as follows:



Process	Enabled	Triggers	Status	Last Run	Last Run Re…	Next Scheduled …	Last Modified
07- Get current Time only	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1…
01 - Run Notepad	True	None	Not Running	2/8/2018 3:27:00 PM	Canceled by …	N/A	2/8/2018 1…
05 - Copy File	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1…
04 - Print Document	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1…
06 - Send Text to Notepad	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1…
03 - Open Web Page	True	None	Not Running	10/25/2017 5:02:49 PM	Success	N/A	2/8/2018 1…
02 - Open a Folder	True	None	Not Running	11/20/2017 12:08:05…	Success	N/A	2/8/2018 1…

No processes running, no processes queued (details)

1. Create:

In the Create group you can create a New Process 85, create a new folder 84 to save your Processes in, Import/Export a Process 87 a Process in/out the console.

2. Edit:

In the Edit group you can Edit a Process in the Process Designer by clicking on the "Process Designer" option, view its Properties 138, delete a Process, Select all Processes in the folder that you are currently in, Rename/Cut/Copy/Paste a Process and Enable or Disable 91 it.

3. Execution:

In the Execution group you can Execute-Run-Start 89 a Process from the Console and Stop it at any time before its completion.

4. Find (Available with the Professional and Professional Plus Editions. N/A to the Basic Edition):

In the Find 92 group you can search for your Processes in your Processes folder structure simply by entering some text which is contained in a Process name.

5. Compiler (Available with the Professional and Professional Plus Editions. N/A to the Basic Edition):

With the Professional edition you are able to create stand alone executable files 148 that can run on any machine. We will talk more about executable files in a bit.

6. The Processes Folders List pane:

In this pane you are able to view your saved Processes folders structure.

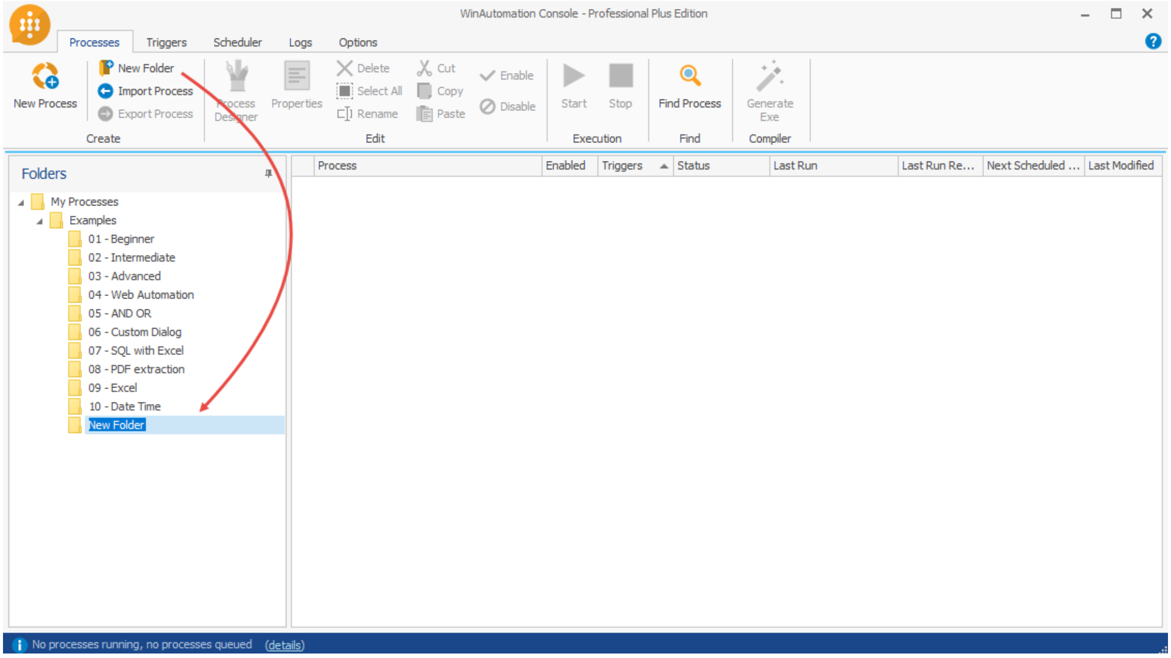
7. The Processes List pane:

In this pane you can see all the Processes that are saved in a specific folder. You can click on a folder in the Processes' Folder pane and all its Processes will be listed in the Process's pane.

The Columns in the Processes List pane can be rearranged should you click and drag them according to your desirable display.

3.1.1.2 Create a new Folder

You can create a new folder in the Console by the "Create" menu group in the Processes tab, after clicking "New Folder", or by right clicking on the folders pane and selecting "New Folder". This creates a new folder that is waiting for you to rename it, if you wish to do so.



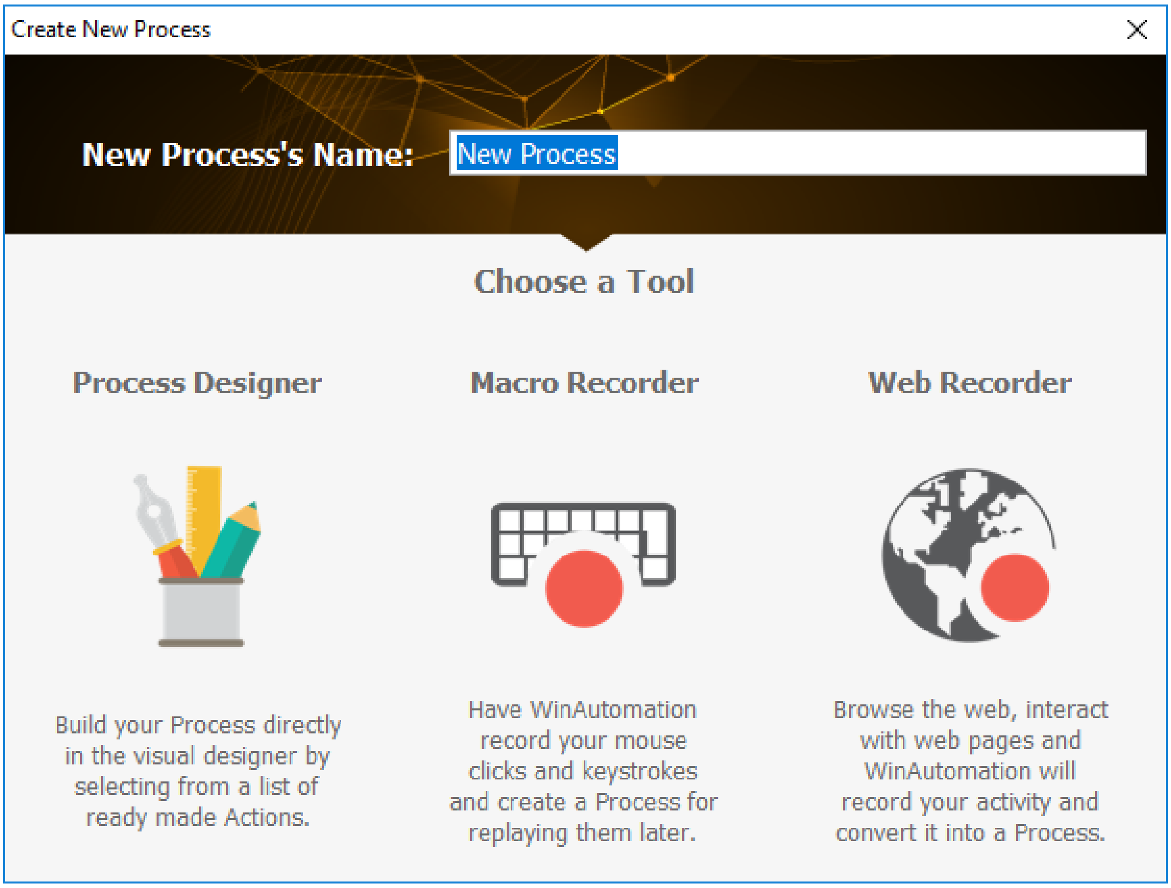
The new folder will be created as a subfolder, under the folder which is selected in the Folders List. It will always be a subfolder of whatever folder you have selected on the left screen. Therefore you cannot create another folder at the same level as 'My Processes', as you cannot select a higher folder to place the new one in.

You can also drag and drop a folders into another folder in the Folders' list pane.

Of course, you cannot have two folders with the same name under the same folder.

3.1.1.3 Create a new Process

You can create a new Process by pressing Ctrl+N or by clicking on the New Process button on the Processes tab. This will open the "Create New Process" Dialog, prompting for a name for the new Process.



Create New Process

New Process's Name: New Process

Choose a Tool

Process Designer

Build your Process directly in the visual designer by selecting from a list of ready made Actions.

Macro Recorder

Have WinAutomation record your mouse clicks and keystrokes and create a Process for replaying them later.

Web Recorder

Browse the web, interact with web pages and WinAutomation will record your activity and convert it into a Process.

After setting the Process's name you have three options.

You can either open:

1. the Process Designer and start building your Process by dragging and dropping actions in the workspace,

2. you can jump to the Macro Recorder to record your mouse clicks and keystrokes or smart record any Desktop activity and then go back to the Process Designer, or

3. finally, you can open the Web Recorder and start navigating in a browser window where all your web activities will be recorded and converted into actions when you finish the recording and return to the Process Designer.

Note that you can always enter the Process Designer and access the Recording tools (Macro Recorder and Web Recorder) from within the Process Designer's window. The tools are available in the Process Designer's toolbar and under the "Tools" menu.

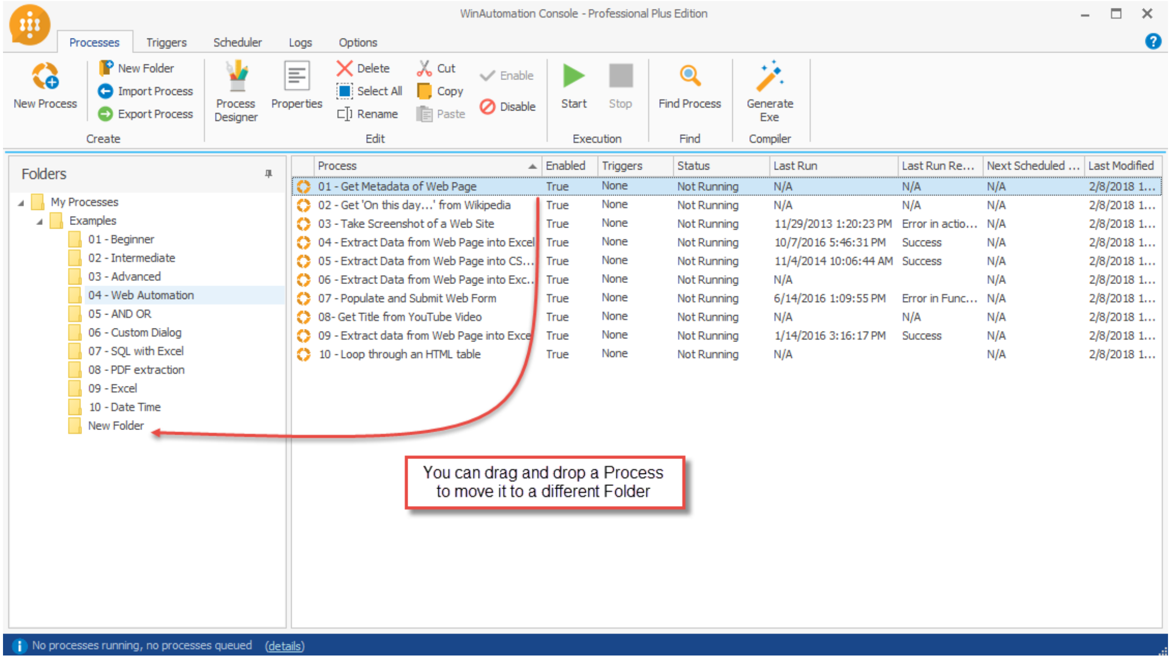
To re-edit a Process later, double-click on it, or select it and click on the "Process Designer" button on the Processes tab or right click on the Process and select Edit Process.

3.1.1.4 Move Processs/Folders

The Folders List and Processes List panes both use 'drag and drop', so moving folders and Processes is easy.

Simply select the folder you want to move and drop it in the destination folder, in the Folders' List pane. If you want to move a Process, click on it in the Processes List pane and drag it to the proper folder.

You can always cut (or copy) the process and paste it in the folder you wish.



Process	Enabled	Triggers	Status	Last Run	Last Run Re...	Next Scheduled ...	Last Modified
01 - Get Metadata of Web Page	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
02 - Get 'On this day...' from Wikipedia	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
03 - Take Screenshot of a Web Site	True	None	Not Running	11/29/2013 1:20:23 PM	Error in actio...	N/A	2/8/2018 1...
04 - Extract Data from Web Page into Excel	True	None	Not Running	10/7/2016 5:46:31 PM	Success	N/A	2/8/2018 1...
05 - Extract Data from Web Page into CS...	True	None	Not Running	11/4/2014 10:06:44 AM	Success	N/A	2/8/2018 1...
06 - Extract Data from Web Page into Exc...	True	None	Not Running	N/A		N/A	2/8/2018 1...
07 - Populate and Submit Web Form	True	None	Not Running	6/14/2016 1:09:55 PM	Error in Func...	N/A	2/8/2018 1...
08- Get Title from YouTube Video	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
09 - Extract data from Web Page into Exce	True	None	Not Running	1/14/2016 3:16:17 PM	Success	N/A	2/8/2018 1...
10 - Loop through an HTML table	True	None	Not Running	N/A		N/A	2/8/2018 1...

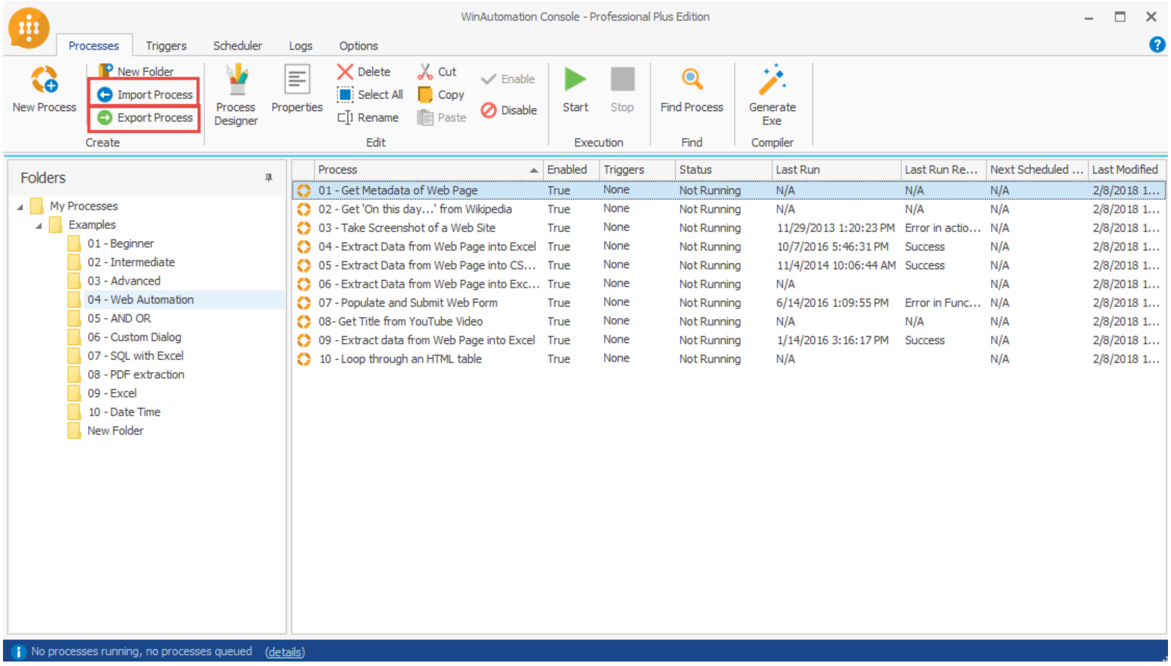
You can drag and drop a Process to move it to a different Folder

No processes running, no processes queued (details)

3.1.1.5 Import/Export a Process

WinAutomation stores all Processes in a database. Therefore, there are no obvious Process files to copy or move. To copy a Process onto another computer that has WinAutomation installed, export the Process - this will create a file with the extension .waj.

This file may be moved to another computer with WinAutomation and then imported into its database. Now the new computer will also have a copy of the Process. This is done through Import Process and Export Process on the Processes tab.



Process	Enabled	Triggers	Status	Last Run	Last Run Re...	Next Scheduled ...	Last Modified
01 - Get Metadata of Web Page	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
02 - Get 'On this day...' from Wikipedia	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
03 - Take Screenshot of a Web Site	True	None	Not Running	11/29/2013 1:20:23 PM	Error in actio...	N/A	2/8/2018 1...
04 - Extract Data from Web Page into Excel	True	None	Not Running	10/7/2016 5:46:31 PM	Success	N/A	2/8/2018 1...
05 - Extract Data from Web Page into CS...	True	None	Not Running	11/4/2014 10:06:44 AM	Success	N/A	2/8/2018 1...
06 - Extract Data from Web Page into Exc...	True	None	Not Running	N/A		N/A	2/8/2018 1...
07 - Populate and Submit Web Form	True	None	Not Running	6/14/2016 1:09:55 PM	Error in Func...	N/A	2/8/2018 1...
08- Get Title from YouTube Video	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
09 - Extract data from Web Page into Excel	True	None	Not Running	1/14/2016 3:16:17 PM	Success	N/A	2/8/2018 1...
10 - Loop through an HTML table	True	None	Not Running	N/A		N/A	2/8/2018 1...

Import a Process:

To import a Process within your WinAutomation Console, please do launch the WinAutomation Console, and from the Processes tab in the Create menu, please do select the "Import Rob" option. Having done so, a dialog will appear and prompt you to select the Process's file you wish to import (*.waj)

Once the file has been selected and you have press the "Open" button the dialog window will close and within the WinAutomation Console, in the Processes panel you shall see the Process you selected to import.

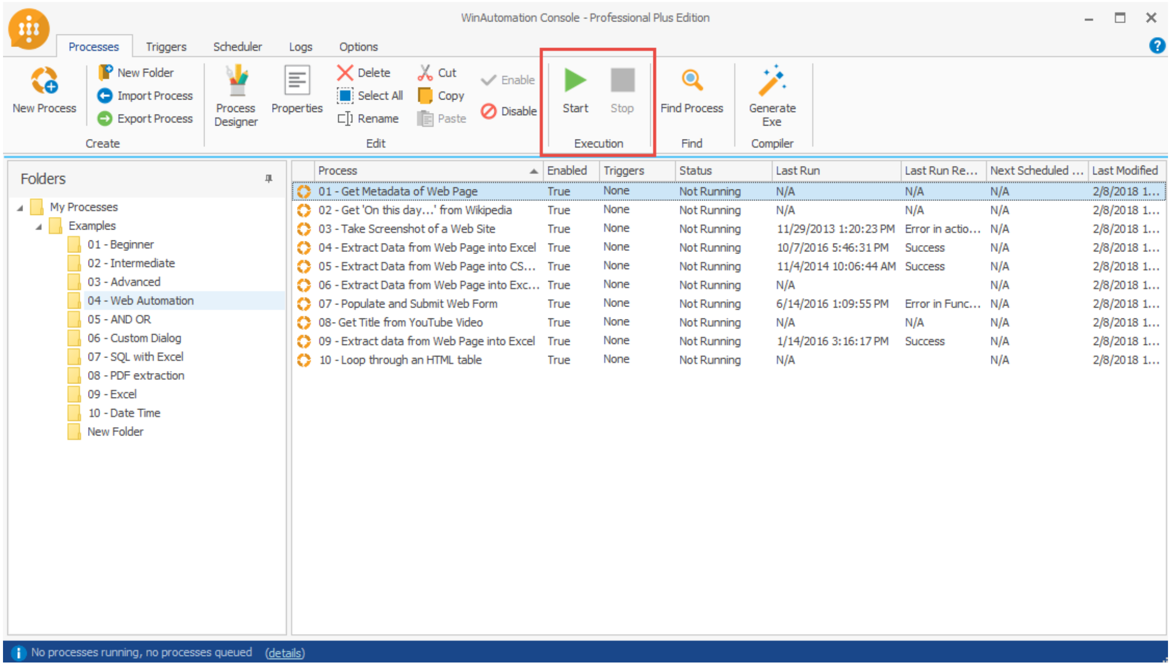
Export Process:

To export a Process, locate the Process you wish to export and from the Processes List pane and select the "Export Process" option in the Create menu group. Having done so, a dialog will appear and prompt you to select the folder where the Process should be exported to.

Once the folder has been selected and you press the "OK" button in the dialog, the dialog window will close and within the folder you selected a new file will be created named after the Process's name and with a *.waj extension.

3.1.1.6 Run/Stop a Process

You can start a Process manually by clicking on the Start Process Icon, clicking Start, by right-clicking on the Process and choosing Run Process, or through the use of Triggers. The Process you want to start must be highlighted. If no Process is highlighted, the Start "▶" and Stop "🟥" options are not available.



Process	Enabled	Triggers	Status	Last Run	Last Run Re...	Next Scheduled ...	Last Modified
01 - Get Metadata of Web Page	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
02 - Get 'On this day...' from Wikipedia	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
03 - Take Screenshot of a Web Site	True	None	Not Running	11/29/2013 1:20:23 PM	Error in actio...	N/A	2/8/2018 1...
04 - Extract Data from Web Page into Excel	True	None	Not Running	10/7/2016 5:46:31 PM	Success	N/A	2/8/2018 1...
05 - Extract Data from Web Page into CS...	True	None	Not Running	11/4/2014 10:06:44 AM	Success	N/A	2/8/2018 1...
06 - Extract Data from Web Page into Exc...	True	None	Not Running	N/A		N/A	2/8/2018 1...
07 - Populate and Submit Web Form	True	None	Not Running	6/14/2016 1:09:55 PM	Error in Func...	N/A	2/8/2018 1...
08- Get Title from YouTube Video	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
09 - Extract data from Web Page into Excel	True	None	Not Running	1/14/2016 3:16:17 PM	Success	N/A	2/8/2018 1...
10 - Loop through an HTML table	True	None	Not Running	N/A		N/A	2/8/2018 1...

No processes running, no processes queued (details)

If you start a Process that is already running, by default you will start another Instance of that Process. If you do not wish a Process to be able to run multiple instances concurrently, you can specify that through the Concurrency Policy 146 tab (available in the Professional and Professional Plus editions only) of the Process Properties Dialog for that Process.

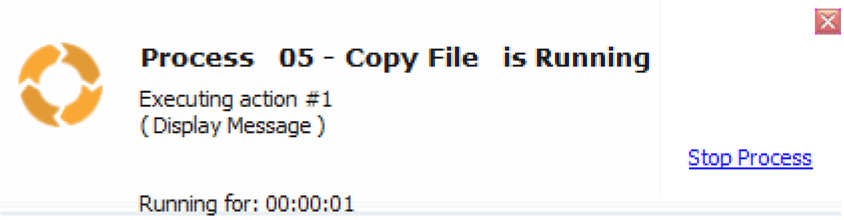
You can stop a running Process by clicking on the Stop Icon in the Processes tab, or by right-clicking on the Process and choosing Stop Process.

You can also stop one instance of a running Process by clicking on the Stop Processes link found on the Notification Popup Window 90, though this will close only that instance of the Process.

Finally, you can close all running Processes simultaneously by entering Ctrl+Alt+T. This HotKey is a predefined Trigger that is especially useful if WinAutomation is controlling your mouse so you can't click on anything, a "panic button," so to speak. You can change this combination in the "Options > Settings > General" tab.

3.1.1.7 The Notification Popup Window

The Notification Popup Window is the small window that opens in the bottom right corner of the screen while a Process is running (and for a short time thereafter) from the WinAutomation Console, a Schedule or with a Trigger. It will not be displayed when you run a Process from within the Process Designer, as this is considered debugging, not running.



Process 05 - Copy File is Running

Executing action #1
(Display Message)

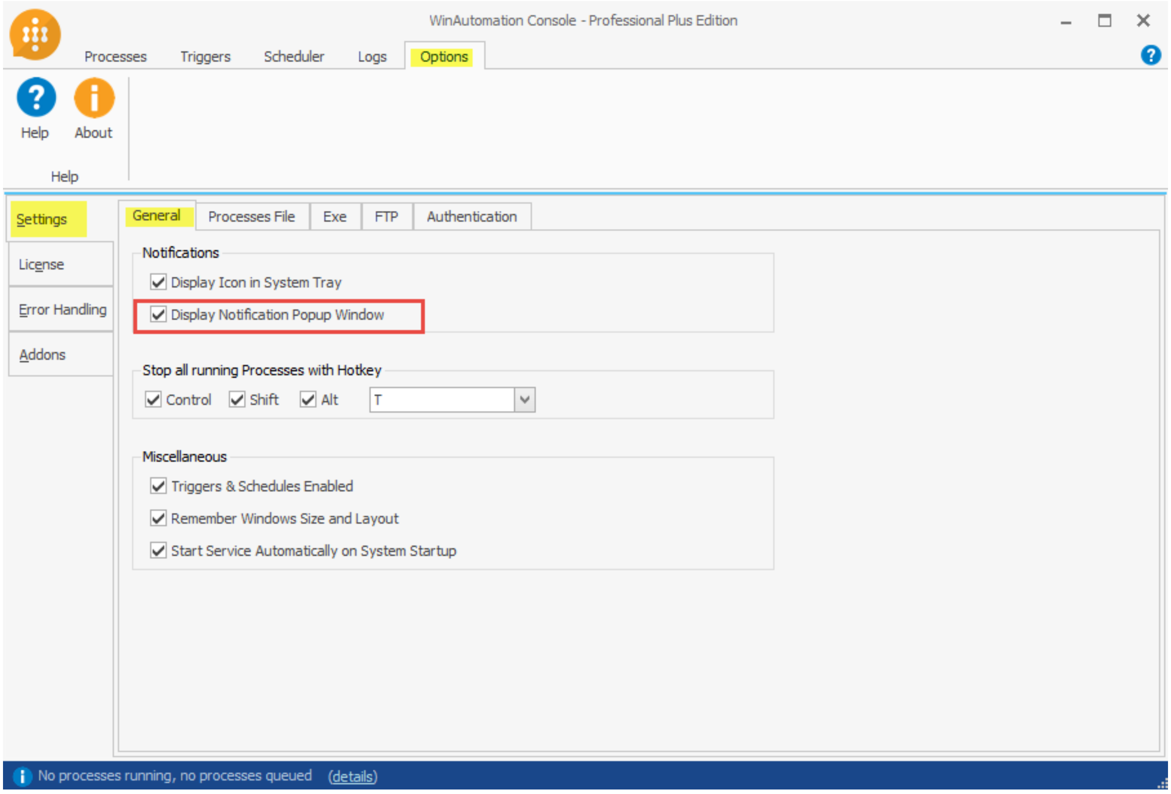
Running for: 00:00:01

The Notification Window displays the status of the Process (Running or Completed), which Action is currently being executed, the total running time and a small link which says "Stop Process" (and stops that instance of this Process only).

You can also display custom messages through the Notification Window, using the Display Notification Action 459 under Message Boxes. This is a great way to write messages to the user without pausing the Process for a standard Message Box. Enter the text (and/or Variable value) you want to display. As you go through the Process, you can change the message with further use of the Display Notification Action and using an empty message will remove the message you had previously displayed.

Additional Notification Windows will pop-up above the previous one, so if you run several Processes simultaneously, the Windows will form a column.

Although the Notification Popup Windows provides you with information about the Processes currently running, if they are distracting, you can disable this feature through the Options tab > Settngs > General 140 as shown in the picture below:



Notifications

☑ Display Icon in System Tray

☑ Display Notification Popup Window

Stop all running Processes with Hotkey

☑ Control ☑ Shift ☑ Alt T

Miscellaneous

☑ Triggers & Schedules Enabled

☑ Remember Windows Size and Layout

☑ Start Service Automatically on System Startup

No processes running, no processes queued (details)

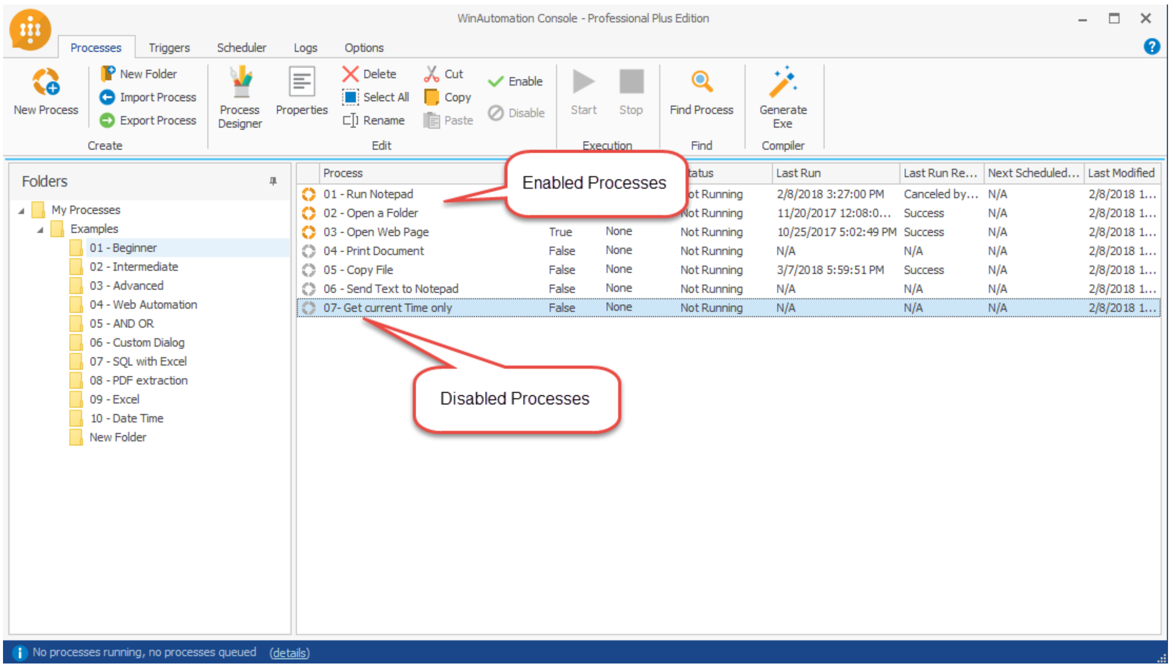
You can close any open Window at any time by clicking on the red (☒) button on the top right corner of the Window. This will hide only the Notification Window, while the Process instance continues to run. To stop the Process itself, click on the "Stop Process" link in the Notification Window.

3.1.1.8 Enable/Disable a Process

Enabled, the default setting, means a Process can run. If you Disable a Process, it cannot be run, neither manually nor by a Trigger. This is useful for making sure that a Process that is not supposed to run, for any reason, will not start accidentally. You can however edit a disabled Process and run it through the debugger.

You can enable or disable a Process by selecting it and choosing Enable Process or Disable Process on the Processes Tab.

If you disable a Process, the text will appear in a lighter, grayed-out color:



- My Processes
  - Examples
    - 01 - Beginner
    - 02 - Intermediate
    - 03 - Advanced
    - 04 - Web Automation
    - 05 - AND OR
    - 06 - Custom Dialog
    - 07 - SQL with Excel
    - 08 - PDF extraction
    - 09 - Excel
    - 10 - Date Time
    - New Folder

Process			tatus	Last Run	Last Run Re…	Next Scheduled…	Last Modified
01 - Run Notepad			ot Running	2/8/2018 3:27:00 PM	Canceled by…	N/A	2/8/2018 1…
02 - Open a Folder			Not Running	11/20/2017 12:08:0…	Success	N/A	2/8/2018 1…
03 - Open Web Page	True	None	Not Running	10/25/2017 5:02:49 PM	Success	N/A	2/8/2018 1…
04 - Print Document	False	None	Not Running	N/A	N/A	N/A	2/8/2018 1…
05 - Copy File	False	None	Not Running	3/7/2018 5:59:51 PM	Success	N/A	2/8/2018 1…
06 - Send Text to Notepad	False	None	Not Running	N/A	N/A	N/A	2/8/2018 1…
07- Get current Time only	False	None	Not Running	N/A	N/A	N/A	2/8/2018 1…

Enabled Processes

Disabled Processes

No processes running, no processes queued (details)

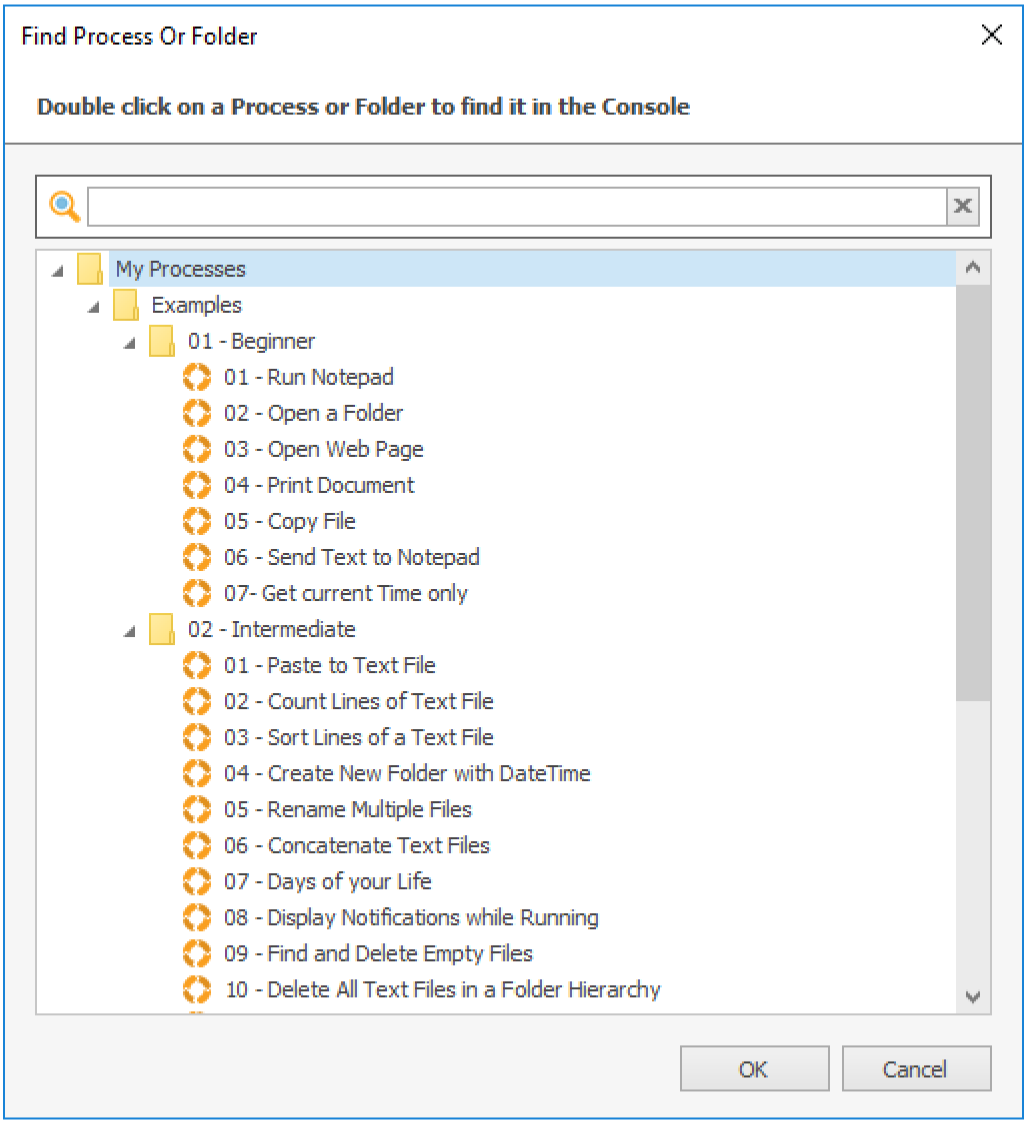
Enabled & Disabled Processes

3.1.1.9 Find Process

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Using the Find option, you can search for a process by its name and select it within all the folders of your database.

You can double click on a process or a folder to find it in the Console.



Find Process Or Folder

Double click on a Process or Folder to find it in the Console

- My Processes
  - Examples
    - 01 - Beginner
      - 01 - Run Notepad
      - 02 - Open a Folder
      - 03 - Open Web Page
      - 04 - Print Document
      - 05 - Copy File
      - 06 - Send Text to Notepad
      - 07- Get current Time only
    - 02 - Intermediate
      - 01 - Paste to Text File
      - 02 - Count Lines of Text File
      - 03 - Sort Lines of a Text File
      - 04 - Create New Folder with DateTime
      - 05 - Rename Multiple Files
      - 06 - Concatenate Text Files
      - 07 - Days of your Life
      - 08 - Display Notifications while Running
      - 09 - Find and Delete Empty Files
      - 10 - Delete All Text Files in a Folder Hierarchy

Find Process Window

3.1.2 Triggers

3.1.2.1 What Triggers Are

Triggers, help you to run a WinAutomation Process automatically without your interference. For example, if you want something to happen when a system is down, when a file is created, when a service is starting/stopping or when you press a key combination, this is the way to set it up. Triggers work whenever they are set to, even if there is no user logged onto the computer at that time.

For Triggers (and Schedules) 109 to work, the WinAutomation Services must be running in the background, constantly checking and starting Processes if a Trigger is set off. As long as they are running, WinAutomation Triggers will function normally. If you right-click on the Agent in the System Tray 327 and choose Exit WinAutomation, you will disable all Triggers and close all functionality of WinAutomation until you run the program again. This is different from the Console, so Triggers will still function normally if the Console has been closed.

Triggers can be disabled universally from the Triggers tab 95 after selecting "Select All" and "Disable Triggers". This means that no Triggers will fire, until you change this setting.

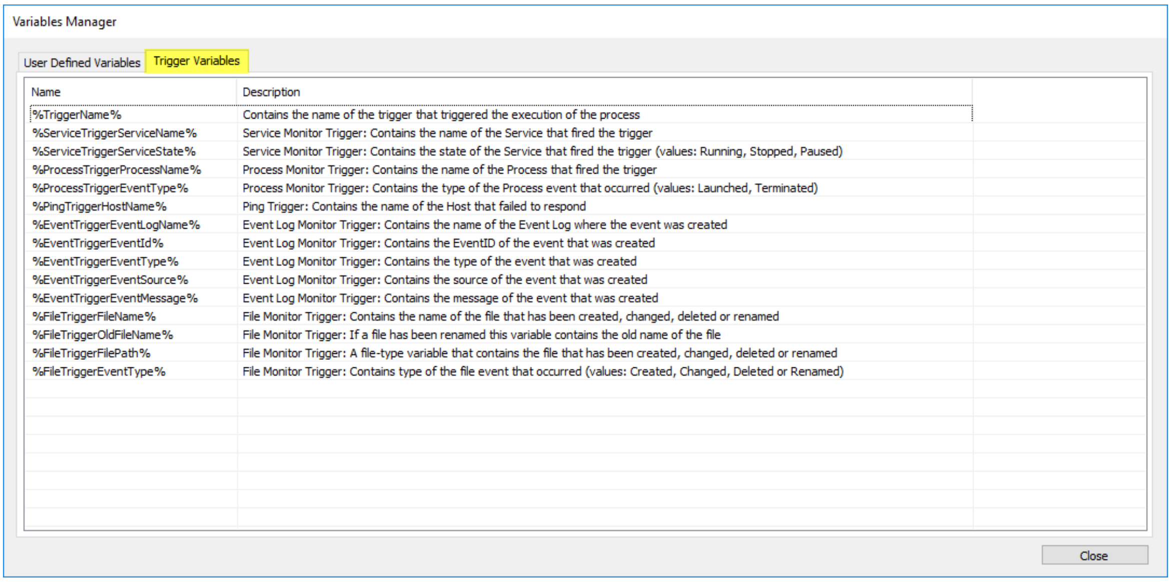
If you want to disable the Triggers for one Process without deleting them, right-click on the Process and choose Disable Process. Now this Process will not run, manually or through Triggers, until you Enable the Process again

3.1.2.2 Trigger Variables

All Processes have several built-in Variables that are filled in based on what Triggered them. All Triggers will populate %TriggerName% with the name of the Trigger that fired it. If a Process runs manually (whether or not it has Triggers attached), the contents of this Variable will be an empty text.

For example a Process Trigger will populate %TriggerName%, %ProcessTriggerProcessName%, and %ProcessTriggerEventType% with the name of the Trigger that fired the Process (a Process Trigger), the name of the Process and the Event that fired it (Launched or Terminated). These Variables will be filled in the beginning of the Process, so you can access them throughout the Process to notify the user.

You can find all Trigger Variables and their descriptions through Tools -> Variables Manager in the Process Designer Window.



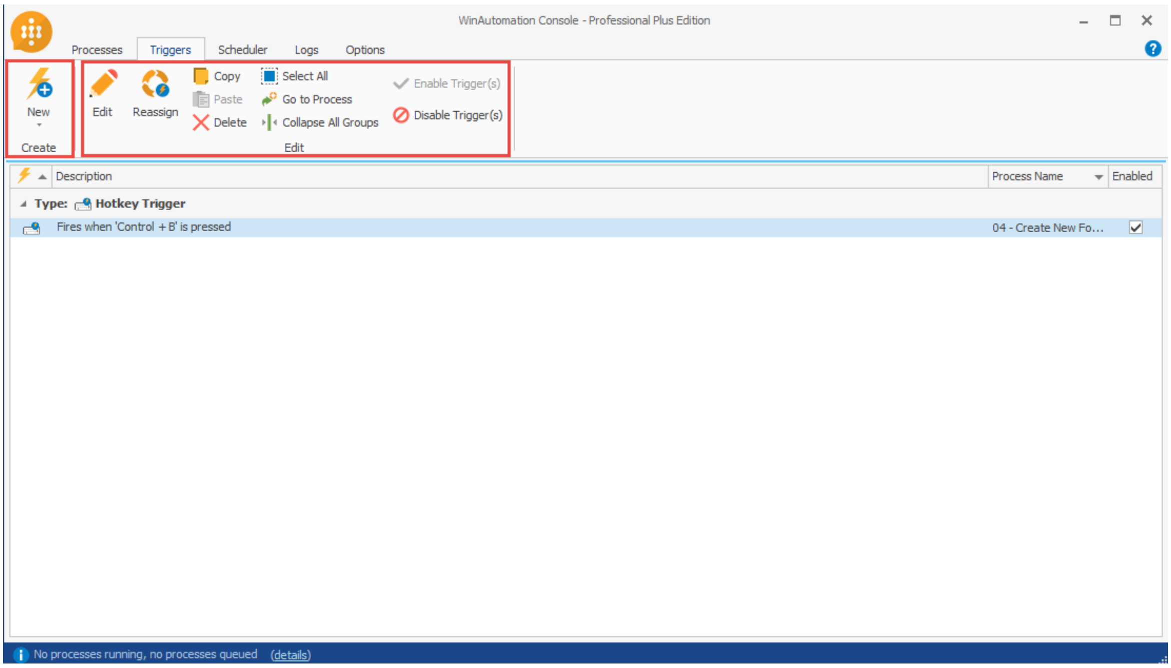
Name	Description
%TriggerName%	Contains the name of the trigger that triggered the execution of the process
%ServiceTriggerServiceName%	Service Monitor Trigger: Contains the name of the Service that fired the trigger
%ServiceTriggerServiceState%	Service Monitor Trigger: Contains the state of the Service that fired the trigger (values: Running, Stopped, Paused)
%ProcessTriggerProcessName%	Process Monitor Trigger: Contains the name of the Process that fired the trigger
%ProcessTriggerEventType%	Process Monitor Trigger: Contains the type of the Process event that occurred (values: Launched, Terminated)
%PingTriggerHostName%	Ping Trigger: Contains the name of the Host that failed to respond
%EventTriggerEventLogName%	Event Log Monitor Trigger: Contains the name of the Event Log where the event was created
%EventTriggerEventId%	Event Log Monitor Trigger: Contains the EventID of the event that was created
%EventTriggerEventType%	Event Log Monitor Trigger: Contains the type of the event that was created
%EventTriggerEventSource%	Event Log Monitor Trigger: Contains the source of the event that was created
%EventTriggerEventMessage%	Event Log Monitor Trigger: Contains the message of the event that was created
%FileTriggerFileName%	File Monitor Trigger: Contains the name of the file that has been created, changed, deleted or renamed
%FileTriggerOldFileName%	File Monitor Trigger: If a file has been renamed this variable contains the old name of the file
%FileTriggerFilePath%	File Monitor Trigger: A file-type variable that contains the file that has been created, changed, deleted or renamed
%FileTriggerEventType%	File Monitor Trigger: Contains type of the file event that occurred (values: Created, Changed, Deleted or Renamed)

Trigger Variables

3.1.2.3 Triggers Tab

In the Triggers tab in the WinAutomation console you are able to assign Triggers to Processes.

You can assign a Trigger to a Process 96 by clicking on the "New" option in the Create menu group.



Description	Process Name	Enabled
Type: Hotkey Trigger		
Fires when 'Control + B' is pressed	04 - Create New Fo...	☑

No processes running, no processes queued (details)

In the Edit menu group you can:

Edit the trigger of a Process: Select the trigger that you want to edit from the Triggers list in the pane below, click on edit and modify the Trigger.

Reassign a Trigger to a Process: Select a trigger from the Trigger list pane and then click on the "Reassign" option. This will pop-up a dialog, so that you will choose the Process on which you want to reassign the Trigger.

Copy/Paste/Delete Trigger: Select a trigger from the Trigger list pane and copy/paste it. Once you select the paste option the "Assign Trigger to Process Window" will pop-up, prompting you to select the Process to which you want to Paste the Trigger to. To Delete a Trigger simply select it from the Triggers list pane and click on the delete option.

Select All: This options allows you to select all the triggers in the Trigger list pane.

Go to Process: Clicking on this option, after selecting a Trigger from the Trigger list pane, you get you directly to the Processes tab highlighting the Process.

Collapse All Groups: It will collapse the details of all the Trigger groups in the Trigger list pane.

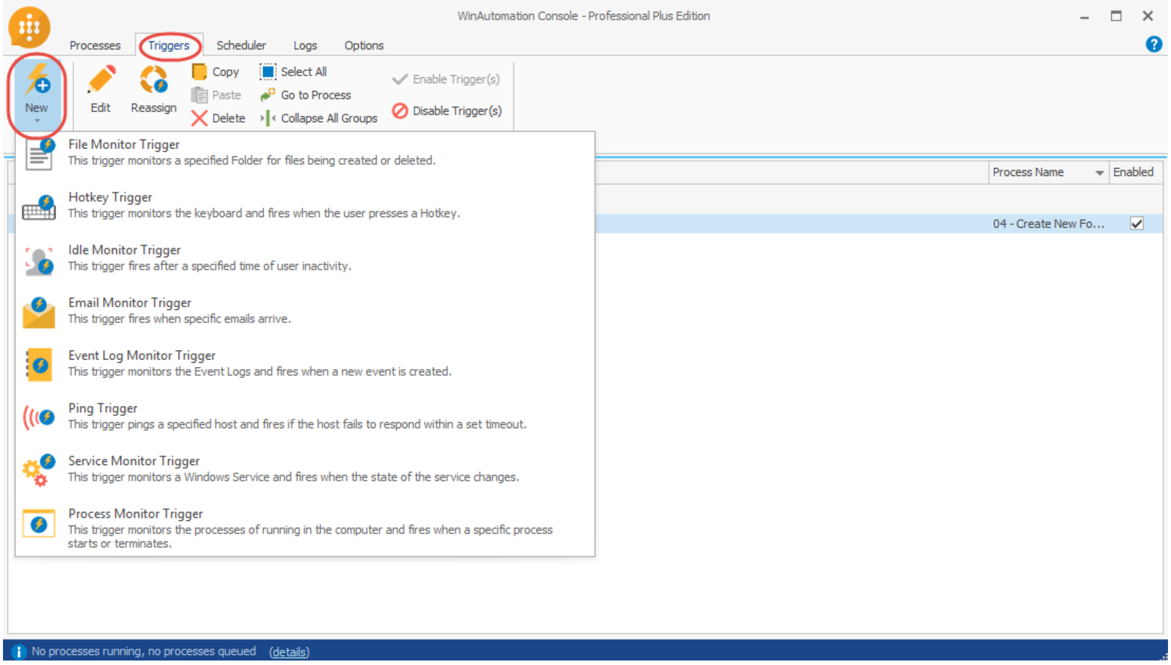
Enable/Disable Trigger: Click on a Trigger in the Trigger list pane and choose whether you want to Enable or Disable it. By Disabling a Trigger it will no longer fire the Process until you Enable it again. You can also disable a Trigger for a Process if you right click on it and select "Disable Process".

In the Trigger list pane you can see the type of the Triggers, the Description, The Process name that they are assigned to and they are Enabled or not.

3.1.2.4 How to set a Trigger for a Process

Triggers are attached to a Process outside of the Action steps. This means that Triggers are not a part of the the Process Designer, but they can only be set through the WinAutomation Console.

To create a Trigger and attach it to an existing Process, click on the "Triggers" tab and in the Create menu group select "New". In the menu that pops up will have to choose the type of the Trigger that you want to attach to a Process.



File Monitor Trigger
This trigger monitors a specified Folder for files being created or deleted.

Hotkey Trigger
This trigger monitors the keyboard and fires when the user presses a Hotkey.

Idle Monitor Trigger
This trigger fires after a specified time of user inactivity.

Email Monitor Trigger
This trigger fires when specific emails arrive.

Event Log Monitor Trigger
This trigger monitors the Event Logs and fires when a new event is created.

Ping Trigger
This trigger pings a specified host and fires if the host fails to respond within a set timeout.

Service Monitor Trigger
This trigger monitors a Windows Service and fires when the state of the service changes.

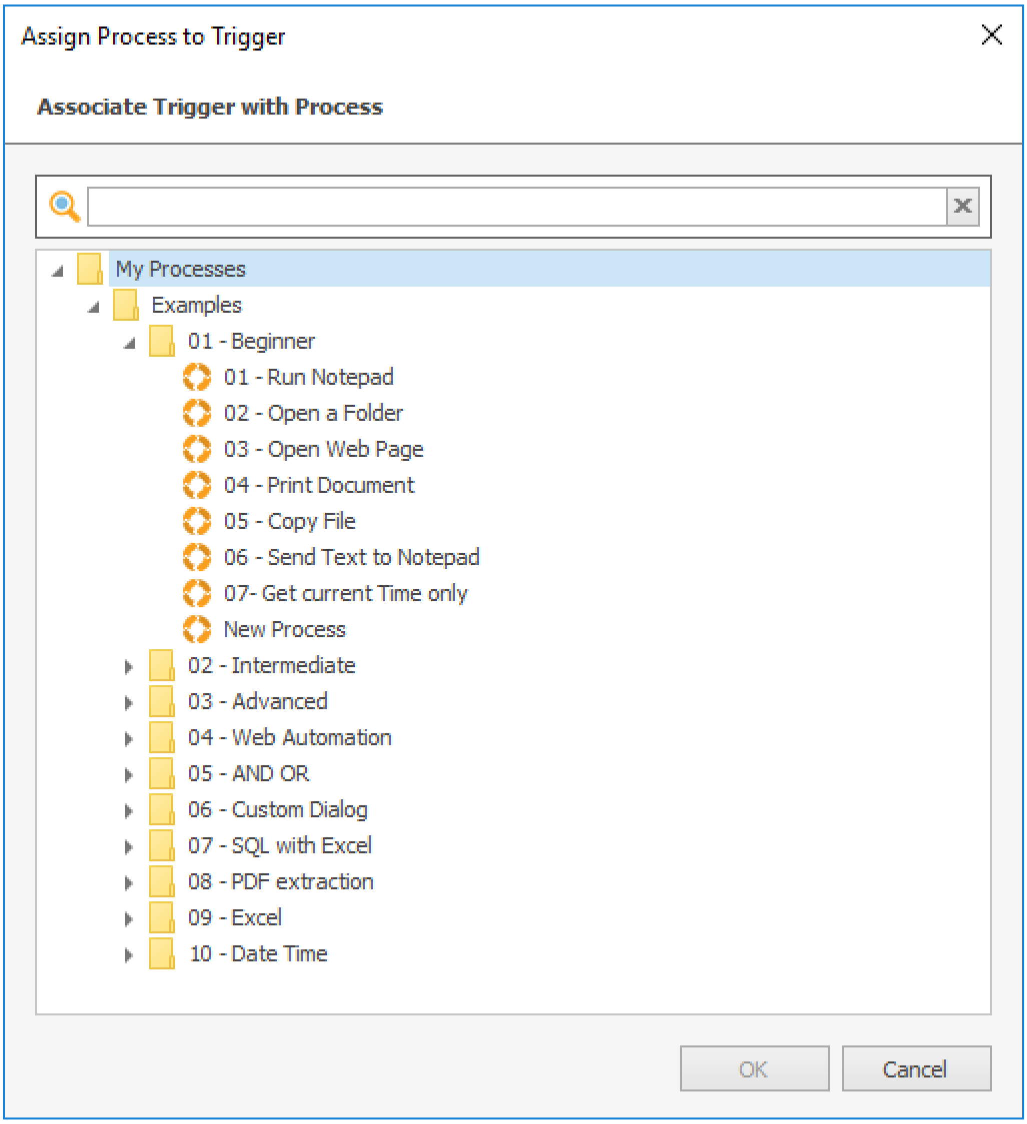
Process Monitor Trigger
This trigger monitors the processes of running in the computer and fires when a specific process starts or terminates.

No processes running, no processes queued (details)

All the Trigger Types are described in detail in the "Trigger Types" topic:

- Email Monitor Trigger 98
- Event Log Monitor Trigger 101
- File Monitor Trigger 103
- Idle Monitor Trigger 105
- Hotkey Trigger 104
- Ping Trigger 106
- Service Monitor Trigger 107
- Process Monitor Trigger 108

After selecting and configuring the Trigger you wish, a Dialog pops up where you are prompted to select the Process to which you will attach the trigger.

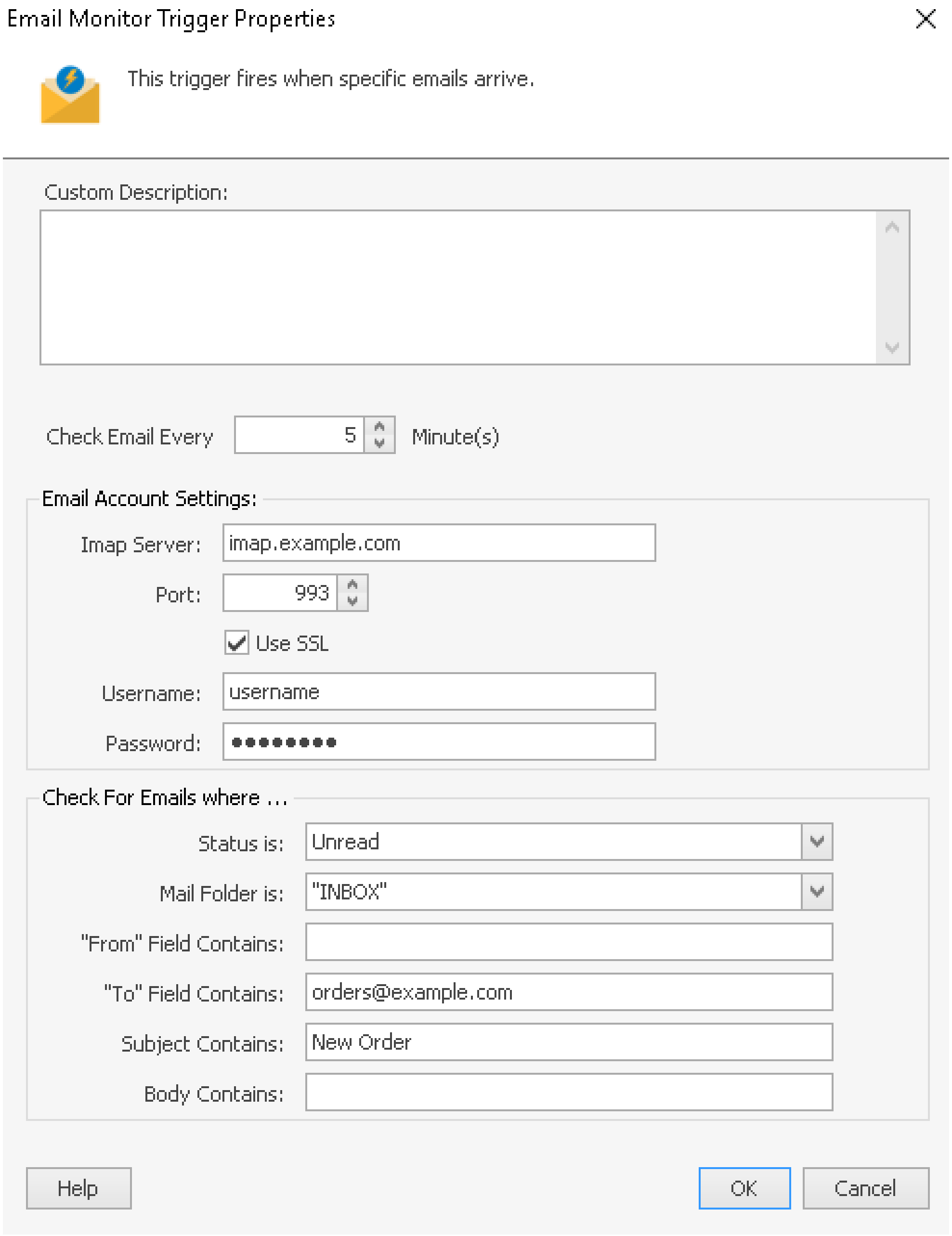


3.1.2.5 Trigger Types

3.1.2.5,1 Email Monitor Trigger

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

The Email Monitor Trigger periodically checks an email account and executes a Process when an email that satisfies the specified criteria arrives.


Email Monitor Trigger Properties

This trigger fires when specific emails arrive.

Custom Description:

Check Email Every 5 Minute(s)

Email Account Settings:

Imap Server: imap.example.com

Port: 993

☑ Use SSL

Username: username

Password: ●●●●●●●●●

Check For Emails where ...

Status is: Unread

Mail Folder is: "INBOX"

"From" Field Contains:

"To" Field Contains: orders@example.com

Subject Contains: New Order

Body Contains:

Custom Description

Add a custom description to the trigger which will be shown in the Triggers tab under "Description"

Check Email Every

In the trigger's configuration dialog you specify how often the trigger should check for new emails. The default value is every 5 minutes.

Email Account Settings

For WinAutomation, to monitor the email messages on an email server (as also to retrieve and process them), it must be able to access the server through the IMAP protocol. For more information you may check the corresponding session at the Retrieve Emails 645 action.

Therefore, in order set a Email Monitor Trigger, it is necessary that you enter the IMAP Server Connection properties, consisting of:

- the *IMAP Server* property, where you enter the IMAP Server address (e.g. imap.gmail.com).
- the *Port*, where you specify the communication port, with the most commonly used Server Port for IMAP being 993. However some IMAP Servers may require to specify different Port in order to perform properly.
- whether *SSL* should be enabled, so that communication with the client could be performed over a secure connection (as required by some email servers),
- *User Name*, where you enter the username of the e-mail account you want to access
- *Password*, where you enter your email account's password

Check for Emails Where...

In the next group of fields, you need to specify the values of the email properties that will fire the trigger. Leaving all the fields of this group empty will cause the trigger to fire and the Process will be executed for every email that arrives into the mailbox.

In order to restrict the type emails that will fire the trigger you should enter specific values in the appropriate fields defining that you want to check:

- all emails or only for unread (*Retrieve* property field)
- for emails that end up into a specific folder (*Mailbox Folder is:* property field)
- for emails coming from a specific sender (*"From" Field Contains*: property field)
- for emails being addressed to a specific recipient (*"To" Field Contains:* property field)
- for emails that contains specific keywords in the subject (*Subject Contains:* property field)
- for emails that contains specific keywords in the body (*Body Contains:* property field)

Of course you may enter your preferences for more than one of the above properties and combine trigger firing criteria.

Note that the Email Monitor Trigger will only check for the specified email types and not retrieve them from the email server (where they will consequently remain marked as "unread").

So, if in the Process that is executed by the trigger you need to process the email(s) that caused the Process to run, you should use the Retrieve Emails 645 and the Process Emails 654 actions.

3.1.2.5,2 Event Log Monitor Trigger

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

The Windows Event Log is a Log that many programs write to when they start, stop, and/or fail. If you wish to monitor your Windows Event Log for some action, this is how you do it.

Custom Description:

A custom description that you want to set for this Trigger.

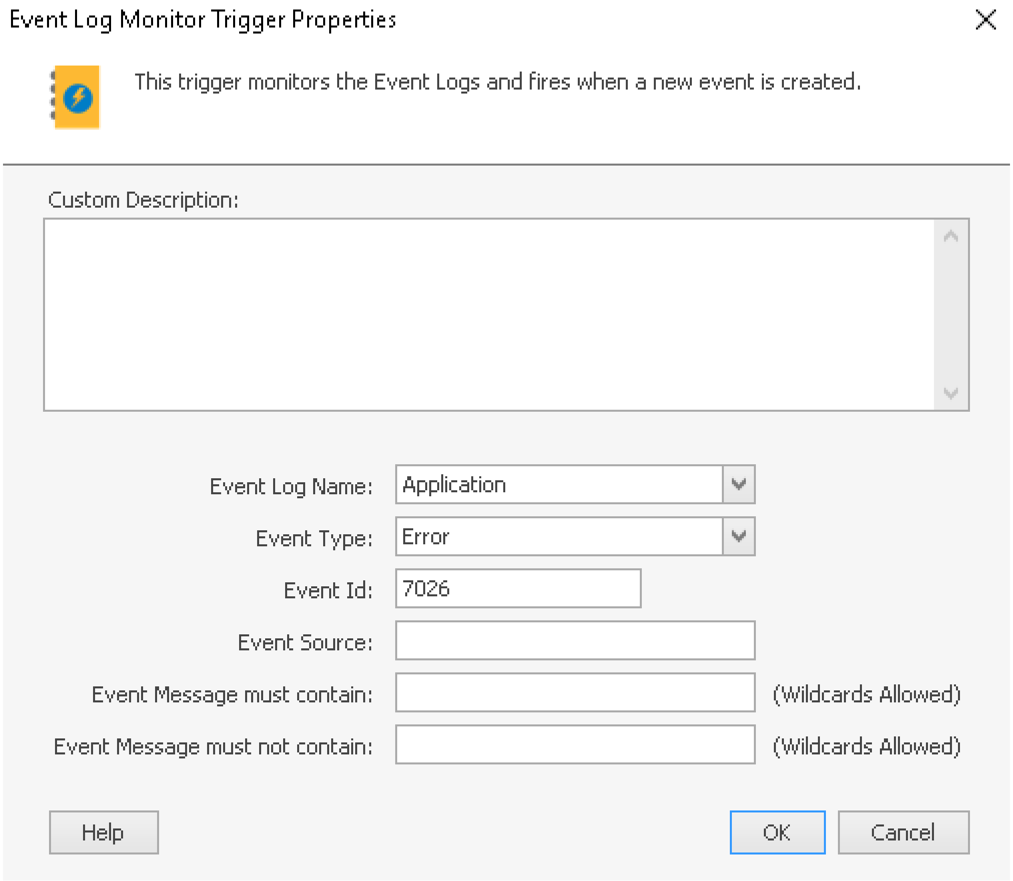
Event Log Name - Event Type - Event ID - Event Source:

You will be able to choose which Log you want to watch, and what type of Event to watch for (Information, Error, Warning, Audit Success, Audit Failure, or all of them).

You can also choose the Event ID (an ID associated to a specific event) or the Event Source (a name chosen by the application, not necessarily its executable name - you will have to look through the Logs to find this possibly).

Event Message must (Not) contain:

Finally you can set the Trigger to fire only for events that contain a specific text within their message or alternatively to ignore events that contain a specific text.



Event Log Monitor Trigger Properties

This trigger monitors the Event Logs and fires when a new event is created.

Custom Description:

Event Log Name: Application

Event Type: Error

Event Id: 7026

Event Source:

Event Message must contain: (Wildcards Allowed)

Event Message must not contain: (Wildcards Allowed)

The Event Log Monitor Trigger, when fired, assigns values to five Trigger Variables that are made available to the Process:

%EventTriggerEventLogName% which will contain the name of the Log where the event was created,

%EventTriggerEventID% which will contain the Event ID of the event that was created,

%EventTriggerEventType% which will contain the type of the event that was created,

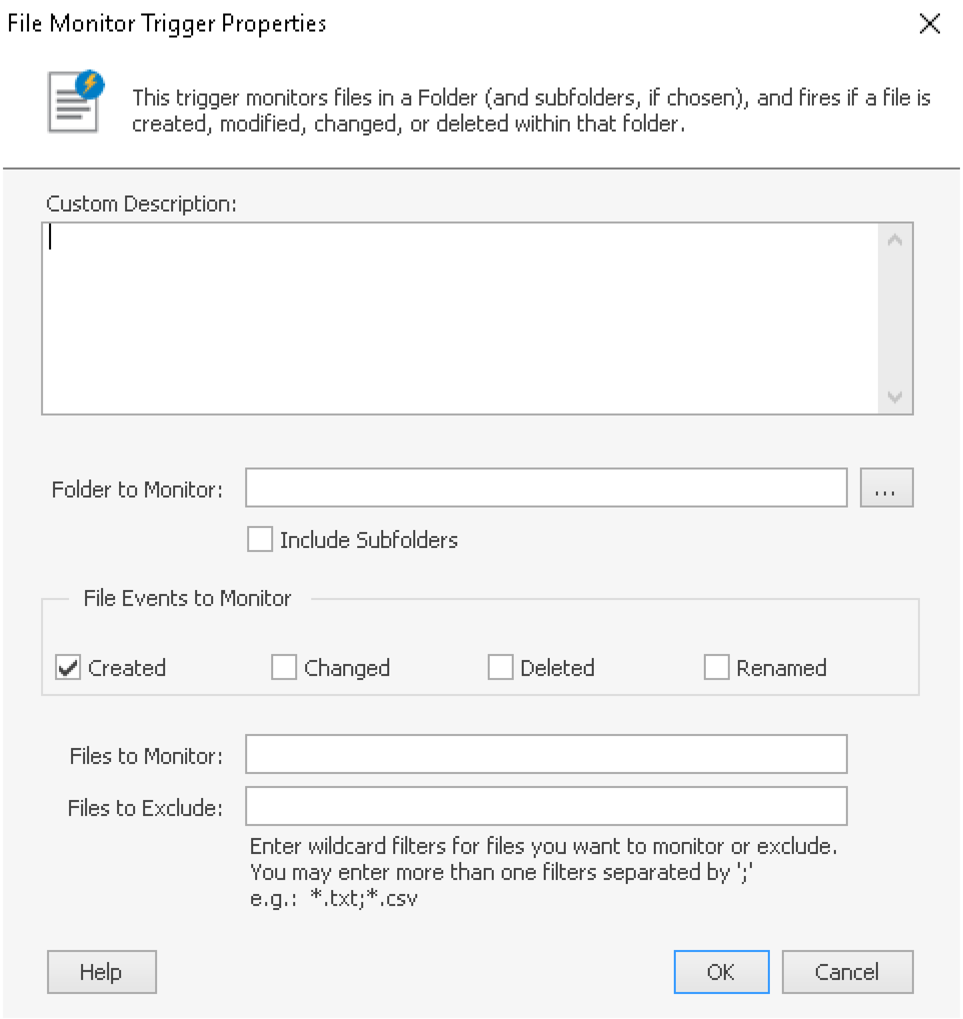
%EventTriggerEventSource% which will contain the source of the event that was created, and

%EventTriggerEventMessage% which will contain the message of the event that was created**.**

As you can have as many Triggers as you want attached to the same Process, this would allow you to know which Event fired the Process. You can access this information through Actions using those Variables.

3.1.2.5,3 File Monitor Trigger

This Trigger monitors files in a Folder (and subfolders, if chosen), and fires if a file is created, modified, changed, or deleted within the folder(s). Specify the event(s) to look for, and file types you wish to include or exclude. With wildcards, this allows monitoring of a folder to see if any folder of the type .doc is created, for example, or any file other than an executable file is changed.



File Monitor Trigger Properties

This trigger monitors files in a Folder (and subfolders, if chosen), and fires if a file is created, modified, changed, or deleted within that folder.

Custom Description:

Folder to Monitor:

□ Include Subfolders

File Events to Monitor

☑ Created □ Changed □ Deleted □ Renamed

Files to Monitor:

Files to Exclude:

Enter wildcard filters for files you want to monitor or exclude.
You may enter more than one filters separated by ';'
e.g.: *.txt;*.csv

The File Monitor Trigger, when fired, assigns values to four Trigger Variables that are made available to the Process:

%FileTriggerFileName% which will contain the name of the file that fired the Trigger,

%FileTriggerOldFileName% which will contain the original name of the file if it has been renamed,

%FileTriggerFilePath% which will contain the complete path (along with the filename) of the file. Note that this value is a File object meaning that has the properties 290 of every file object. For example you can retrieve the size of the file that triggered the Process by specifying: %FileTriggerFilePath.Size%

and

%FileTriggerEventType% which will contain 'Created' or 'Changed', 'Deleted' or 'Renamed'**.**

You can create Actions in the Process to show this information, for example you can create a Process Trigger that fires when an executable file in the Windows directory (with subfolders) is changed, and the Process then puts up a Message Box informing you of what happened.

NOTE:*File Monitor Trigger doesn't support monitoring shared folders by mapped directories. You need to use paths such as "\\someserver.com\some\path"*

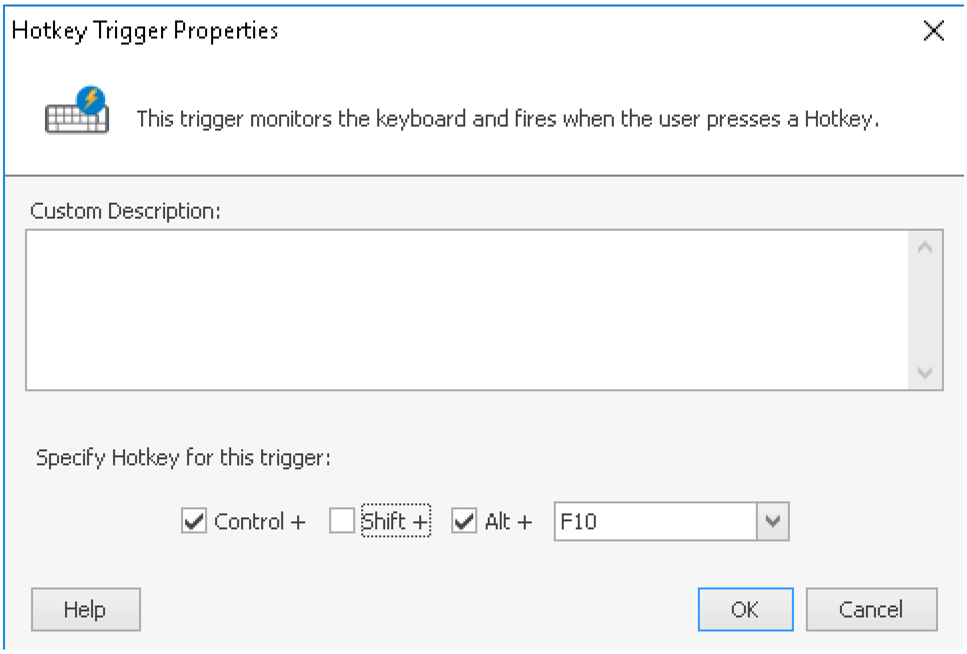
The proper method for monitoring such shares, is not to mount them locally on your computer and monitor them using the folder-paths you've assigned to them, but monitoring them directly with paths such as the one shown above.

Also you have to make sure that the WinAutomation.MachineAgent is running with the user's credentials who has access to the monitored folders.

3.1.2.5,4 Hotkey Trigger

With a Hotkey Trigger, you can cause your Process to fire when you type, for example, Ctrl-Shift-Y, or any other combination you want. As with any other Trigger, this only works when you have the WinAutomation Service running.

One HotKey can fire multiple Processes. This means that you could set up three different Processes, all with the HotKey Alt-F7, and at a press of the HotKey, all three would fire together and run at the same time.


Hotkey Trigger Properties

This trigger monitors the keyboard and fires when the user presses a Hotkey.

Custom Description:

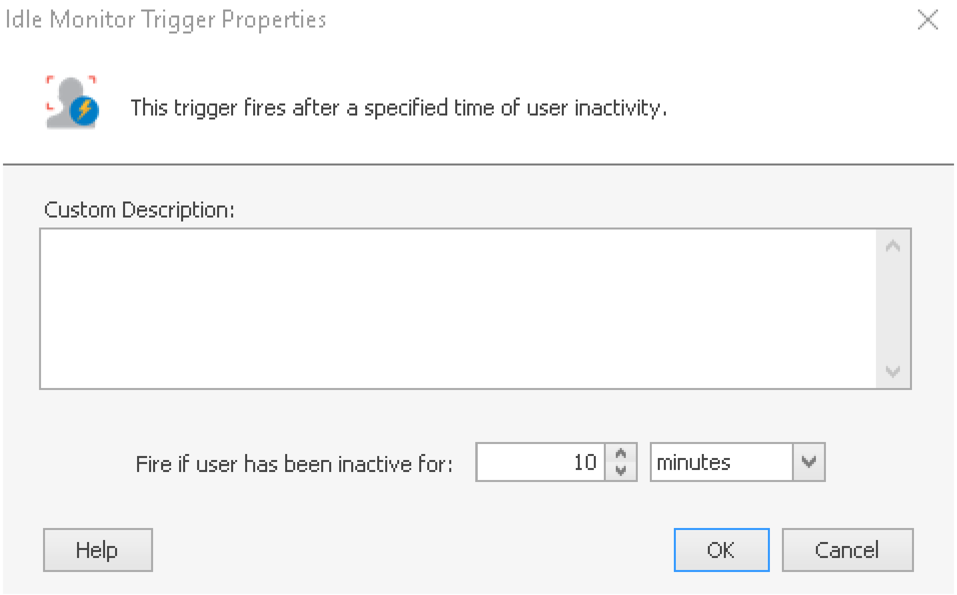
Specify Hotkey for this trigger:

☑ Control + □ Shift + ☑ Alt + F10

On a related note, if you use a HotKey from another program there could be some interaction. WinAutomation usually notes HotKeys first, and marks them as satisfied. So, for example, if you set Ctrl-C to be a HotKey, then you can no longer use Window's Copy HotKey function - Ctrl-C will fire the Process and be satisfied, so Windows won't see it. Other programs could have varying interaction, depending on how they were written, so be ready to change a HotKey if you find your computer responding different than you anticipated.

3.1.2.5,5 Idle Monitor Trigger

This Trigger fires once the computer has had no input for a set amount of time that you choose in minutes, hours, or seconds. This can be useful for resource-intensive Processes that you only want to run when you are not using the computer, for example.


Idle Monitor Trigger Properties

This trigger fires after a specified time of user inactivity.

Custom Description:

Fire if user has been inactive for: 10 minutes

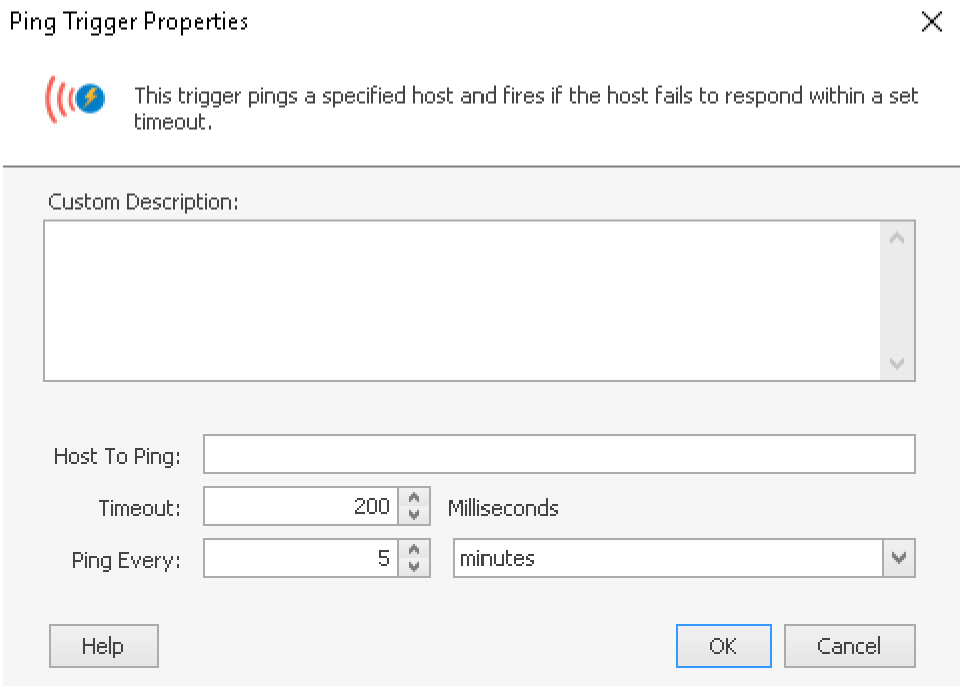
This Trigger will not fire if no user is logged in.

3.1.2.5,6 Ping Trigger

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

This Trigger will 'Ping' a host (usually an IP address or a URL) at the interval you set. If the host does not respond within the timeout you set, this registers as a failed Ping attempt, and Triggers the Process.

Once the host fails to respond and Triggers the Process, subsequent failures will not fire the Process again until a Ping attempt is successful. Thus, for example, if the host responds 5 times, then fails 3 times, then responds once and fails again, this Trigger will fire after the 6th attempt (first failure) and after the 10th attempt (first failure after a new success).



Ping Trigger Properties

This trigger pings a specified host and fires if the host fails to respond within a set timeout.

Custom Description:

Host To Ping:

Timeout: 200 Milliseconds

Ping Every: 5 minutes

The Ping Trigger, when fired, assigns values to a Trigger Variable that is made available to the Process:

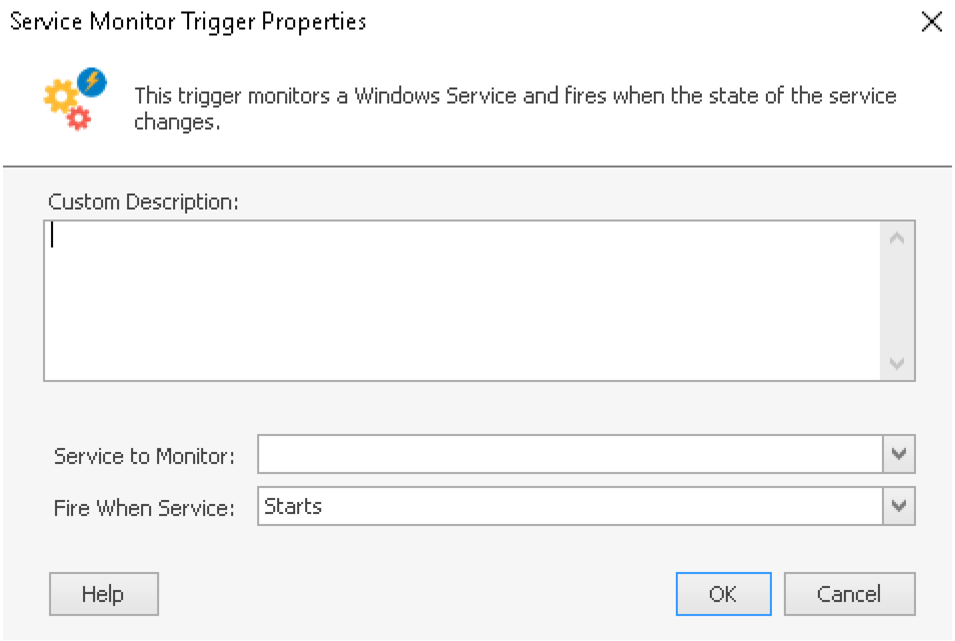
%PingTriggerHostName%, which will be filled with the name of the host that failed to respond.

As you can have as many Triggers as you want attached to the same Process, this would allow you to know which Ping Trigger fired the Process, and thus which host went down. You can access this information through Actions using this Variable.

3.1.2.5,7 Service Monitor Trigger

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

The Service Monitor Trigger fires when the state of a specific Windows Service changes. Enter or choose a Service that exists on your computer, and select for it to Trigger when that Service starts, pauses, or terminates.



Service Monitor Trigger Properties

This trigger monitors a Windows Service and fires when the state of the service changes.

Custom Description:

Service to Monitor:

Fire When Service: Starts

The Service Trigger, when fired, assigns values to two Trigger Variables that are made available to the Process:

%ServiceTriggerServiceName%, which will be filled with the name of the Service that Triggered the Process, and

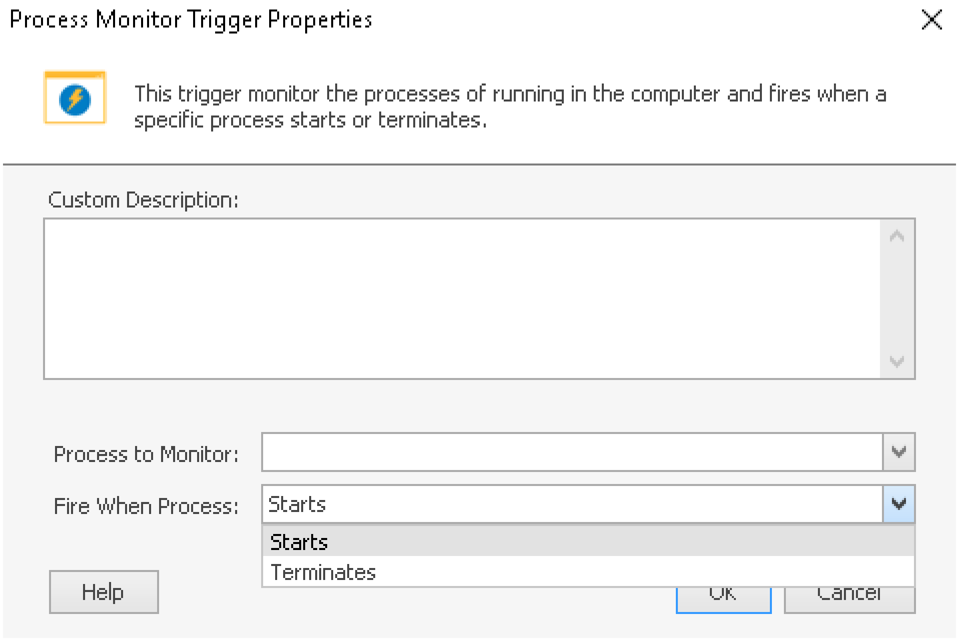
%ServiceTriggerServiceState%, which will contain 'Running', 'Paused', or 'Stopped'.

As you can have as many Triggers as you want attached to the same Process, this would allow you to know which Service Trigger fired the Process, and why.

3.1.2.5,8 Process Monitor Trigger

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

This Trigger monitors a certain process and fires when this process starts or terminates. Enter or choose a Process that exists on your computer, and select for it to Trigger when that Process starts or terminates.



Process Monitor Trigger Properties

This trigger monitor the processes of running in the computer and fires when a specific process starts or terminates.

Custom Description:

Process to Monitor:

Fire When Process: Starts

The Process Trigger, when fired, assigns values to two Trigger Variables that are made available to the Process:

%ProcessTriggerProcessName%, which will be filled with the name of the Process that Triggered the Process, and

%ProcessTriggerEventType%, which will contain either 'Launched' or 'Terminated'.

As you can have as many Triggers as you want attached to the same Process, this would allow you to know which Process Trigger fired the Process, and why. You can access this information through Actions using those Variables.

3.1.3 Scheduler

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

A Schedule can be set for a Process, in order to run it at specific days/times or keep it running in time intervals using a recurring Schedule.

For Schedules to work, the WinAutomation Services must be running in the background, constantly checking and starting Processes if a Schedule is set.

If you right-click on the Agent in the System Tray 327 and choose Exit WinAutomation, you will disable all Triggers and Schedules and close all functionality of WinAutomation until you run the program again. This is different from the Console, so Schedules will still run normally if the Console alone has been closed.

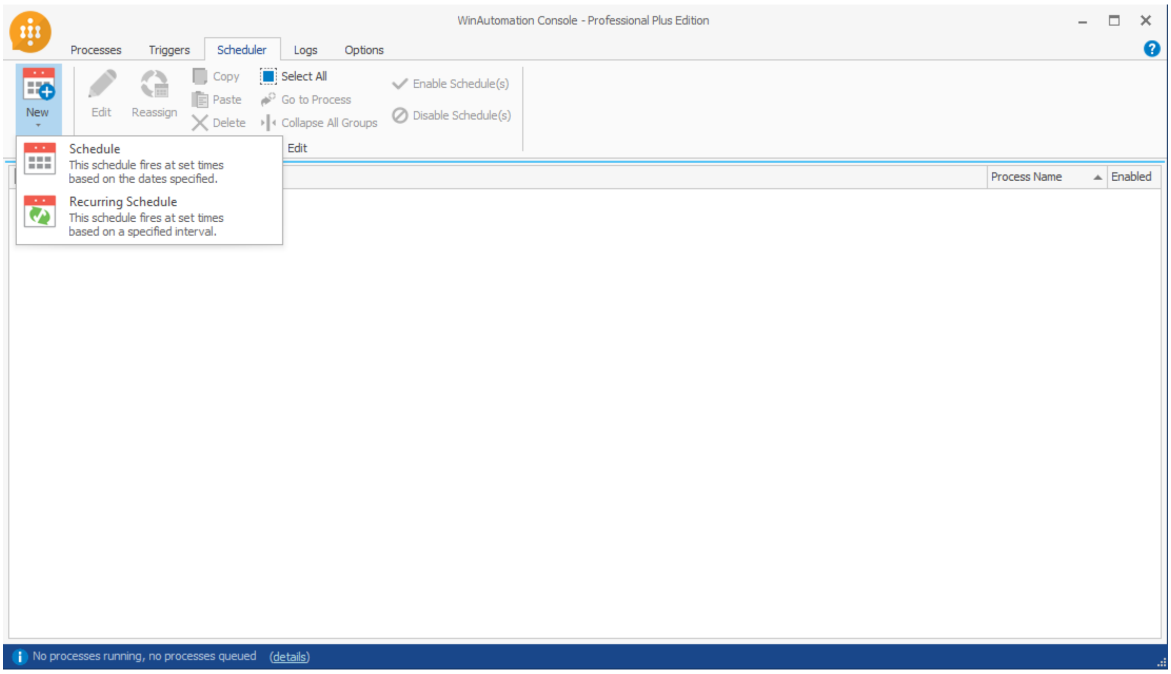
Schedules, like Triggers, can be disabled universally from the Schedulers tab after selecting "Select All" and "Disable Schedule(s)". This means that no Process will run on its Schedule, until you change this setting. If you want to disable the Schedule for one Process without deleting it, right-click on the Process and choose Disable Process. Now this Process will not run, manually or on its Schedule, until you Enable it again.

3.1.3.1 Scheduler Tab

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

In the Scheduler tab you can run Processes on a Schedule using the "Schedule" and the "Recurring Schedule".

If you click on "New" in the Create group, you can choose which Schedule to assign to a Process.

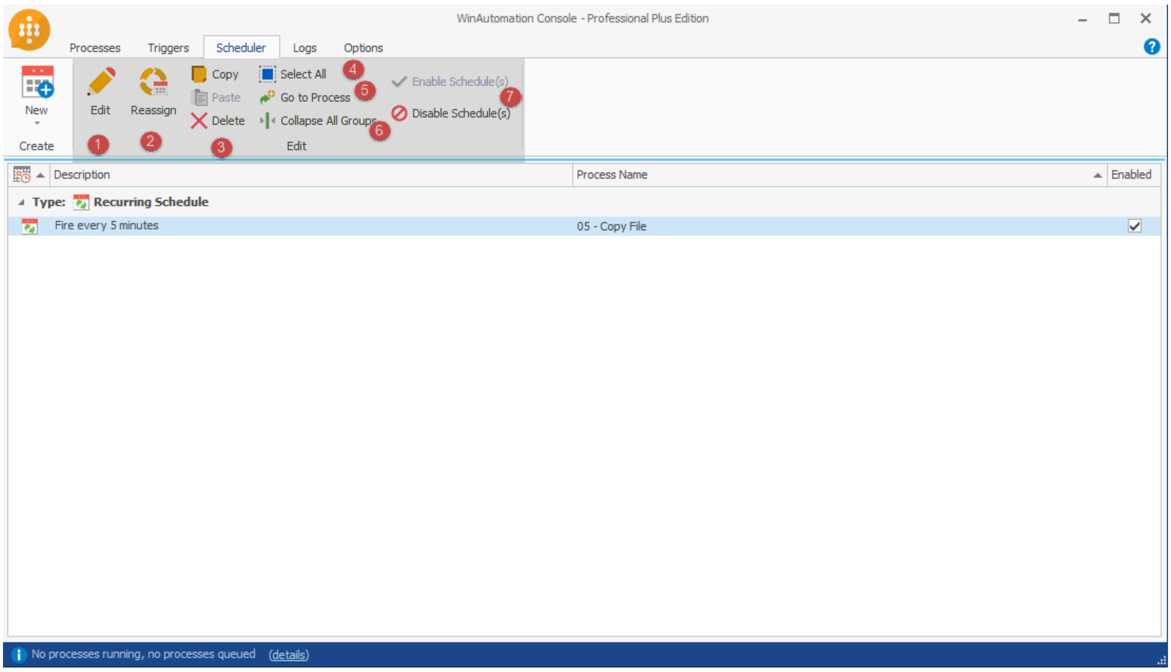


Schedule: This schedule fires at set times based on the dates specified.

Recurring Schedule: This schedule fires at set times based on a specified interval.

No processes running, no processes queued (details)

Once you have assigned a Schedule to a Process, then you are able from the "Edit" menu group to:



Description	Process Name	Enabled
Type: Recurring Schedule		
Fire every 5 minutes	05 - Copy File	☑

No processes running, no processes queued (details)

The Edit menu group is the same as in the Triggers tab 95

1. "Edit" the schedule, should you wish to change its properties.

2. "Reassign" the schedule to a different Process.

3. Copy, Paste, Delete the selected schedule.

4. "Select All" schedules.

5. "Go to Process" will get you to the Processes tab highlighting the selected Process.

6. "Collapse All Groups". It will collapse the "Recurring Schedule" and "Schedule" groups.

7. Select the Schedule (or Schedules if you hold down the ctrl button while clicking on the them) that you wish to Disable or Enable.

The main pane will show the Schedule type the description of the Schedule which is your the Custom Description that you have typed once you have set the Schedule, the Process Name, and whether the Schedule is Enabled or not.

3.1.3.2 Schedule

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Attaching a Schedule allows you to set times for the Process to run.

Custom Description:

A custom description that you want to set for this schedule.

Schedule Type:

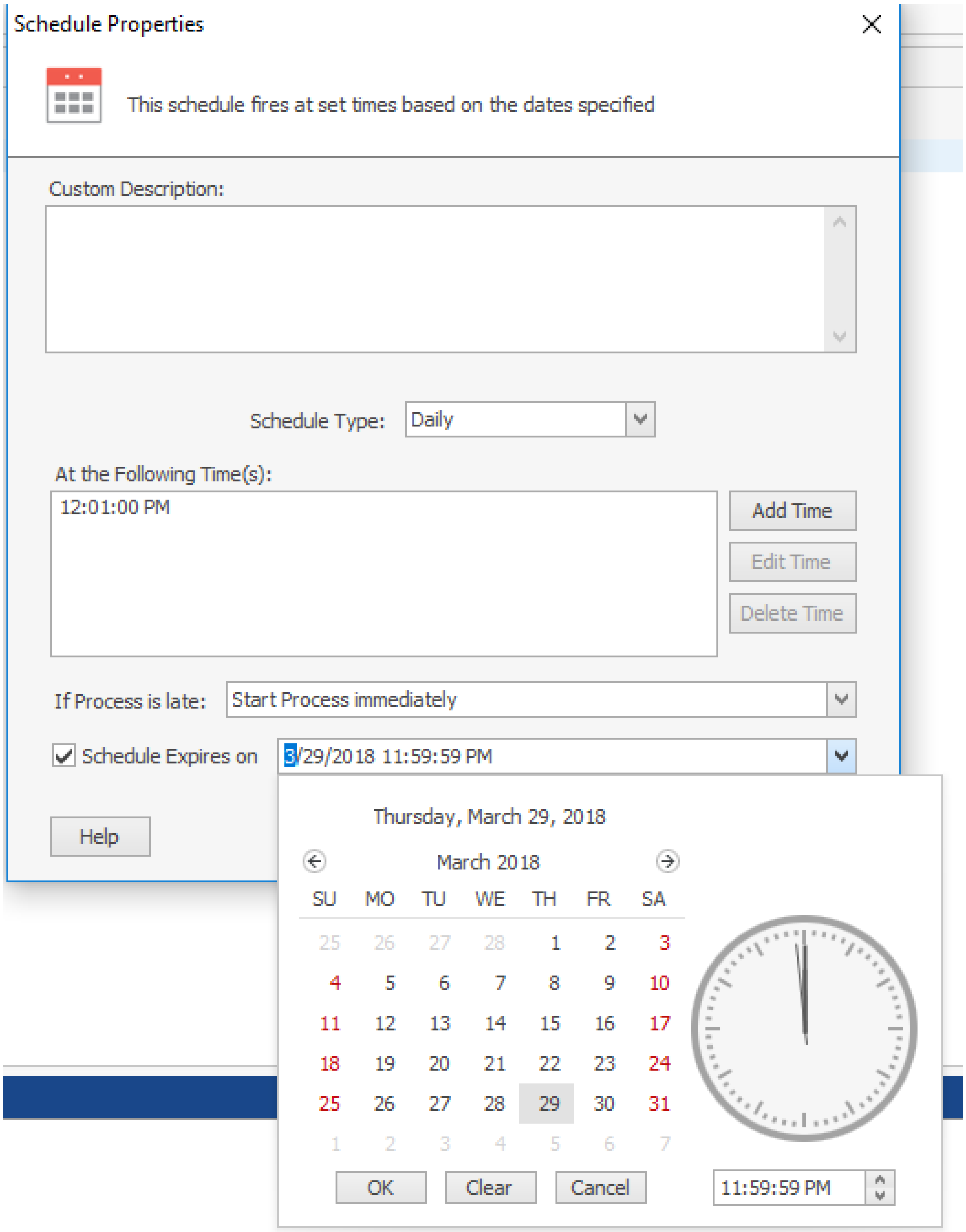
Once you are on the Schedule Properties, you can choose to have the Process fire Daily, Weekly, Monthly, or on Specific Dates. Each choice brings up several other choices, and those must be fully filled in to work. The last Working Day of Month is the last weekday, as a computer doesn't know the local holidays.

If Process is late:

The next choice is what to do if Process is Late. You can choose to have the Process run immediately (usually on start-up, and this is a good way to have a Process fire once at the beginning of each day or whenever your computer is turned on), or to skip that firing of the Process.

Schedule Expires on:

Finally, if you choose to have the Schedule Expire, after the date and time you enter the Schedule will still be there, but will not fire a Process when the Schedule comes up.



Schedule Properties

This schedule fires at set times based on the dates specified

Custom Description:

Schedule Type: Daily

At the Following Time(s):

12:01:00 PM

If Process is late: Start Process immediately

☑ Schedule Expires on 3/29/2018 11:59:59 PM

Thursday, March 29, 2018

March 2018

SU	MO	TU	WE	TH	FR	SA
25	26	27	28	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

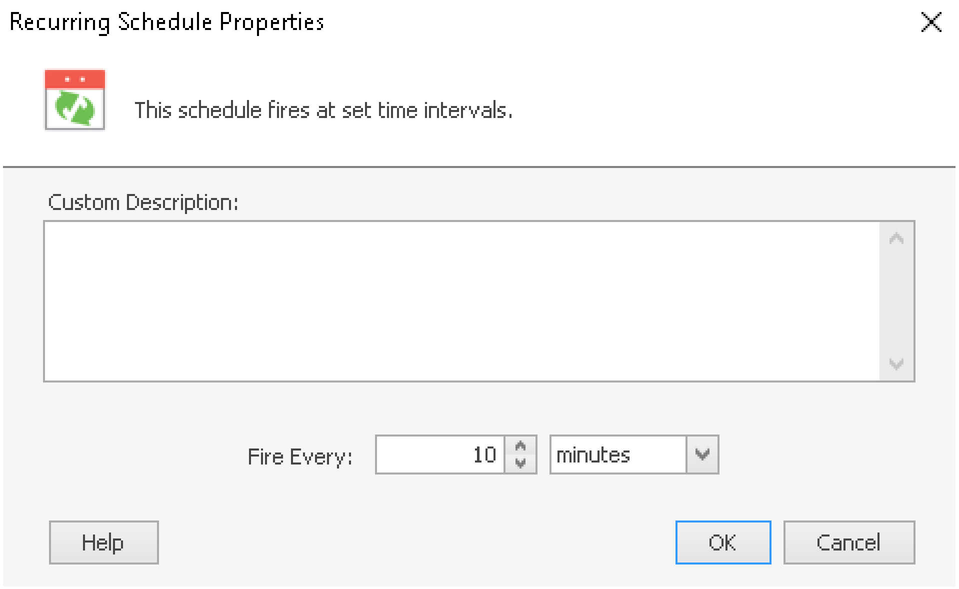
11:59:59 PM

If a Schedule is attached to a Process then the date/time for the next run of the Process is displayed in the Next Scheduled Run column in the WinAutomation console on the Processes Tab.

3.1.3.3 Recurring Schedule

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

A Recurring Schedule repeats at the given frequency. Once you have set this schedule, the Process will fire after that interval, so if you set a Recurring Schedule for 10 minutes, for example, it will fire for the first time 10 minutes after this schedule is set, and every 10 minutes after that until you change it.


Recurring Schedule Properties

This schedule fires at set time intervals.

Custom Description:

Fire Every: 10 minutes

If a Recurring Schedule is attached to a Process then the date/time for the next run of the Process is displayed in the Next Scheduled Run column in the WinAutomation Console in the Processes Tab.

3.1.4 Logs

3.1.4.1 Logging in WinAutomation

In WinAutomation, all the Processes that run through the Console are logged into a central log file for review (`"C:\ProgramData\Softomotive\WinAutomation\Logs.dat"`). This way, you can look at the history of any or all Processes.

If a Process is run through the Process Designer, WinAutomation considers it debugging, not a run, so the event is not recorded into the Log database. When you run the Process through the Console or due to a Trigger or Schedule, the Process will be logged!

To view the Logs for a Process you can either right click on it and select "Show Logs for Process(s)" or hit Ctrl+L, or you can select it in the Select Processes pane in the

Logs tab. When you want to see older Logs, or more details, simply set the options as per the Logs Tab 115 description.

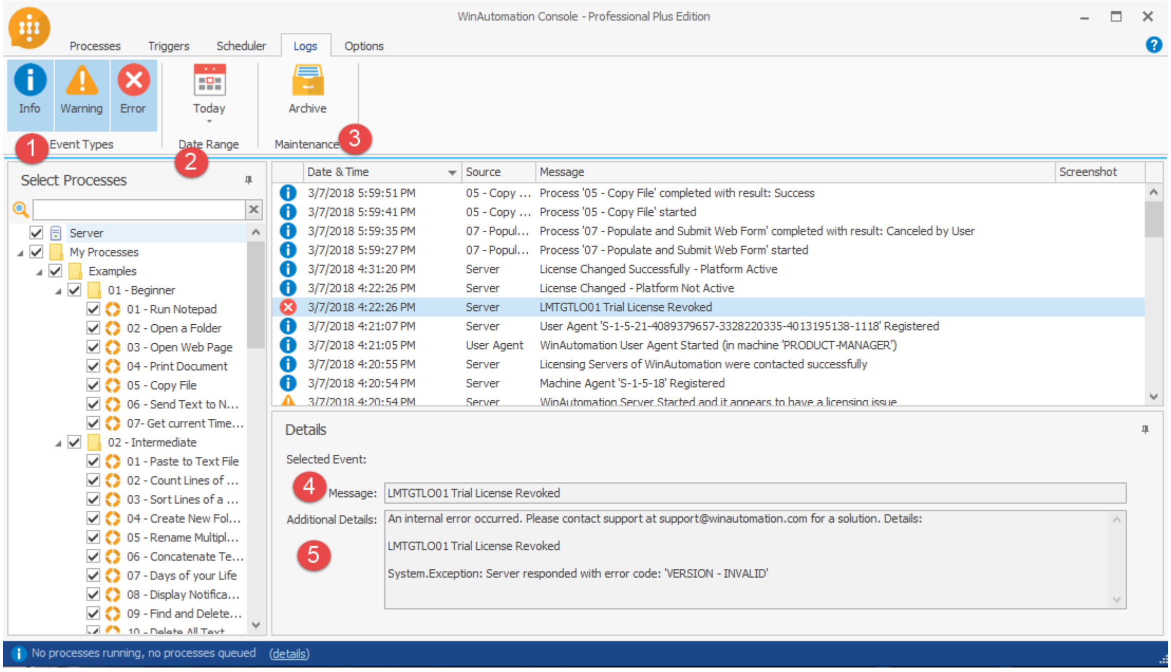
If WinAutomation itself encounters an error or bug, it is also logged into the log database as an "Internal Exception". Open the Logs Window and review the error Log. If you don't know what to do, WinAutomation tech support can use this information to aid you quickly and efficiently.

The Archive Option in the Logs Tab opens another Window that allows you to archive the log older than a specific date and save them in a .dat file in a location that you will choose. Choose the date prior to which you wish to archive the logs and press OK.

A Process can record a custom log entry through the "Log Message 753" action. These events are recorded both when the process runs through the Console and the Process Designer

3.1.4.2 Logs Tab

The Logs Tab has three main group of options:



	Date & Time	Source	Message	Screenshot
ⓘ	3/7/2018 5:59:51 PM	05 - Copy ...	Process '05 - Copy File' completed with result: Success	
ⓘ	3/7/2018 5:59:41 PM	05 - Copy ...	Process '05 - Copy File' started	
ⓘ	3/7/2018 5:59:35 PM	07 - Popul...	Process '07 - Populate and Submit Web Form' completed with result: Canceled by User	
ⓘ	3/7/2018 5:59:27 PM	07 - Popul...	Process '07 - Populate and Submit Web Form' started	
ⓘ	3/7/2018 4:31:20 PM	Server	License Changed Successfully - Platform Active	
ⓘ	3/7/2018 4:22:26 PM	Server	License Changed - Platform Not Active	
☒	3/7/2018 4:22:26 PM	Server	LMTGTLO01 Trial License Revoked	
ⓘ	3/7/2018 4:21:07 PM	Server	User Agent 'S-1-5-21-4089379657-3328220335-4013195138-1118' Registered	
ⓘ	3/7/2018 4:21:05 PM	User Agent	WinAutomation User Agent Started (in machine 'PRODUCT-MANAGER')	
ⓘ	3/7/2018 4:20:55 PM	Server	Licensing Servers of WinAutomation were contacted successfully	
ⓘ	3/7/2018 4:20:54 PM	Server	Machine Agent 'S-1-5-18' Registered	
⚠	3/7/2018 4:20:54 PM	Server	WinAutomation Server Started and it appears to have a licensing issue	

Details

Selected Event:

Message: LMTGTLO01 Trial License Revoked

Additional Details: An internal error occurred. Please contact support at support@winautomation.com for a solution. Details:

LMTGTLO01 Trial License Revoked

System.Exception: Server responded with error code: 'VERSION - INVALID'

No processes running, no processes queued (details)

1. Event Types (Available with the Professional and Professional Plus Editions. N/A to the Basic Edition):

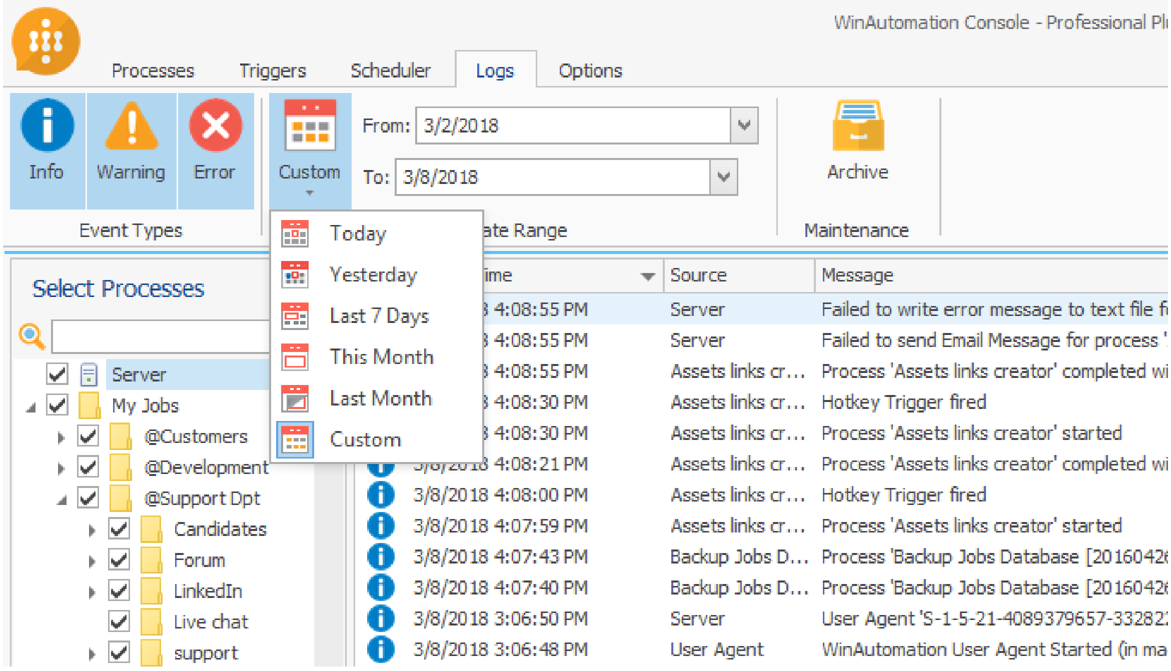
From Event types group you can choose if you want to display the "Info" and/or the "Warning" and/or the "Error" messages for the selected Processes.

Error: Happen mostly when a Process fails to run successfully and produces an error.
Warnings: Are expected problems like trying to run a Process that has known errors.

Info: Lets you know when a Process run and completed or when a Trigger or Schedule is fired.

2. Date Range (Available with the Professional and Professional Plus Editions. N/A to the Basic Edition):

The Date Range option allows you to select the dates whose logs interests you, for the selected Process(s).



From: 3/2/2018

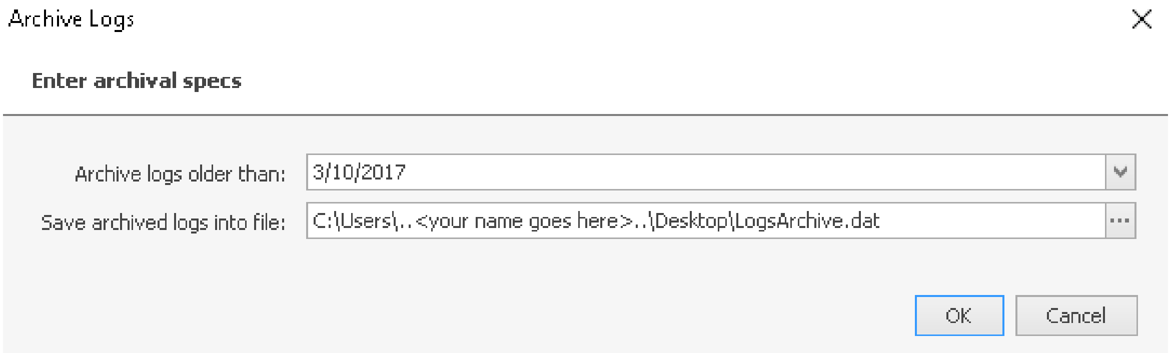
To: 3/8/2018

☑ Server
☑ My Jobs
☑ @Customers
☑ @Development
☑ @Support Dpt
☑ Candidates
☑ Forum
☑ LinkedIn
☑ Live chat
☑ support

ime	Source	Message
4:08:55 PM	Server	Failed to write error message to text file f
4:08:55 PM	Server	Failed to send Email Message for process '
4:08:55 PM	Assets links cr...	Process 'Assets links creator' completed wi
4:08:30 PM	Assets links cr...	Hotkey Trigger fired
4:08:30 PM	Assets links cr...	Process 'Assets links creator' started
3/8/2018 4:08:21 PM	Assets links cr...	Process 'Assets links creator' completed wi
3/8/2018 4:08:00 PM	Assets links cr...	Hotkey Trigger fired
3/8/2018 4:07:59 PM	Assets links cr...	Process 'Assets links creator' started
3/8/2018 4:07:43 PM	Backup Jobs D...	Process 'Backup Jobs Database [2016042(
3/8/2018 4:07:40 PM	Backup Jobs D...	Process 'Backup Jobs Database [2016042(
3/8/2018 3:06:50 PM	Server	User Agent 'S-1-5-21-4089379657-33282:
3/8/2018 3:06:48 PM	User Agent	WinAutomation User Agent Started (in ma

3. Maintenance.

The Archive option, opens another Window that allows you to archive logs older than a specific date and save them in a .dat file, in a location that you will choose. Having done so, **those logs will be deleted from the "Logs.dat" file**. Choose the date prior to which you wish to archive the logs and press OK.


Archive Logs

Enter archival specs

Archive logs older than: 3/10/2017

Save archived logs into file: C:\Users\..<your name goes here>..\Desktop\LogsArchive.dat

In the Details pane you can see:

4. The error message that was thrown

5. The Additional details of the error

Once you have specified all Types and the Date Range, the Processes that match your filter will be listed. This information will include the Type, the Source, a Message and a Date-Time.
Selecting a Message will display the Details of that Log event. Most Info or Warning events will only repeat the Message here, as there is no more useful information. In the event of an Error, the Additional Details box will contain all appropriate information to help solve the problem. As this area is highly technical, use this information if you need to contact Technical Support.

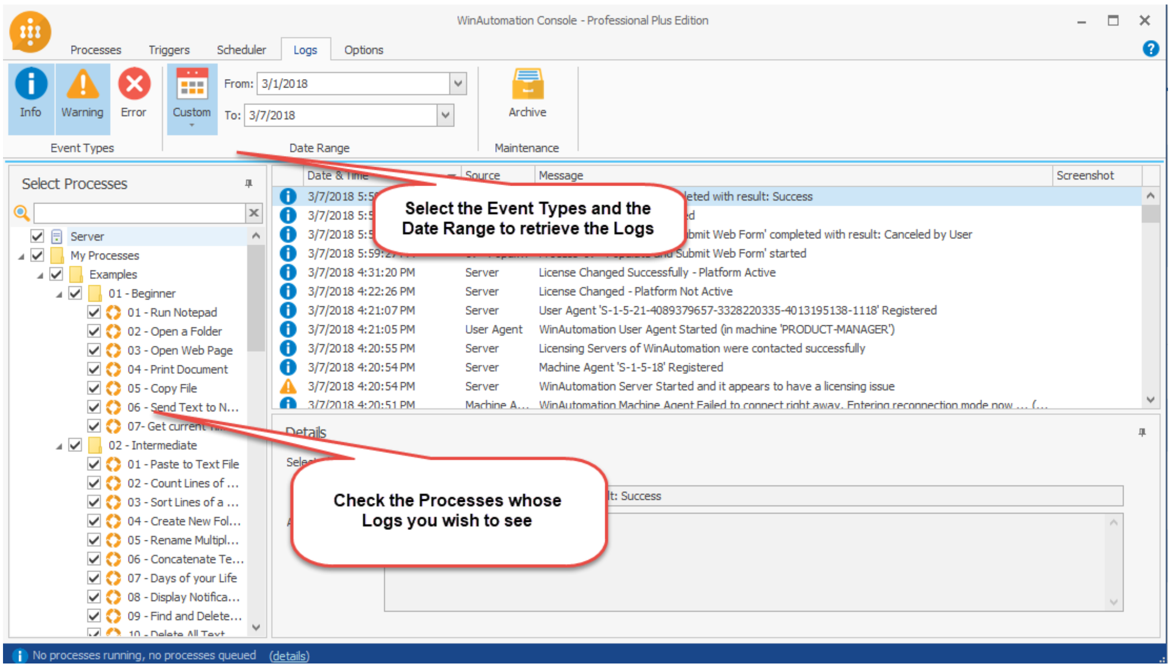
3.1.4.3 Filtering Log Messages

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

If you want to limit the log messages for preview, you can use the Event Type group menu to select the type of the event you wish to display (Info, Warning or Error).

You can also select the Date or Date Range from which you want to retrieve the Event Types, as also described in the Logs Tab 115.

You can select the Process(s) for which you want to see the logs in the select Processes pane by checking the corresponding checkbox(es).



From: 3/1/2018
To: 3/7/2018

- ☑ Server
- ☑ My Processes
  - ☑ Examples
    - ☑ 01 - Beginner
      - ☑ 01 - Run Notepad
      - ☑ 02 - Open a Folder
      - ☑ 03 - Open Web Page
      - ☑ 04 - Print Document
      - ☑ 05 - Copy File
      - ☑ 06 - Send Text to N…
      - ☑ 07- Get current …
    - ☑ 02 - Intermediate
      - ☑ 01 - Paste to Text File
      - ☑ 02 - Count Lines of …
      - ☑ 03 - Sort Lines of a …
      - ☑ 04 - Create New Fol…
      - ☑ 05 - Rename Multipl…
      - ☑ 06 - Concatenate Te…
      - ☑ 07 - Days of your Life
      - ☑ 08 - Display Notifica…
      - ☑ 09 - Find and Delete…
      - ☑ 10 - Delete All Text

	Date & Time	Source	Message	Screenshot
ⓘ	3/7/2018 5:5…		…leted with result: Success	
ⓘ	3/7/2018 5:5…		…d	
ⓘ	3/7/2018 5:5…		…bmit Web Form' completed with result: Canceled by User	
ⓘ	3/7/2018 5:59:2…		…Submit Web Form' started	
ⓘ	3/7/2018 4:31:20 PM	Server	License Changed Successfully - Platform Active	
ⓘ	3/7/2018 4:22:26 PM	Server	License Changed - Platform Not Active	
ⓘ	3/7/2018 4:21:07 PM	Server	User Agent 'S-1-5-21-4089379657-3328220335-4013195138-1118' Registered	
ⓘ	3/7/2018 4:21:05 PM	User Agent	WinAutomation User Agent Started (in machine 'PRODUCT-MANAGER')	
ⓘ	3/7/2018 4:20:55 PM	Server	Licensing Servers of WinAutomation were contacted successfully	
ⓘ	3/7/2018 4:20:54 PM	Server	Machine Agent 'S-1-5-18' Registered	
⚠	3/7/2018 4:20:54 PM	Server	WinAutomation Server Started and it appears to have a licensing issue	
ⓘ	3/7/2018 4:20:51 PM	Machine A…	WinAutomation Machine Agent Failed to connect right away. Entering reconnection mode now … (…	

Sele…

…lt: Success

Select the Event Types and the Date Range to retrieve the Logs

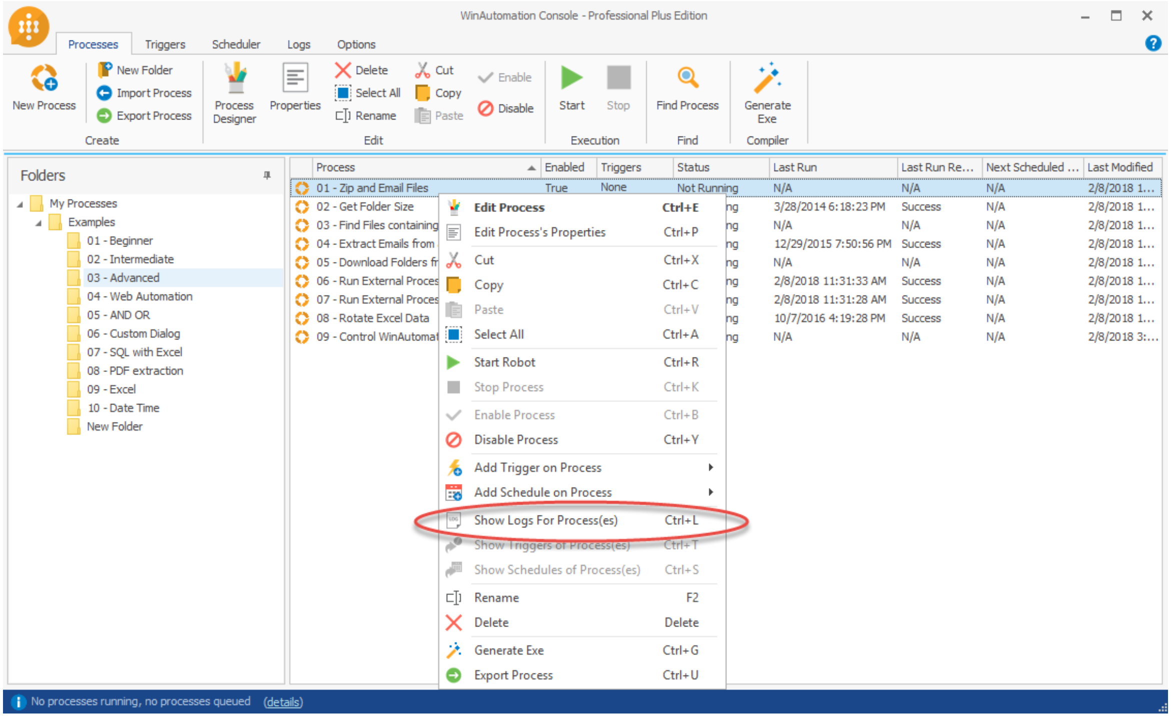
Check the Processes whose Logs you wish to see

No processes running, no processes queued (details)

3.1.4.4 Viewing Log Messages for Process

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

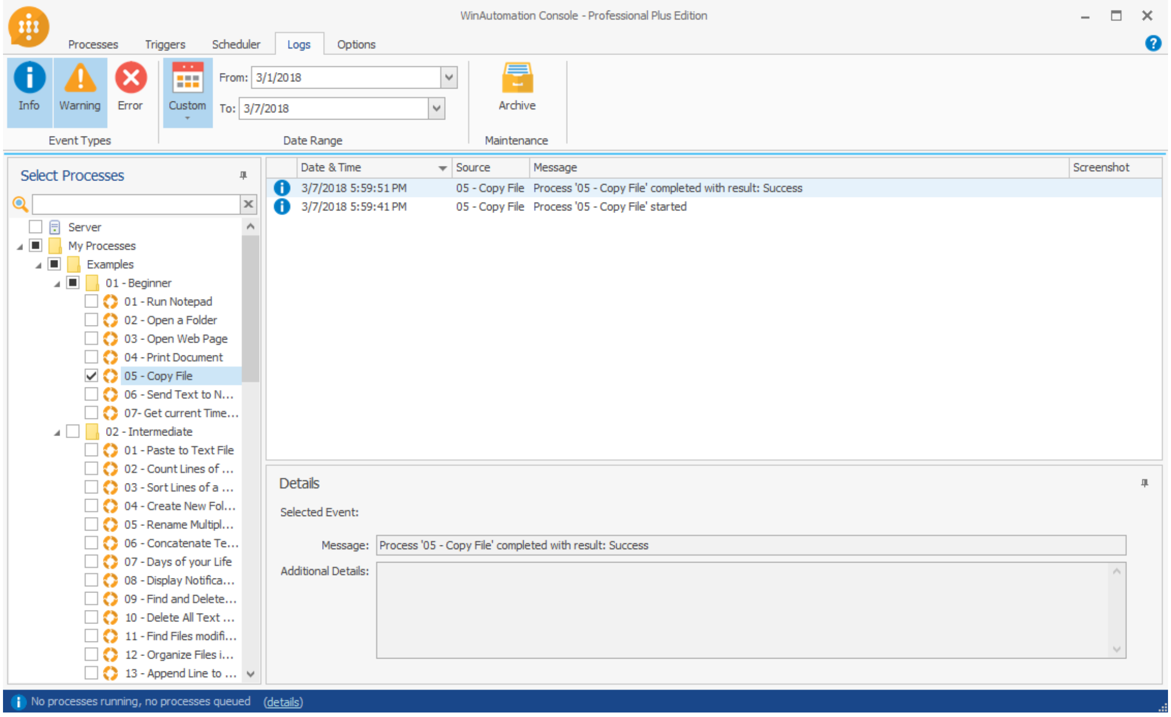
You can view the Logs of a specific Process by right-clicking on the Process, and selecting Show Logs For Process(s). This will take you to the Logs menu Tab, with the Filters for today and the selected Process are already chosen for you. Thus, this is a short-cut to a filtered Log search for the Process you chose.



Process	Enabled	Triggers	Status	Last Run	Last Run Re...	Next Scheduled ...	Last Modified
01 - Zip and Email Files	True	None	Not Running	N/A	N/A	N/A	2/8/2018 1...
02 - Get Folder Size			ng	3/28/2014 6:18:23 PM	Success	N/A	2/8/2018 1...
03 - Find Files containing			ng	N/A	N/A	N/A	2/8/2018 1...
04 - Extract Emails from			ng	12/29/2015 7:50:56 PM	Success	N/A	2/8/2018 1...
05 - Download Folders fr			ng	N/A	N/A	N/A	2/8/2018 1...
06 - Run External Proces			ng	2/8/2018 11:31:33 AM	Success	N/A	2/8/2018 1...
07 - Run External Proces			ng	2/8/2018 11:31:28 AM	Success	N/A	2/8/2018 1...
08 - Rotate Excel Data			ng	10/7/2016 4:19:28 PM	Success	N/A	2/8/2018 1...
09 - Control WinAutomat			ng	N/A	N/A	N/A	2/8/2018 3:...

No processes running, no processes queued (details)

Show Logs for Process



From: 3/1/2018

To: 3/7/2018

☑ 05 - Copy File

Date & Time	Source	Message	Screenshot
3/7/2018 5:59:51 PM	05 - Copy File	Process '05 - Copy File' completed with result: Success	
3/7/2018 5:59:41 PM	05 - Copy File	Process '05 - Copy File' started	

Selected Event:

Message: Process '05 - Copy File' completed with result: Success

Additional Details:

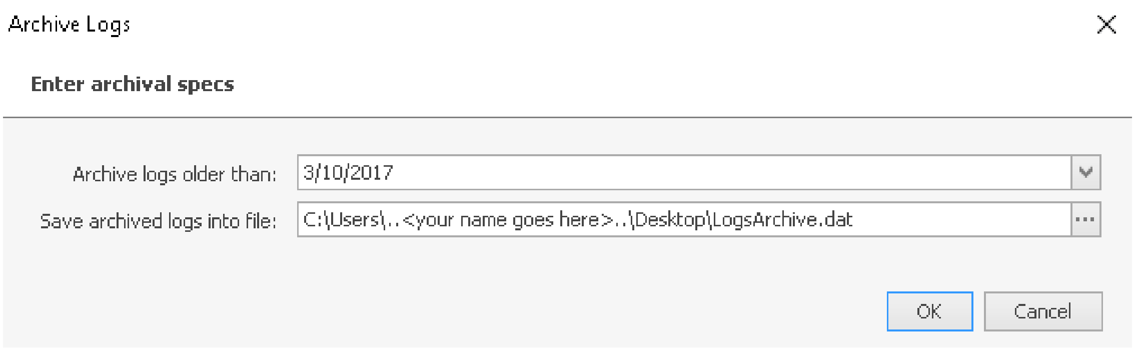
No processes running, no processes queued (details)

3.1.4.5 Clear Logs

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

If you want to delete older events and keep in the Logs only the recent and relevant events you may do so through the "Archive" option in the "Maintenance" group of the Logs tab.

The Archive option opens another Window that allows you to archive logs older than a specific date and save them in a .dat file, in a location that you will choose. Having done so, those Logs **will be deleted from the "Logs.dat" file**. Choose the date prior to which you wish to archive the logs and press OK.


Archive Logs

Enter archival specs

Archive logs older than: 3/10/2017

Save archived logs into file: C:\Users\..<your name goes here>..\Desktop\LogsArchive.dat

This dialog allows you to delete all events that have been logged within a specific date range.

It also gives you the option to archive the events before deleting them. To do so, you need to check the "Archive Events before delete" checkbox and specify a file path in the following textbox. This way a file will be created that will contain all the events that have been deleted from the main WinAutomation log.

3.1.5 Options

WinAutomation Options are accessed by clicking on the Option Tab in the console Menu.

The Options tab includes four tabs.

1. Settings 121

2. License 129

3. Error Handling 147

4. Addons 134

3.1.5.1 Settings Tab

In the **Options > Settings** tab you may configure all the settings that have to do with your WinAutomation installation.., and more. More specifically you may find 5 sub-tabs:

1. General 121

2. Processes File 122

3. Exe 123

4. FTP 124

5. Authentication 126

3.1.5.1,1 General Settings

The first Tab on the Settings, is the General tab from which you can set, about Notifications:

(1) If you want to display the WinAutomation Icon in your System Tray 327 or not and

(2) if you want to display the Notification Popup Window 90.

(3) Also, you can set your own Hotkey to stop all running Processes from the keyboard with a combination of Keys.

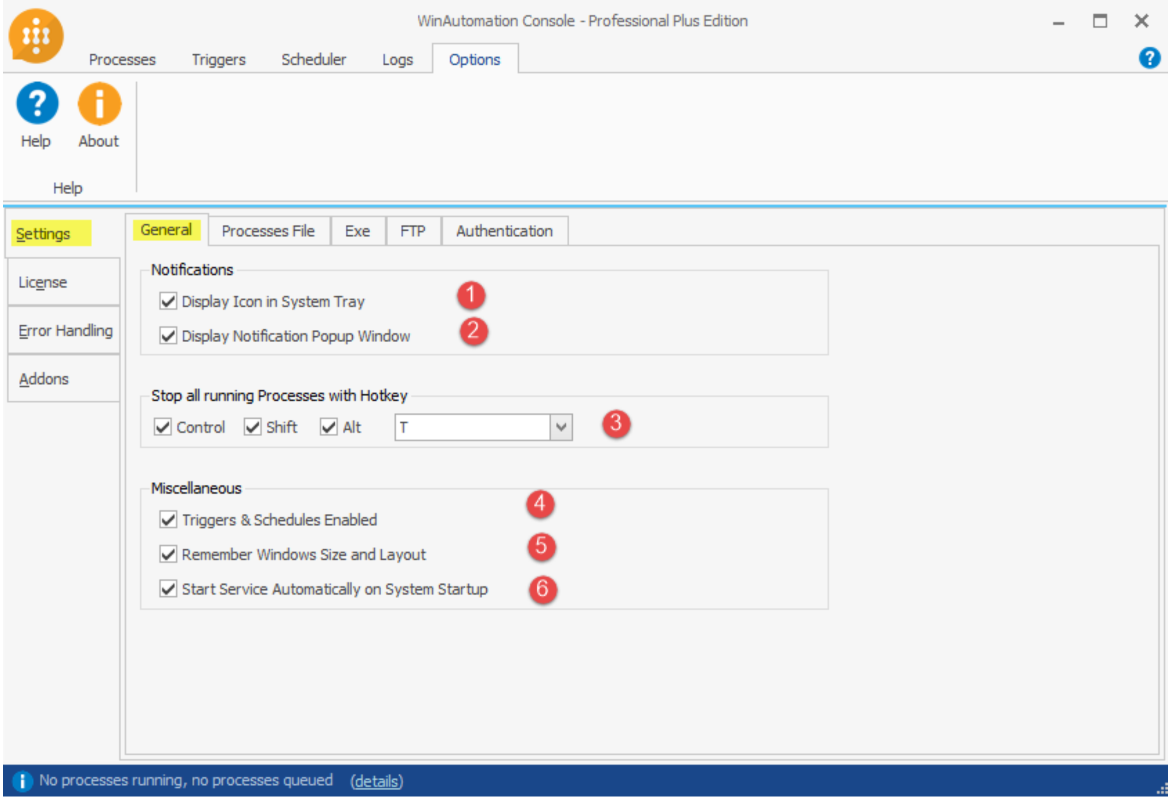
Lastly on the Miscellaneous options you can decide:

(4) If the Triggers and Schedules are be enabled or not, for ALL your Processes,

(5) if you want the console to remember the Windows Size and Layout every time you re-open a window and

(6) if you want to start the WinAutomation Service automatically on system Startup.

You should bear in mind that if you uncheck option (6), WinAutomation Service will not start on system startup, which means that your Triggers and Schedules will not work, unless you launch the WinAutomation Console, or start the WinAutomation service manually from the Windows "Services".



Notifications

☑ Display Icon in System Tray 1

☑ Display Notification Popup Window 2

Stop all running Processes with Hotkey

☑ Control ☑ Shift ☑ Alt T 3

Miscellaneous

☑ Triggers & Schedules Enabled 4

☑ Remember Windows Size and Layout 5

☑ Start Service Automatically on System Startup 6

No processes running, no processes queued (details)

Options>Settings>General

3.1.5.1,2 Processes File Settings

Processes are stored collectively in one database file (Processes.dat), which by default is stored in a specific location. This location is:

```
"C:\Users\...your username goes here...\Documents\WinAutomation\Processes.dat"
```

In the "Processes File" tab in the Settings, you have the option to target the database that your WinAutomation console will retrieve the Processes from. You are free to change it at anytime if you want to work between more than one databases at different times.

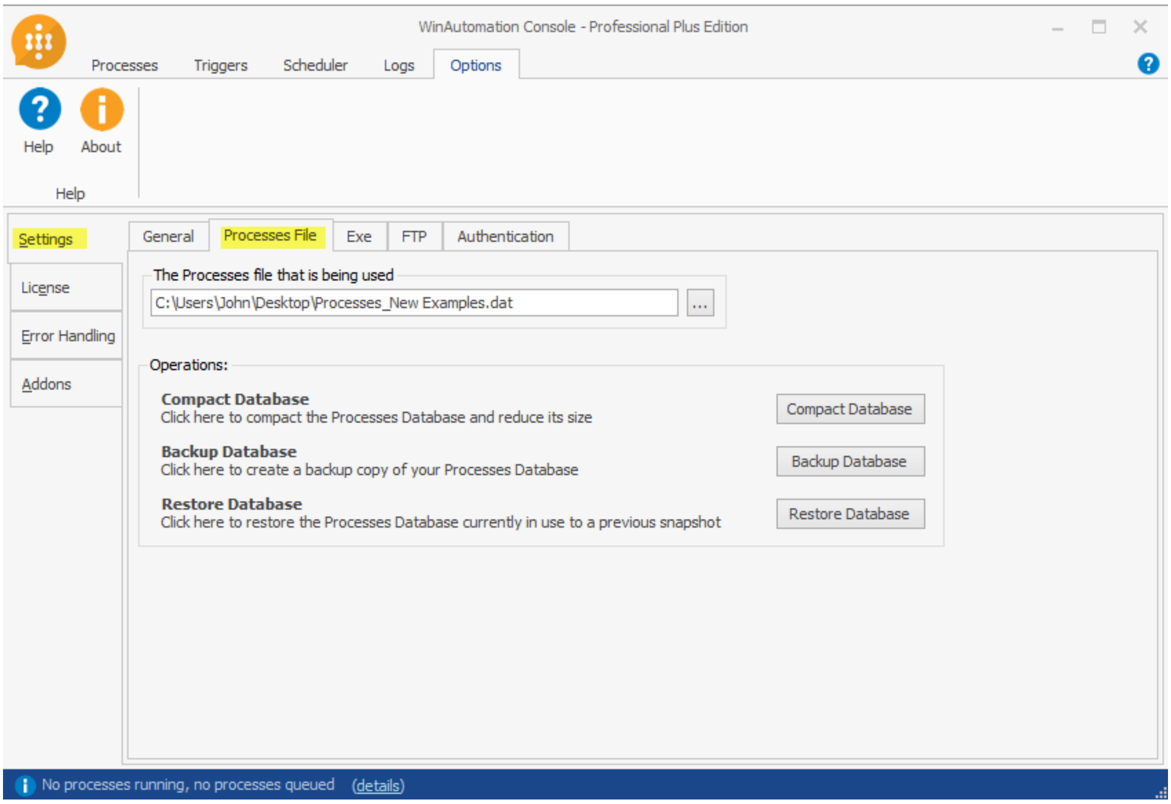
Right below you will find three three operations that concern your Processes Database:

1. Compact Database: By clicking on this option you are able to compact the Processes Database and reduce its size. It is a good practice to do so every now and then in order to clear the database from unnecessary data and keep its size relatively small.

2. Backup Database: By clicking on this option you are able to create a copy of your Processes Database to another location. WinAutomation does not 'protect' its database folder, so this can also be accomplished by going to the WinAutomation database directory and copying the file to another location in Windows Explorer.

******* It is strongly suggested that you Backup your Processes.dat frequently to avoid any unfortunate situations likes loosing all the processes that you have developed. *******

3. Restore Database: By clicking on this option you overwrite the WinAutomation Processes database with a database that you select. This should always be a WinAutomation Processes database (Processes.dat), preferably one you have created as a backup recently. You can also do this by copying and pasting files in Windows Explorer as the folder is not protected.



The Processes file that is being used

C:\Users\John\Desktop\Processes_New Examples.dat

Operations:

Compact Database
Click here to compact the Processes Database and reduce its size

Backup Database
Click here to create a backup copy of your Processes Database

Restore Database
Click here to restore the Processes Database currently in use to a previous snapshot

No processes running, no processes queued

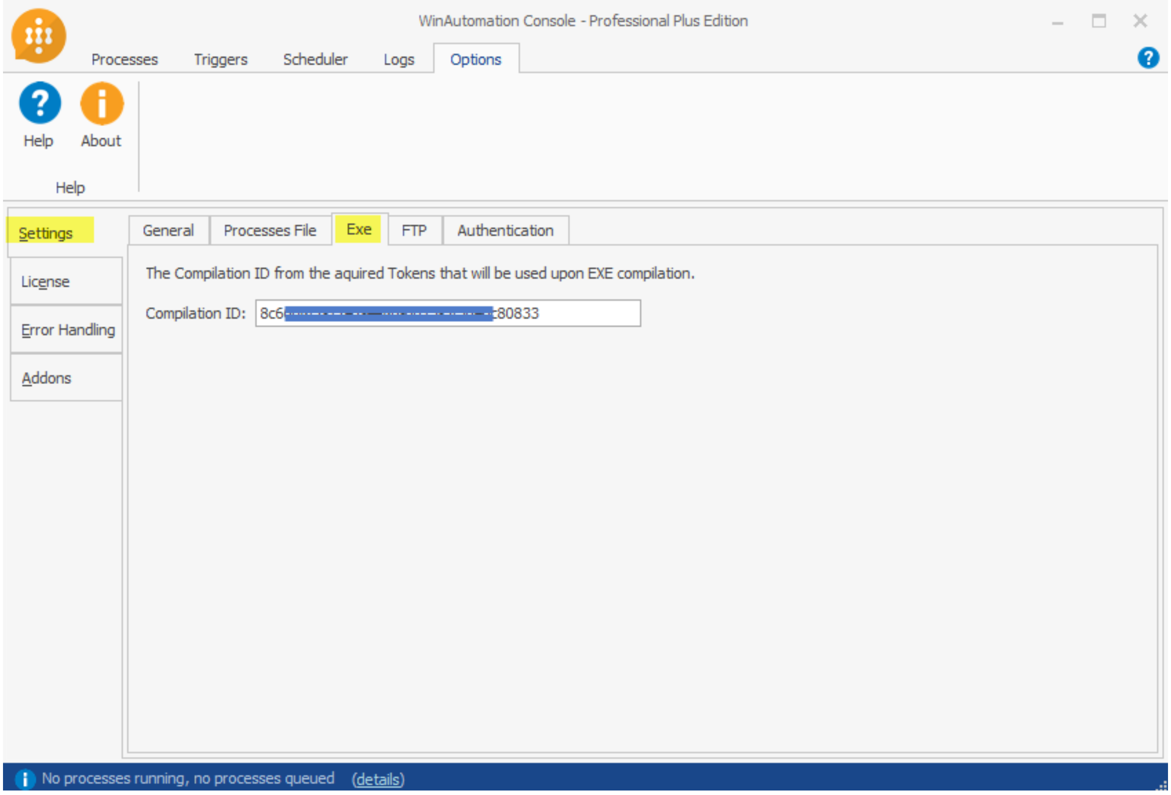
Options>Settings>Processes File

3.1.5.1,3 Exe Settings

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

The next tab is the "Exe" tab. This is where you can enter the compilation ID from your acquired Tokens that will be used upon EXE compilation.

For more information about compilation Ids and for Exe creation, please, refer to the topic about Tokens 153 and Compiled Processes 148



The Compilation ID from the aquired Tokens that will be used upon EXE compilation.

Compilation ID: 8c6[redacted]80833

No processes running, no processes queued (details)

Options > Settings > Exe

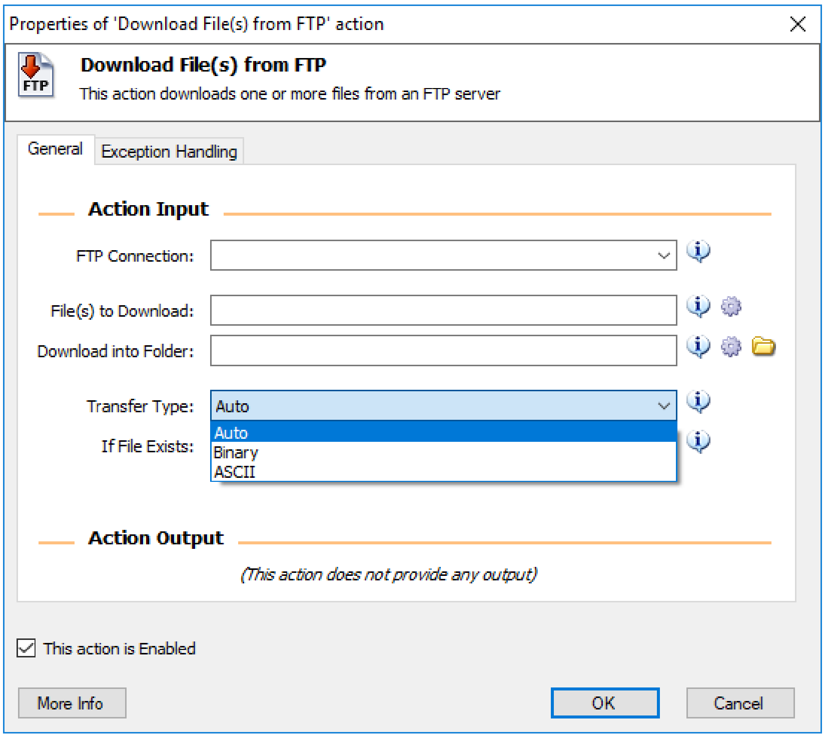
3.1.5.1,4 FTP Settings

In this tab you can select the files types that will be treated as ASCII, when using the FTP related actions that include the "Transfer Type" input Option.

When working with FTP, downloaded and uploaded files always come as ASCII or binary. Here, you can select which files will be transferred as ASCII - the rest will default to binary. Just enter the file extension you wish to add and click Add File Type, or Remove any File Type you don't wish to have on the list.

When downloading or uploading files (using the Download File(s) from FTP 630 and Upload File(s) to FTP 633 actions) you can specify the transfer type to be ASCII, BINARY or AUTO. If you select AUTO, WinAutomation will use this list to determine whether the file will be transferred in ASCII or binary mode.

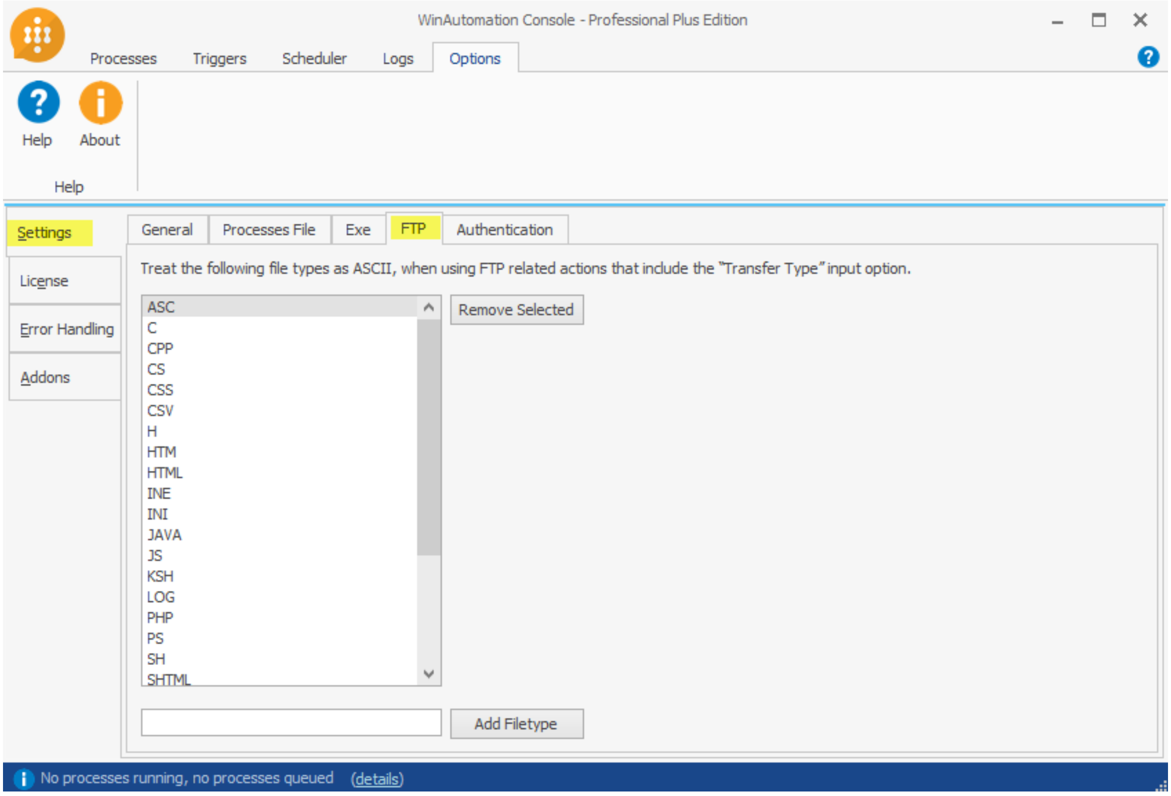
This list is also used by the Download Folder(s) from FTP 631 and Upload Folder(s) to FTP 634 actions for deciding how to transfer the files contained into the folders.



Properties of 'Download File(s) from FTP' action

Download File(s) from FTP

This action downloads one or more files from an FTP server



WinAutomation Console - Professional Plus Edition

Treat the following file types as ASCII, when using FTP related actions that include the "Transfer Type" input option.

ASC
C
CPP
CS
CSS
CSV
H
HTM
HTML
INE
INI
JAVA
JS
KSH
LOG
PHP
PS
SH
SHTML

No processes running, no processes queued (details)

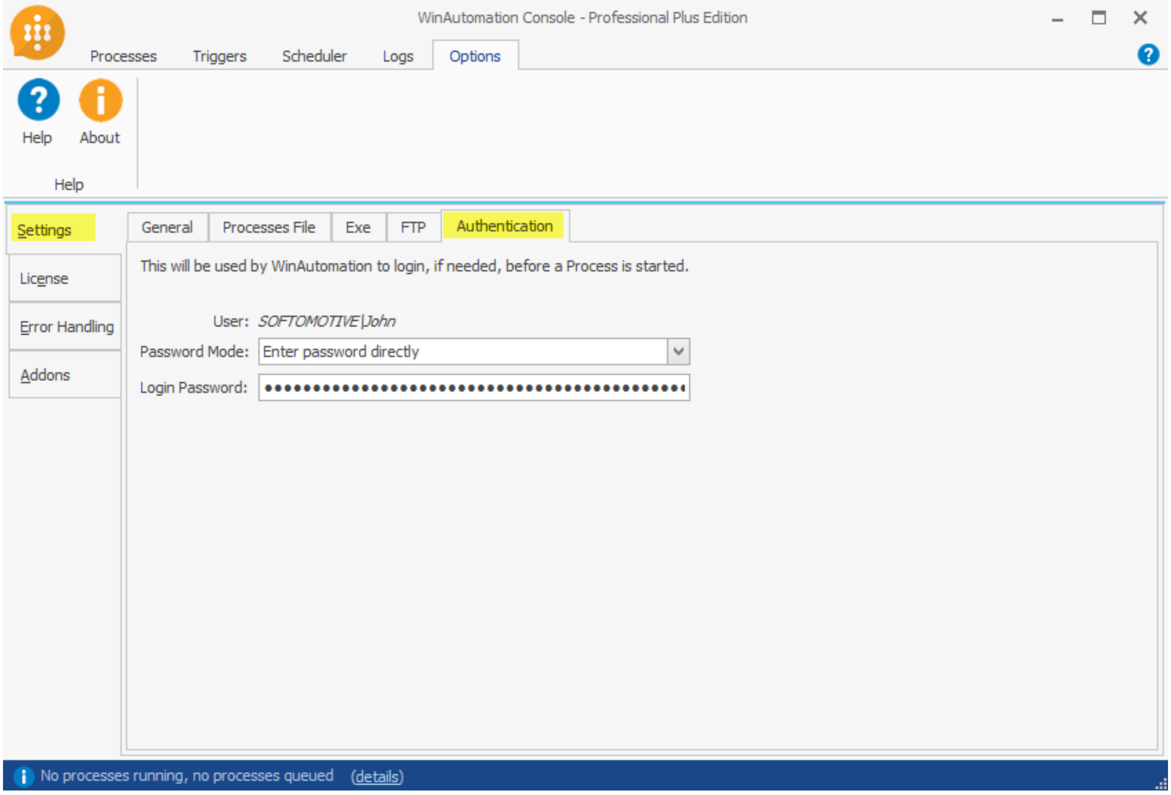
Options > Settings > FTP

3.1.5.1,5 Authentication Settings

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

In the Login Password field you may enter your password which unlocks your account. In order to do so you have two options.

1. The first one is to enter the password directly by typing it. Note that the password should be the password that the current user is using to login to his Windows account. The user is retrieve by default and cannot be changed, as it is the user that has opened the WinAutomation Console.



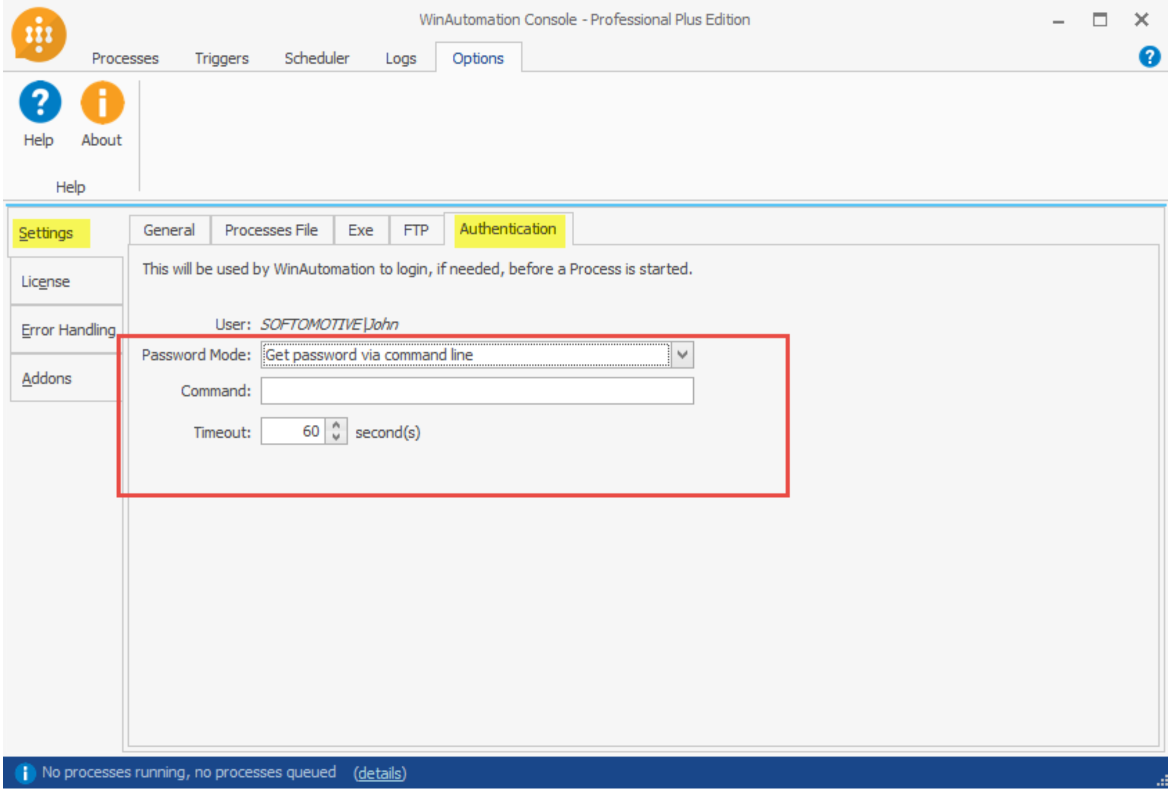
This will be used by WinAutomation to login, if needed, before a Process is started.

User: SOFTOMOTIVE\John
Password Mode: Enter password directly
Login Password: ●●

No processes running, no processes queued (details)

Options>Settings>Authentication
Passing the password manually

2. The second option is for WinAutomation to retrieve the password, upon Autologin, through a command line output whose output will be the password to be used.



This will be used by WinAutomation to login, if needed, before a Process is started.

User: SOFTOMOTIVE\John

Password Mode: Get password via command line

Command:

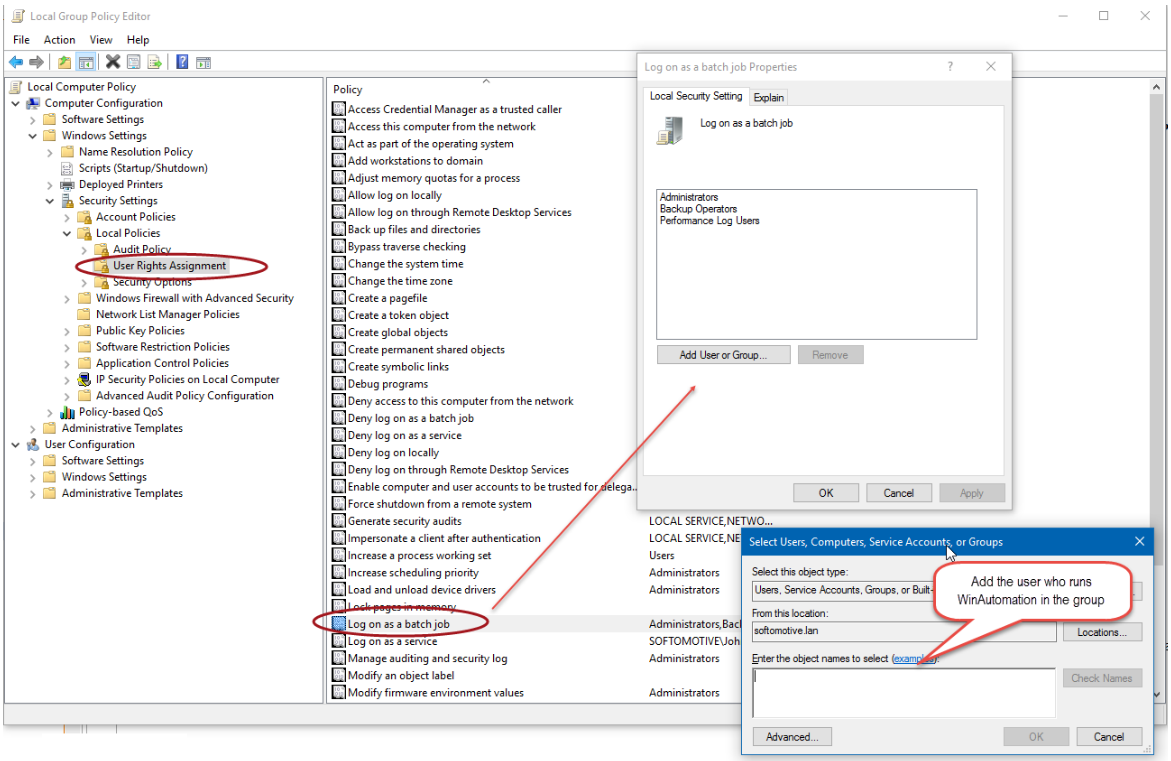
Timeout: 60 second(s)

No processes running, no processes queued (details)

Options>Settings>Authentication
Passing the password through a command line

Note: In order to run Processes in non-interactive mode and they include WebAutomation or Excel related actions, then in order for them to run with no issue, you would have to follow the screenshots below:

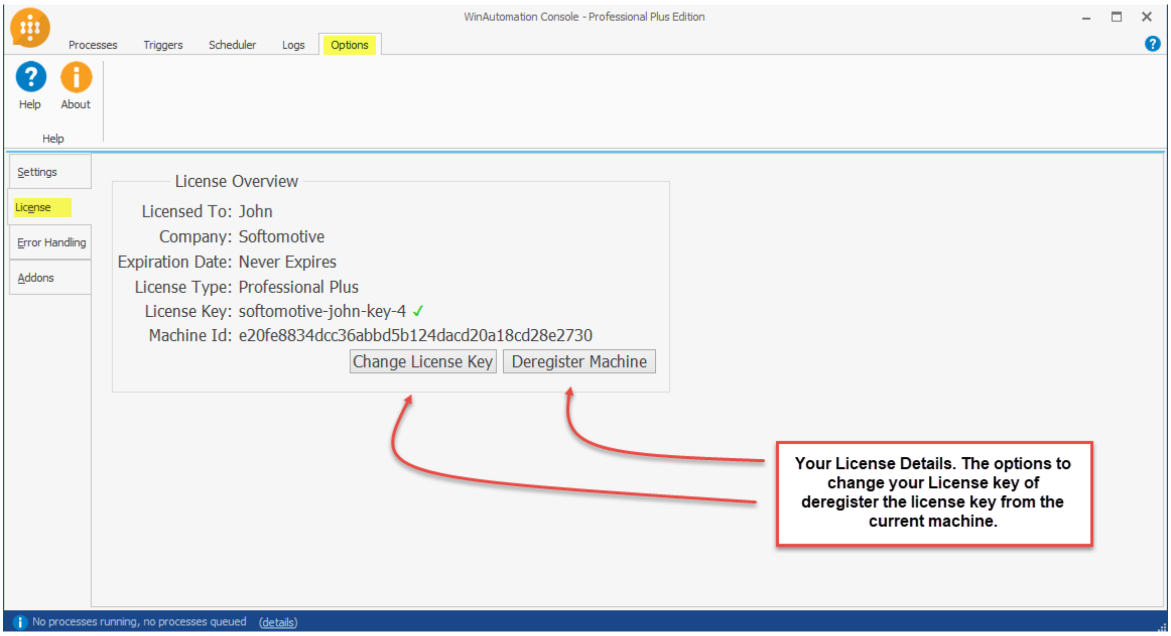
Open the "Local Group Policy Editor" by typing "gpedit.msc" in the Run window. In that window select "Log on as a batch job" from the tree as shown in the screenshot below, and add the user who is running WinAutomation:


Local Group Policy Editor
File
Action
View
Help
Local Computer Policy
Computer Configuration
Software Settings
Windows Settings
Name Resolution Policy
Scripts (Startup/Shutdown)
Deployed Printers
Security Settings
Account Policies
Local Policies
Audit Policy
User Rights Assignment
Security Options
Windows Firewall with Advanced Security
Network List Manager Policies
Public Key Policies
Software Restriction Policies
Application Control Policies
IP Security Policies on Local Computer
Advanced Audit Policy Configuration
Policy-based QoS
Administrative Templates
User Configuration
Software Settings
Windows Settings
Administrative Templates
Policy
Access Credential Manager as a trusted caller
Access this computer from the network
Act as part of the operating system
Add workstations to domain
Adjust memory quotas for a process
Allow log on locally
Allow log on through Remote Desktop Services
Back up files and directories
Bypass traverse checking
Change the system time
Change the time zone
Create a pagefile
Create a token object
Create global objects
Create permanent shared objects
Create symbolic links
Debug programs
Deny access to this computer from the network
Deny log on as a batch job
Deny log on as a service
Deny log on locally
Deny log on through Remote Desktop Services
Enable computer and user accounts to be trusted for delega...
Force shutdown from a remote system
Generate security audits
Impersonate a client after authentication
Increase a process working set
Increase scheduling priority
Load and unload device drivers
Lock pages in memory
Log on as a batch job
Log on as a service
Manage auditing and security log
Modify an object label
Modify firmware environment values
LOCAL SERVICE,NETWO...
LOCAL SERVICE,NE
Users
Administrators
Administrators
Administrators,Bac
SOFTOMOTIVE\Joh
Administrators
Administrators
Log on as a batch job Properties
Local Security Setting
Explain
Log on as a batch job
Administrators
Backup Operators
Performance Log Users
Add User or Group...
Remove
OK
Cancel
Apply
Select Users, Computers, Service Accounts, or Groups
Select this object type:
Users, Service Accounts, Groups, or Built-
From this location:
softomotive.lan
Locations...
Enter the object names to select (examples):
Check Names
Advanced...
OK
Cancel

Add the user who runs WinAutomation in the group

3.1.5.2 License Tab

In the License Tab you can view your License info. It shows all the details of your registered license.



Licensed To: John
Company: Softomotive
Expiration Date: Never Expires
License Type: Professional Plus
License Key: softomotive-john-key-4 ✓
Machine Id: e20fe8834dcc36abbd5b124dacd20a18cd28e2730

Your License Details. The options to change your License key of deregister the license key from the current machine.

Options > License

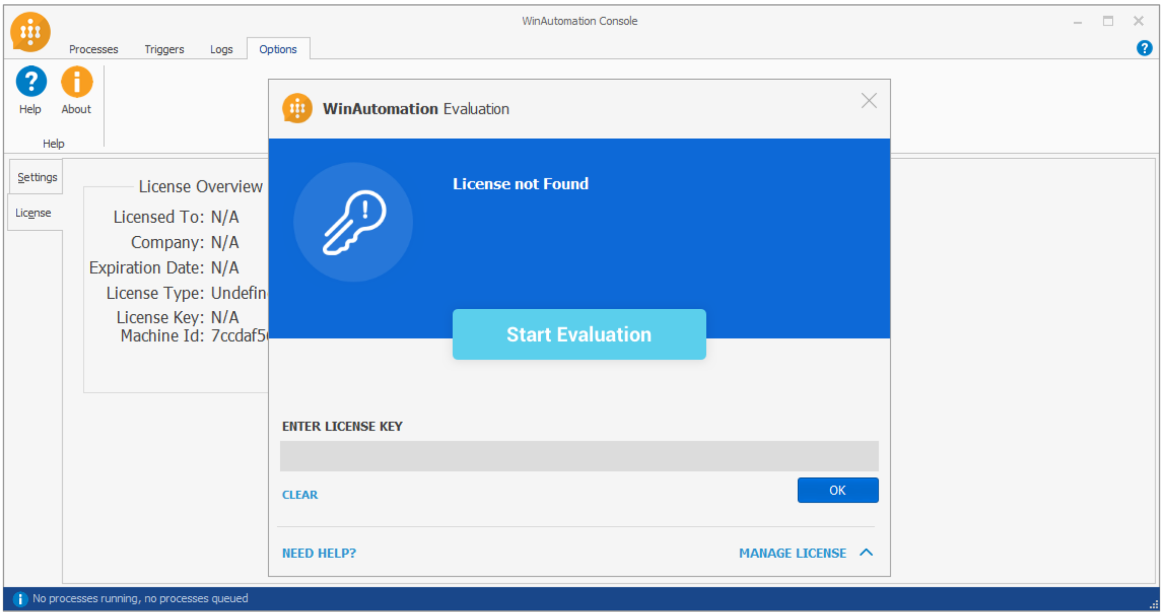
Entering your WinAutomation License:

Depending on whether the machine is equipped with an active internet connection or not, entering your License key has as follows:

(i) Machine is connected to the internet

You can enter a License key in your WinAutomation console by clicking on the "Enter License Key" button (in case you are trialing WinAutomation) or the "Change License Key" (if you want to enter a different License Key).

Enter your license key to the relative field and press the "OK" button as shown below.



License Overview

Licensed To: N/A
Company: N/A
Expiration Date: N/A
License Type: Undefin
License Key: N/A
Machine Id: 7ccdaf5

WinAutomation Evaluation

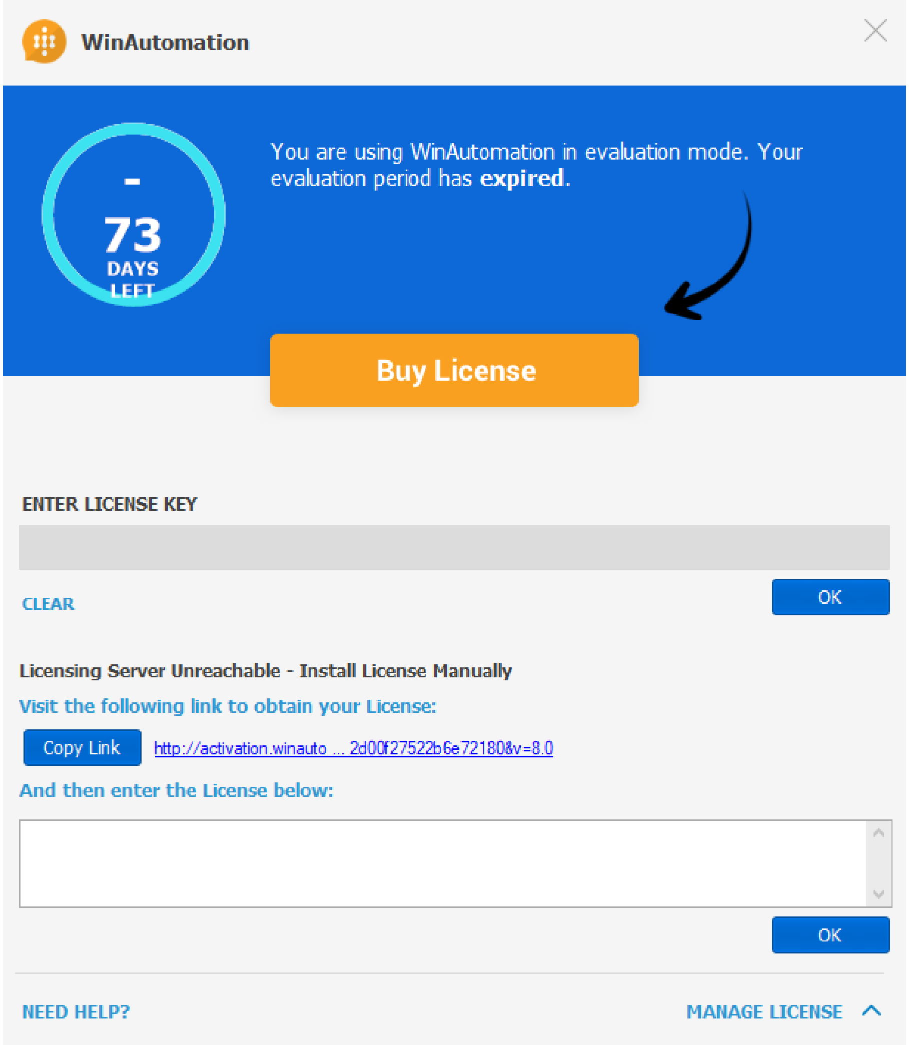
License not Found

Entering your License Key

(ii) Machine is NOT connected to the internet:

Click on the Enter License Key option and the window "WinAutomation Licensing Server Unreachable-Install License Manually" will popup.

Click on the "Copy link" button and paste it on an internet browser on a machine that is connected to the Internet. Having done so, copy the License string that the page will provide to you; paste it in the relative field of the WinAutomation licensing window and hit "OK".



You are using WinAutomation in evaluation mode. Your evaluation period has **expired**.

ENTER LICENSE KEY

Licensing Server Unreachable - Install License Manually

Visit the following link to obtain your License:

http://activation.winauto ... 2d00f27522b6e72180&v=8.0

And then enter the License below:

Offline License key

Congratulations, WinAutomation is now successfully licensed!

Unassigning a License key from your WinAutomation console, in order to use it on another machine:

There are two ways to Unassign a License key.

- You can either deregister a machine from its license key from the WinAutomation console by navigating to Options > License > Deregister Machine, as shown in the screenshot above,

-Or login to the User Area using the email under which your purchase was made and click on the "Unassign license" option.

3.1.5.3 Error Handling Tab

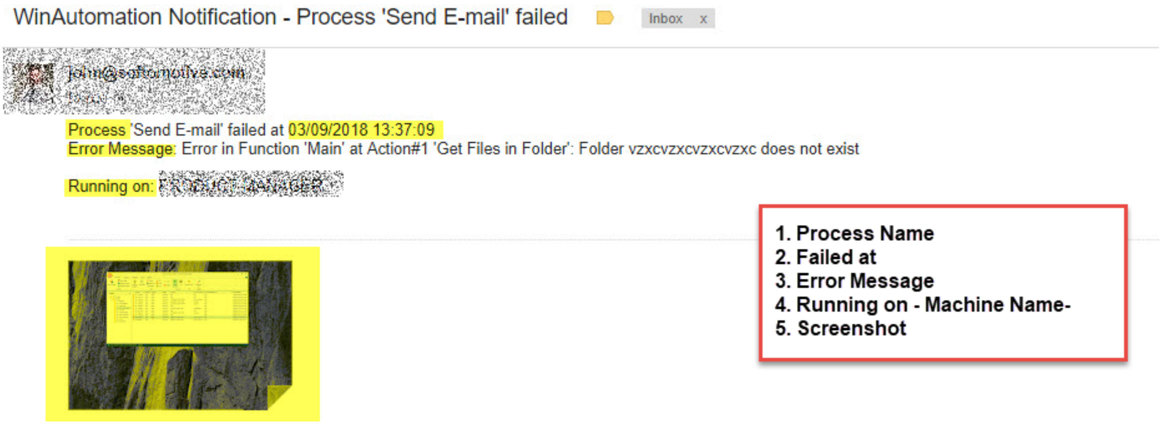
(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

In the Error Handling Tab you will see two sub-tabs. The Behavior and the the Email/SMTP:

3.1.5.3,1 Behaviour

If a Process fails to execute successfully, you can specify what will happen in the "Options > Error Handling > Behaviour" tab. You can choose one of the following:

1. Send an email, possibly with multiple recipients (separated by semi-colons), with details set in the SMTP Server tab. This email will have the Process Name the date and the time that it failed, the error message and the machine name that it was running on



WinAutomation Notification - Process 'Send E-mail' failed

[redacted]

Process 'Send E-mail' failed at 03/09/2018 13:37:09
Error Message: Error in Function 'Main' at Action#1 'Get Files in Folder': Folder vzxcvzxcvzxcvzxc does not exist

Running on: [redacted]

1. Process Name
2. Failed at
3. Error Message
4. Running on - Machine Name-
5. Screenshot

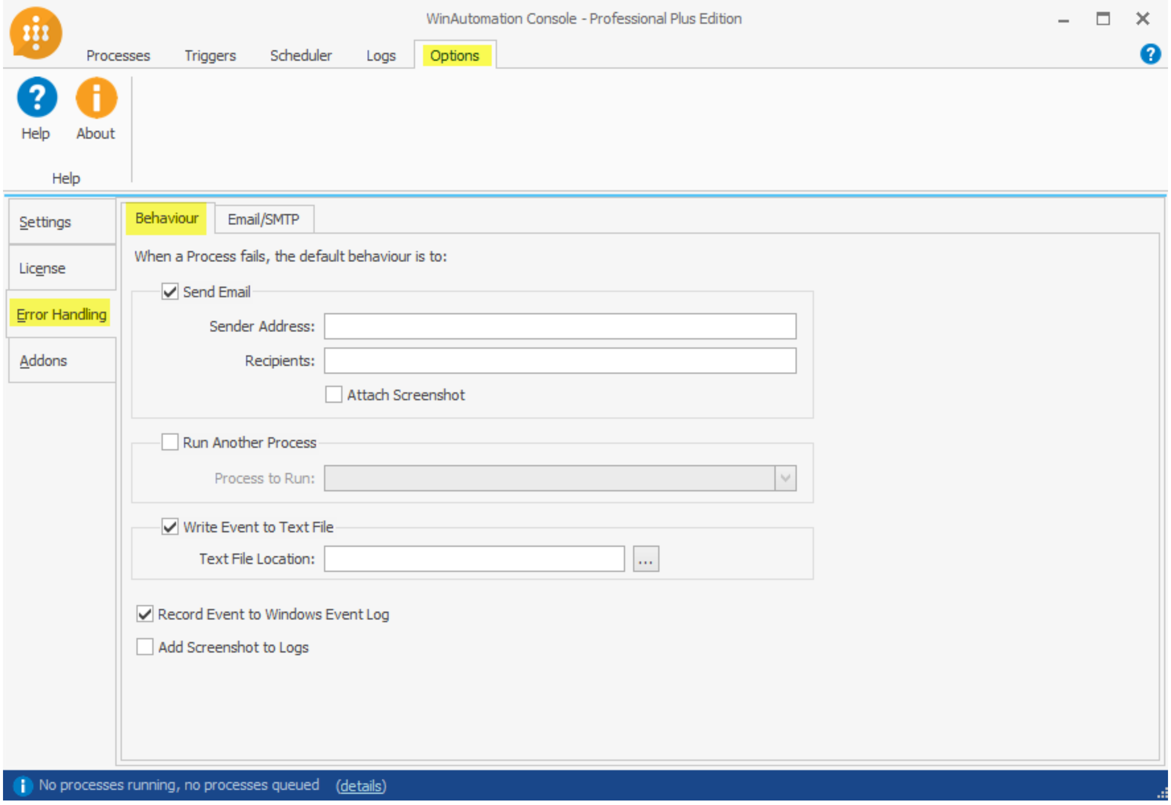
Email structure upon Error

2. Run another Process from your Processes Database.

3. Write (append) to a text file that you specify. The Event will be written at the end, so you can keep a running log of Process failures.

4. Record to the Windows Applications Event Log. You can view the Windows Event Logs through Control Panel -> Administrative Tools -> Event Viewer.

5. Add a Screenshot of the monitor(s) at the exact time that the exception occurred. The screenshot will be visible in the Logs Tab and you will be able to open it with a simple click.



When a Process fails, the default behaviour is to:

☑ Send Email

Sender Address:

Recipients:

☐ Attach Screenshot

☐ Run Another Process

Process to Run:

☑ Write Event to Text File

Text File Location:

☑ Record Event to Windows Event Log

☐ Add Screenshot to Logs

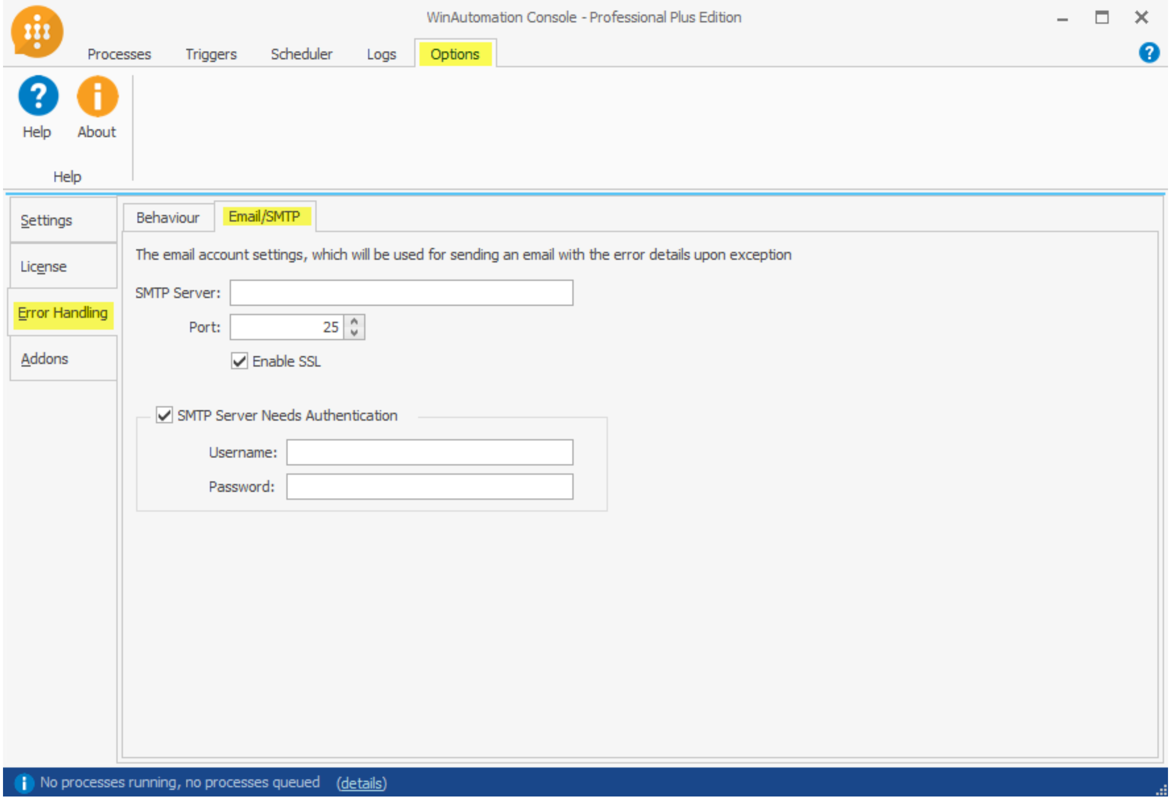
Options > Error Handling > Behaviour

In any case, the execution of any Process along with the result of the execution will always be recorder into the WinAutomation Log 115.

3.1.5.3,2 Email/SMTP Tab

The second sub-tab is the Email/SMTP one. This can be useful depending on your settings for Error Handling tab 132. If you check the option "Send Email" on the Behaviour Tab upon an unsuccessful execution of a Process, you will need to enter the details here.

Username, password might be needed and you must specify the Server and the Port.



The email account settings, which will be used for sending an email with the error details upon exception

SMTP Server:

Port: 25

☑ Enable SSL

☑ SMTP Server Needs Authentication

Username:

Password:

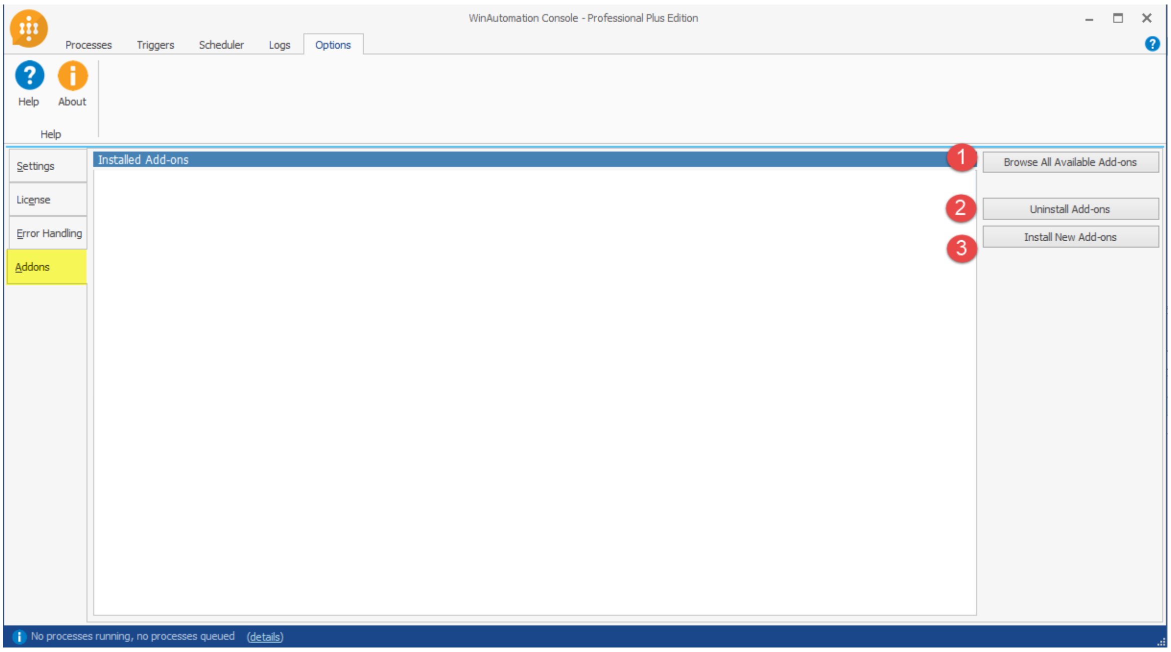
No processes running, no processes queued (details)

Options > Error Handling > Email/SMTP

3.1.5.4 Addons Tab

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

You can open the WinAutomation Add-on Manager through "Options > Ad-dons" tab in the console.



Options > Addons

In the central pane you will see the Ad-dons that are installed.

1. "Browse All Available Add-ons" .If you select to “Browse All Available Add-ons”, a new browser window will open and you will be redirected to the “Add-ons” section of the WinAutomation.com website. There you can search the collection of Add-ons that are available and download the ones that you need

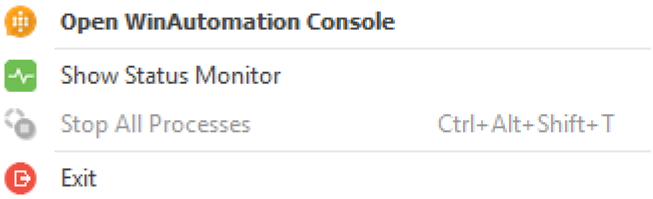
2. "Uninstall Add-ons". You can uninstall any Add-on that you no longer need, just by selecting it in the list of installed add-ons and clicking on the “Uninstall Selected Add-on” button. Note here that when you uninstall an add-on, any Processes that contain actions from that add-on will not work anymore. This does not apply to compiled Processes that are independent but only to Processes that run within WinAutomation.

3. "Install New Add-ons". After you have downloaded an Add-on, you can install it by pressing the “Install new Add-on” button and selecting the .wao file that you downloaded.

3.1.6 Processes Status Monitor

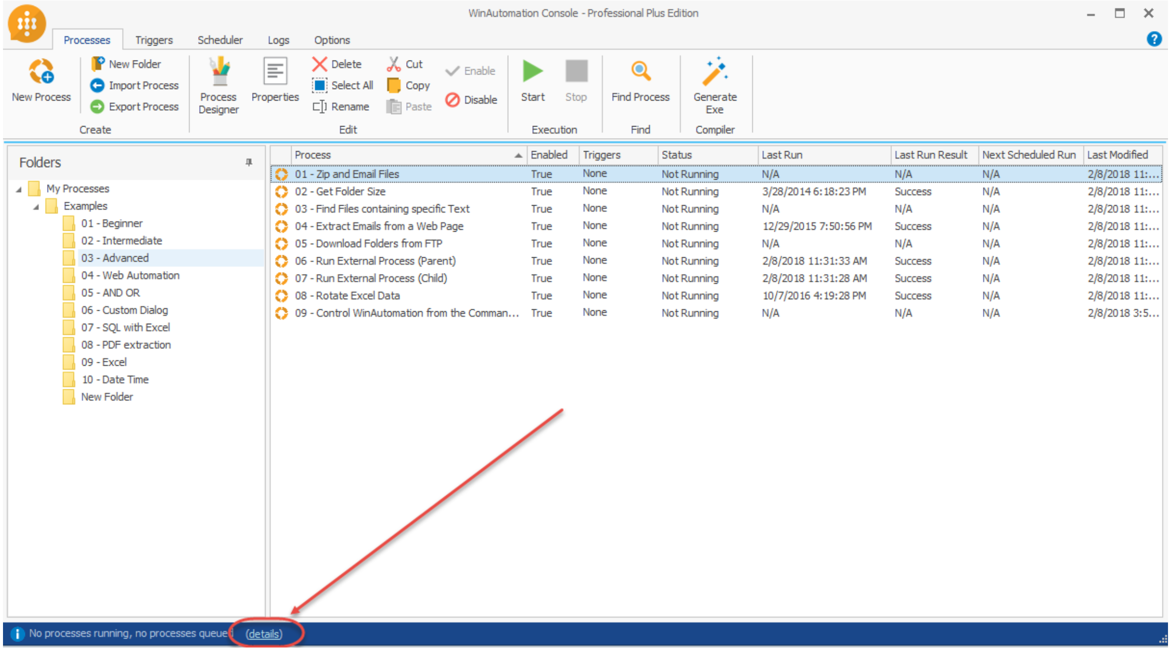
3.1.6.1 Status Monitor Window

The Status Monitor Window can be accessed by right clicking on the WinAutomation icon in the system tray, as per the previous topic OR by clicking on "(details)" at the bottom of the Console.



WinAutomation in the System Tray

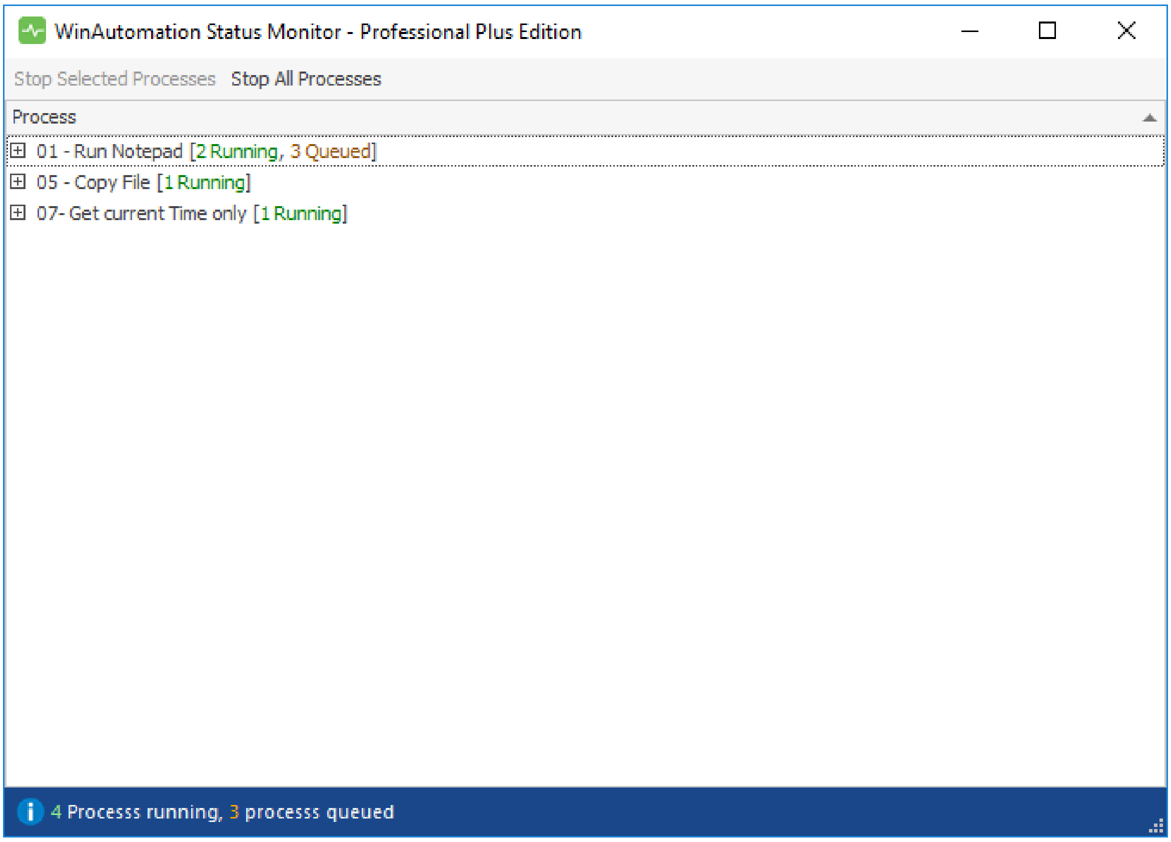
or...



Process	Enabled	Triggers	Status	Last Run	Last Run Result	Next Scheduled Run	Last Modified
01 - Zip and Email Files	True	None	Not Running	N/A	N/A	N/A	2/8/2018 11:...
02 - Get Folder Size	True	None	Not Running	3/28/2014 6:18:23 PM	Success	N/A	2/8/2018 11:...
03 - Find Files containing specific Text	True	None	Not Running	N/A	N/A	N/A	2/8/2018 11:...
04 - Extract Emails from a Web Page	True	None	Not Running	12/29/2015 7:50:56 PM	Success	N/A	2/8/2018 11:...
05 - Download Folders from FTP	True	None	Not Running	N/A	N/A	N/A	2/8/2018 11:...
06 - Run External Process (Parent)	True	None	Not Running	2/8/2018 11:31:33 AM	Success	N/A	2/8/2018 11:...
07 - Run External Process (Child)	True	None	Not Running	2/8/2018 11:31:28 AM	Success	N/A	2/8/2018 11:...
08 - Rotate Excel Data	True	None	Not Running	10/7/2016 4:19:28 PM	Success	N/A	2/8/2018 11:...
09 - Control WinAutomation from the Comman...	True	None	Not Running	N/A	N/A	N/A	2/8/2018 3:5...

No processes running, no processes queued (details)

Clicking on the "Show Status Monitor" the Status Monitor Window will appear.

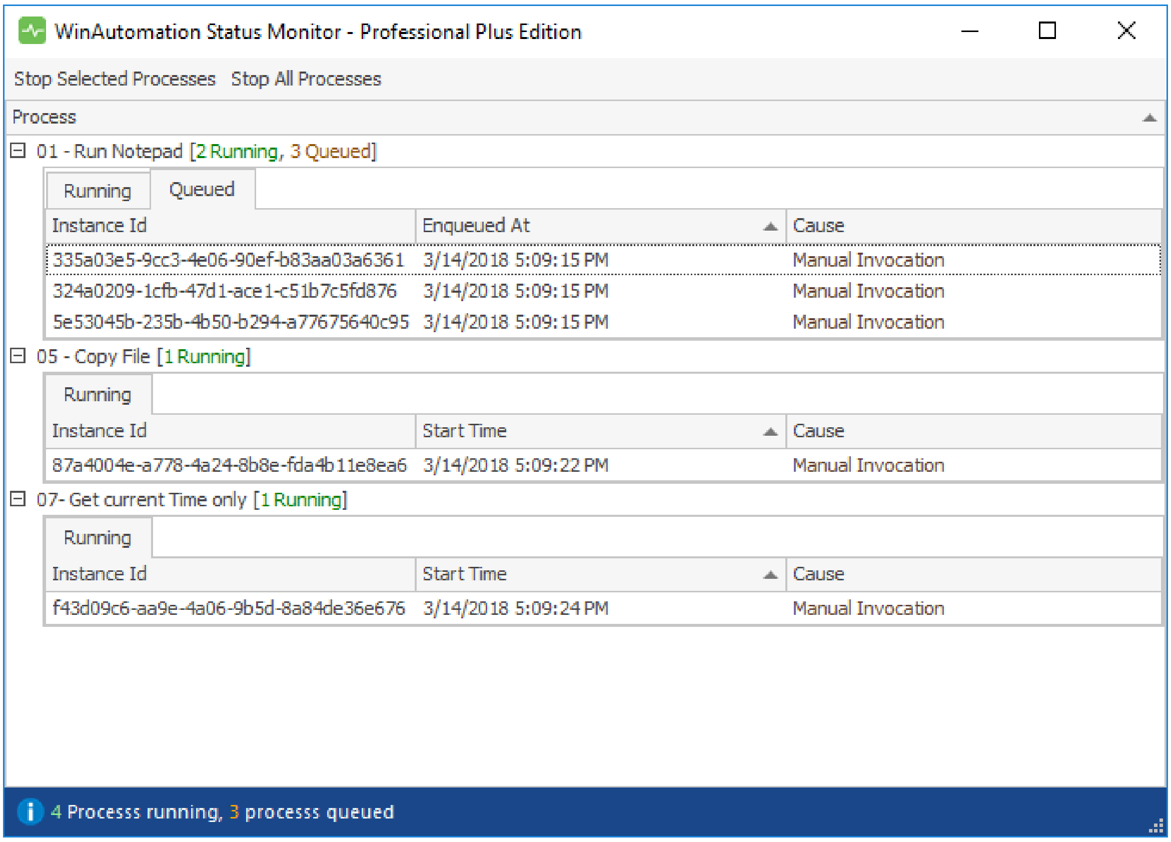


01 - Run Notepad [2 Running, 3 Queued]
05 - Copy File [1 Running]
07- Get current Time only [1 Running]

4 Process running, 3 processs queued

In this window you will find the following information:

- All the running Processes will be listed. You can expand each running Process to display more information for it like *Instance id, Start Time, Cause of running (manual or trigger invocation).*



01 - Run Notepad [2 Running, 3 Queued]

Instance Id	Enqueued At	Cause
335a03e5-9cc3-4e06-90ef-b83aa03a6361	3/14/2018 5:09:15 PM	Manual Invocation
324a0209-1cfb-47d1-ace1-c51b7c5fd876	3/14/2018 5:09:15 PM	Manual Invocation
5e53045b-235b-4b50-b294-a77675640c95	3/14/2018 5:09:15 PM	Manual Invocation

05 - Copy File [1 Running]

Instance Id	Start Time	Cause
87a4004e-a778-4a24-8b8e-fda4b11e8ea6	3/14/2018 5:09:22 PM	Manual Invocation

07- Get current Time only [1 Running]

Instance Id	Start Time	Cause
f43d09c6-aa9e-4a06-9b5d-8a84de36e676	3/14/2018 5:09:24 PM	Manual Invocation

4 Process running, 3 processs queued

- Next to the Processes name you will see how many instances are currently running and how many are Queued.

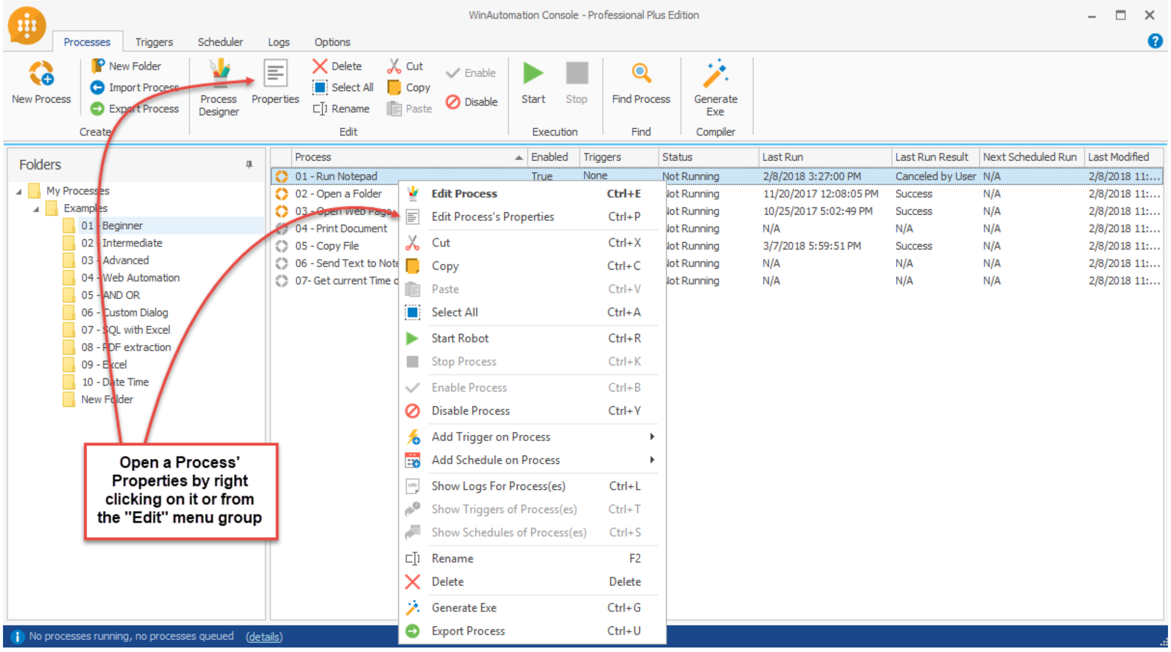
- At the left bottom of the window the overall number of Running Processes and Queued Processes will be shown.

Form the Status Monitor Window you will be able to Stop all Running Processes or click on a Process (or on more than one Processes, holding the Ctrl key down) and force them to Stop running.

3.2 Process Properties

You can open the Process Properties Dialog for a certain Process:

- by clicking on the Properties button on the Processes tab in the Edit group menu or
- by right-clicking on the Process and choosing Edit Process Properties.



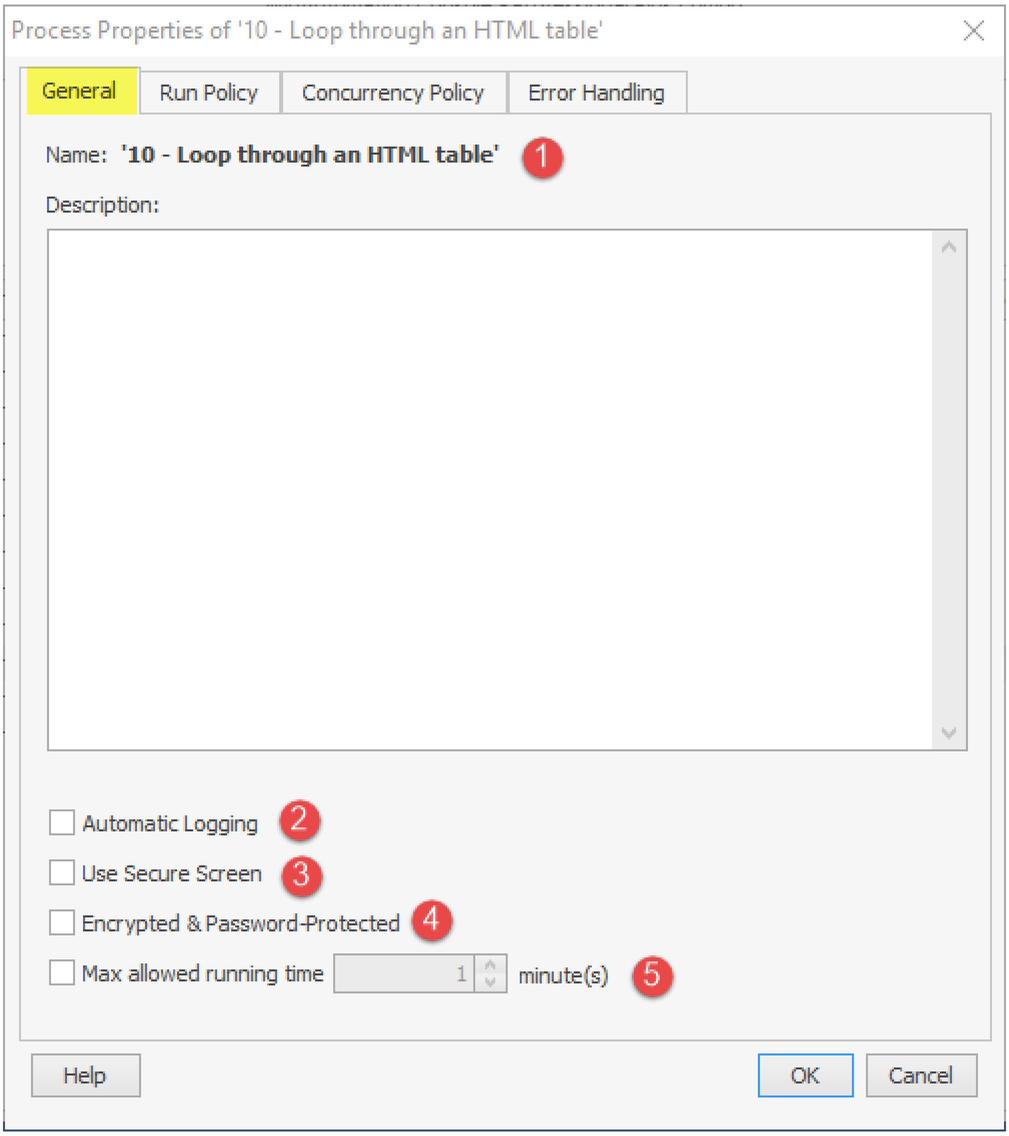
Process	Enabled	Triggers	Status	Last Run	Last Run Result	Next Scheduled Run	Last Modified
01 - Run Notepad	True	None	Not Running	2/8/2018 3:27:00 PM	Canceled by User	N/A	2/8/2018 11:...
02 - Open a Folder			ot Running	11/20/2017 12:08:05 PM	Success	N/A	2/8/2018 11:...
03 - Open Web Page			ot Running	10/25/2017 5:02:49 PM	Success	N/A	2/8/2018 11:...
04 - Print Document			ot Running	N/A	N/A	N/A	2/8/2018 11:...
05 - Copy File			ot Running	3/7/2018 5:59:51 PM	Success	N/A	2/8/2018 11:...
06 - Send Text to Not			ot Running	N/A	N/A	N/A	2/8/2018 11:...
07- Get current Time c			ot Running	N/A	N/A	N/A	2/8/2018 11:...

Open a Process' Properties by right clicking on it or from the "Edit" menu group

This brings up the Process Properties Dialog, on the first tab - General 140.

3.2.1 General

The first tab in the Processes Properties is the "General" tab.



Name: '10 - Loop through an HTML table'

Description:

□ Automatic Logging

□ Use Secure Screen

□ Encrypted & Password-Protected

□ Max allowed running time 1 minute(s)

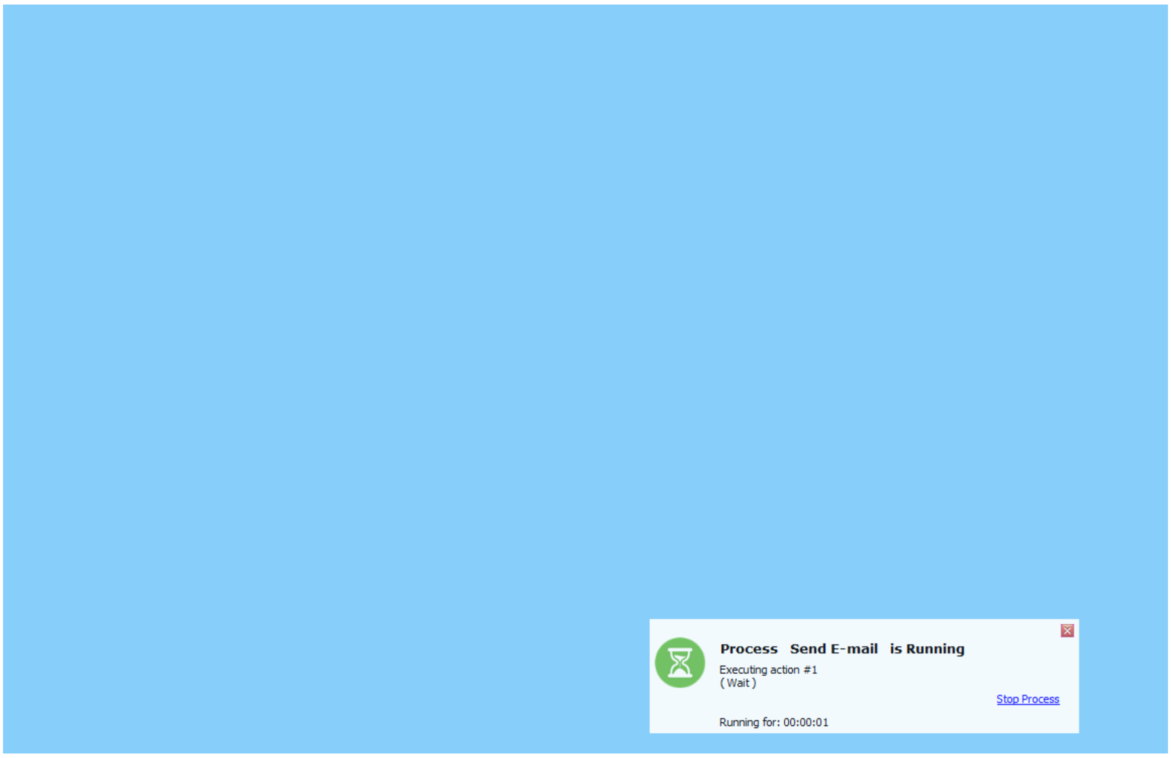
Process Properties > General

1. **Description:** Enter a description and notes, which is mostly used for documentation purposes. If you need to remember something about the Process, or tell someone else about it, write it here.

2. **Automatic Logging:** Check this option if you wish to log the execution of every single action that the process is executing. In this case you will have all the actions history from a single

3. ***Use a Secure Screen (Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)*:** If you check this option, the screen will turn

blue upon running the Process and no one will be able to see what the Process does. The only visible window will be the Notification Window.



Process Send E-mail is Running

Executing action #1
(Wait)

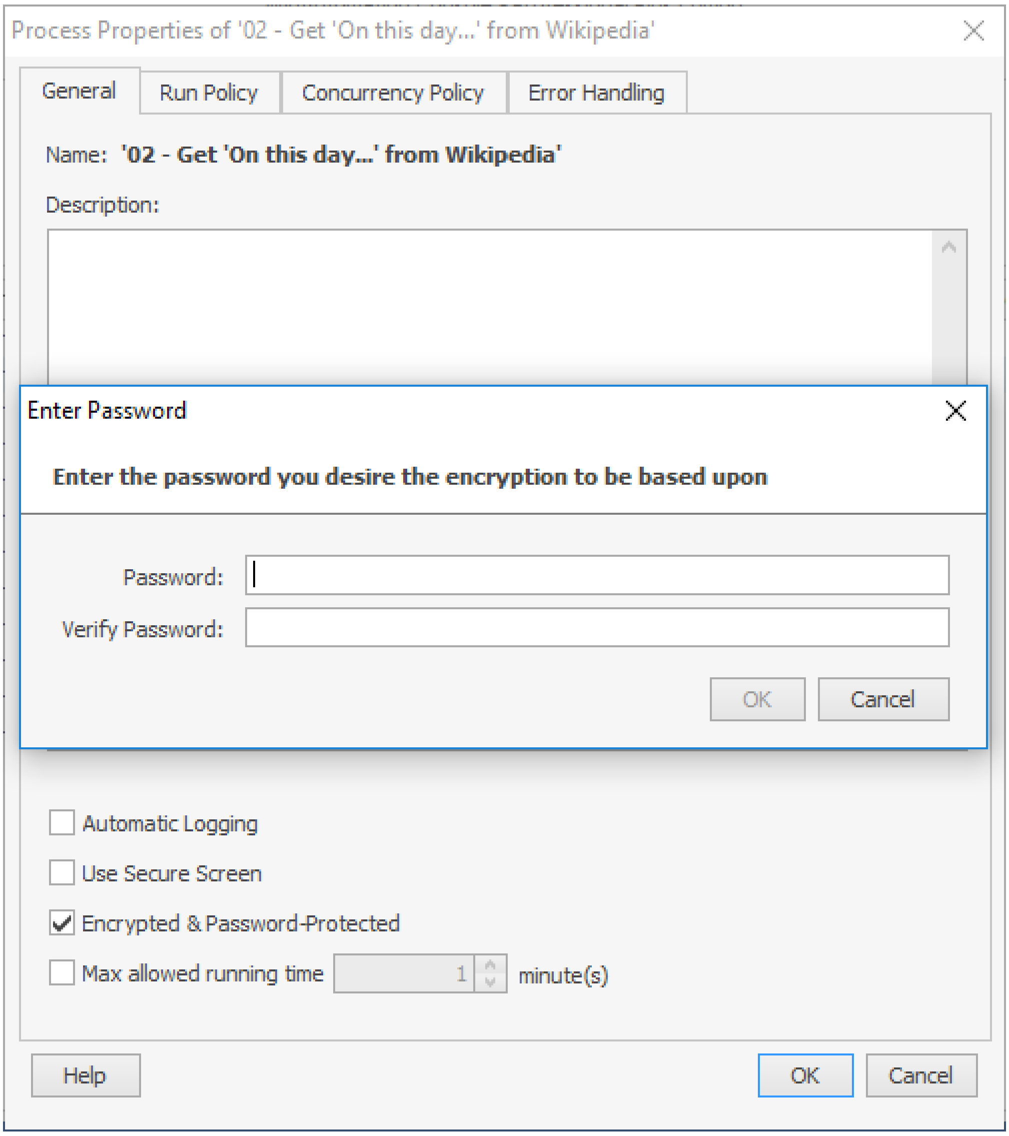
Running for: 00:00:01

Using the secure screen when running a Process

4. **Encrypted & Password protected *(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)*:** You have the option to set a password for a Process. If you do so, you will be able to Run the Process normally, however for editing the Process you will need to enter the password.

To remove the password from a Process, you should again navigate to its properties and uncheck the "Encrypted & Password Protected" option, at which point you will be prompted to enter the password again to complete the procedure.

ATTENTION: The password will not be stored and it cannot be retrieved, therefore, DO remember it, otherwise you will not be able to edit the Process in the future.



Process Properties of '02 - Get 'On this day...' from Wikipedia'

Name: '02 - Get 'On this day...' from Wikipedia'

Description:

Enter Password

Enter the password you desire the encryption to be based upon

Password:

Verify Password:

□ Automatic Logging

□ Use Secure Screen

☑ Encrypted & Password-Protected

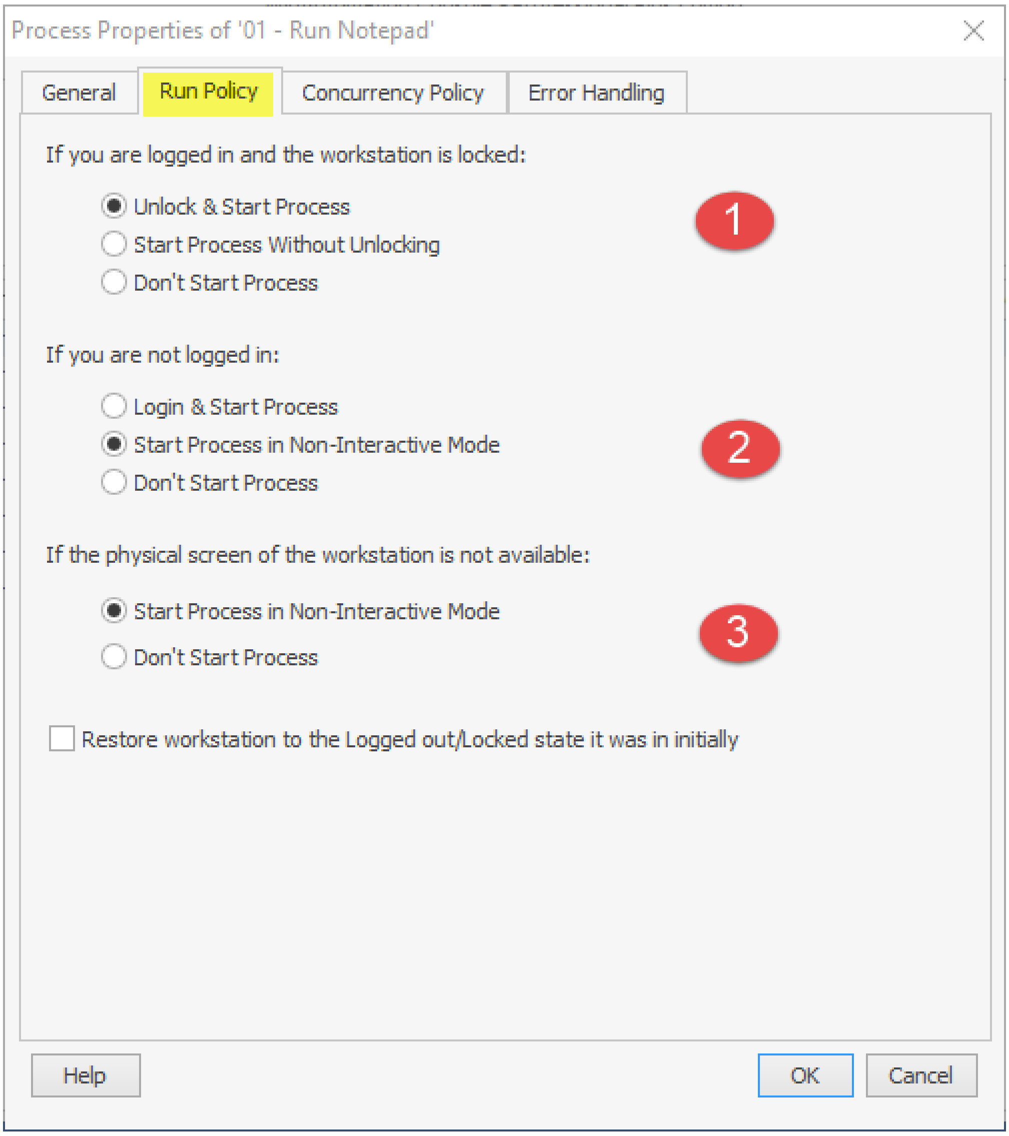
□ Max allowed running time 1 minute(s)

Processes Properties [Encrypt process with password]

5. **Max allowed running time *(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)*:** A maximum running time (in minutes) can be set in this option, in order to stop the Process after that time has passed. This helps you stop Processes that you are certain they should not run after a predefined period of time.

3.2.2 Run Policy

The second tab in the Processes Properties is the "Run Policy" tab ***(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).***



Process Properties of '01 - Run Notepad'

If you are logged in and the workstation is locked:

● Unlock & Start Process
○ Start Process Without Unlocking
○ Don't Start Process

If you are not logged in:

○ Login & Start Process
● Start Process in Non-Interactive Mode
○ Don't Start Process

If the physical screen of the workstation is not available:

● Start Process in Non-Interactive Mode
○ Don't Start Process

□ Restore workstation to the Logged out/Locked state it was in initially

Process Properties > Run Policy

1. What should the Process do if you are logged in on the machine but the workstation is locked.

- "Unlock&Start Process": WinAutomation will unlock the workstation using the Password that you have entered in the "Options > Settings > Authentication" 126 tab.

- "Start Process Without Unlocking": The Robt will start without unlocking the workstation, however, note that no interactive action can run in this case.

Interactive means that the Process interacts with input/output system (the desktop). So if a Process has keystrokes, mouse movement, or shows up on the screen, it is interactive and needs to run as the logged-in user and not in a locked workstation. Copying/creating/renaming/deleting files, ftp, sending email, etc. is not interactive and can run even if the workstation is locked.

- "Don't Start Process" : The Process will not start at all if the workstation is locked.

1. *If you are not logged in:*

- "Login and start Process": WinAutomation will log you in using the Password that you have entered in the "Options > Settings > Authentication" 126 tab and start the Process.

- "Start Process in Non-Interactive Mode": The Process will start but in Non-Interactive Mode. Interactive actions will not be able to run in this case and the Process will fail, if it contains any.

- "Don't Start Process": The Process will not start at all.

3. *If the physical screen of the workstation is not available:*

- "Start Process in Non-Interactive Mode": The Process will start, but in Non-Interactive Mode. Interactive actions will not be able to run in this case and the Process will fail if it contains any.

- "Don't Start Process": The Process will not start at all.

After the completion of the Process you can check the option to restore workstation to the Logged out/Locked state it was initially.

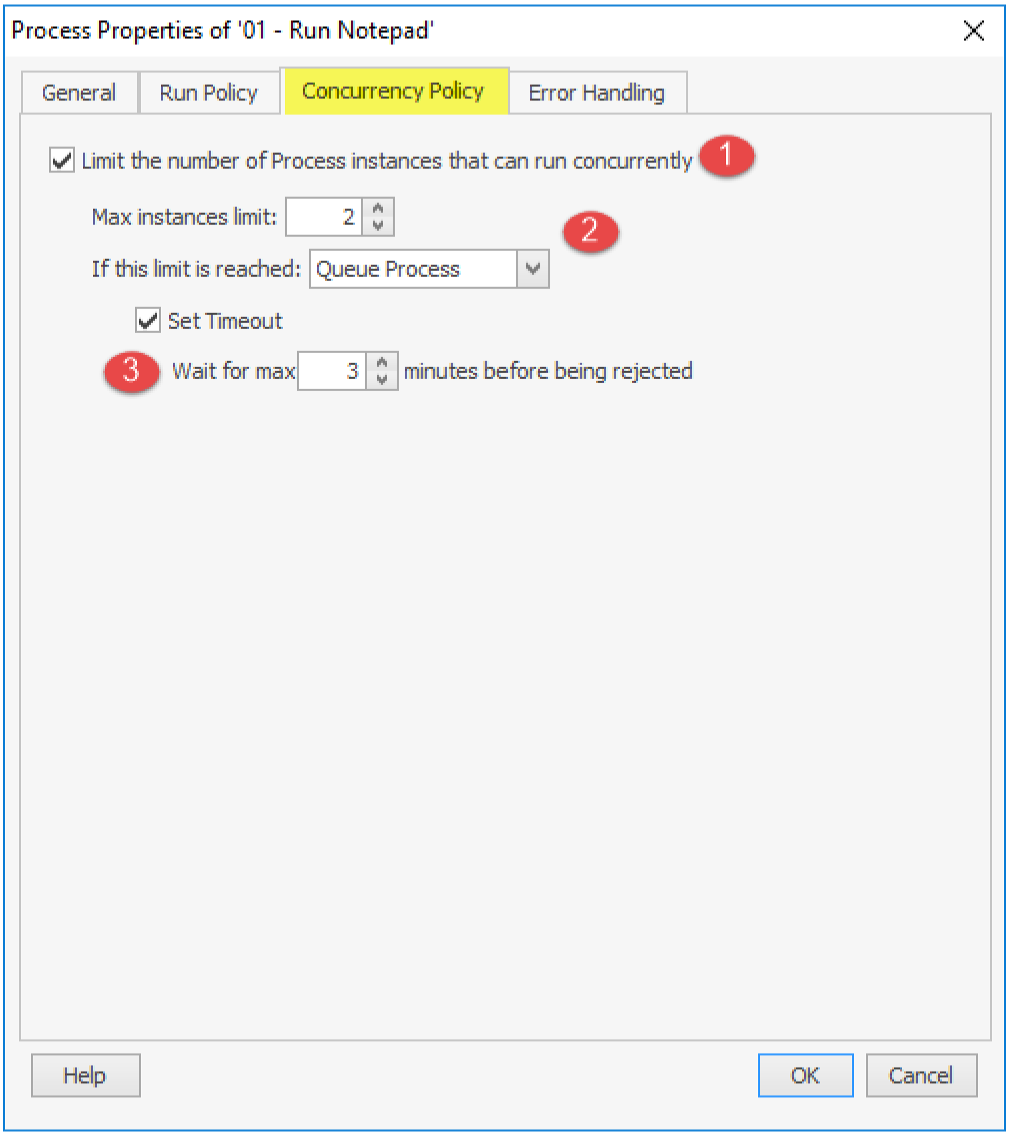
3.2.3 Concurrency Policy

The third tab in the Processes Properties is the "Concurrency Policy" tab ***(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)***, where you can:

1. Limit the number or Process instances that can run at the same time and set the maximum instances number.

2. Choose what should happen if the limit is reached.

3. Set the minutes for an Process instance to wait before being rejected.



Process Properties of '01 - Run Notepad'

General | Run Policy | Concurrency Policy | Error Handling

☑ Limit the number of Process instances that can run concurrently

Max instances limit: 2

If this limit is reached: Queue Process

☑ Set Timeout

Wait for max 3 minutes before being rejected

Process Properties > Concurrency Policy

3.2.4 Error Handling

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

You can choose to use the same default policies you set in Options Tab -> Error Handling in the Process Designer, or select new ones for this specific Process here. If you wish to choose a new specific policy for this Process, choose from the following which will replace the Error Handling Tab 132 general settings:

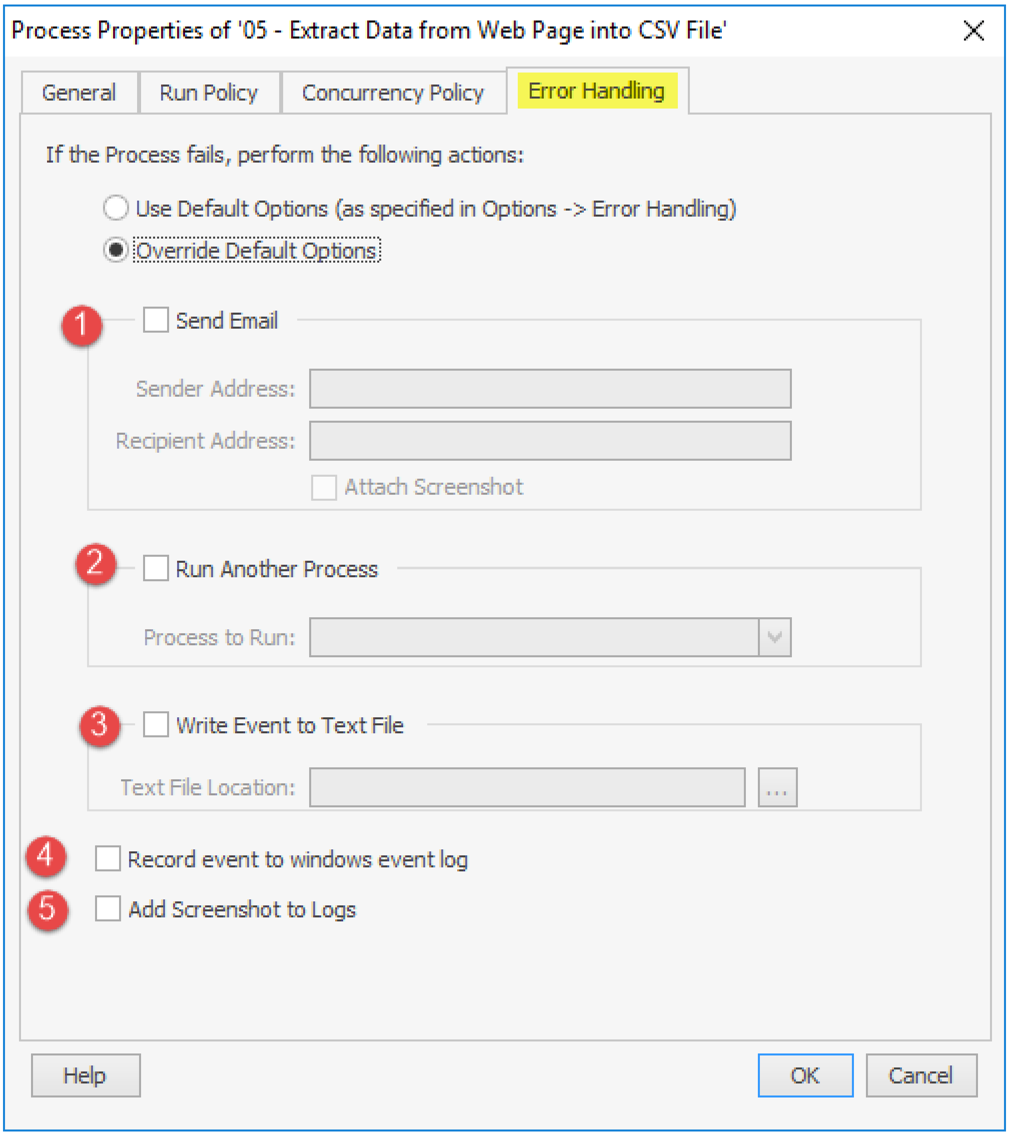
1. Send an email, possibly with multiple recipients (separated by semi-colons), with details set in the Email/SMTP tab of the Option tab 133.

2. Run another Process from the list.

3. Write (append) to a text file that you specify. The Event will be written at the end, so you can keep a running log of Process failures.

4. Record the event to the Windows Applications Event Log. You can view the Windows Event Logs through Control Panel -> Administration -> View Event Log.

5. Add Screenshots to Logs: At the moment when the error will occur, select if you wish to take a screenshot of your monitor(s) and add it in the logs



Process Properties of '05 - Extract Data from Web Page into CSV File'

If the Process fails, perform the following actions:

○ Use Default Options (as specified in Options -> Error Handling)

● Override Default Options

□ Send Email

Sender Address:

Recipient Address:

□ Attach Screenshot

□ Run Another Process

Process to Run:

□ Write Event to Text File

Text File Location:

□ Record event to windows event log

□ Add Screenshot to Logs

Process Properties > Error Handling

3.3 Generate EXE

3.3.1 What is a compiled Process

A WinAutomation Process is a representation of a task that instructs WinAutomation what actions need to be performed for the task to complete. It is not an independent entity and in order to execute a Process you need to have WinAutomation installed on your computer.

However the Professional Edition of WinAutomation features a Process Compiler that allows you to convert a Process into a stand alone executable application. This way you can build your own applications, distribute them and run them on other Windows machines.

To compile a Process, highlight it, and click the Generate EXE button on the Processes tab in the Compiler menu.

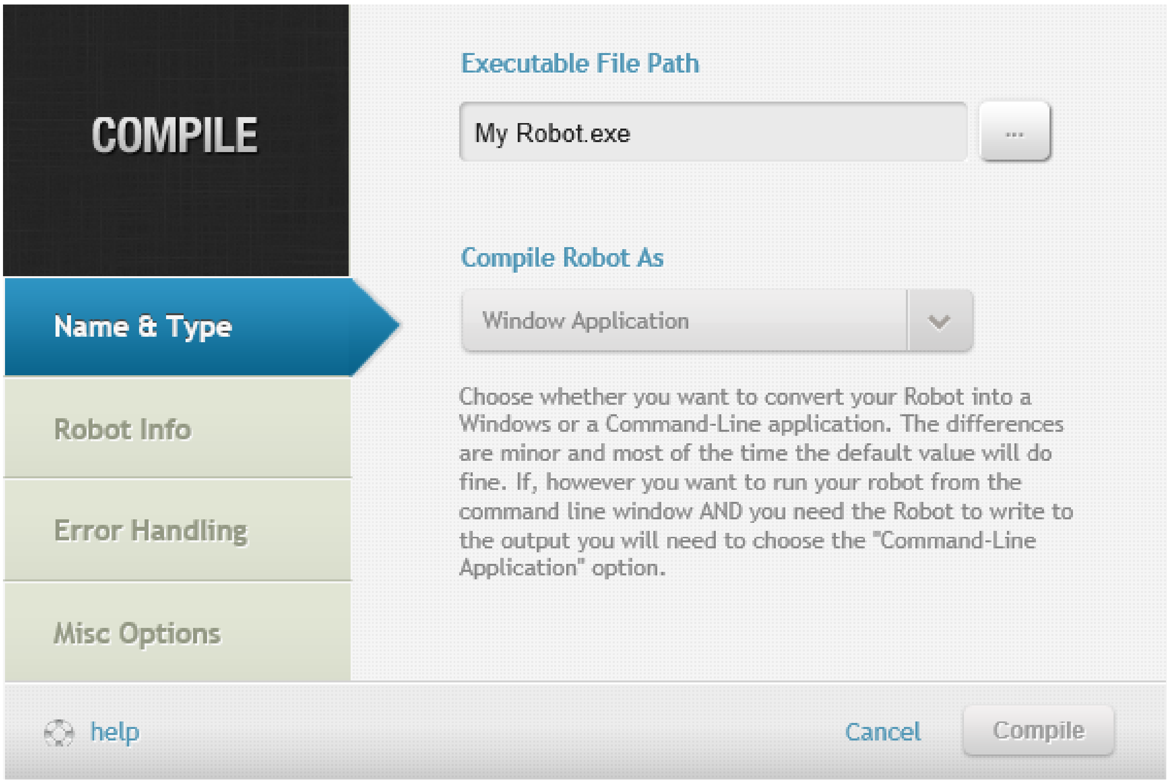
3.3.2 Compiler Window

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Once you click on the "Generate Exe" option in the Processes Tab 83 the Compile Process dialog will appear:

This dialog contains a tab control on the left that allows you to navigate through its four sections.

Section 1: Name & Type



Executable File Path: My Robot.exe

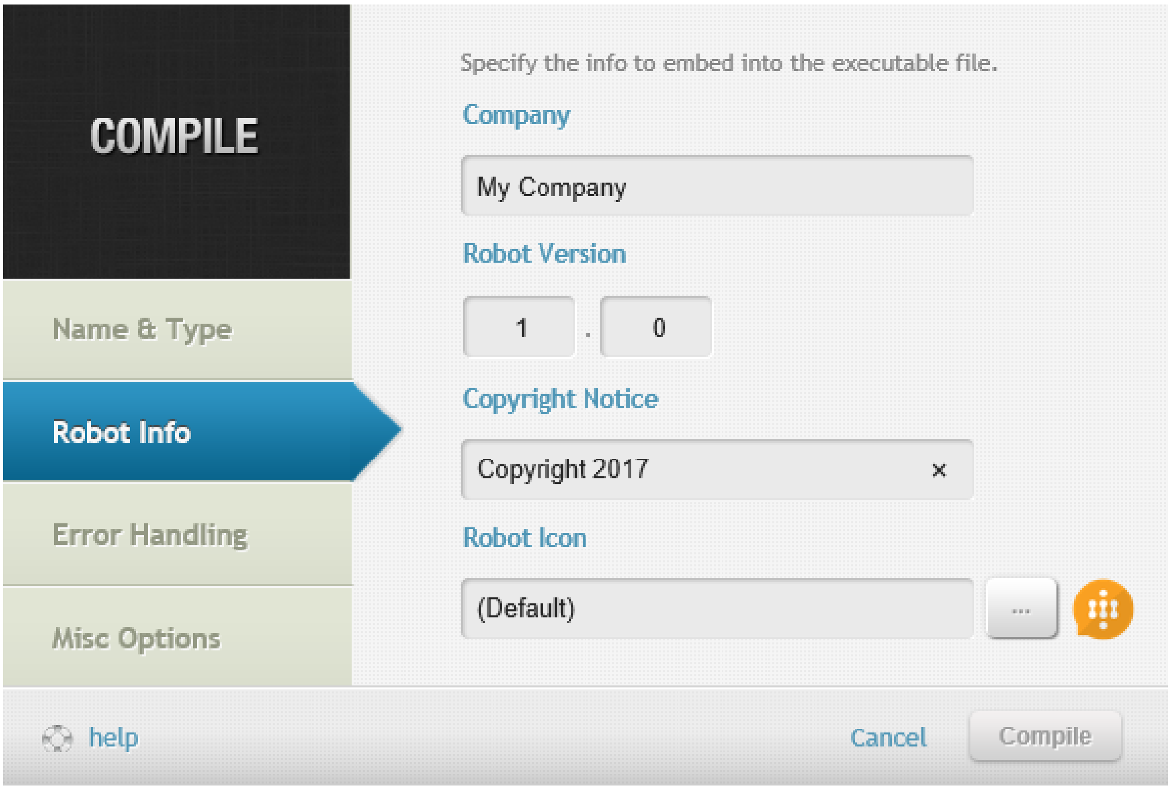
Compile Robot As: Window Application

Choose whether you want to convert your Robot into a Windows or a Command-Line application. The differences are minor and most of the time the default value will do fine. If, however you want to run your robot from the command line window AND you need the Robot to write to the output you will need to choose the "Command-Line Application" option.

In the first section (Name & Type) you may specify the name of the resulting executable file as well as the folder under which it will be stored. By default the name will be the name of the Process and will be generated on the user's desktop.

Next you may specify whether you want to generate a Windows application or a command line application. The latter is mostly used for converting a Process into a command line tool and the most important difference is that in command line applications the "Display Notification 459" action will write its text in the command line output window.

Section 2: Process Info



Specify the info to embed into the executable file.

Company: My Company

Robot Version: 1 . 0

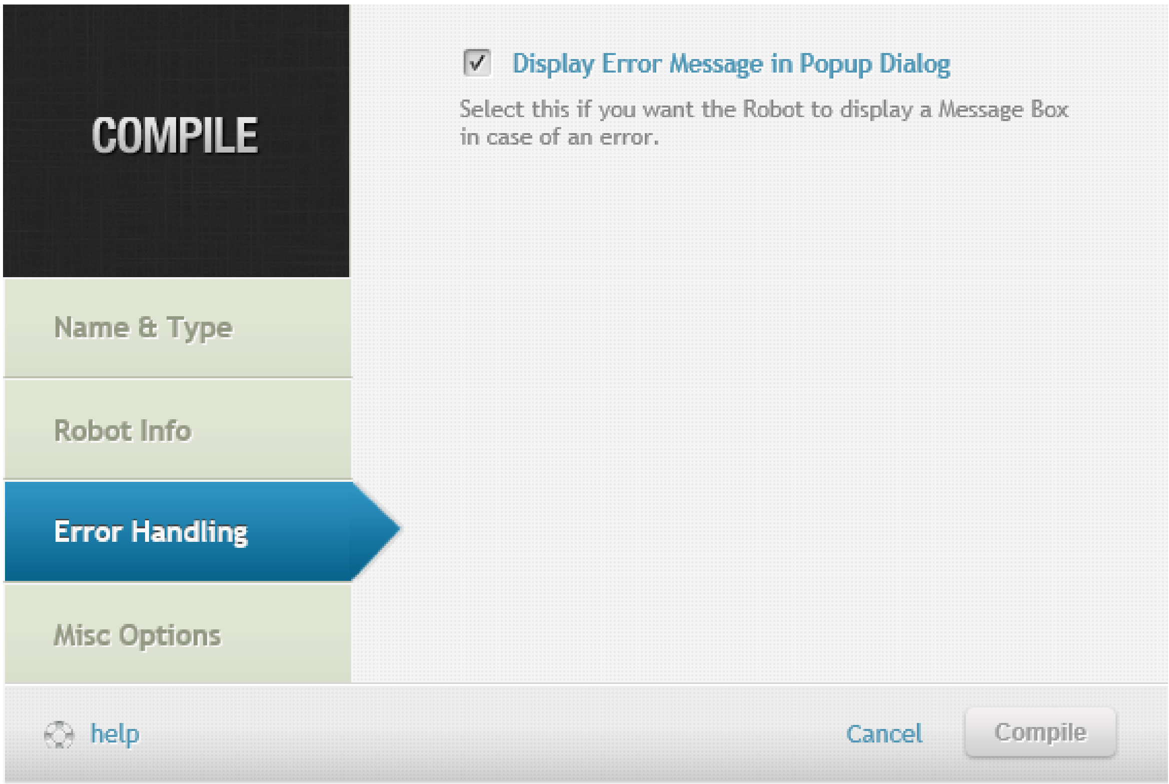
Copyright Notice: Copyright 2017

Robot Icon: (Default)

In this section you can specify the name of your company, the version and a copyright notice. This info will be embedded into the generated application for documentation purposes only, meaning that they will not affect in any way the actual behavior of the Process.

You can also specify a custom icon for your application, which must be in the format of an ICO file. If you leave this field empty, the default WinAutomation icon will be used.

Section 3: Error Handling



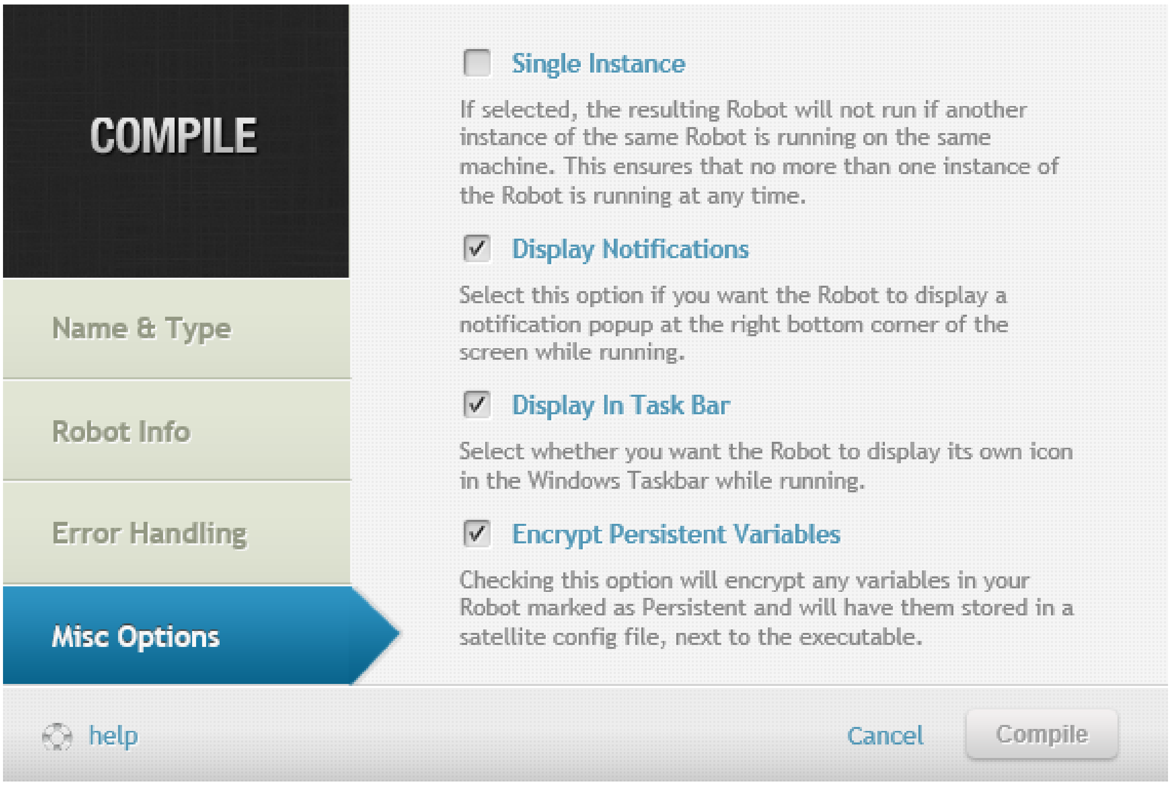
☑ Display Error Message in Popup Dialog

Select this if you want the Robot to display a Message Box in case of an error.

In this section you can specify the behavior of the application if an error (unhandled exception) occurs. The available option depends on whether you have chosen to create a Windows Application or a Command Line Application (see section 1). In the former case you may choose whether you want a pop-up dialog to appear containing the error, while in the latter case (command line application) you may choose whether you want the error message to be written in the command line output window.

Note that a compiled Process that ends with an error will always return an Exit Code = 1. This is useful if you intend to run the generated application from another application or a batch file, in which case the caller application (or batch file) will be able to tell whether the compiled Process completed its execution successfully or not.

Section 4: Misc Options



□ Single Instance

If selected, the resulting Robot will not run if another instance of the same Robot is running on the same machine. This ensures that no more than one instance of the Robot is running at any time.

☑ Display Notifications

Select this option if you want the Robot to display a notification popup at the right bottom corner of the screen while running.

☑ Display In Task Bar

Select whether you want the Robot to display its own icon in the Windows Taskbar while running.

☑ Encrypt Persistent Variables

Checking this option will encrypt any variables in your Robot marked as Persistent and will have them stored in a satellite config file, next to the executable.

In this section you may specify some additional settings for the application you are about to generate.

The first option is whether you want your Process to run as a single instance. By selecting this option, while a Process is running it will not start again on the same computer even if you double click on it. This way you can make sure that only one instance of the Process is running on your computer at any time.

The second option is whether you want your application to display the Notification window 90 on the bottom right corner of the screen, just like a Process running from within WinAutomation would do.

The third option "Display In Task Bar" option allow you to select whether you want the Process to display its own icon in the Windows taskbar while running, or not.

Note that the three options described above are available only to Processes that are compiled as Windows Applications (see section 1).

The fourth option (available to any kind of compiled Process) is whether you want to encrypt the persistent variables or not. For more info on this one please check the page on Persistent Variables 293.

The last option, is whether you want the user to fill in an activation code in order to run the executable.

3.3.3 Compiled Processs and Triggers/Schedules

If a Process has Triggers or a Schedule attached to it and is compiled, they will not be included in the generated executable file.

The reason for this is that, for a Trigger/Schedule to function properly, there must be an application constantly running to check when the condition specified by the Trigger/Schedule is met. In WinAutomation this application is the WinAutomation UserAgent.

However, a compiled Process is independent and totally detached from the WinAutomation Service.

This means that while the compiled Process is not running there is no possible way to check whether a condition is met and whether a Trigger/Schedule should fire or not.

In order to schedule a compiled executable from WinAutomation you can always make use of the Windows Task Scheduler.

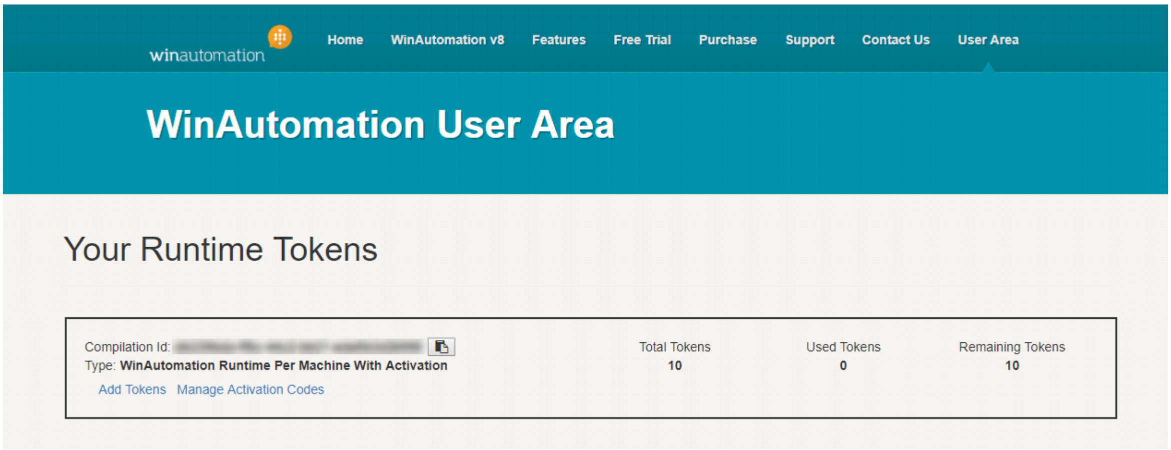
3.3.4 Tokens

Compiling your Processes so that to be executed on other machines is a very important feature of WinAutomation.

Commencing from WinAutomation version 7, you are able to control the way you distribute your executables by adding licenses.

There are two ways with which you may license your compiled Processes. For these four ways, you can purchase run-time tokens through our User Area.

In the screen-shot below you can see the purchased tokens and their status. Clicking the "Add Tokens" button, you can purchase new tokens.



Your Runtime Tokens

Compilation Id: [redacted]
Type: **WinAutomation Runtime Per Machine With Activation**

Total Tokens	Used Tokens	Remaining Tokens
10	0	10

After each purchase of tokens, you are being provided with a Compilation ID which should be filled in the respective field of WinAutomation Console > Options > Setting > Exe tab.

In case the target machine has already WinAutomation 8 installed running under a valid license, there will be no tokens consumed for that particular execution.

- Per Machine

Using the Per Machine method to generate your compiled Processes, you have the ability to run as many compiled Processes as you wish on one machine consuming only one token as long as it has been exported through the same developer's WinAutomation.

- Per Machine with an activation code

Using the Per Machine method to generate your compiled Processes, you have the ability to run as many compiled Processes as you wish on one machine consuming only one token as long as it has been exported through the same developer's WinAutomation. However, the process requires an activation code provided from the developer in order to be executed. In case the activation code is erroneous, no tokens are being consumed and the process execution does not start. This activation code is requested only the first time a process from this developer is being executed.

NOTES:

- In case WinAutomation 8 is installed on a machine running a compiled executable, it is very important to make sure that the "WinAutomation Service" is running so that no token is being consumed.

- In case a user re-installs Windows on his machine, it is being identified as a new machine. As a result, a new executable would have been consumed.

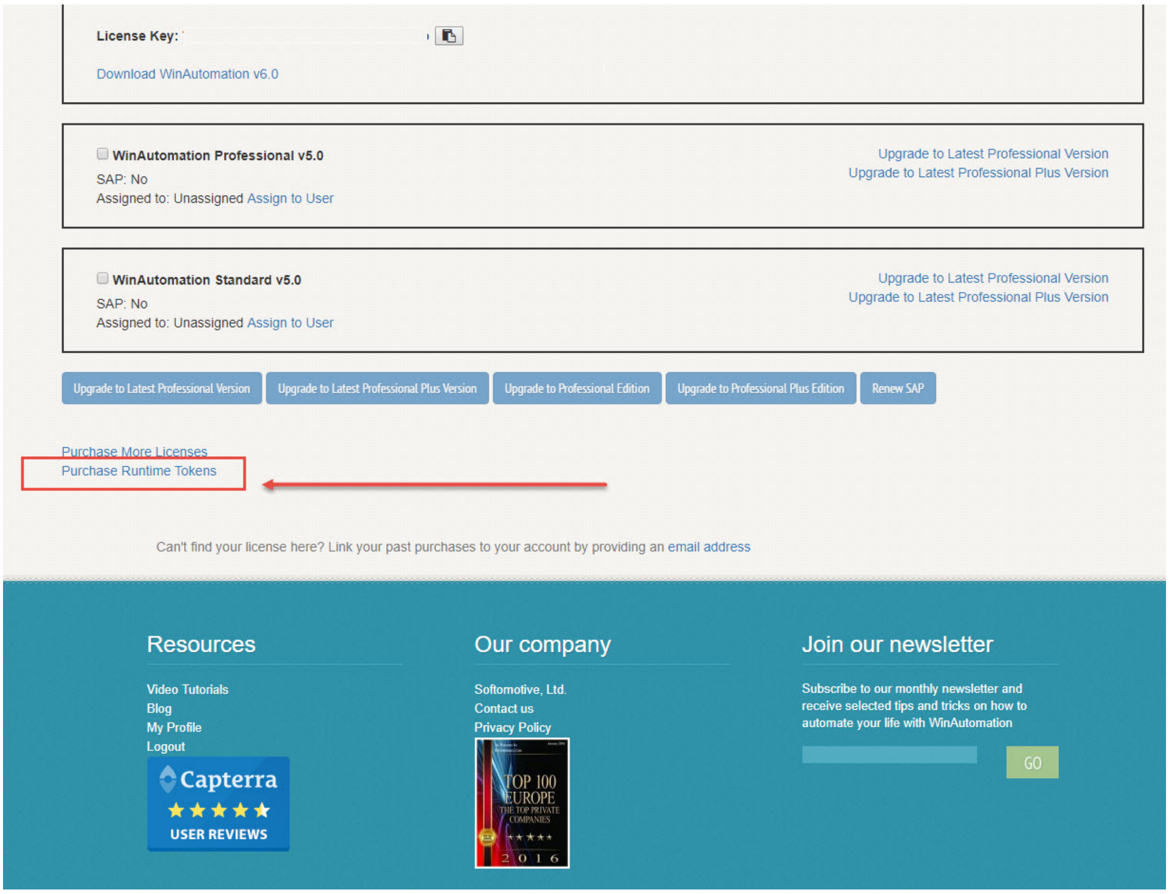
- An executable compiled without a Compilation ID, will only run on a machine with WinAutomation 8 installed and the service running.

- In case a process re-compiles after a change or edit, there will be no second token consumed. Please note, that copying a process or saving a process as, creates a new process in which case a second run, would consume one more token. The same applies when one exports and imports a process in a database.

3.3.4.1 Get Tokens

From WinAutomation version 7 and on, with the Professional and the Professional Plus editions, you are able to license your compiled executables. You can do so, using Tokens.

Tokens can be purchased through WinAutomation's website User Area [http://www.winautomation.com/userarea/], by selecting the "Purchase Runtime Tokens" option.



License Key:

Download WinAutomation v6.0

□ WinAutomation Professional v5.0

SAP: No

Assigned to: Unassigned Assign to User

Upgrade to Latest Professional Version

Upgrade to Latest Professional Plus Version

□ WinAutomation Standard v5.0

SAP: No

Assigned to: Unassigned Assign to User

Upgrade to Latest Professional Version

Upgrade to Latest Professional Plus Version

Upgrade to Latest Professional Version
Upgrade to Latest Professional Plus Version
Upgrade to Professional Edition
Upgrade to Professional Plus Edition
Renew SAP

Purchase More Licenses

Purchase Runtime Tokens

Can't find your license here? Link your past purchases to your account by providing an email address

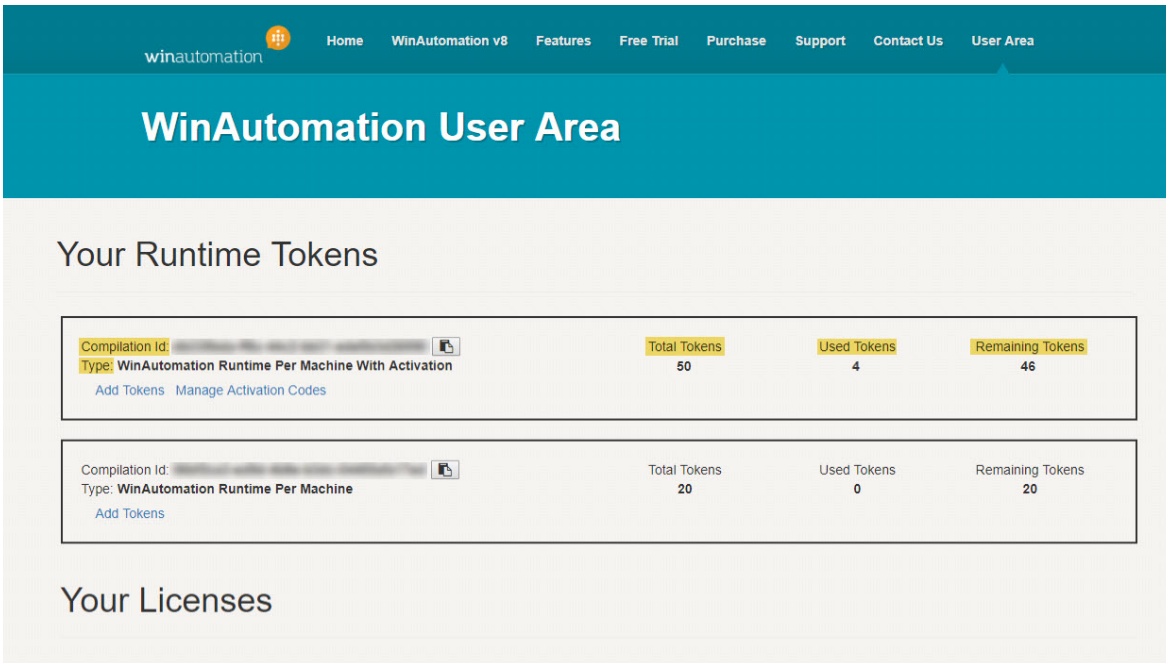
Subscribe to our monthly newsletter and receive selected tips and tricks on how to automate your life with WinAutomation

Once you do so, you will see that the available Tokens for purchasing are:

- Per machine

- Per machine with activation code

When you purchase a Token -of any kind of the above-, then in your User Area in “Your Runtime Tokens” section, you will be provided with a Compilation Id. You will also be able to view the type of the Token and information about the Total Tokens purchased, the Used and the Remaining ones.



WinAutomation User Area

Your Runtime Tokens

Compilation Id: [redacted]
Type: **WinAutomation Runtime Per Machine With Activation**
Add Tokens Manage Activation Codes

Total Tokens	Used Tokens	Remaining Tokens
50	4	46

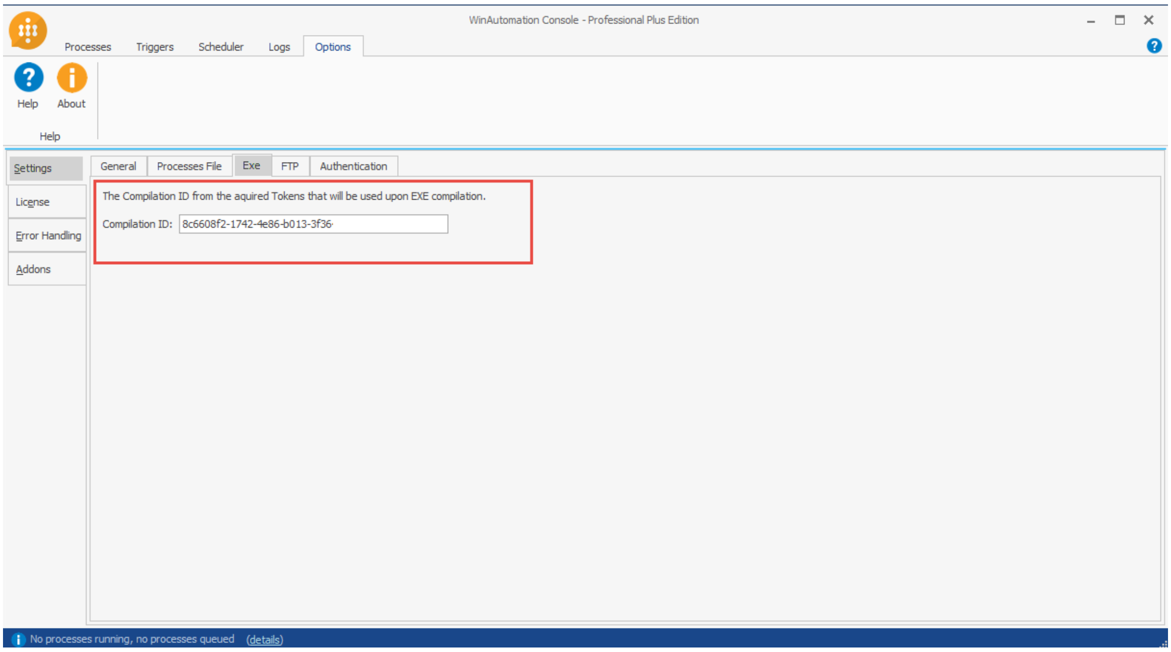
Compilation Id: [redacted]
Type: **WinAutomation Runtime Per Machine**
Add Tokens

Total Tokens	Used Tokens	Remaining Tokens
20	0	20

Your Licenses

3.3.4.2 What is the Compilation ID?

In WinAutomation console in the "Options > Settings > Exe" tab, you can find the “Compilation Id” field. Here you can paste the Compilation Id, in order to generate executables with the Token that corresponds to this Id.



The Compilation ID from the aquired Tokens that will be used upon EXE compilation.

Compilation ID: 8c6608f2-1742-4e86-b013-3f36

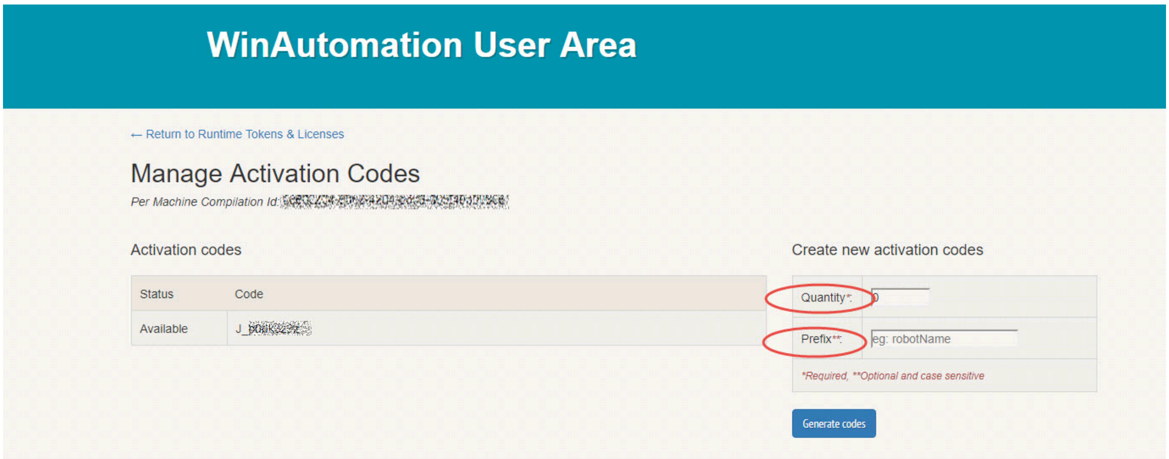
No processes running, no processes queued (details)

Once you have filled the Compilation Id field, then you can go to the Process you wish to compile and hit the "Generate exe" option from the console's menu in the "Processes" tab.

Note that no Token will be consumed from the compilation at this point; the Token will be consumed only when attempted to run on the target machine for the first time, as described below.

3.3.4.3 What is the activation code and how can I set it?

There are two kind of Tokens on which the developer can attach an activation code. If you have purchased "Per machine with Activation code" Tokens, then in the User Area you will see an option "Manage Activation codes". If you click on this option, you will be able to create new activation codes.



WinAutomation User Area

← Return to Runtime Tokens & Licenses

Manage Activation Codes

Per Machine Compilation Id: [redacted]

Activation codes

Status	Code
Available	J_[redacted]

Create new activation codes

Quantity*:	0
Prefix**:	eg: robotName

**Required, **Optional and case sensitive*

Here, you can set the Quantity and an optional desired prefix. The quantity can be less or equal to the total Tokens quantity that you have available for the time being. You can generate codes for all the Tokens that you currently have, or for any number of them. After setting the quantity you are able to set an optional case sensitive prefix. Click on "Generate Codes" and a list of codes will automatically be generated for you.

Every time you are compiling a process using a Token with an activation code, then the first time that the executable will run on a machine, it will prompt the user to enter the activation code before starting the execution. Once the code is correctly passed in the popup window, then you will see in the User Area that this code's status will be "Used", the code will be striked out and one Token will be consumed.

3.3.4.4 Why should I use the activation code?

In case that your end-user decides to move an executable on another machine, then another Token from the developer's basket will be consumed. This may lead to situations, where a user can inadvertently or on purpose "charge" the developer with Tokens while distributing the executable without the developer's permission.

The activation code is only known to the developer. Therefore, he will be the one passing it on the first execution of the .exe. If the same exe is moved on another machine, it will not run unless the activation code is correct.

The above being the case, the developer's work is protected from accidental or malicious usage.

3.3.4.5 How Tokens are being consumed?

A Token **WILL NOT BE** CONSUMED when:

1. The machine on which the executable is about to run has WinAutomation installed AND the WinAutomation Server service is up and running.

2. In the "C:\Users\...yourusername… \AppData\Local\Softomotive\WinAutomation\Licenses" folder there is already a file created that has already licensed the executable.

A Token **WILL BE** CONSUMED if:

1. WinAutomation is not installed on the machine

2. WinAutomation is installed on the machine but the WinAutomation Server service is down (not running)

3. There is no file in the `"C:\Users\...yourusername… \AppData\Local\Softomotive\WinAutomation\Licenses"` folder that can license this executable.

3.3.4.6 Available Tokens

Per Machine – Description

Using the Per Machine method to generate compiled Processes provides the ability to run unlimited number of compiled Processes on one machine by consuming only one Token, as long as it has been exported through the same Compilation ID. The "Per Machine" Token is only assigned to a machine ID. Hence, if the machine ID changes, another Token needs to be consumed.

1. Enter the "Per Machine" Compilation Id, found in the User Area, in the "Options > Settings > Exe" Tab of your WinAutomation console.

2. Generate the executable, by selecting the Process and clicking on the "Generate Exe" option in the Processes Tab.

3. Move them to the desired machine.

4. Run it.

Any executable compiled with the same Compilation Id and executed on the same machine, will not consume any other Tokens.

Per Machine with Activation code – Description

Using the Per Machine method to generate compiled Processes provides the ability to run unlimited number of compiled Processes on one machine by consuming only one Token, as long as it has been exported through the same Compilation ID. The "Per Machine" Token is only assigned to a machine ID. Hence, if the machine ID changes, another Token needs to be consumed. However, the process requires an activation code provided by the developer in order to be executed. In case the activation code is erroneous, no Tokens are being consumed and the process execution does not start. This activation code is requested only the first time a process from this developer is being executed.

1. Enter the "Per Machine" Compilation Id, found in the User Area, in the "Options > Settings > Exe" Tab of your WinAutomation console.

2. Generate the executable, by selecting the Process and clicking on the "Generate Exe" option in the Processes Tab.

3. Move them to the desired machine.

4. Run it.

5. Enter one of the activation codes that are shown as "Available" in the User Area as described above.

Any executable compiled with the same Compilation Id and executed on above machine, will not consume another Token, nor ask for the activation code again upon running.

3.4 The Process Designer

Once you have named a Process in the WinAutomation Console, this is where you actually create it. Processes are created by linking together Actions and setting Variables so the Actions can interact. By setting the order of actions and writing Variables to carry information from one step to the next, you can create a very complex path of Actions to automate most tasks you regularly do on your computer.

There are four areas of the Process Designer:

1. the Actions Pane 162,

2. the Workspace 162,

3. the Functions 183 pane,

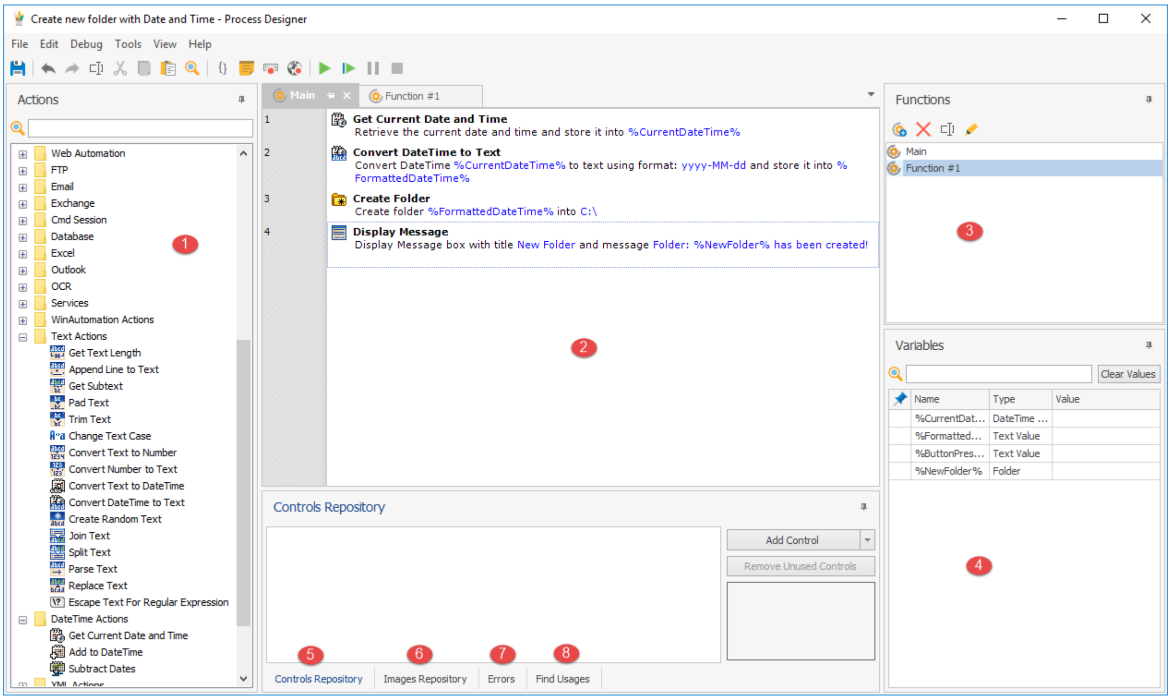
4. the Variables 164 pane,

5. the Control Repository Pane 172,

6 172. the Images Repository Pane

7. the Errors 172 and

8. the Find Usages pane



1 **Get Current Date and Time**
Retrieve the current date and time and store it into %CurrentDateTime%

2 **Convert DateTime to Text**
Convert DateTime %CurrentDateTime% to text using format: yyyy-MM-dd and store it into %FormattedDateTime%

3 **Create Folder**
Create folder %FormattedDateTime% into C:\

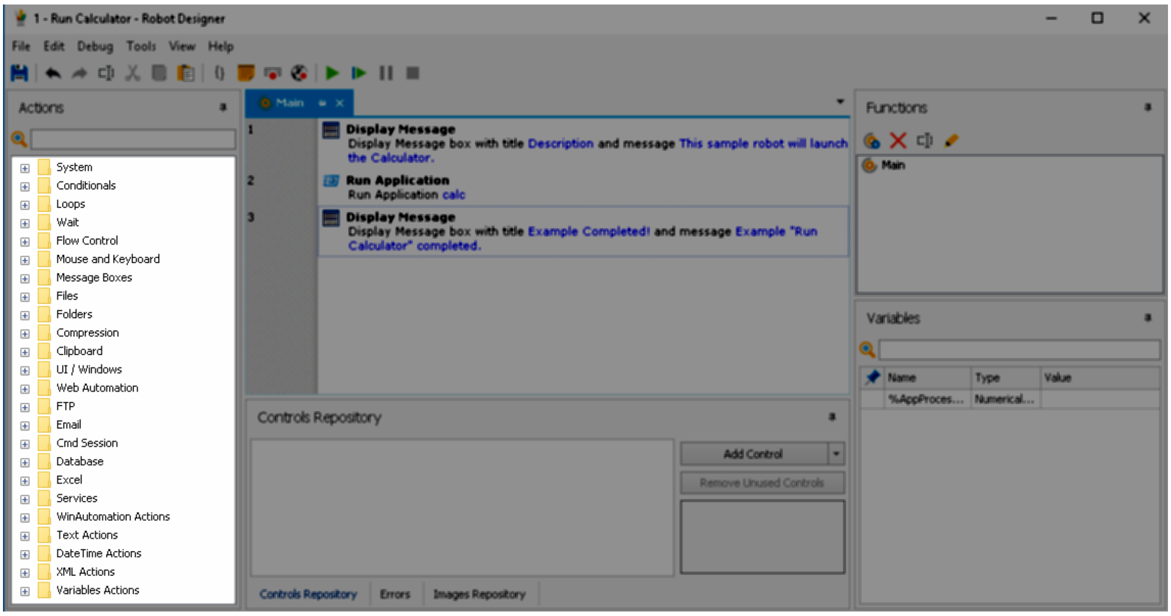
4 **Display Message**
Display Message box with title New Folder and message Folder: %NewFolder% has been created!

Name	Type	Value
%CurrentDat...	DateTime ...	
%Formatted...	Text Value	
%ButtonPres...	Text Value	
%NewFolder%	Folder	

The Process Designer

3.4.1 The Actions' Pane

In the Actions pane you will find all the Actions that can be chosen to build your Process, organized in Actions groups in a folder structure.



1 **Display Message**
Display Message box with title Description and message This sample robot will launch the Calculator.

2 **Run Application**
Run Application calc

3 **Display Message**
Display Message box with title Example Completed! and message Example "Run Calculator" completed.

Name	Type	Value
%AppProces...	Numerical...	

The Actions Pane of the Process Designer

You can either expand the group of actions in order to select the one you want, or you can search an action with its name or even part of it in the Search field at the top of the Actions pane.

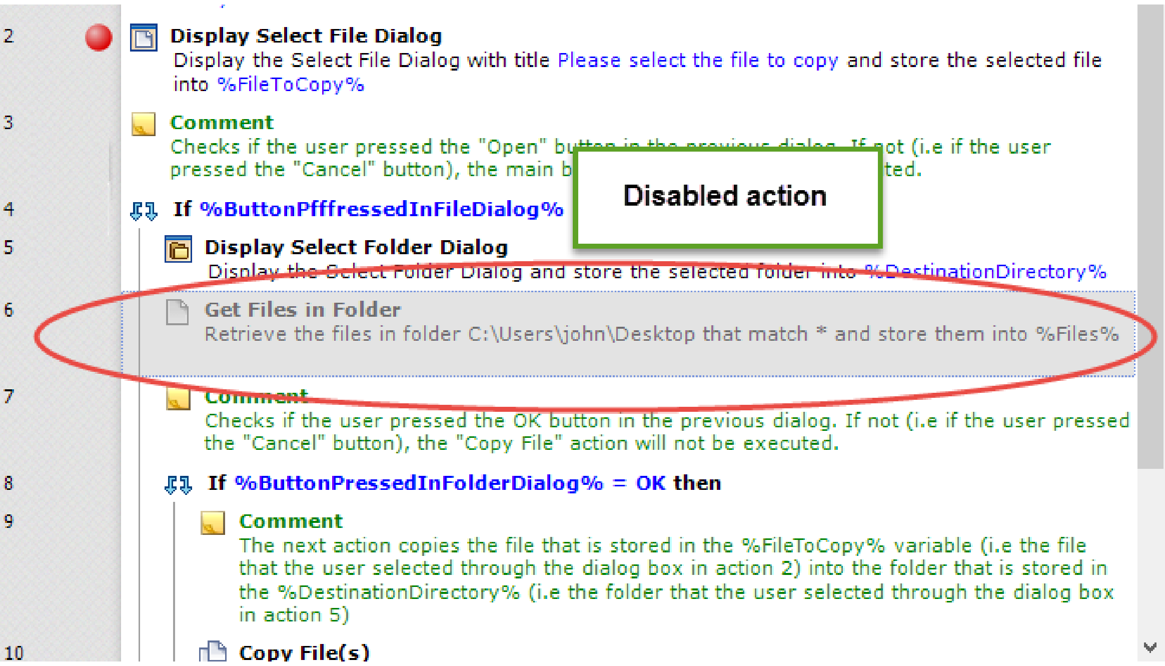
You can drag an action to the Workspace or double-click on the Action to move it automatically there. Either way, this will open the Properties dialog box if the Action has properties.

3.4.2 The Workspace

This pane shows the flow of the Process, displaying Actions in the order that they will be executed. Numbers are displayed in the gray column before each Action, as well as Icons to show errors, and breakpoints. If you are running (debugging) the Process, the current Action you are on will also be highlighted here.

Breakpoints ●***:*** You can add a breakpoint by clicking to the left of an Action. A red dot will show up and the Process will pause on that step until you click to continue. This can also be used while running a Process from the Process designer to pause while you look at some part of the Process.

Disabled Actions: Actions can be disabled, so that they are ignored by the Process but still exist. This is useful for trying different versions of a Process without deleting and re-writing Actions constantly. Disabled Actions become gray to differentiate them from enabled Actions.



2 Display Select File Dialog
Display the Select File Dialog with title Please select the file to copy and store the selected file into %FileToCopy%

3 Comment
Checks if the user pressed the "Open" button in the previous dialog. If not (i.e if the user pressed the "Cancel" button), the main b ted.

4 If %ButtonPfffressedInFileDialog%

5 Display Select Folder Dialog
Display the Select Folder Dialog and store the selected folder into %DestinationDirectory%

6 Get Files in Folder
Retrieve the files in folder C:\Users\john\Desktop that match * and store them into %Files%

7 Comment
Checks if the user pressed the OK button in the previous dialog. If not (i.e if the user pressed the "Cancel" button), the "Copy File" action will not be executed.

8 If %ButtonPressedInFolderDialog% = OK then

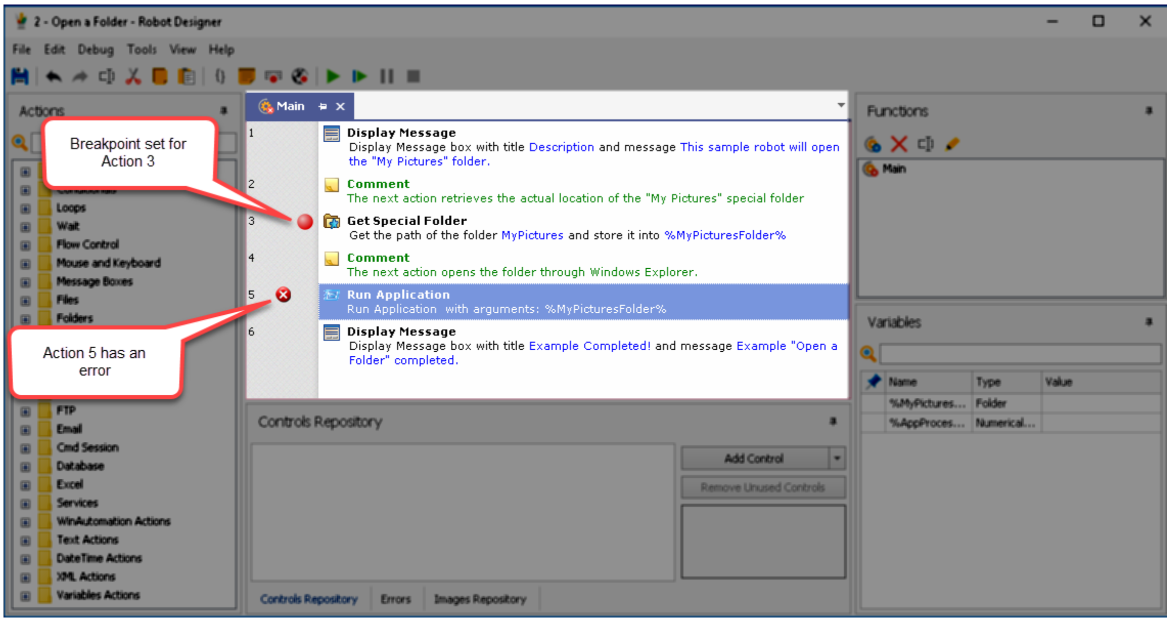
9 Comment
The next action copies the file that is stored in the %FileToCopy% variable (i.e the file that the user selected through the dialog box in action 2) into the folder that is stored in the %DestinationDirectory% (i.e the folder that the user selected through the dialog box in action 5)

10 Copy File(s)

Disabled Action

In the Workspace, Actions, their Icons and their properties are displayed. A Process is described in text in the Workspace and you can understand a Process just by reading through the Actions' properties in the Workspace. To change the display of the icons and text for this Process, click on Tools -> Process Designer Options 196.

To manipulate the Actions within a Process, treat them like any other icon setup in Windows. Click on an action to select it, click on Actions with the Ctrl or Shift keys to select multiples, right-click for the Action menu, and use any of the regular HotKeys to Copy, Cut, and Paste. To change the order of Actions, Drag and Drop or right-click and choose to Move Action Up or Move Action Down.



1 **Display Message**
Display Message box with title Description and message This sample robot will open the "My Pictures" folder.

2 **Comment**
The next action retrieves the actual location of the "My Pictures" special folder

3 **Get Special Folder**
Get the path of the folder MyPictures and store it into %MyPicturesFolder%

4 **Comment**
The next action opens the folder through Windows Explorer.

5 **Run Application**
Run Application with arguments: %MyPicturesFolder%

6 **Display Message**
Display Message box with title Example Completed! and message Example "Open a Folder" completed.

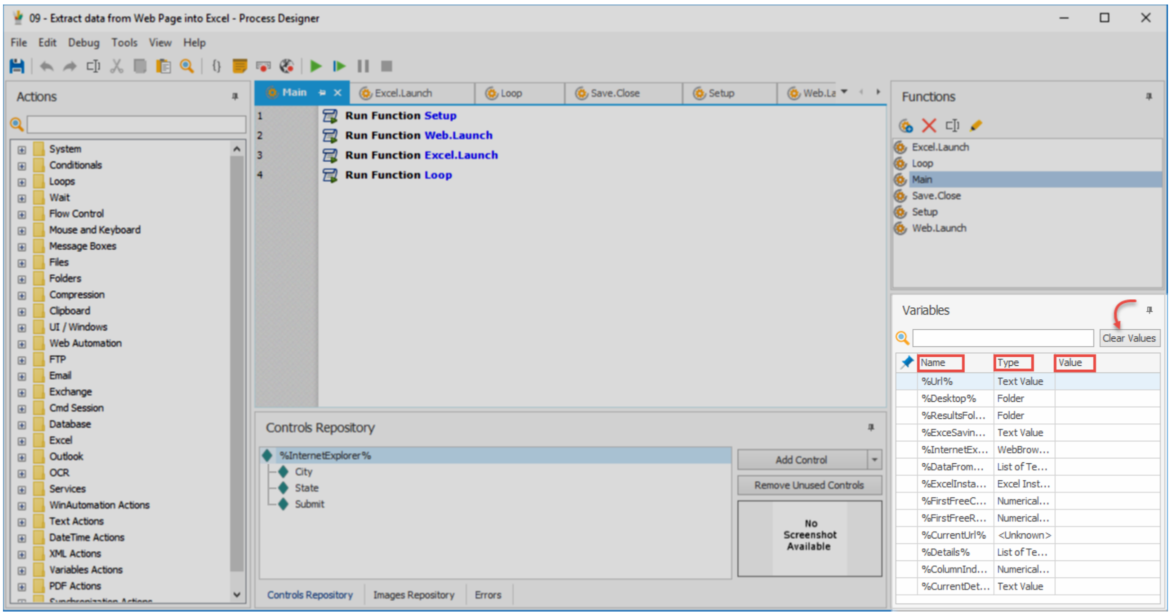
Name	Type	Value
%MyPictures...	Folder	
%AppProces...	Numerical...	

The Workspace Pane of the Process Designer Window

3.4.3 The Variables Pane

This pane is located by default next to the Workspace under the Functions pane. Variables are defined through Actions or the Variables Manager

There are four columns: **Pin Option, Name**, **Type**, **Value**.



1 **Run Function Setup**
2 **Run Function Web.Launch**
3 **Run Function Excel.Launch**
4 **Run Function Loop**

Name	Type	Value
%Url%	Text Value	
%Desktop%	Folder	
%ResultsFol...	Folder	
%ExceSavin...	Text Value	
%InternetEx...	WebBrow...	
%DataFrom...	List of Te...	
%ExcelInsta...	Excel Inst...	
%FirstFreeC...	Numerical...	
%FirstFreeR...	Numerical...	
%CurrentUrl%	<Unknown>	
%Details%	List of Te...	
%ColumnInd...	Numerical...	
%CurrentDet...	Text Value	

The Variables Pane in the Process Designer Window

- A Pin option is there to select one or more variables and pin them on top of the Variables pane.

- Name is the name that was assigned to the Variable in an Action or in the Variables Manager - Trigger Variables are never displayed here.

- In column three, the Type of Variable is displayed. Variable types can be: Text, Numerical, DateTime, File, Folder, Data Row, Data Table, Excel Instance, FTP File, or FTP Folder, as well as a list of the above, among others.
  If you use the same Variable name as an output for two or more Actions that create different Types of Variables, the Variable type will change during the running of the Process, so WinAutomation cannot determine a constant value, and will show '*<Unknown>*' here. If both Actions determine an output Variable with the same type of value, it will show that type, as there is no ambiguity. For this and other reasons, we recommend that you use different Variable names for each Action output - unless, of course, you want to overwrite the previous information.

- Value is the value set when a Variable is created through the Variables Manager Window and only appear if you created the Variable there with an initial value. Otherwise the Value will be filled for each variable during the execution of the Process.

In the variables pane you are able to:

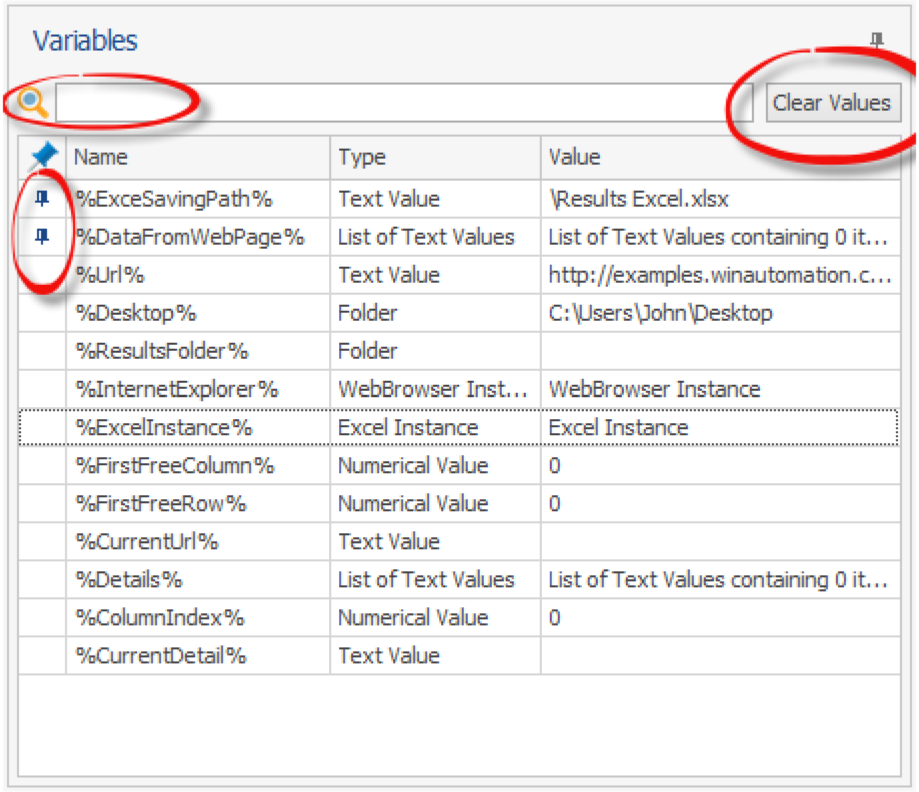
Search for variables by name. In the search field, type the name of the variable you are searching for.

Pin Variables. You can pin a variable at the top of the display by clicking in the pin column at the left side of the variables name. Once you pin the variable it will automatically move to the top of the variables list.

Reorder Variables. Click on a variable to move it up or down and reorder the variables list. (Of course, pinned variables cannot be moved)

Clear Values: After running the process from the Process Designer the variables values remain in the Values column for you to see them. Youcan hit the "Clear Values" button in order to clear them

The actions above can be performed while a Process is being executed or not apart from the "Clear Values" Option.

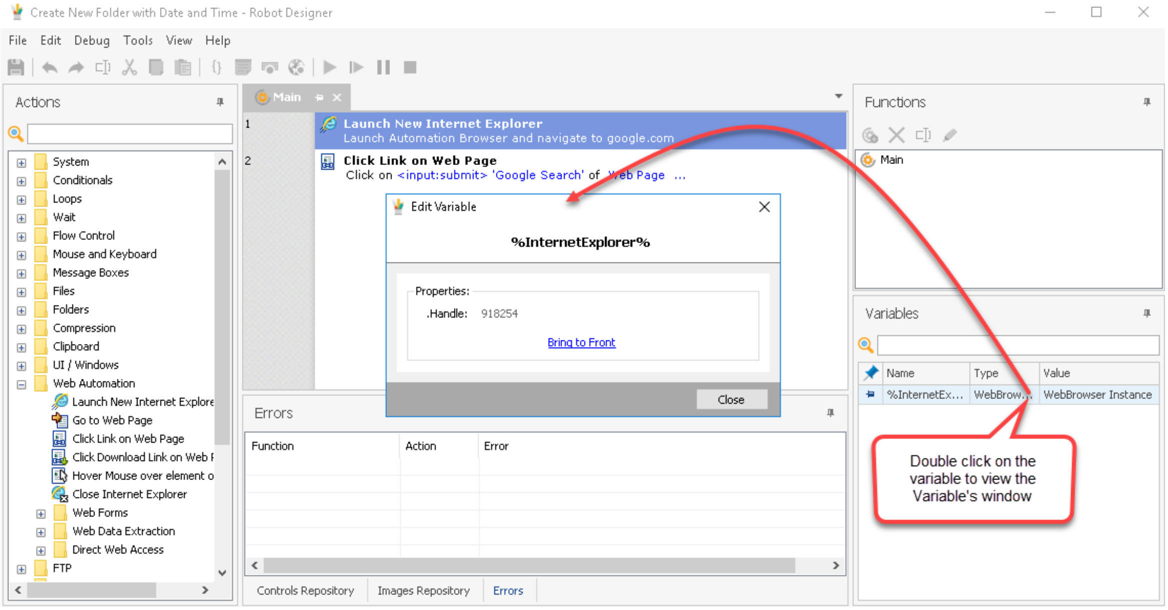


📌	Name	Type	Value
📌	%ExceSavingPath%	Text Value	\Results Excel.xlsx
📌	%DataFromWebPage%	List of Text Values	List of Text Values containing 0 it...
	%Url%	Text Value	http://examples.winautomation.c...
	%Desktop%	Folder	C:\Users\John\Desktop
	%ResultsFolder%	Folder	
	%InternetExplorer%	WebBrowser Inst...	WebBrowser Instance
	%ExcelInstance%	Excel Instance	Excel Instance
	%FirstFreeColumn%	Numerical Value	0
	%FirstFreeRow%	Numerical Value	0
	%CurrentUrl%	Text Value	
	%Details%	List of Text Values	List of Text Values containing 0 it...
	%ColumnIndex%	Numerical Value	0
	%CurrentDetail%	Text Value	

Search, Pin Variables
Clear Vlaues

3.4.4 The Variables Visualizer Window

The Variables visualizer window can be displayed for each of the variables in a Process upon running it step by step, or pausing it, or if it has paused by a breakpoint.



1 Launch New Internet Explorer
Launch Automation Browser and navigate to google.com

2 Click Link on Web Page
Click on <input:submit> 'Google Search' of Web Page ...

Edit Variable

%InternetExplorer%

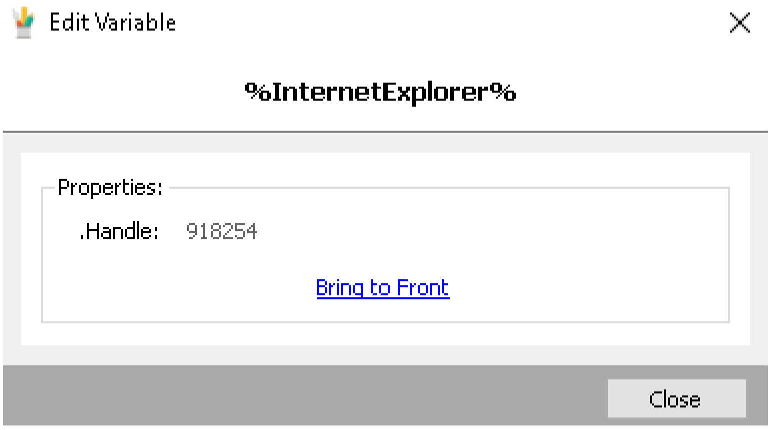
Properties:
.Handle: 918254
Bring to Front

Name	Type	Value
%InternetEx...	WebBrow...	WebBrowser Instance

Double click on the variable to view the Variable's window

Double click on a variable in the variables pane and the Variable Window will appear, with information about the variable's value at this point. You can edit the variable and change its value on the flow before resuming the execution.

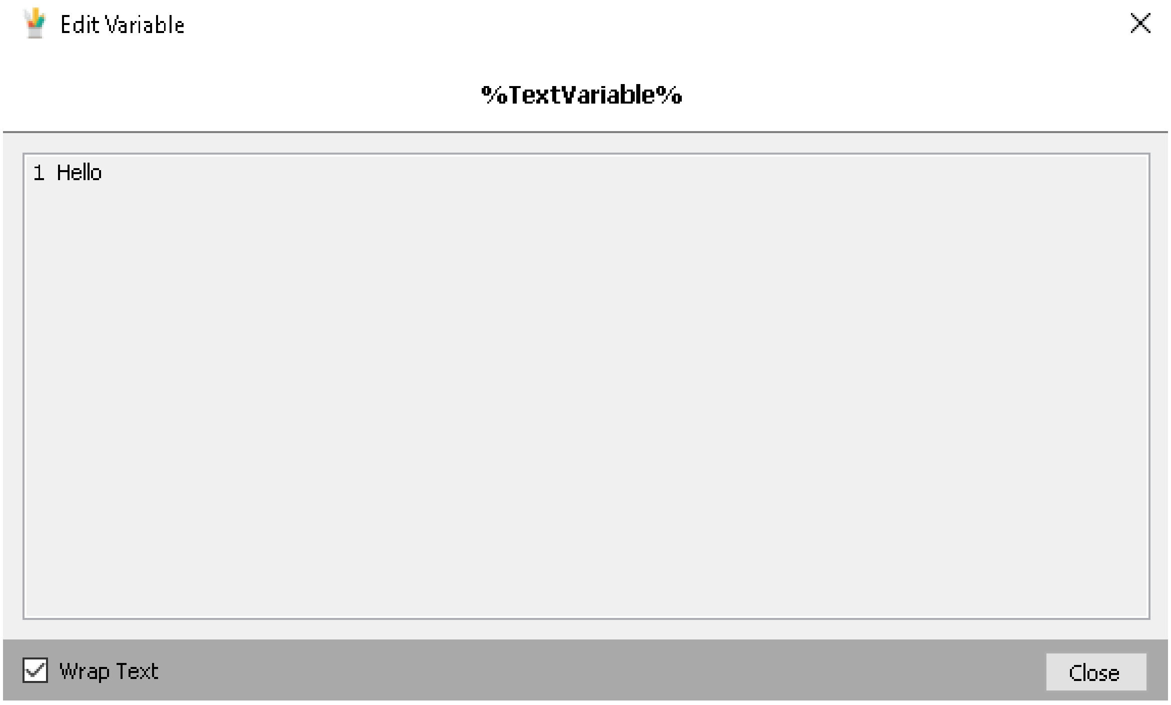
The variable window fields and information will depend on the type of the variable that you are accessing. Below you will find the different windows that will be displayed for different variable data types.



%InternetExplorer%

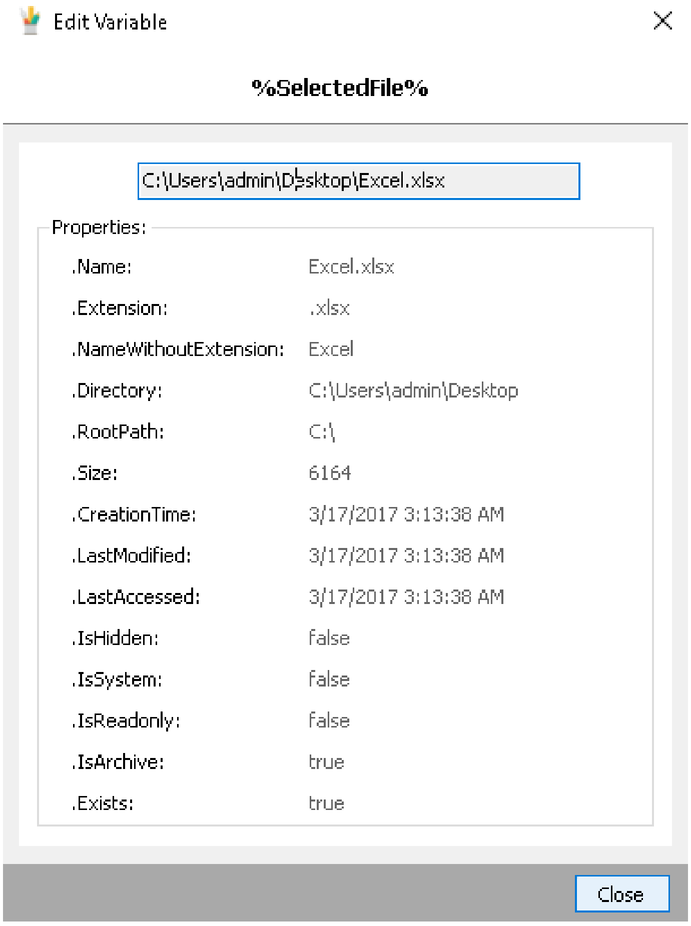
Properties:
.Handle: 918254
Bring to Front

Internet browser Instance



1 Hello

Text Variable



Edit Variable

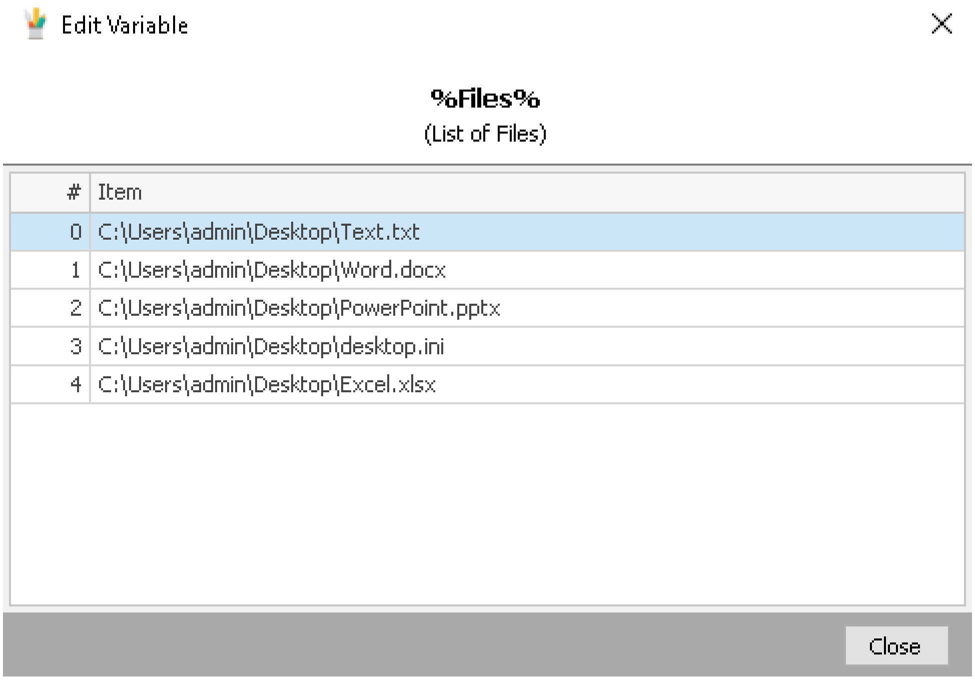
%SelectedFile%

C:\Users\admin\Desktop\Excel.xlsx

Properties:

.Name:	Excel.xlsx
.Extension:	.xlsx
.NameWithoutExtension:	Excel
.Directory:	C:\Users\admin\Desktop
.RootPath:	C:\
.Size:	6164
.CreationTime:	3/17/2017 3:13:38 AM
.LastModified:	3/17/2017 3:13:38 AM
.LastAccessed:	3/17/2017 3:13:38 AM
.IsHidden:	false
.IsSystem:	false
.IsReadonly:	false
.IsArchive:	true
.Exists:	true

File Variable

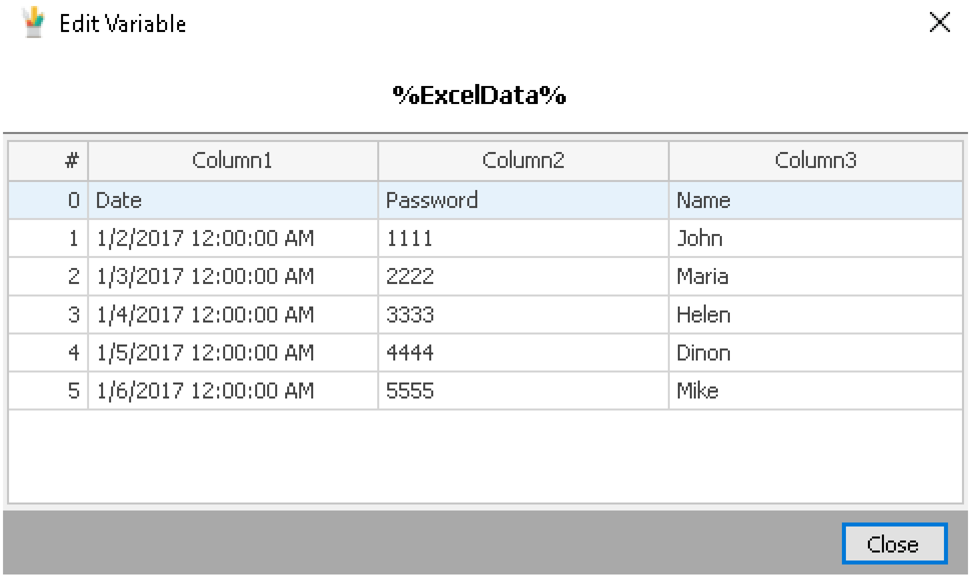


%Files%

(List of Files)

#	Item
0	C:\Users\admin\Desktop\Text.txt
1	C:\Users\admin\Desktop\Word.docx
2	C:\Users\admin\Desktop\PowerPoint.pptx
3	C:\Users\admin\Desktop\desktop.ini
4	C:\Users\admin\Desktop\Excel.xlsx

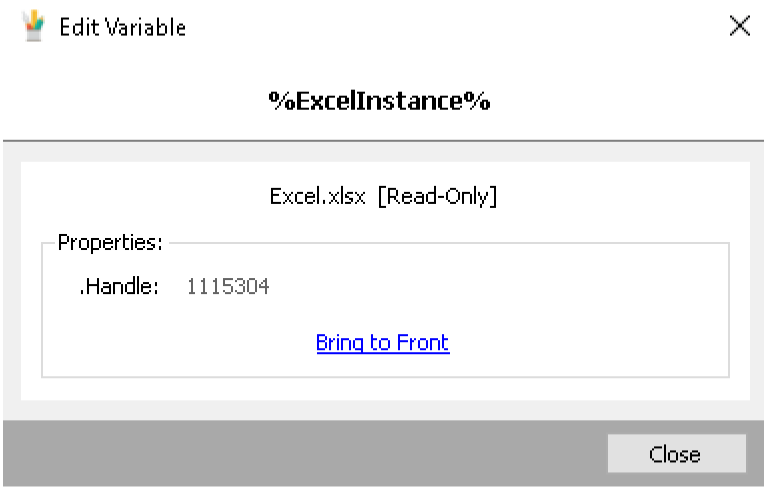
List Variable



%ExcelData%

#	Column1	Column2	Column3
0	Date	Password	Name
1	1/2/2017 12:00:00 AM	1111	John
2	1/3/2017 12:00:00 AM	2222	Maria
3	1/4/2017 12:00:00 AM	3333	Helen
4	1/5/2017 12:00:00 AM	4444	Dinon
5	1/6/2017 12:00:00 AM	5555	Mike

Data table Variable



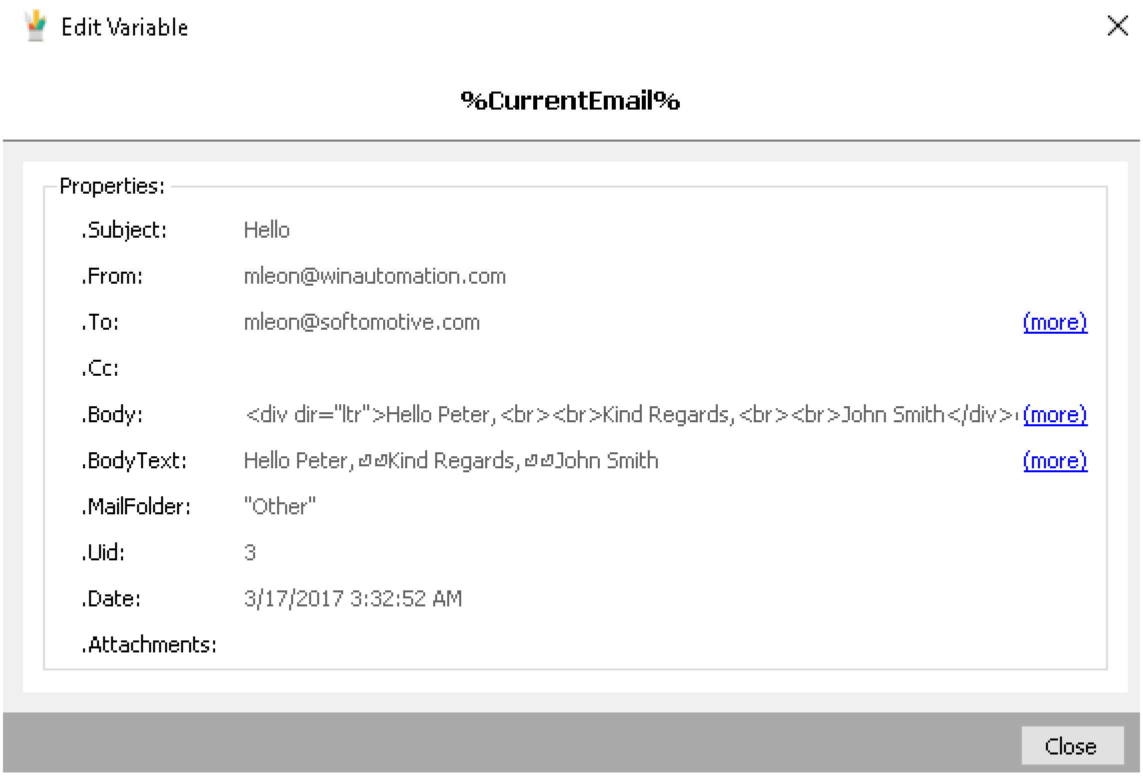
%ExcelInstance%

Excel.xlsx [Read-Only]

Properties:

.Handle: 1115304

Window Instance Variable



%CurrentEmail%

Properties:

.Subject: Hello

.From: mleon@winautomation.com

.To: mleon@softomotive.com

.Cc:

.Body: <div dir="ltr">Hello Peter,

Kind Regards,

John Smith</div>

.BodyText: Hello Peter,↵↵Kind Regards,↵↵John Smith

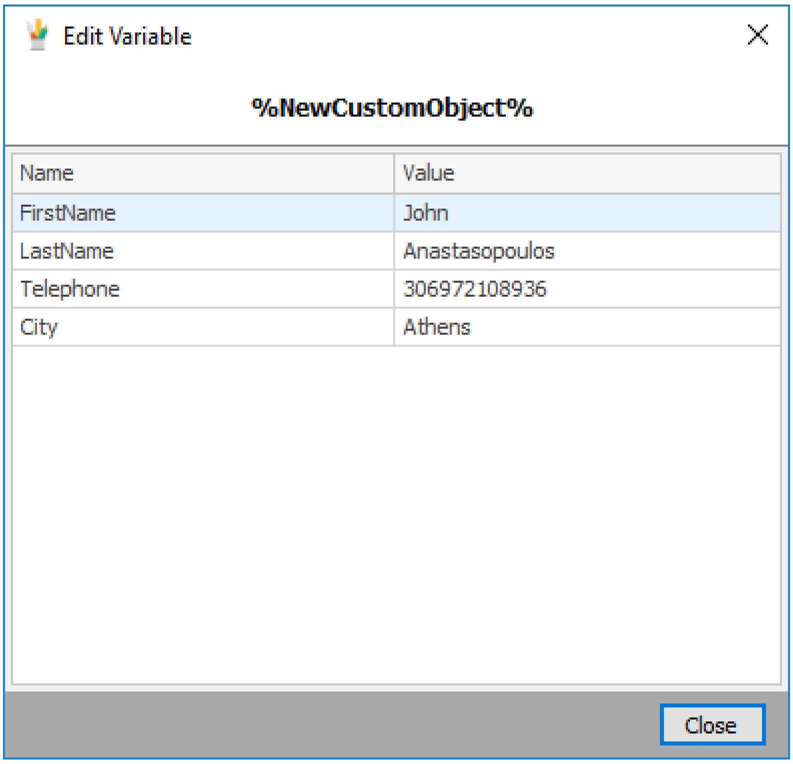
.MailFolder: "Other"

.Uid: 3

.Date: 3/17/2017 3:32:52 AM

.Attachments:

Email Variable



%NewCustomObject%

Name	Value
FirstName	John
LastName	Anastasopoulos
Telephone	306972108936
City	Athens

Custom Object Variable

3.4.5 The Errors Pane

The Errors pane is combined with the Control Repository, in tabs. In the Process Designer mode, errors are shown here.

The Errors information is split to three columns: **Function, Action, Error**

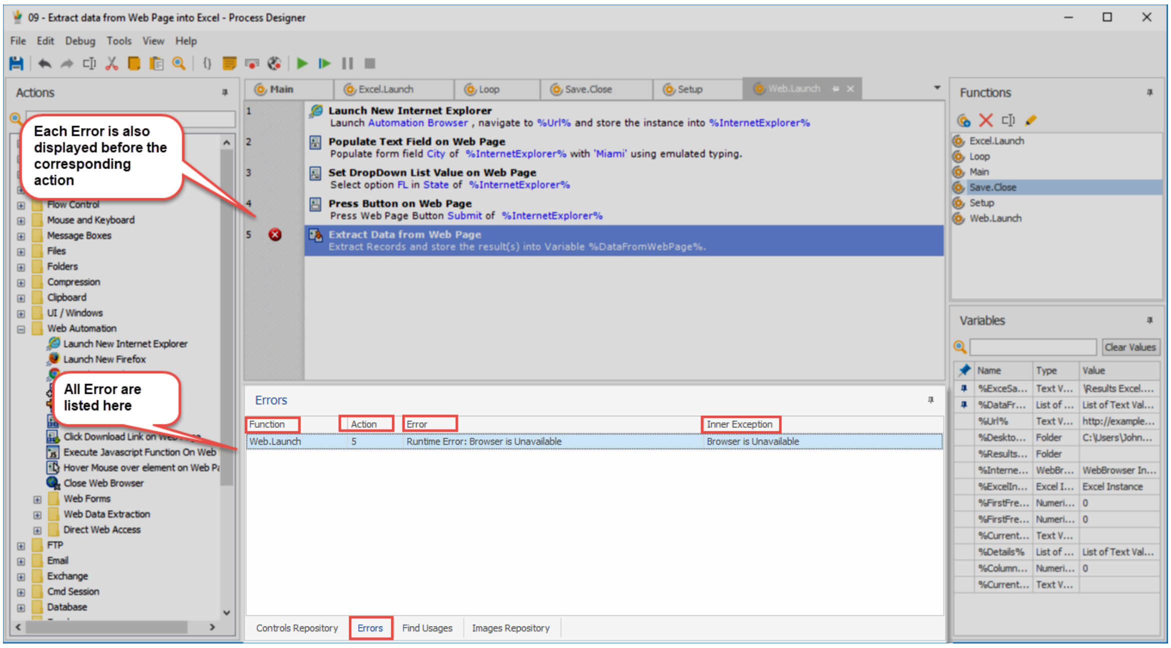
Function: The Function Name that contains the action which threw the error.

Action: The Action number in the Function which threw the error.

Error: The error message.

Inner Exception: The Inner Exception of the error

Each Error is also displayed before the corresponding action.



Each Error is also displayed before the corresponding action

All Error are listed here

1 Launch New Internet Explorer
Launch Automation Browser , navigate to %Url% and store the instance into %InternetExplorer%

2 Populate Text Field on Web Page
Populate form field City of %InternetExplorer% with 'Miami' using emulated typing.

3 Set DropDown List Value on Web Page
Select option FL in State of %InternetExplorer%

4 Press Button on Web Page
Press Web Page Button Submit of %InternetExplorer%

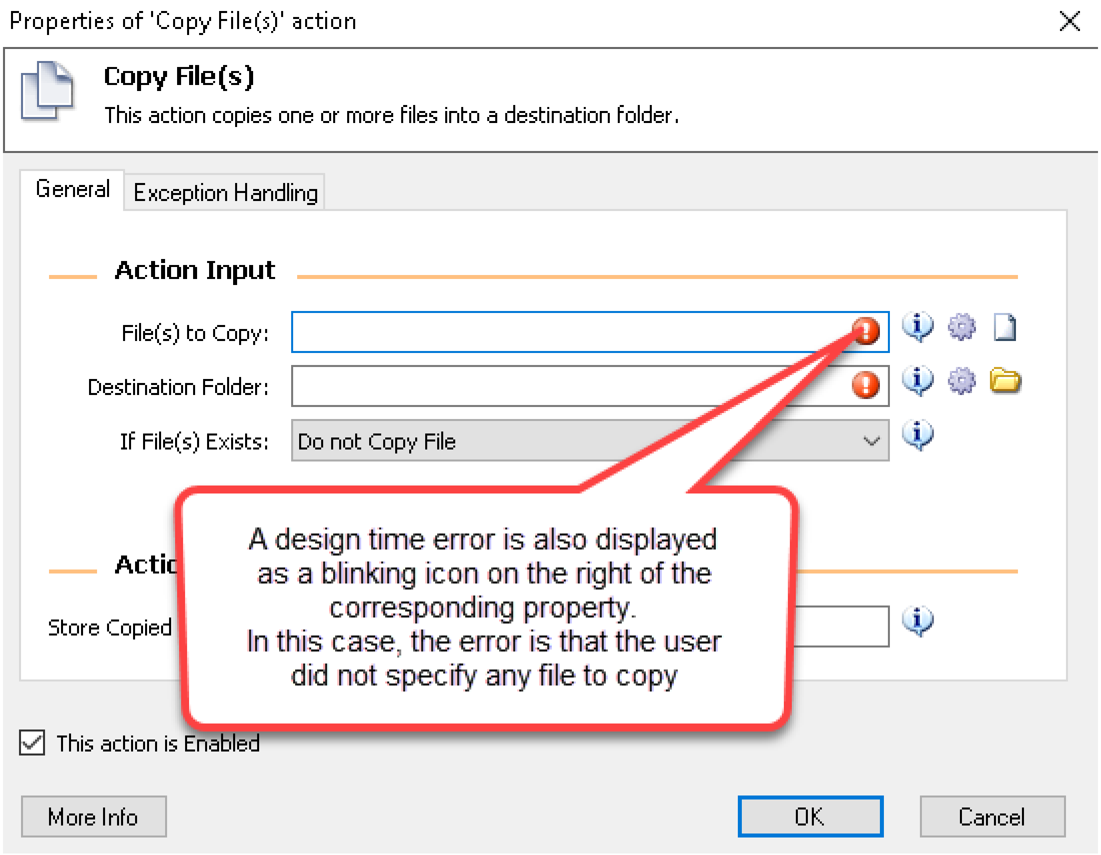
5 Extract Data from Web Page
Extract Records and store the result(s) into Variable %DataFromWebPage%.

Errors

Function	Action	Error	Inner Exception
Web.Launch	5	Runtime Error: Browser is Unavailable	Browser is Unavailable

	Name	Type	Value
	%ExceSa...	Text V...	\Results Excel....
	%DataFr...	List of ...	List of Text Val...
	%Url%	Text V...	http://example...
	%Deskto...	Folder	C:\Users\John...
	%Results...	Folder	
	%Interne...	WebBr...	WebBrowser In...
	%ExcelIn...	Excel I...	Excel Instance
	%FirstFre...	Numeri...	0
	%FirstFre...	Numeri...	0
	%Current...	Text V...	
	%Details%	List of ...	List of Text Val...
	%Column...	Numeri...	0
	%Current...	Text V...	

The Errors Pane of the Process Designer Window



Properties of 'Copy File(s)' action

Copy File(s)

This action copies one or more files into a destination folder.

General | Exception Handling

Action Input

File(s) to Copy:

Destination Folder:

If File(s) Exists: Do not Copy File

A design time error is also displayed as a blinking icon on the right of the corresponding property.
In this case, the error is that the user did not specify any file to copy

The Properties Dialog of an action that has a Design-Time error

There are two kinds of errors: **Design Time** and **Run Time** errors:

Design Time Errors which are also called configuration errors, are visible in the configuration of the Action or Process and hold the Process from running.

Run Time Errors, or Exceptions are not obvious errors in the design but come up when you run the Process. Run Time Errors will cause the Process to fail unless you plan for it in the Exception Handling Tab of most Actions.

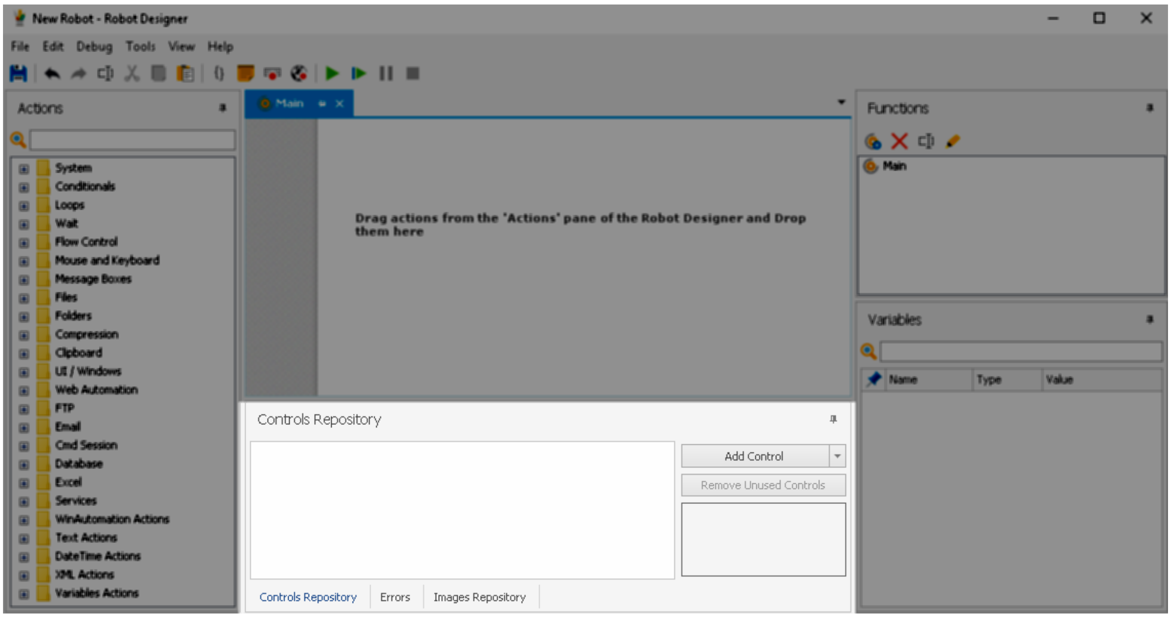
For example, you create a Copy File Action. If you leave the File to Copy field blank, that is a problem with the configuration and immediately shows up as a Design Time Error. If you put in a path and the file does not exist when you run the Process, that is a Run Time Error.

3.4.6 The Controls Repository pane

The Control Repository is by default placed in the bottom center part of the Process Designer.

It will hold all the controls from UI/Windows and Web Automation actions. All the elements that your Process will access (buttons, elements, items, text fields, checkboxes, radio buttons, windows etc...) will be stored in the Control Repository.

Upon creating a new Process the Repository will, of course, be empty.



Drag actions from the 'Actions' pane of the Robot Designer and Drop them here

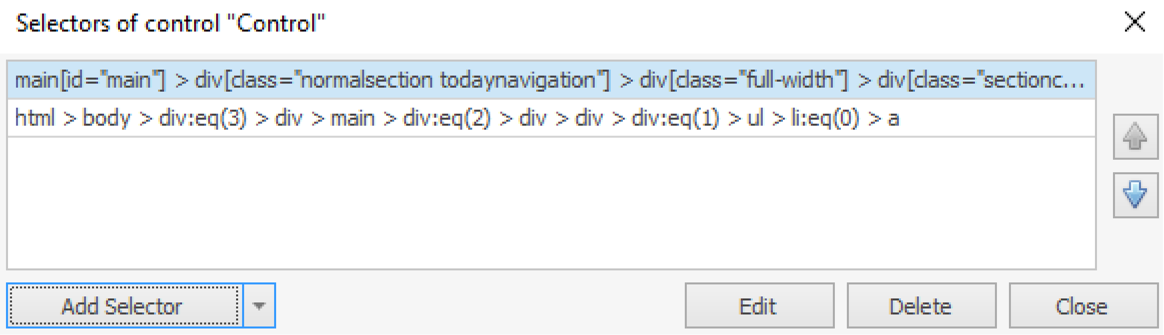
The Control Repository

To add controls, you should use UI/Windows or Web Automation actions or click on the "Add Control" button.

The Control Repository pane, has the "Remove Unused Controls" button as well, with which the process identifies if there is an unused control and deletes it.

In the topics Building a WebAutomation Process 239 and UI Automation > UI Elements - Select Controls 223, you will find a detailed explanation about how to add/manage controls and edit their UI or CSS Selectors.

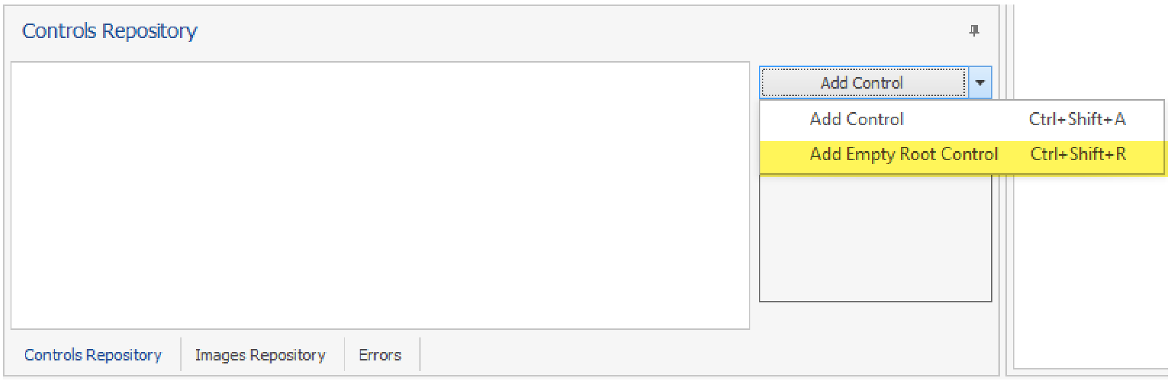
In some cases, there is need for more than one selectors to capture one element. The element, is firstly being identified through the top selector. In case it fails, the second selector tries to capture it. You can use the up and down arrows, in order to reorder the selectors within the control.



```
main[id="main"] > div[class="normalsection todaynavigation"] > div[class="full-width"] > div[class="sectionc...
html > body > div:eq(3) > div > main > div:eq(2) > div > div > div:eq(1) > ul > li:eq(0) > a
```

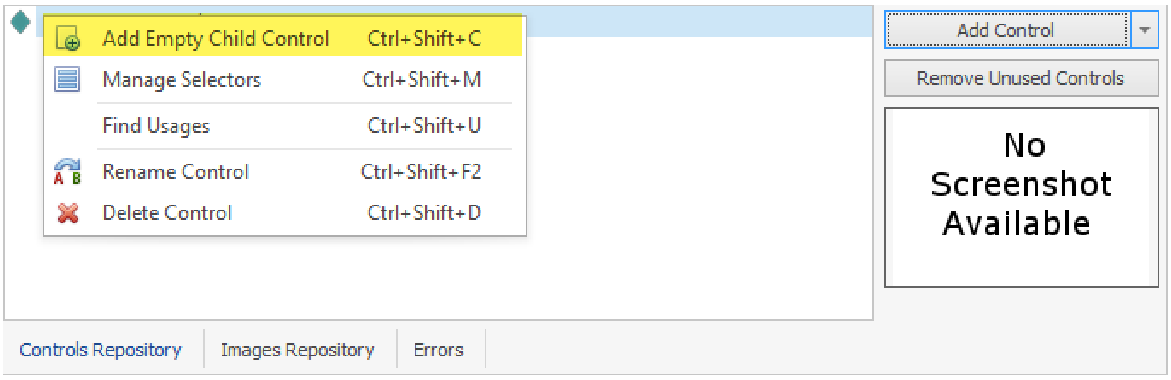
Reordering the controls

In some web applications, despite the fact that simple html and css is being used, some particular actions cannot be captured using the web helpers. In such cases where you can develop your own CSS selectors, you can add an empty root control by clicking on the arrow next to "Add Control" or using the combination of "Ctrl + Shift + R".



Adding an empty root control

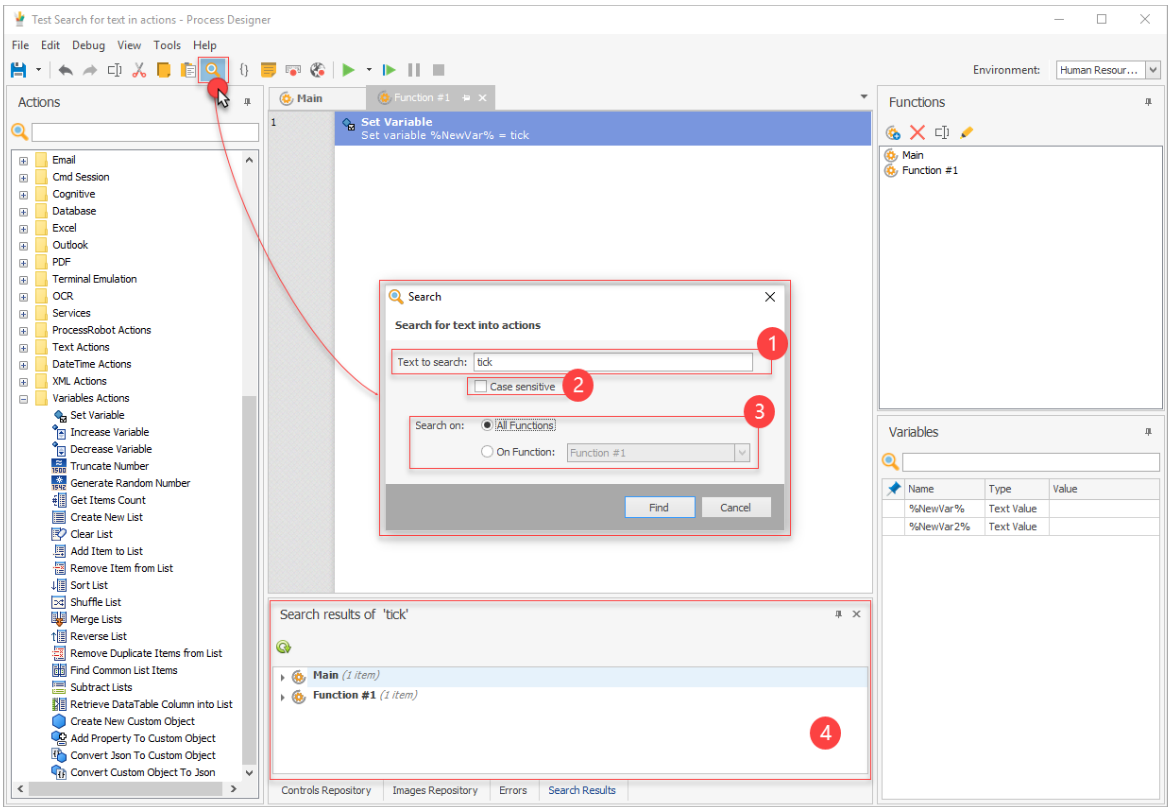
Likewise, you can right click on a parent selector, and select to "Add Empty Child Control" or use the combination of "Ctrl + Shift + C" in order to use your custom made CSS selectors.



Adding an empty child control

3.4.7 The Search for Tex window

"Search for text" is a very handy interface you can easily invoke through the Process Designer's Toolbar (or by clicking on "Edit > Search" or by hitting Ctrl+F) in order to search within the workspace for specific text:



1 Set Variable
Set variable %NewVar% = tick

Text to search: tick
☐ Case sensitive
Search on: ● All Functions ○ On Function: Function #1

Name	Type	Value
%NewVar%	Text Value	
%NewVar2%	Text Value	

Main (1 item)
Function #1 (1 item)

Search Window in the Process Designer

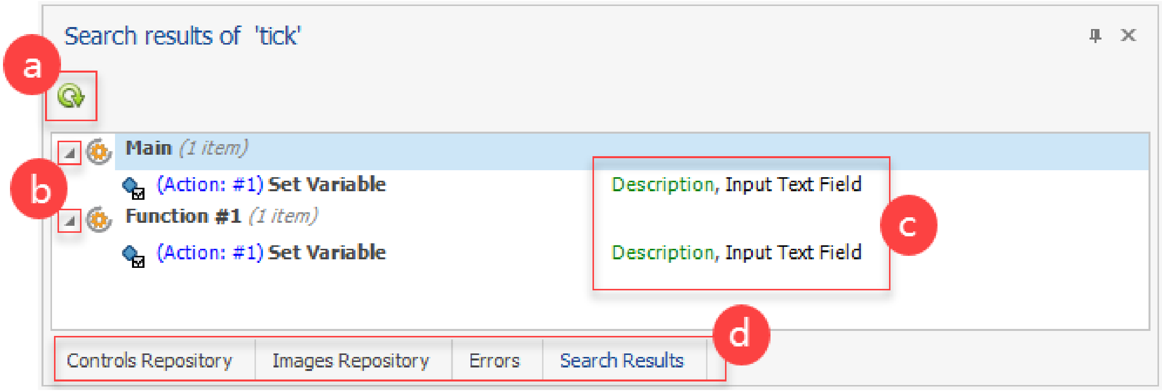
The Search Window allows you to find anything that contain the specified text potentially across your functions.

1. Text to search: Enter here the text that you are looking for

2. Case Sensitive. Check this box if you want your search to be case sensitive. Uncheck this box if you are looking capitals or small letter do not matter to you

3. Search on: This option allow you to search for the text only in a specific action or in all your Process

4. The results will be listed in the Search Results Pane. For each Funtion that the text was found within, you will have an expandable arrow that will list all the occurances.



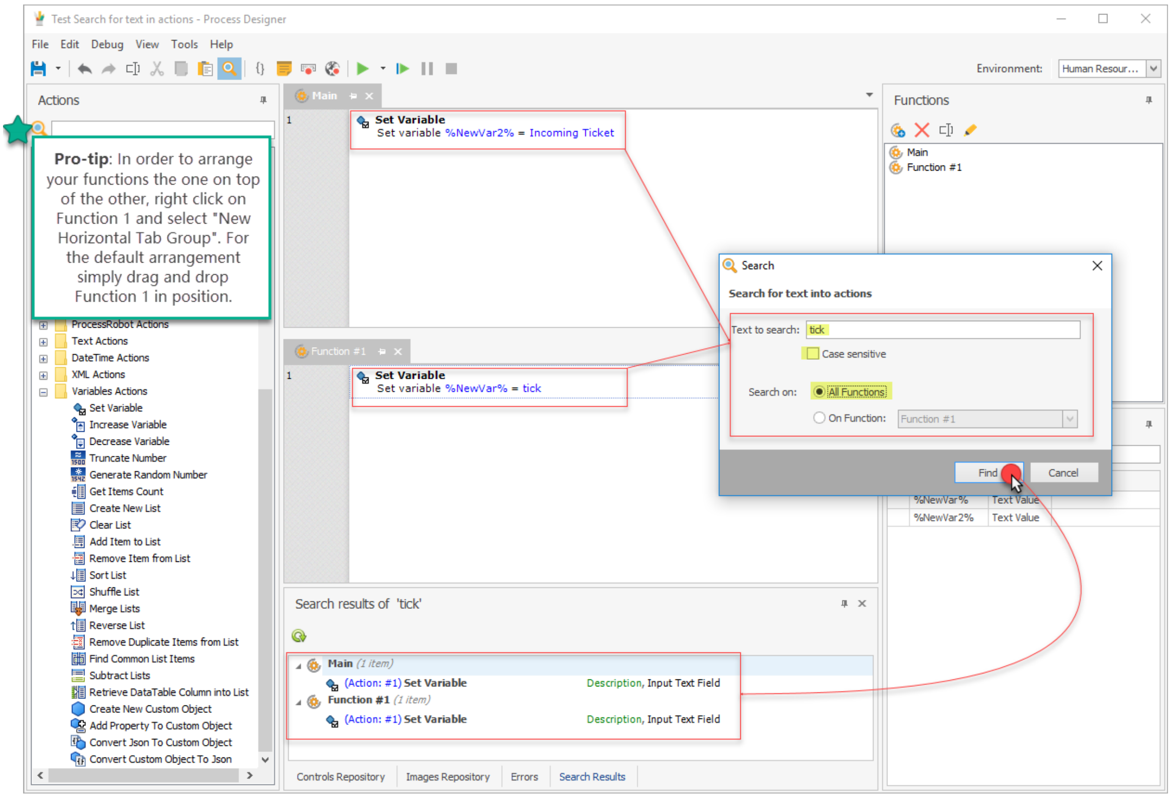
Search results of 'tick'

- Main (1 item)
  - (Action: #1) Set Variable — Description, Input Text Field
- Function #1 (1 item)
  - (Action: #1) Set Variable — Description, Input Text Field

Search Results pane

You should have in mind that you can easily transition from Search Results to Errors pane, Images or Control Repository at any time by clicking the appropriate option in the Tab Menu [d] at the bottom. The pane even informs you on where the hits were recorded [c] exactly in order to save you time from examining results that might be of little interest to you.

Another thing that should not go unnoticed is that even if you search for some text that is part of some longer sentence, the Search Window still will return a hit:



Pro-tip: In order to arrange your functions the one on top of the other, right click on Function 1 and select "New Horizontal Tab Group". For the default arrangement simply drag and drop Function 1 in position.

Main:
Set Variable
Set variable %NewVar2% = Incoming Ticket

Function #1:
Set Variable
Set variable %NewVar% = tick

Search
Search for text into actions
Text to search: tick
□ Case sensitive
Search on: ● All Functions ○ On Function: Function #1

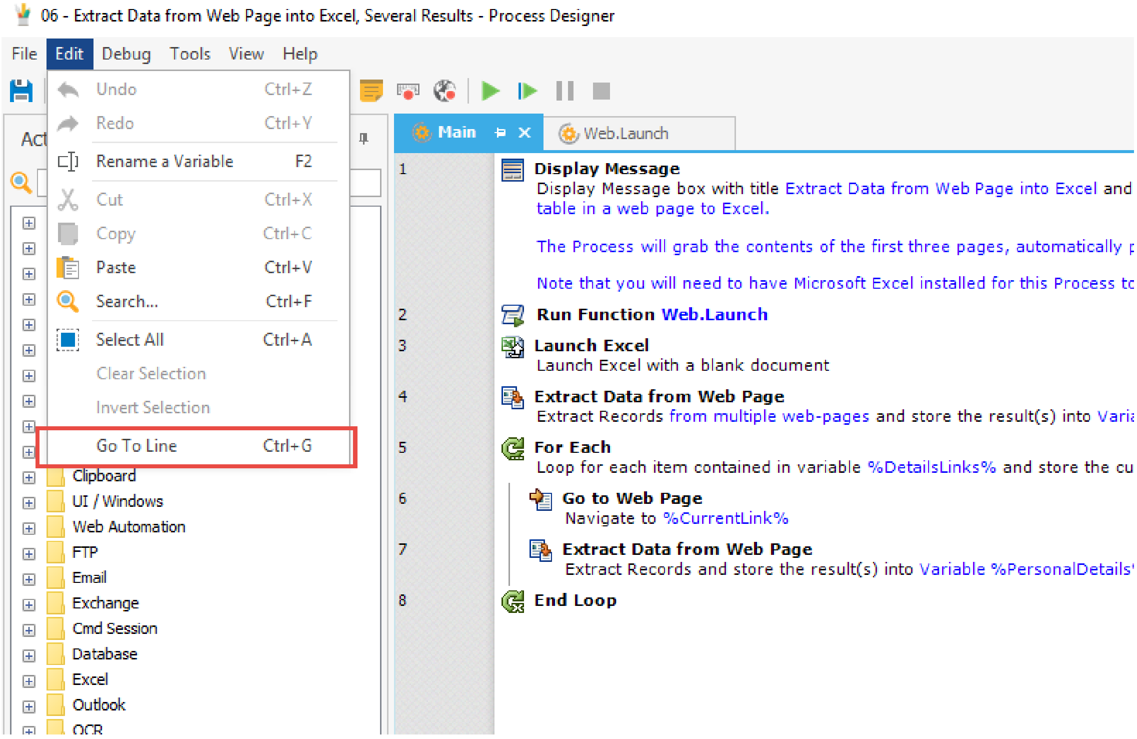
Search results of 'tick'

- Main (1 item)
  - (Action: #1) Set Variable — Description, Input Text Field
- Function #1 (1 item)
  - (Action: #1) Set Variable — Description, Input Text Field

%NewVar%	Text Value
%NewVar2%	Text Value

3.4.8 Go to Line

The "Go To Line" functionality is very helpful on large Processes. It will help you navigate to a specific line within your process in a Function. It can be accessed either by the "Edit > Go To Line" option in the menu bar, or by simply hitting Ctrl + G on your keyboard.



1 **Display Message**
Display Message box with title Extract Data from Web Page into Excel and table in a web page to Excel.

The Process will grab the contents of the first three pages, automatically p

Note that you will need to have Microsoft Excel installed for this Process tc

2 **Run Function Web.Launch**

3 **Launch Excel**
Launch Excel with a blank document

4 **Extract Data from Web Page**
Extract Records from multiple web-pages and store the result(s) into Varia

5 **For Each**
Loop for each item contained in variable %DetailsLinks% and store the cu

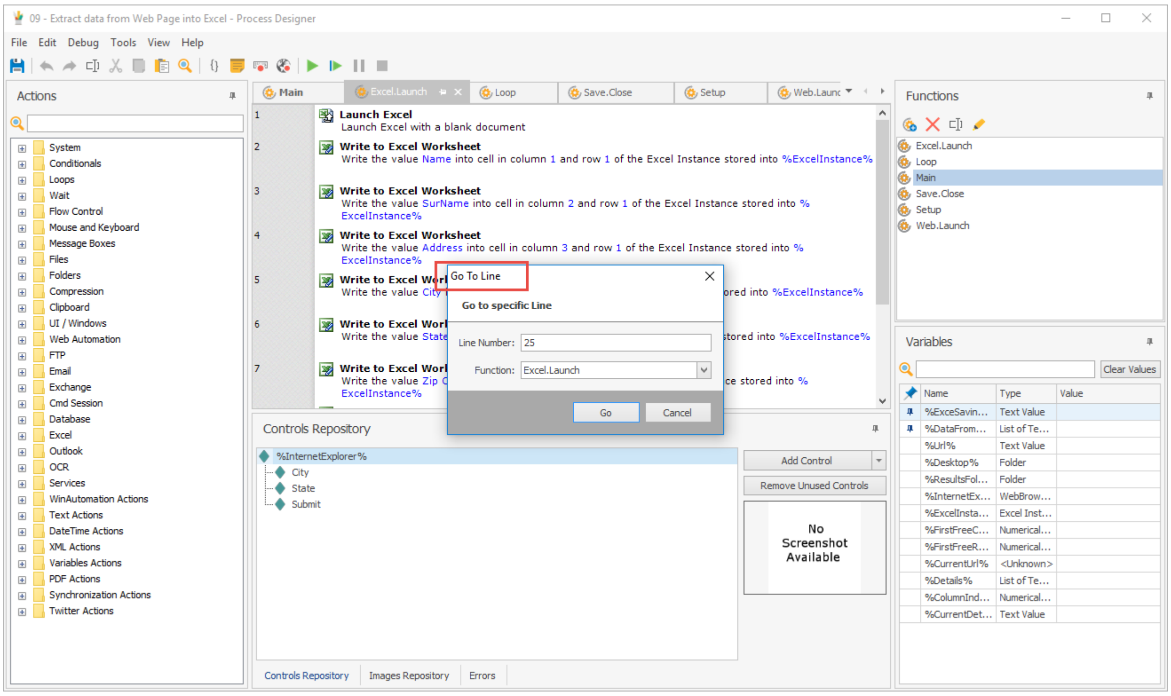
6 **Go to Web Page**
Navigate to %CurrentLink%

7 **Extract Data from Web Page**
Extract Records and store the result(s) into Variable %PersonalDetails'

8 **End Loop**

Go To Line

The Go To Line window will prompt you to enter the Line number that you wish to go to the Function on which you wish to be transferred. Just hit go and you will be landed in the action whose number you have entered in the Function of your selection, with the action being highlighted.



1 **Launch Excel**
Launch Excel with a blank document

2 **Write to Excel Worksheet**
Write the value Name into cell in column 1 and row 1 of the Excel Instance stored into %ExcelInstance%

3 **Write to Excel Worksheet**
Write the value SurName into cell in column 2 and row 1 of the Excel Instance stored into % ExcelInstance%

4 **Write to Excel Worksheet**
Write the value Address into cell in column 3 and row 1 of the Excel Instance stored into % ExcelInstance%

5 **Write to Excel Worl**
Write the value City … ored into %ExcelInstance%

6 **Write to Excel Worl**
Write the value State … stored into %ExcelInstance%

7 **Write to Excel Worl**
Write the value Zip C … ce stored into % ExcelInstance%

Go To Line

Go to specific Line

Line Number: 25

Function: Excel.Launch

Go | Cancel

Name	Type	Value
%ExceSavin…	Text Value	
%DataFrom…	List of Te…	
%Url%	Text Value	
%Desktop%	Folder	
%ResultsFol…	Folder	
%InternetEx…	WebBrow…	
%ExcelInsta…	Excel Inst…	
%FirstFreeC…	Numerical…	
%FirstFreeR…	Numerical…	
%CurrentUrl%	<Unknown>	
%Details%	List of Te…	
%ColumnInd…	Numerical…	
%CurrentDet…	Text Value	

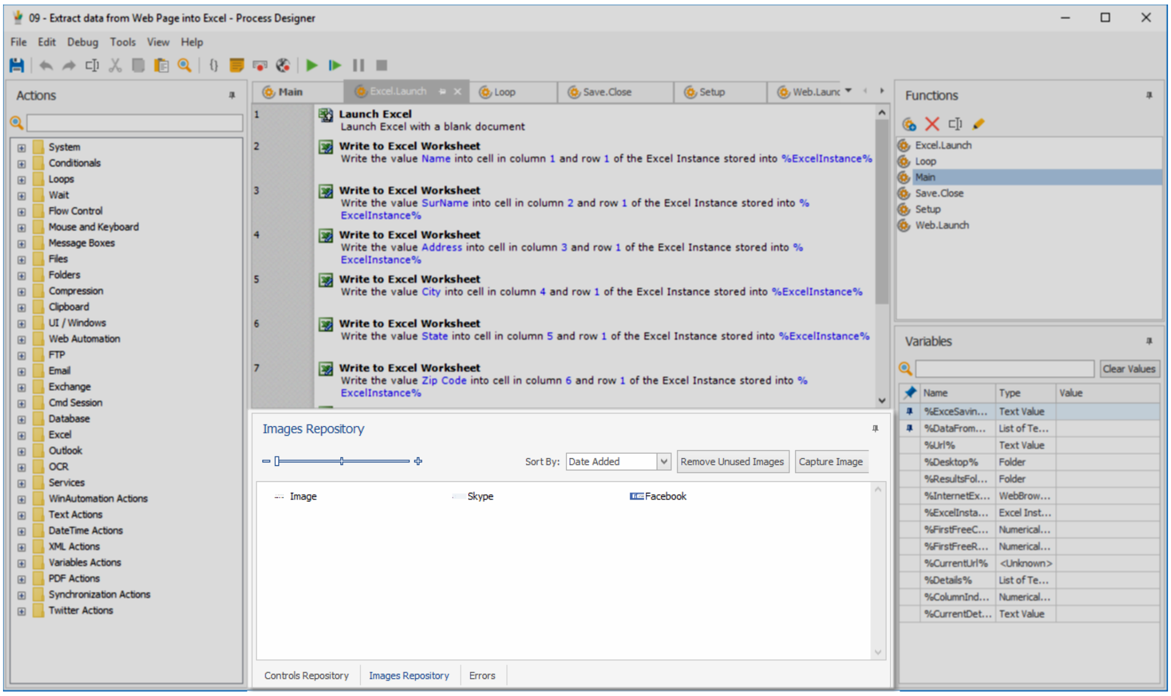
Go To Line Window

3.4.9 The Image Repository pane

The Image Repository is by default placed in the bottom center part of the Process Designer.

It will hold all the images from Image actions. All the images used by your process will be stored in the Images Repository.

Upon creating a new Process the Repository will, of course, be empty.



1 **Launch Excel**
Launch Excel with a blank document

2 **Write to Excel Worksheet**
Write the value Name into cell in column 1 and row 1 of the Excel Instance stored into %ExcelInstance%

3 **Write to Excel Worksheet**
Write the value SurName into cell in column 2 and row 1 of the Excel Instance stored into %ExcelInstance%

4 **Write to Excel Worksheet**
Write the value Address into cell in column 3 and row 1 of the Excel Instance stored into %ExcelInstance%

5 **Write to Excel Worksheet**
Write the value City into cell in column 4 and row 1 of the Excel Instance stored into %ExcelInstance%

6 **Write to Excel Worksheet**
Write the value State into cell in column 5 and row 1 of the Excel Instance stored into %ExcelInstance%

7 **Write to Excel Worksheet**
Write the value Zip Code into cell in column 6 and row 1 of the Excel Instance stored into %ExcelInstance%

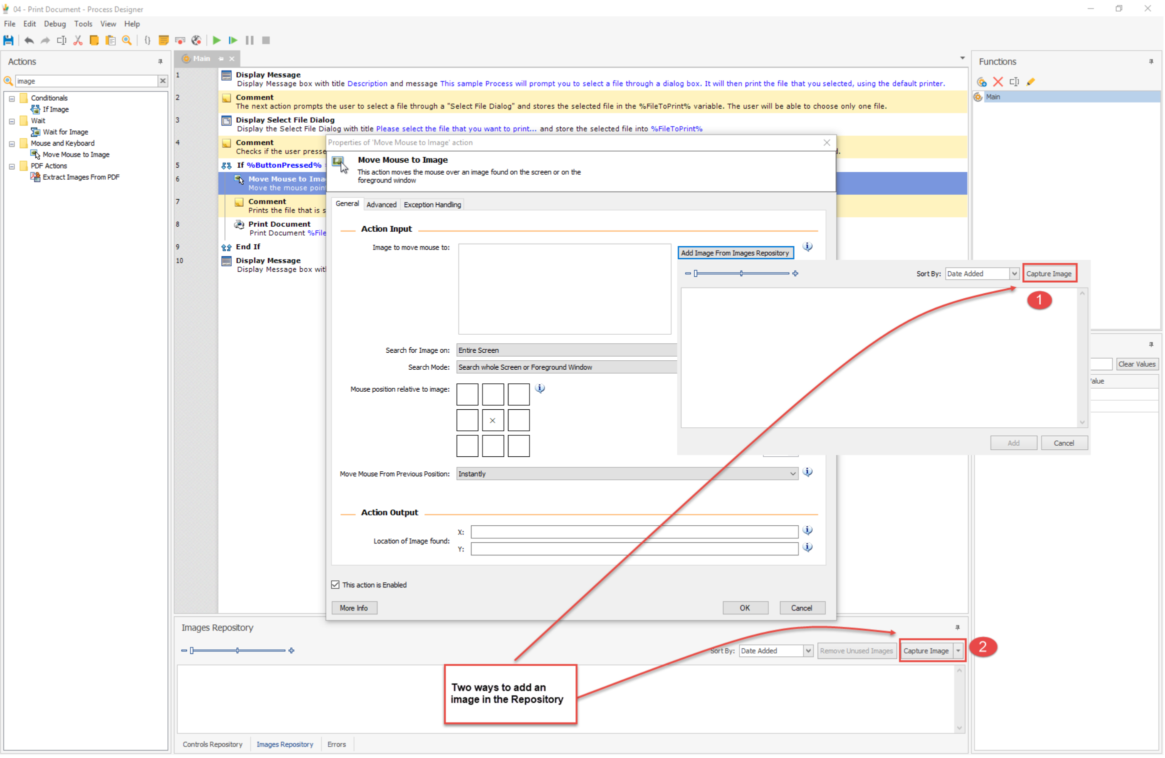
Name	Type	Value
%ExceSavin…	Text Value	
%DataFrom…	List of Te…	
%Url%	Text Value	
%Desktop%	Folder	
%ResultsFol…	Folder	
%InternetEx…	WebBrow…	
%ExcelInsta…	Excel Inst…	
%FirstFreeC…	Numerical…	
%FirstFreeR…	Numerical…	
%CurrentUrl%	<Unknown>	
%Details%	List of Te…	
%ColumnInd…	Numerical…	
%CurrentDet…	Text Value	

The Control Repository

There are two ways of adding images in the Image Repository.

1. From within an Image related action should you select the "Capture Image" button.

2. From the "Capture Image" button from the Images Repository directly.



1 Display Message
Display Message box with title Description and message This sample Process will prompt you to select a file through a dialog box. It will then print the file that you selected, using the default printer.

2 Comment
The next action prompts the user to select a file through a "Select File Dialog" and stores the selected file in the %FileToPrint% variable. The user will be able to choose only one file.

3 Display Select File Dialog
Display the Select File Dialog with title Please select the file that you want to print... and store the selected file into %FileToPrint%

4 Comment
Checks if the user presse

5 If %ButtonPressed%

6 Move Mouse to Ima
Move the mouse poin

7 Comment
Prints the file that is s

8 Print Document
Print Document %File

9 End If

10 Display Message
Display Message box wit

Properties of 'Move Mouse to Image' action

Move Mouse to Image
This action moves the mouse over an image found on the screen or on the foreground window

Action Input

Search for Image on: Entire Screen

Search Mode: Search whole Screen or Foreground Window

Move Mouse From Previous Position: Instantly

☑ This action is Enabled

Sort By: Date Added

Two ways to add an image in the Repository

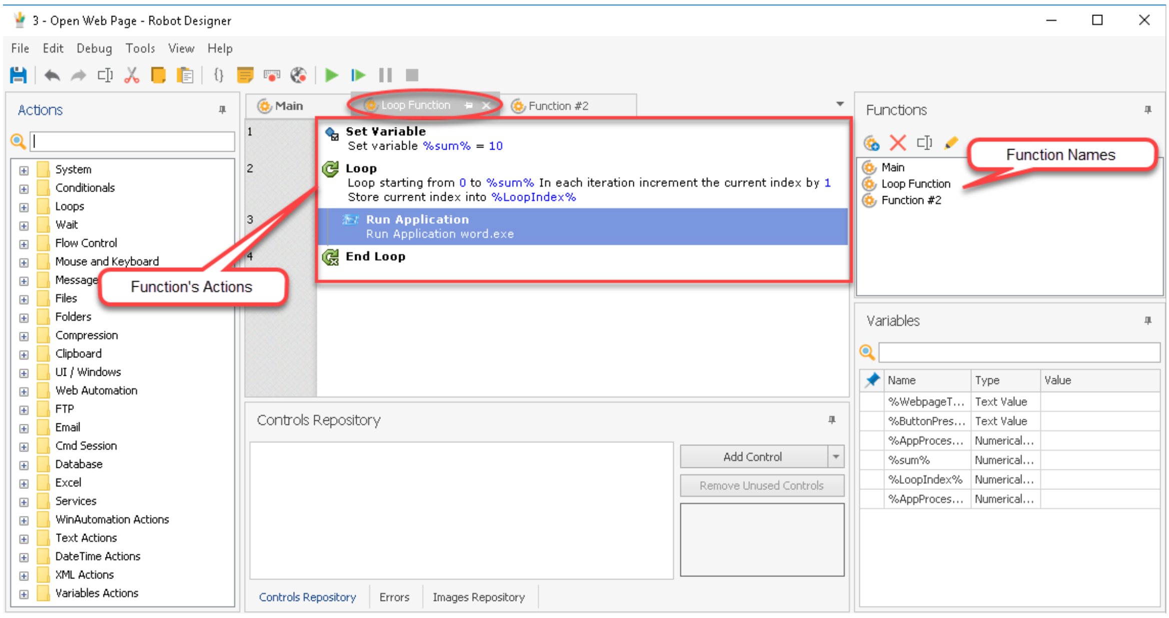
Add an Image in the Images Repository

Additionally, the Images Repository pane, has the "Remove Unused Images" button, with which the process identifies if there is an image not associated with an actions and deletes it.

It is also equipped with a Sorting capability either by the Name of the Image or by the Date that it was added (Ascending or Desceding). This sorting capability proves to be very helpful in large processes where many images have been captured and makes it much easier to find them.

3.4.10 Functions

A function in WinAutomation consists of actions grouped together so they can be invoked by a function name.



1 **Set Variable**
Set variable %sum% = 10

2 **Loop**
Loop starting from 0 to %sum% In each iteration increment the current index by 1
Store current index into %LoopIndex%

3 **Run Application**
Run Application word.exe

4 **End Loop**

Name	Type	Value
%WebpageT...	Text Value	
%ButtonPres...	Text Value	
%AppProces...	Numerical...	
%sum%	Numerical...	
%LoopIndex%	Numerical...	
%AppProces...	Numerical...	

To create a new function, click on the New Function button ( ). Alternatively, you may also press *Ctrl+N*. Functions can be created, removed, renamed and have their tabs re-ordered freely, with the sole exception of ***Main,*** from the Functions pane.

To invoke a function, place a Run Function 431 action anywhere in the Process. When this action is reached, the execution flow will jump to the first action of the invoked function and continue from there. Sooner or later, the actions of the invoked function will all be executed or an Exit Function will be reached. At that point, the execution flow will return at its former position, namely the next action after the invoking Run Function 431 action.

Functions usually perform a specific task and it is considered a good practice to name them in a manner indicative of their purpose. A function name is unique, i.e. two functions cannot share a common name while residing in the same Process.

New Processes, by default, contain only one function, the ***Main***. The ***Main*** function is always called when the Process first executes. Other functions may be called by means of the Run Function 431 action, by the Exception Handling 322 mechanism of any action, or as a result of a button press inside a Custom Dialog 456.

Scope: Variables in a WinAutomation Process are global in the notion that every action can access any variable of the Process from any function.

Go To 430 statements on the other hand, can jump to labels inside their own function only.

Recursion: A function cannot call itself; It can Exit[431], Run[431] another function or exhaust its actions and return automatically.

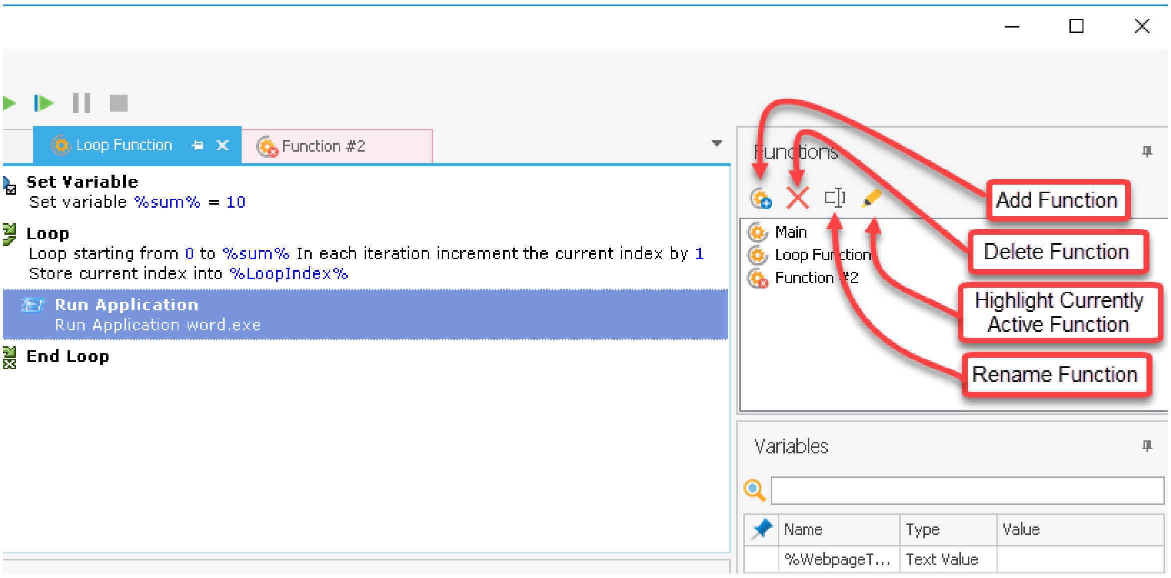
Some of the benefits of using functions are:

- Enhanced readability
- Code re-use without duplication
- Modular testing capabilities

Note: *Processes created with versions of WinAutomation prior to version 5 will have all their actions moved inside **Main** when you first edit them.*

3.4.11 Managing Functions

Functions work exactly like most Windows applications. You can select an Action by clicking on it, or multiple Actions using Ctrl or Shift in conjunction with the mouse. Once you have selected the Action(s), you may delete them using the Delete option; or cut or copy them using the Edit menu, the Cut and Copy Icons. You may also Drag them to another part of the Process.



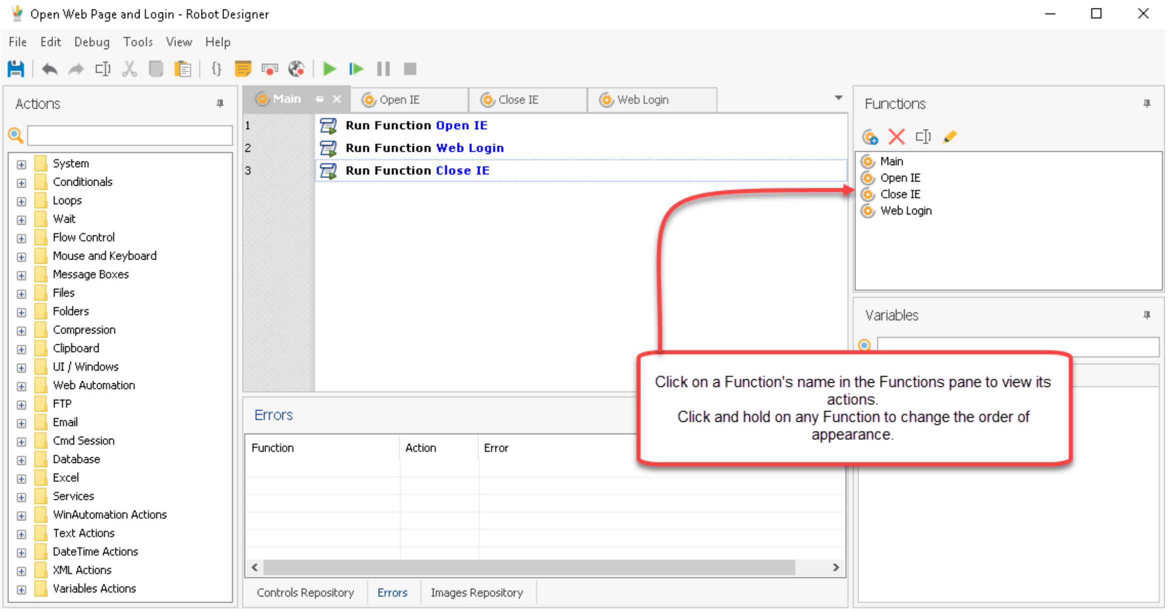
Set Variable
Set variable %sum% = 10

Loop
Loop starting from 0 to %sum% In each iteration increment the current index by 1
Store current index into %LoopIndex%

Run Application
Run Application word.exe

End Loop

You can click on a function in the Functions pane and move it up or down for reordering. You can also close them, if you do not want them to be visible in your workspace. Keep in mind that if you run the Process from the designer then each Function will be visible the moment that it is executed.

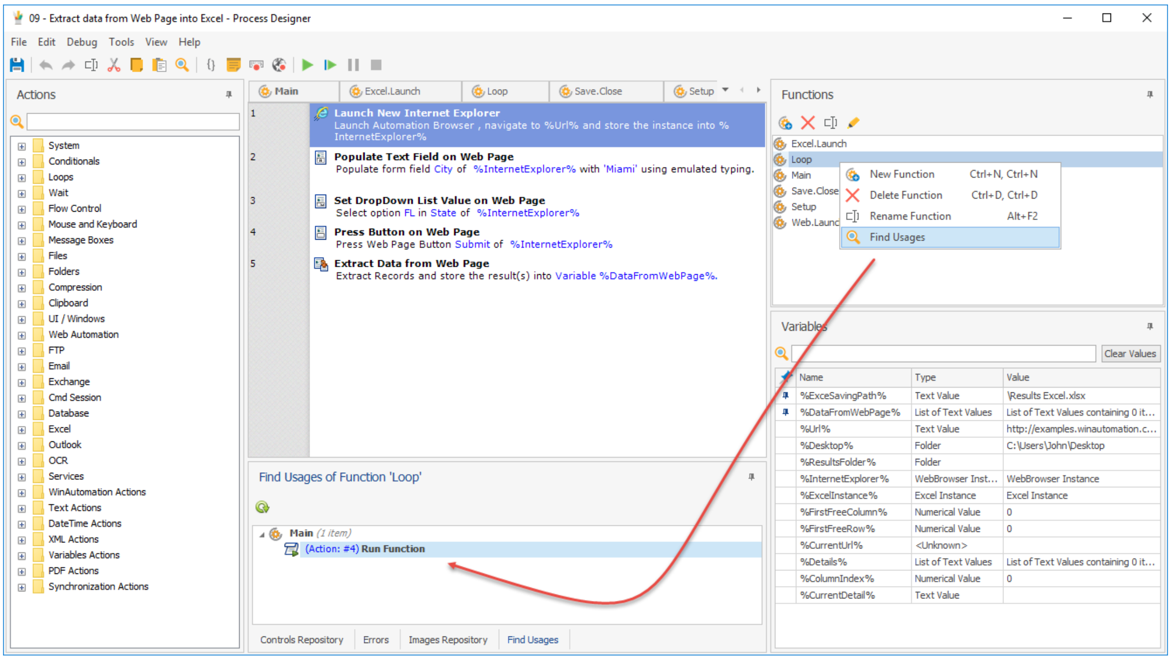


```
1 Run Function Open IE
2 Run Function Web Login
3 Run Function Close IE
```

Click on a Function's name in the Functions pane to view its actions.
Click and hold on any Function to change the order of appearance.

When you right click on a Function in the Function's pane, you have 4 options:

1. "New Function", to create a new Function
2. "Delete Function", to Delete the selected function(s)
3. "Rename Function", to give another name to an existing Function
4. "Find Usages" This will give you an extra tab in the bottom pane of the Designer that will list the Functions and the actions that are using this Function:



1 **Launch New Internet Explorer**
Launch Automation Browser , navigate to %Url% and store the instance into %InternetExplorer%

2 **Populate Text Field on Web Page**
Populate form field City of %InternetExplorer% with 'Miami' using emulated typing.

3 **Set DropDown List Value on Web Page**
Select option FL in State of %InternetExplorer%

4 **Press Button on Web Page**
Press Web Page Button Submit of %InternetExplorer%

5 **Extract Data from Web Page**
Extract Records and store the result(s) into Variable %DataFromWebPage%.

Find Usages of Function 'Loop'

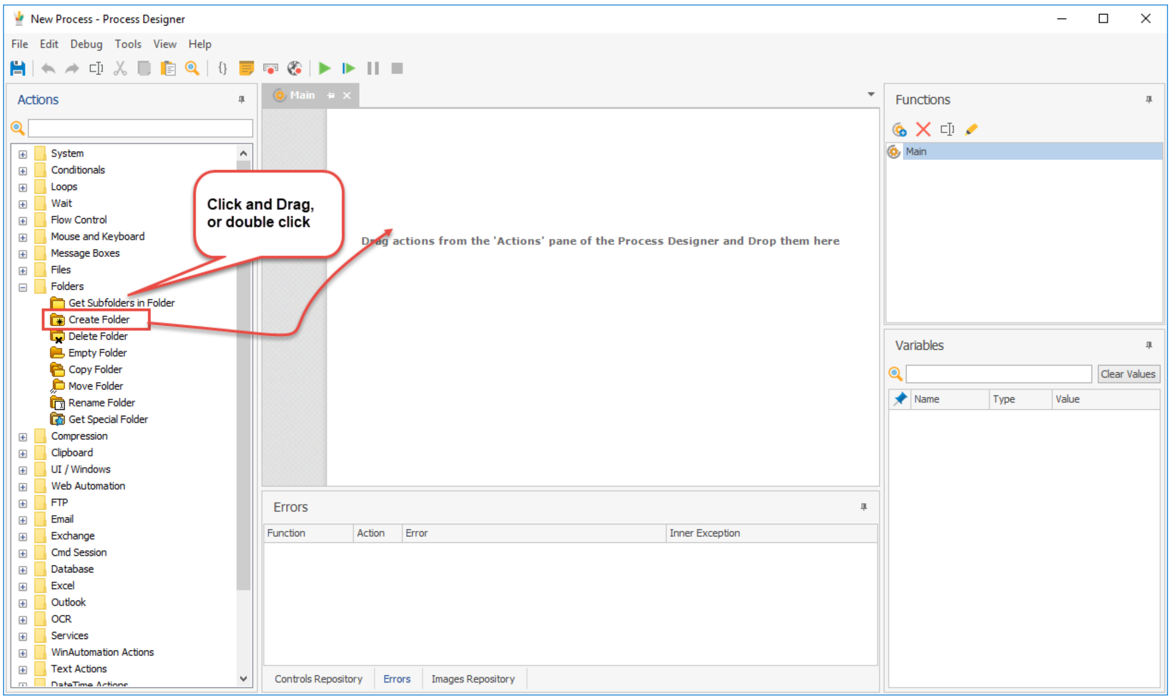
Main *(1 item)*
(Action: #4) **Run Function**

Name	Type	Value
%ExceSavingPath%	Text Value	\Results Excel.xlsx
%DataFromWebPage%	List of Text Values	List of Text Values containing 0 it...
%Url%	Text Value	http://examples.winautomation.c...
%Desktop%	Folder	C:\Users\John\Desktop
%ResultsFolder%	Folder	
%InternetExplorer%	WebBrowser Inst...	WebBrowser Instance
%ExcelInstance%	Excel Instance	Excel Instance
%FirstFreeColumn%	Numerical Value	0
%FirstFreeRow%	Numerical Value	0
%CurrentUrl%	<Unknown>	
%Details%	List of Text Values	List of Text Values containing 0 it...
%ColumnIndex%	Numerical Value	0
%CurrentDetail%	Text Value	

Funtion's Usages

3.4.12 Adding an Action

You add an Action from the Actions pane to the Workspace pane by double-clicking on it or dragging it and dropping it where you want. Double-clicking will always place the Action at the end of the current Process, but can be dragged or moved by highlighting the Action and clicking on the Up or Down Arrows in the Toolbar.

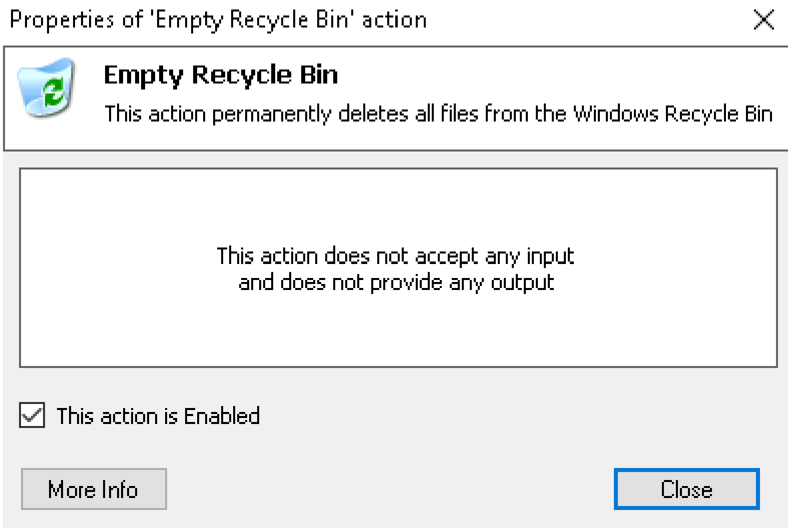


Click and Drag, or double click

Drag actions from the 'Actions' pane of the Process Designer and Drop them here

Inserting a new Action into a Process by Drag & Drop

Once you have added the Action, the Action Properties Dialog Box will open automatically if the Action has any configurable properties. As a counter-example, the Empty Recycle Bin action has no properties to set, so will just appear in the Workspace without opening a Properties Dialog Box.


Properties of 'Empty Recycle Bin' action

Empty Recycle Bin

This action permanently deletes all files from the Windows Recycle Bin

This action does not accept any input
and does not provide any output

☑ This action is Enabled

3.4.13 Configuring an Action

Adding an Action to the Workspace will automatically open the Action Properties Dialog box if there are any properties to be determined. If you want to open a previously created Action, double-click on it or right-click on it and click on Action Properties.

Once you have an open Properties Box, you will see **Action Inputs** and **Action Outputs:**

Action Inputs require information from you, to determine what happens - text to be displayed, a Variable to be used by the Action, a file path or URL and so on.

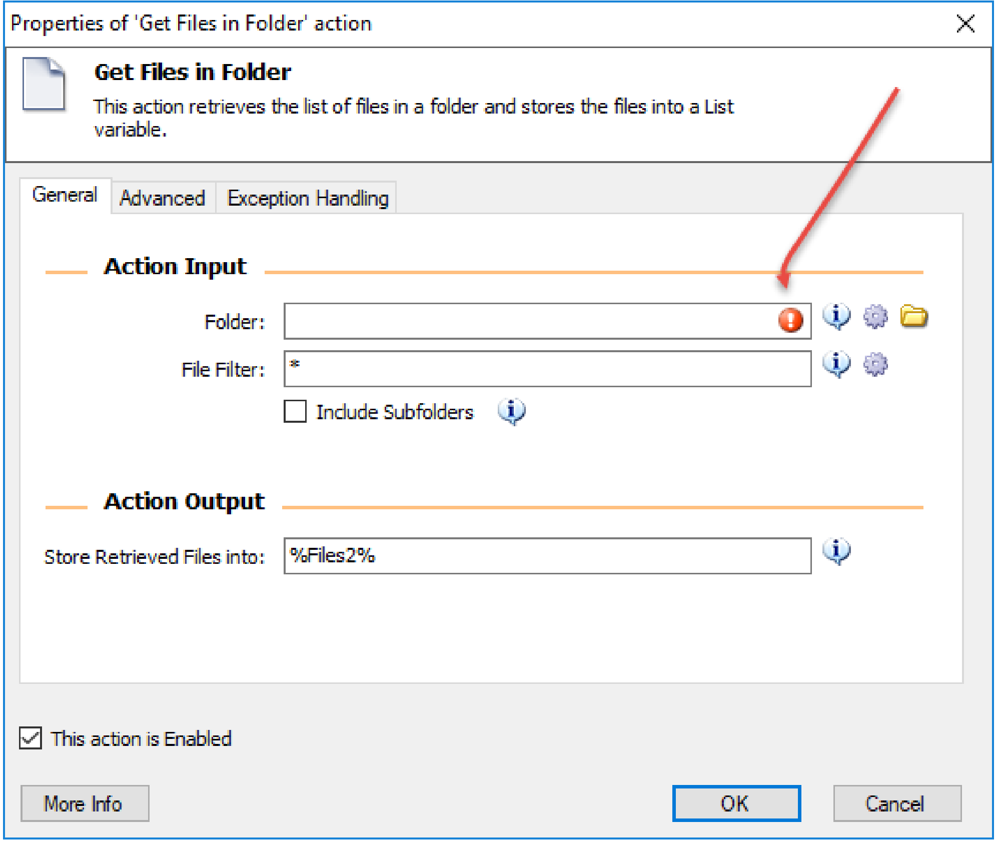
Action Outputs will only be Variable names so that information generated or collected by the present Action can be passed on to a later Action.

Please note that the "Action Output" refers to data and is not considered to be a program run or a Message Box shown - those are *effects* of the Action, not Output.

To the right of a property field, you will see an "ℹ" Icon. This is a ToolTip Help that you can access by pointing the cursor over it. You may also see a gear icon "⚙", a file icon "📄", or a folder icon "📂". These show where you can browse for a file, a folder, or a Variable (gear).

If there is an Error generated by one of the properties (a missing file name, improperly written Variable, etc), there will also be a blinking red Error icon "❗" the next time this

Action Property Dialog Box is opened.



Properties of 'Get Files in Folder' action

Get Files in Folder

This action retrieves the list of files in a folder and stores the files into a List variable.

Action Input

Folder:

File Filter: *

□ Include Subfolders

Action Output

Store Retrieved Files into: %Files2%

☑ This action is Enabled

If the Action could cause an Error, you might want to look over the Exception Handling options (click on the tab at the top) to make sure you like that result.

As an example, we will look at the Display Input Dialog 460 properties. There are four different Input properties:

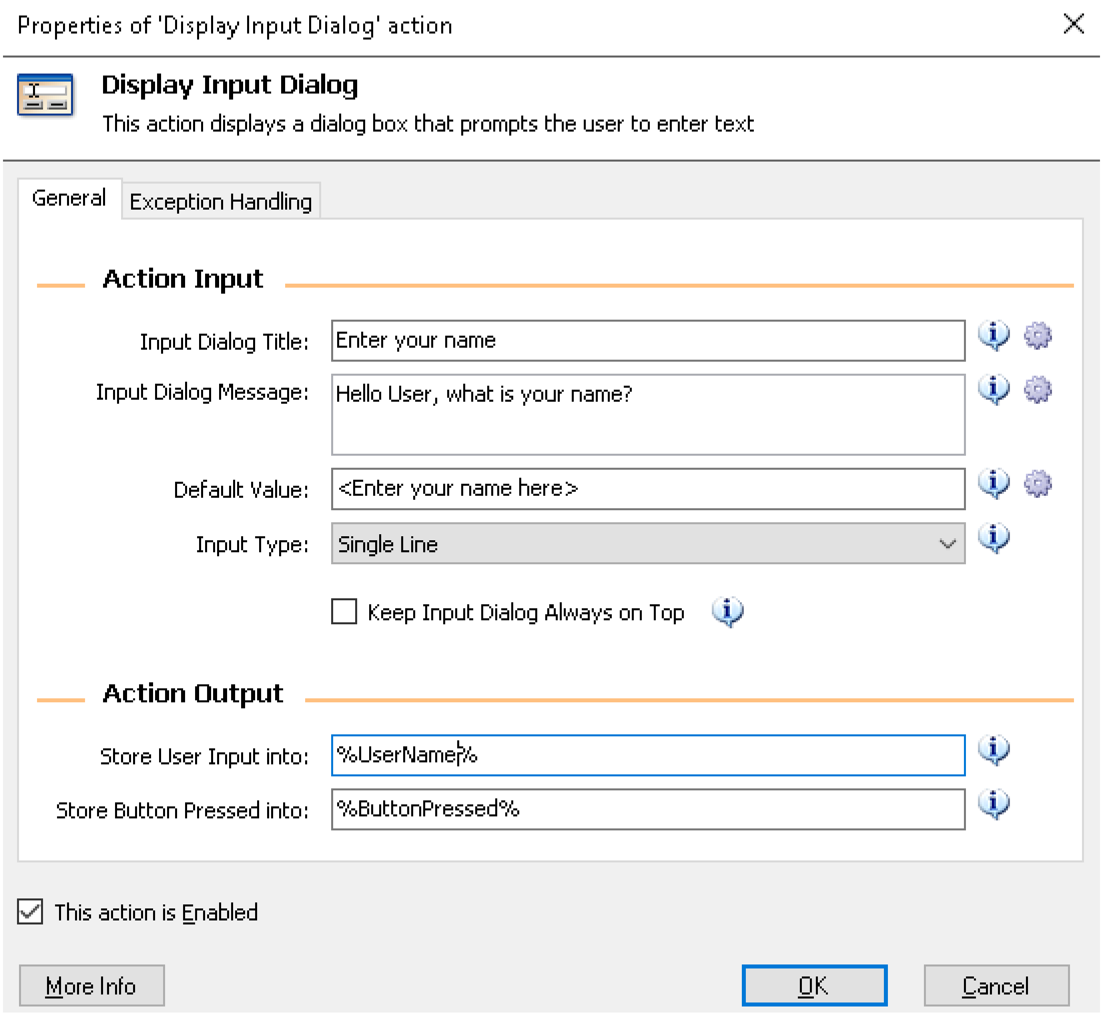
1. Input Dialog Title - what you want to show at the top of the Box, for example "Enter Name"

2. Input Dialog Message - the text or question you want to show in the box, for example "Hello user, what is your name?"

3. Default Value - do you want to have a default setting, or an example like "<Enter Name Here>"

4. Input Type - how do you want their input formatted? This is a drop-down menu, so choose whichever seems most appropriate to the information.

Notice that all of these fields require some information that you currently have - what you want to write, how you will format, etc. This is Input - from you, now. Notice that the Action will require input from the user when the Process is running, but that is not Action Input here - only your choices now are Action Input.



Properties of 'Display Input Dialog' action

Display Input Dialog

This action displays a dialog box that prompts the user to enter text

Action Input

Input Dialog Title: Enter your name

Input Dialog Message: Hello User, what is your name?

Default Value: <Enter your name here>

Input Type: Single Line

□ Keep Input Dialog Always on Top

Action Output

Store User Input into: %UserName%

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled

Also notice that the Action Output is information stored as Variables. The Output is determined by the Action as the Process is running and is used as Input in later Actions - this is the definition in WinAutomation of a Variable: a 'container' used to carry values from one Action to another.

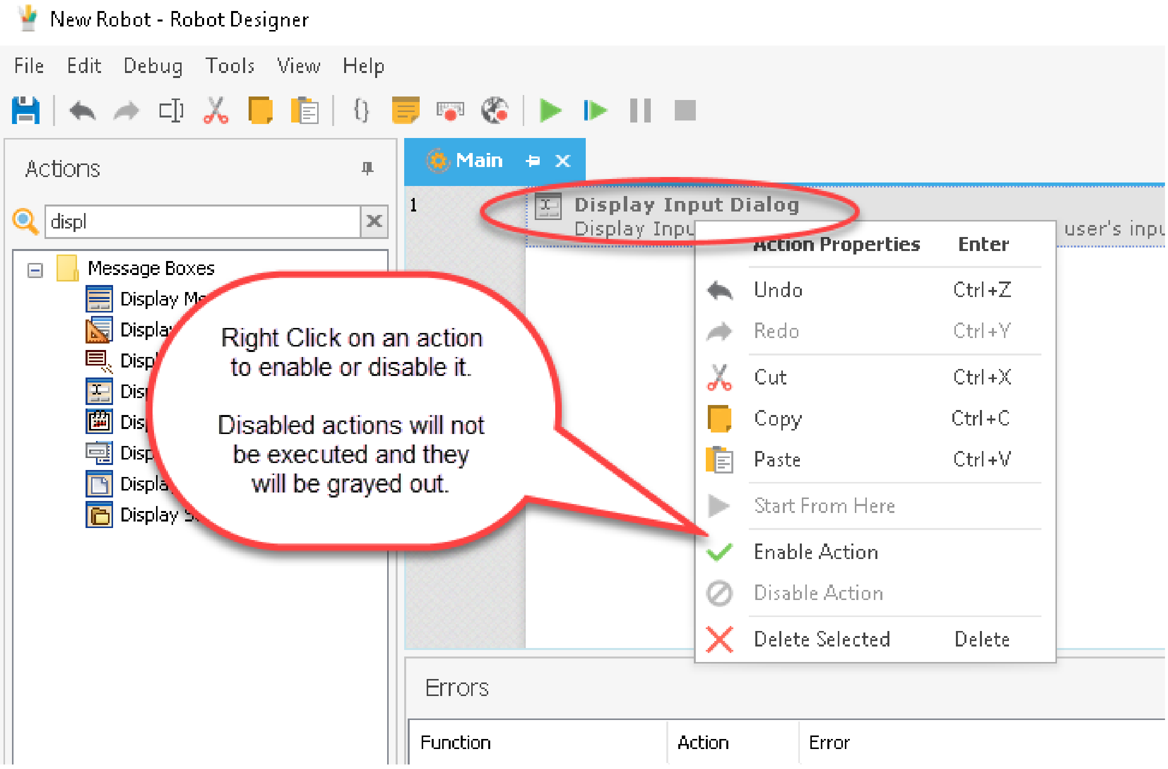
Choose Variable names that mean something to you, so you can easily remember them later. Also, read about Variable Types 286 so you are clear with your use later. Once you have defined Variables through Output, you can browse them using the gear Icon to use them as input in a later Action. In this case, we stored the text entered by the user (which is supposed to be its name) in "%UserName%" and the Button pressed into "%ButtonPressed%".

3.4.14 Enable/Disable Actions

You can Disable or Enable Actions by right-clicking on the Action and select "Disable Action" or "Enable Action".

This allows you to remove an Action from a Process without erasing it and having to re-type everything if you want to use it again later. During execution, the disabled actions will simply be ignored as if there were not part of the logic at all.

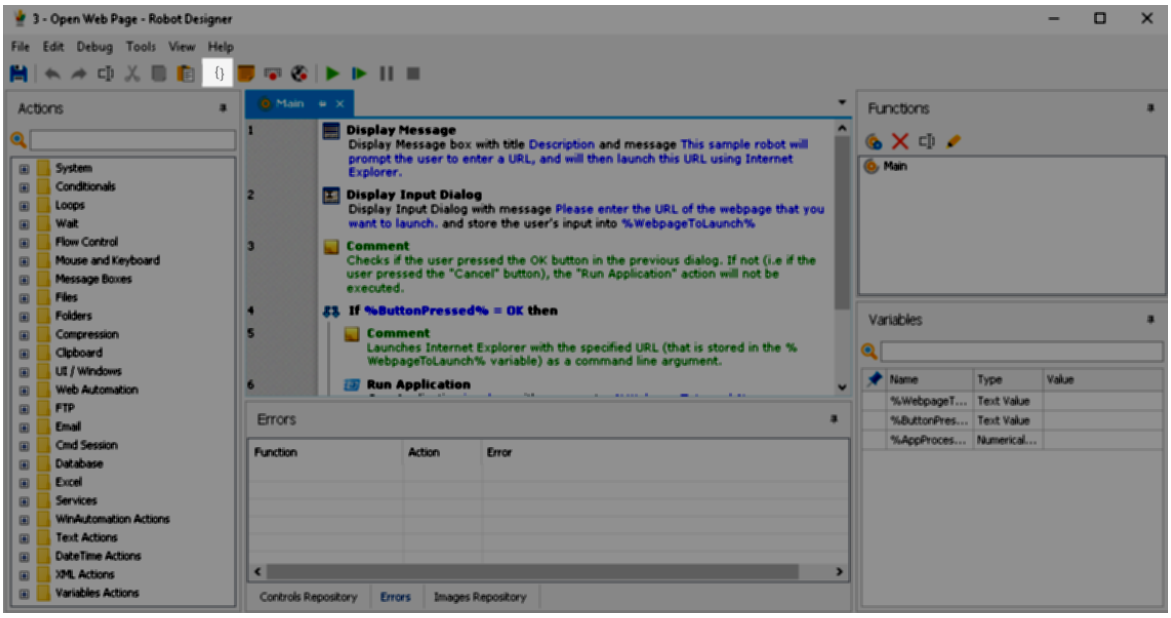
Often, this will be used to test different versions of a Process to see what works best and has the desired results. You could also suspend usage of a part of a Process while something has changed.


Right Click on an action to enable or disable it.

Disabled actions will not be executed and they will be grayed out.

3.4.15 Organize your Actions with Regions

In order to organize the actions in your Process and make long Processes or Functions more manageable you can use the Regions feature of the Process Designer.



1 **Display Message**
Display Message box with title Description and message This sample robot will prompt the user to enter a URL, and will then launch this URL using Internet Explorer.

2 **Display Input Dialog**
Display Input Dialog with message Please enter the URL of the webpage that you want to launch. and store the user's input into %WebpageToLaunch%

3 **Comment**
Checks if the user pressed the OK button in the previous dialog. If not (i.e if the user pressed the "Cancel" button), the "Run Application" action will not be executed.

4 **If %ButtonPressed% = OK then**

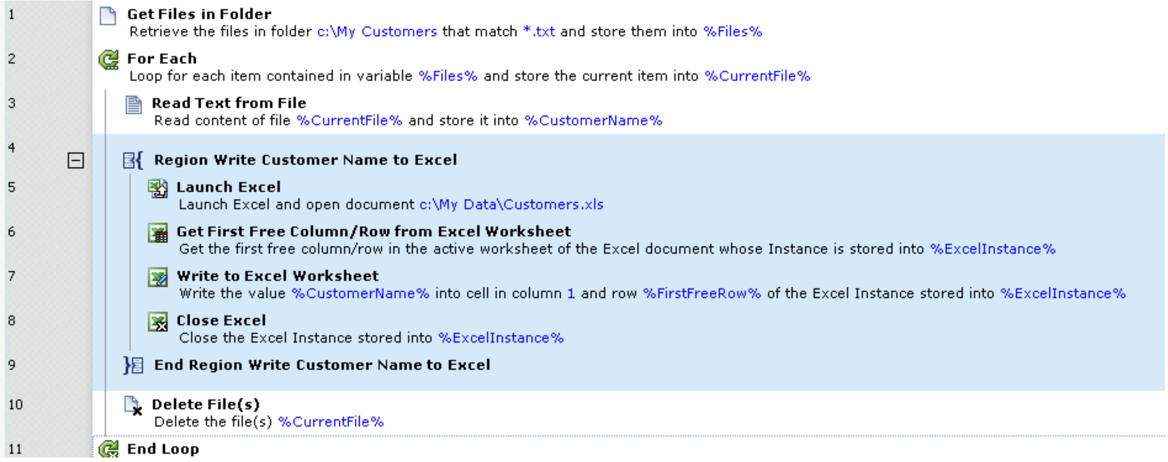
5 **Comment**
Launches Internet Explorer with the specified URL (that is stored in the % WebpageToLaunch% variable) as a command line argument.

6 **Run Application**

Name	Type	Value
%WebpageT...	Text Value	
%ButtonPres...	Text Value	
%AppProces...	Numerical...	

The Regions feature consists of two actions the "Start Region" and "End Region" action.

These actions two actions have absolutely *NO IMPACT* in the behavior of the Process and their only task is to mark the beginning and the end of a logically separate block of actions.



1 **Get Files in Folder**
Retrieve the files in folder c:\My Customers that match *.txt and store them into %Files%

2 **For Each**
Loop for each item contained in variable %Files% and store the current item into %CurrentFile%

3 **Read Text from File**
Read content of file %CurrentFile% and store it into %CustomerName%

4 **Region Write Customer Name to Excel**

5 **Launch Excel**
Launch Excel and open document c:\My Data\Customers.xls

6 **Get First Free Column/Row from Excel Worksheet**
Get the first free column/row in the active worksheet of the Excel document whose Instance is stored into %ExcelInstance%

7 **Write to Excel Worksheet**
Write the value %CustomerName% into cell in column 1 and row %FirstFreeRow% of the Excel Instance stored into %ExcelInstance%

8 **Close Excel**
Close the Excel Instance stored into %ExcelInstance%

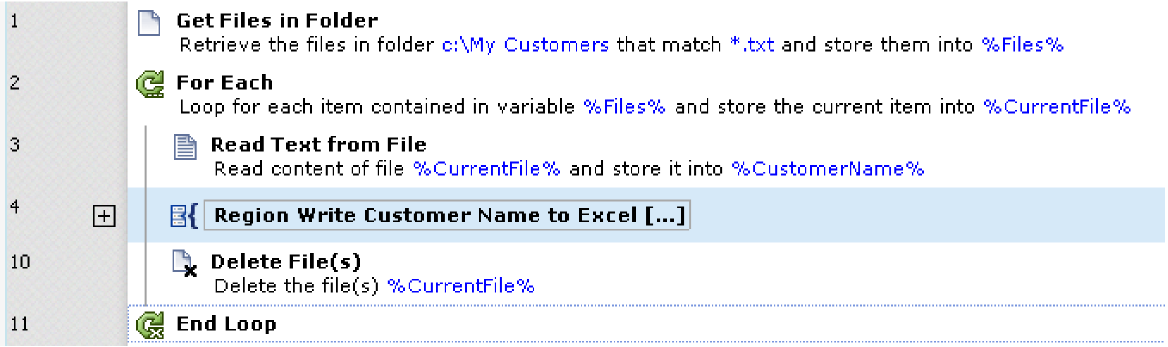
9 **End Region Write Customer Name to Excel**

10 **Delete File(s)**
Delete the file(s) %CurrentFile%

11 **End Loop**

An expanded Region within a Process

Each Region (as defined by the two aforementioned actions) may have a name to describe the block of actions contained within. You can also collapse a region by clicking on the [-] icon on the left of the "Start Region" action. This way the actions of the region will not be visible, allowing you to review your Process at a higher level of abstraction.



1 **Get Files in Folder**
Retrieve the files in folder c:\My Customers that match *.txt and store them into %Files%

2 **For Each**
Loop for each item contained in variable %Files% and store the current item into %CurrentFile%

3 **Read Text from File**
Read content of file %CurrentFile% and store it into %CustomerName%

4 ⊞ **Region Write Customer Name to Excel [...]**

10 **Delete File(s)**
Delete the file(s) %CurrentFile%

11 **End Loop**

The same Region in collapsed state

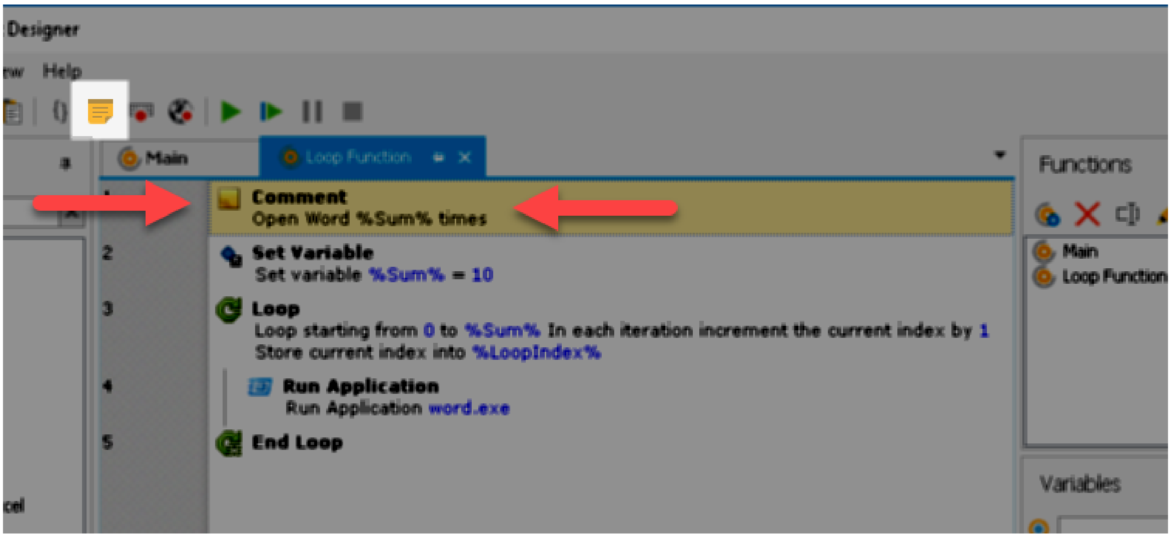
To create a new Region you can click on the "Region" button {} on the toolbar. If no action is selected this will insert the "Start Region" and "End Region" actions at the end of the Process. If one or more actions are selected the "Start Region" action will be inserted right before the first selected action and the "End Region" will be inserted right after the last selected action enclosing the selected actions into the newly created region.

Regions have a different background color than the rest of the Process. The background color of the regions is customizable and can be changed through the Process Designer Options 196 dialog.

Regions can also be nested within other regions to represent submodules of your Process within other modules. In this case the background color of each nested region becomes automatically a bit darker than the background color of the parent region.

3.4.16 Adding Comments

The yellow sticky-pad button in the Toolbar is used for adding comments. A comment is a special kind of Action in the Process that is used for documentation and for adding explanatory notes between the actions.



1 **Comment**
Open Word %Sum% times

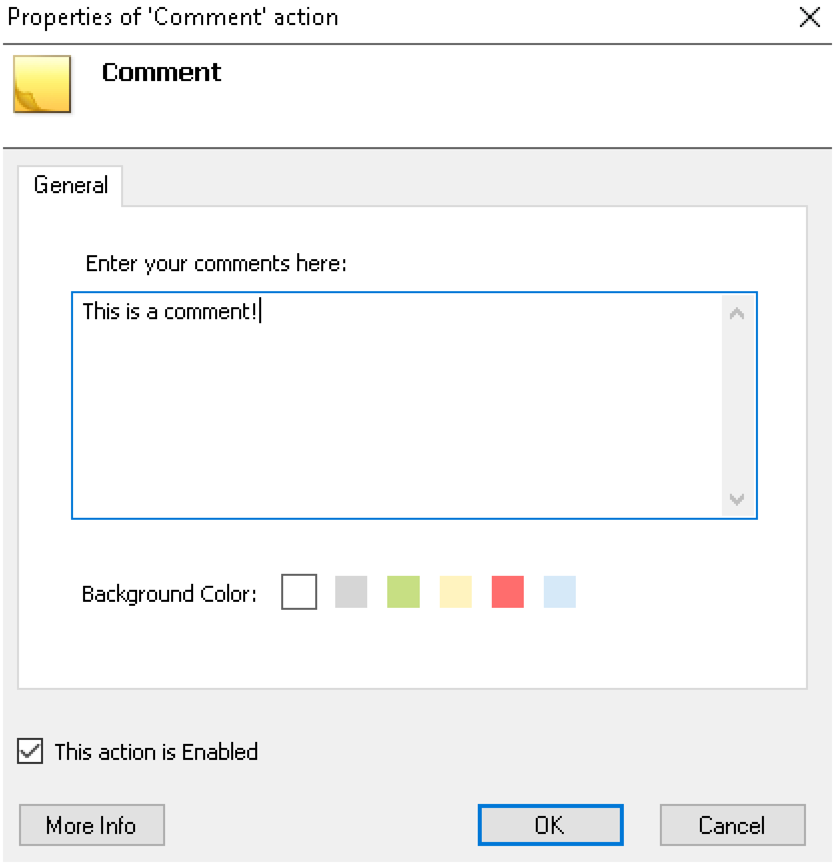
2 **Set Variable**
Set variable %Sum% = 10

3 **Loop**
Loop starting from 0 to %Sum% In each iteration increment the current index by 1
Store current index into %LoopIndex%

4 **Run Application**
Run Application word.exe

5 **End Loop**

The background color of each comment can be set in different color as a visual clue for differentiating sections of the Process and giving more emphasis to some comments that others.



Enter your comments here:

This is a comment!

Background Color: □ ⬜ 🟩 🟨 🟥 🟦

☑ This action is Enabled

Neither adding nor deleting Comments has any effect on the behavior of the Process.

3.4.17 The Variables Manager Window

You may access the Variables Manager through Tools -> Variables Manager while in the Process Designer. This is where you can find a list of all Variables used in the Process. If you want to define a new Variable and assign an initial value to it, you can do it here, by pressing the Add New Variable button.

Keep in mind that an alternative way to declare a new variable is to simply enter a variable name into an Output property of any Action of the Process. If this variable name does not refer to an existing variable, a new variable with that name will be created automatically. A variable created this way can not be edited or deleted through the Variables Manager Window

Once you open the Variables Manager Window, you will see two tabs - User Defined Variables (ones you set) and Trigger Variables (predetermined to manage Triggers, these will be empty unless you use that Trigger to start the Process). The Trigger Variable tab contains only the names of the Variable and a description. The User Defined Variables have five columns:

1. Name - the name assigned to the Variable, such as "%UserName%"

2. Defined in Function - The function name where the Action that defined this variable resides.

3. Action #. The number of the Action (in the Process Designer Window) that defined this Variable. If it was created in the Variables Manager, this field will be blank.

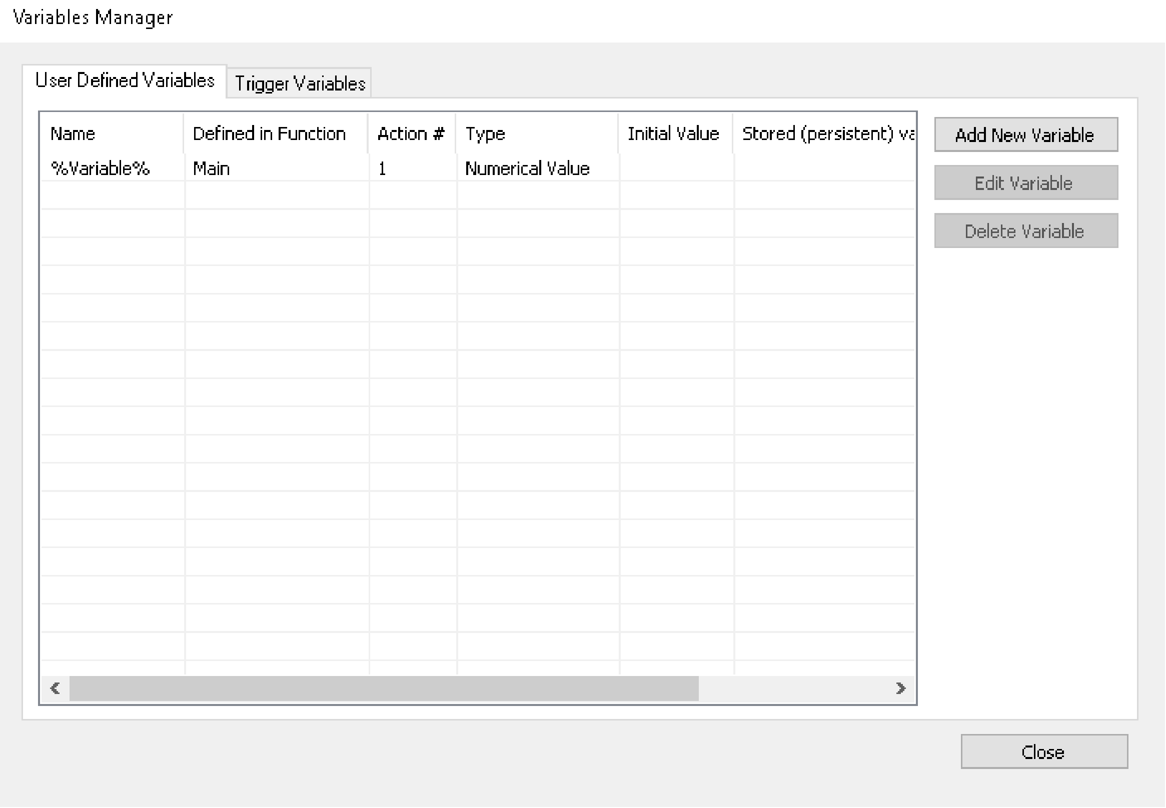
4. Type - the type of the Variable: text, numerical, DateTime, file, etc. See more under Data Types 286.

5. Initial Value - this will be empty unless you assign a value to the Variable by Adding or Editing it in the Variables Manager.

6. Stored (persistent) value. The value stored if the variable is persistent.

7. Description - this will be empty unless you assign a value to the Variable by Adding or Editing it in the Variables Manager.

8. Persistent 293 - Yes/No depending on whether the variable is persistent or not.


Variables Manager

User Defined Variables | Trigger Variables

Name	Defined in Function	Action #	Type	Initial Value	Stored (persistent) va
%Variable%	Main	1	Numerical Value		

The Variables Manager Window

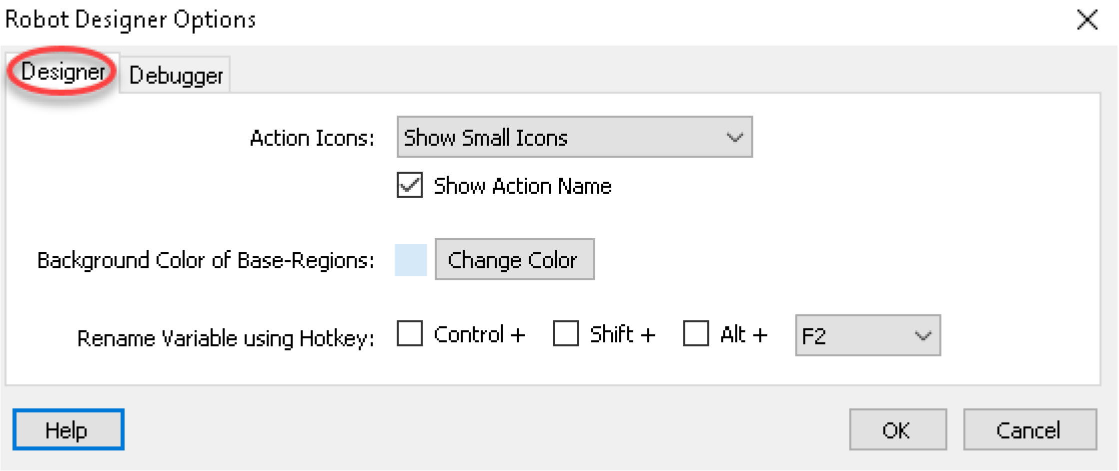
3.4.18 Process Designer Options

Open the Options by clicking on Tools menu -> Process Designer Options. There are two tabs here: one for the Designer Options and one for the Debugger Options.

In the first tab you can specify how the actions will be displayed in the Process Designer. You can choose whether the action icon will be displayed as well as the size of the icon. You can also specify whether you want to the action name to be displayed for each action of your Process on top of the action's description.

Additionally, in this tab you can also set a color for the background of the actions that are contained within a region 192. Nested regions will get an increasingly darker version of this color to distinguish themselves from the parent regions they are contained within.

You have the option to rename a Variable using a Hotkey of your choice.



Action Icons: Show Small Icons

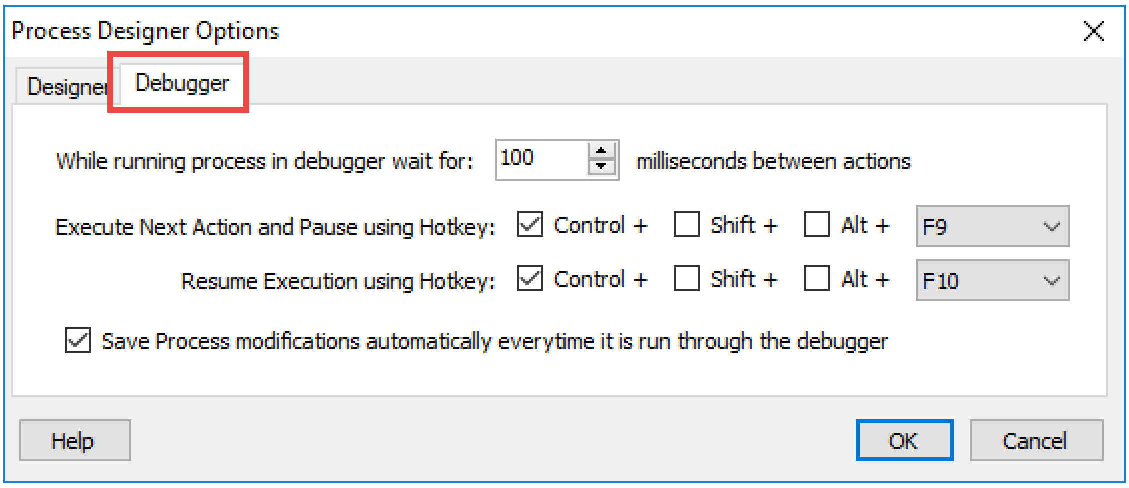
☑ Show Action Name

Background Color of Base-Regions:

Rename Variable using Hotkey: □ Control + □ Shift + □ Alt + F2

Process Designer Options > Designer tab

The Debugger Option allows you to set a delay time between the execution of each Action. This is an **artificial delay**, that is useful if you want to follow the actions visually as they execute. **This delay is taken into account only when you run the Process through the Designer**, when you run a Process **through the Console** then **the Process runs at full speed**.



While running process in debugger wait for: 100 milliseconds between actions

Execute Next Action and Pause using Hotkey: ☑ Control + □ Shift + □ Alt + F9

Resume Execution using Hotkey: ☑ Control + □ Shift + □ Alt + F10

☑ Save Process modifications automatically everytime it is run through the debugger

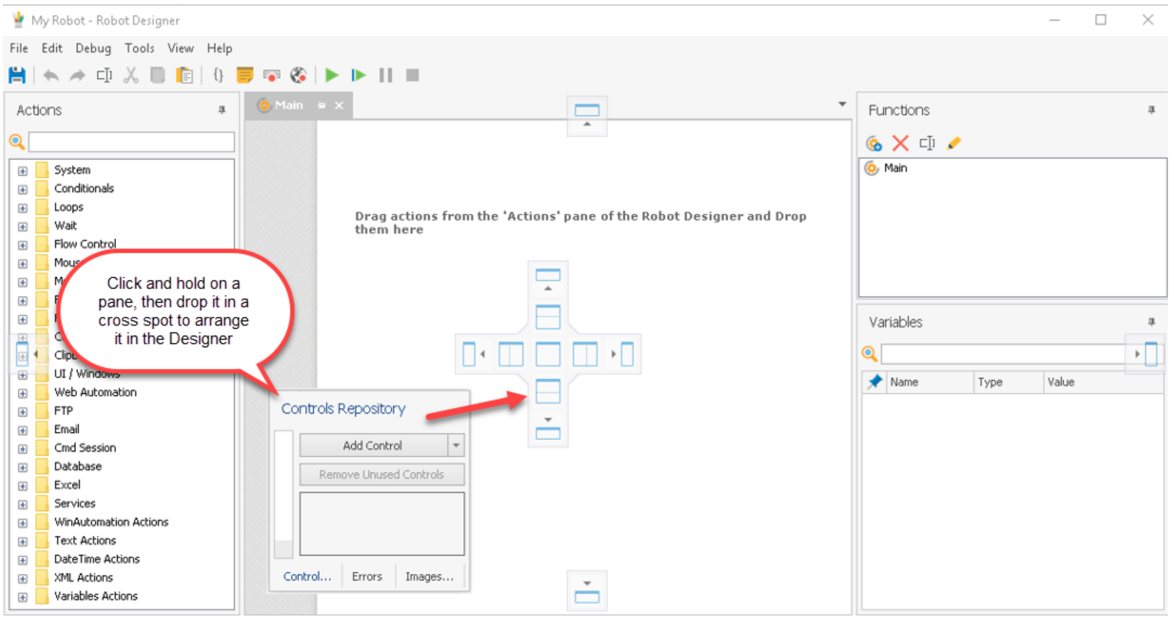
Process Designer Options > Debugger tab

The second setting is the designated hotkey for performing Step by step execution 201 and Resuming the execution while debugging your Process. The hotkeys specified here will execute the next action when the Process is paused in the Debugger or Resuming the execution. This is useful especially for Processes that control the mouse where it is inconvenient to use the mouse in order to click the "Execute next action" button on the toolbar.

The last option lets you specify whether you want any modifications of the Process to be saved automatically every time you run it through the debugger.

3.4.19 Process Designer Custom Layout

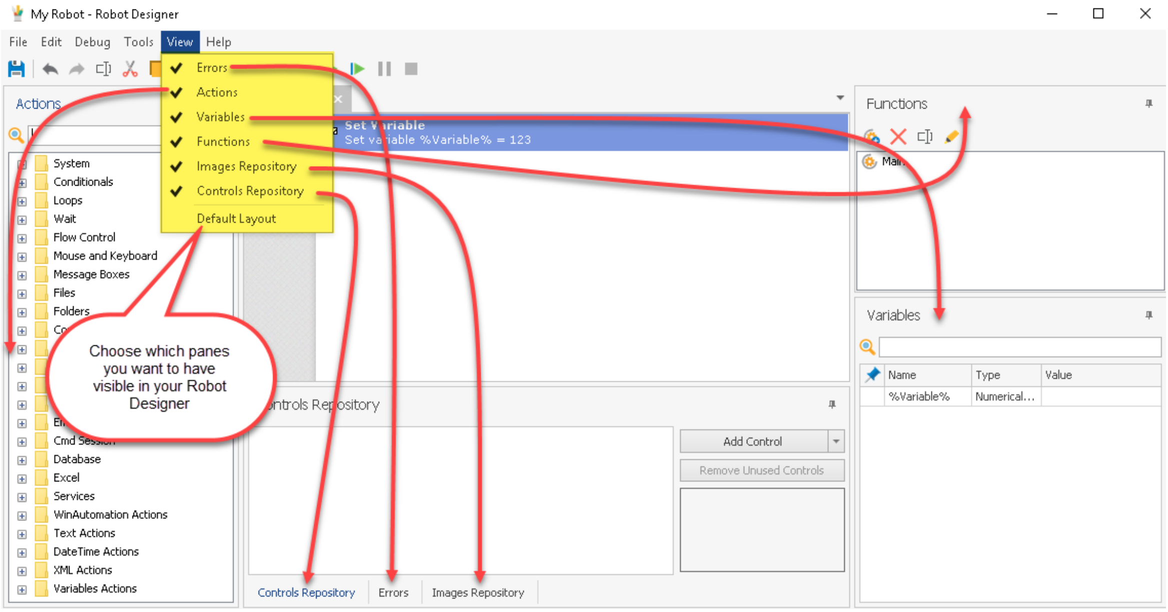
You have the ability to customize the panes' location in the Process Designer. You can click and hold on a pane and you can drop it in a location on the cross in order to pin it in a specific position.



Drag actions from the 'Actions' pane of the Robot Designer and Drop them here

Click and hold on a pane, then drop it in a cross spot to arrange it in the Designer

You can also select to View all or less of the panes in the Process Designer, by clicking on the 'View' menu option and tick/untick the panes that you want to have visible on your designer.



Set Variable
Set variable %Variable% = 123

Name	Type	Value
%Variable%	Numerical...	

Choose which panes you want to have visible in your Robot Designer

3.5 The Debugger

3.5.1 Run/Stop/Pause a Process from Process Designer

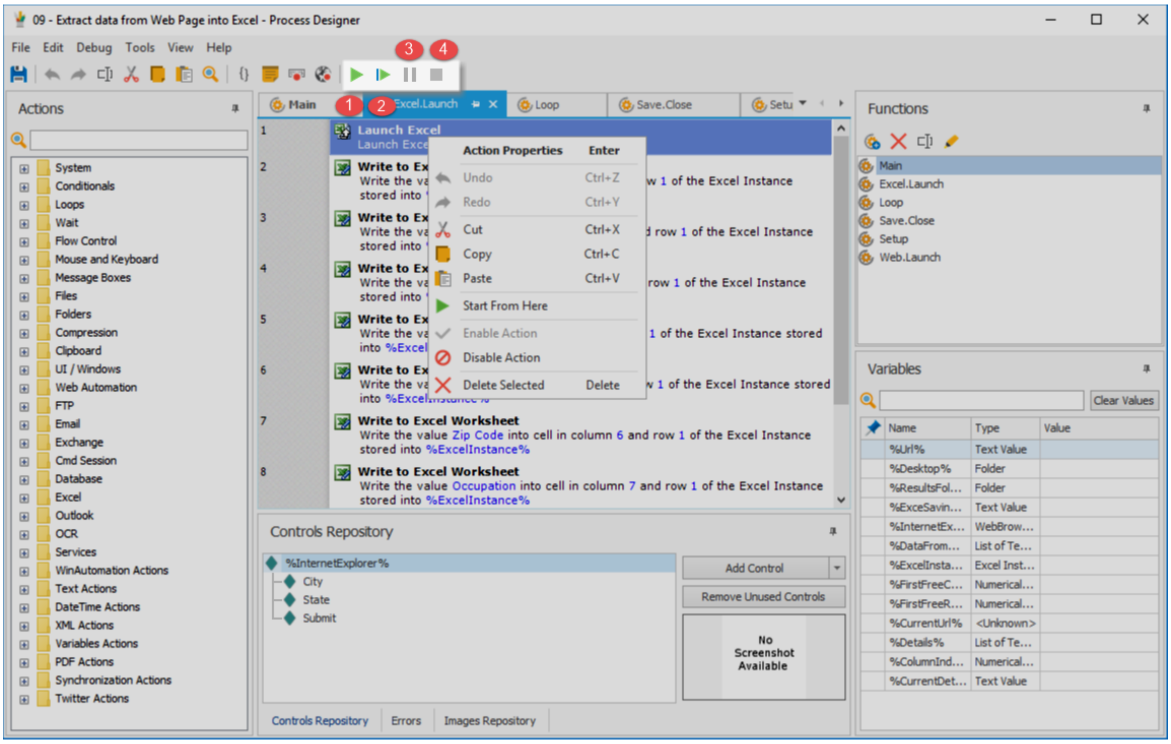
Running a Process in the Process Designer is considered **Debugging**.

1. You can run a Process by clicking on the Run button ▶ .

2. You can execute a Process action by action by clicking on the button next to "Start" ▶.

3. You can pause a Process while it is running by clicking on the Pause button ⏸.

4. You can stop a Process while it is running by clicking on the Stop button ■.



1 **Launch Excel**
Launch Exce

2 **Write to Ex**
Write the va … w 1 of the Excel Instance
stored into

3 **Write to Ex**
Write the va … d row 1 of the Excel Instance
stored into

4 **Write to Ex**
Write the va … row 1 of the Excel Instance
stored into

5 **Write to Ex**
Write the va … 1 of the Excel Instance stored
into %Excel

6 **Write to Ex**
Write the va … w 1 of the Excel Instance stored
into %ExcelInstance%

7 **Write to Excel Worksheet**
Write the value Zip Code into cell in column 6 and row 1 of the Excel Instance stored into %ExcelInstance%

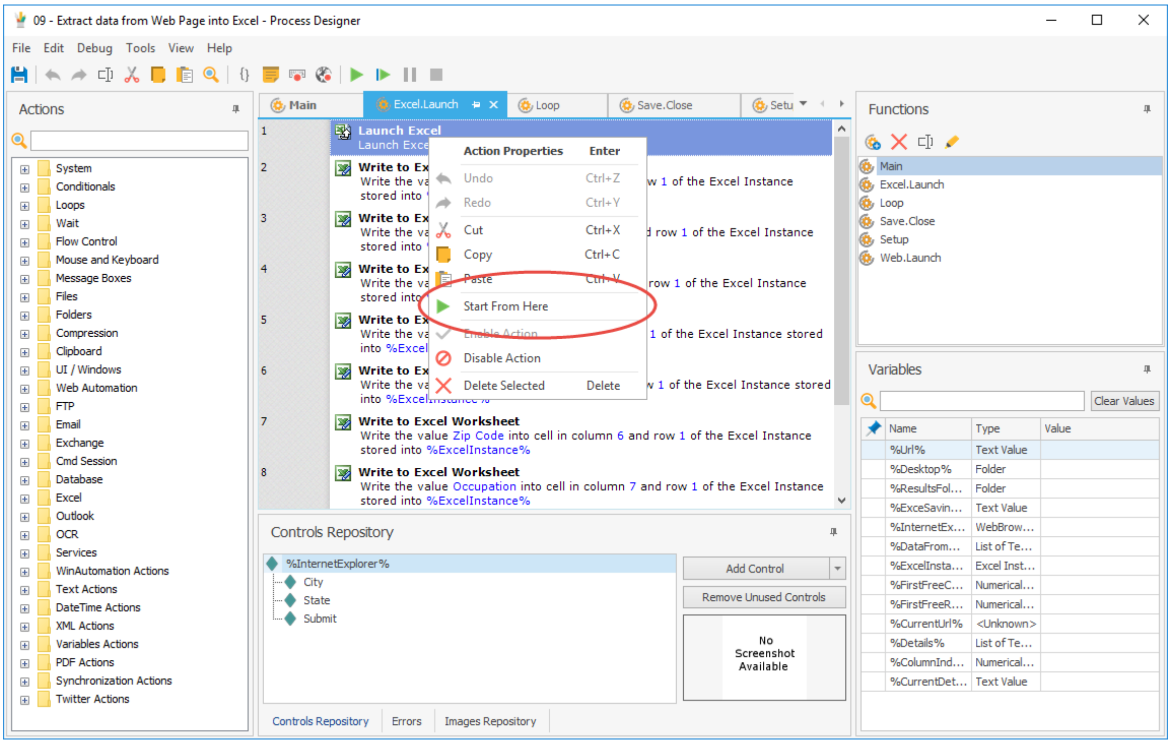
8 **Write to Excel Worksheet**
Write the value Occupation into cell in column 7 and row 1 of the Excel Instance stored into %ExcelInstance%

Name	Type	Value
%Url%	Text Value	
%Desktop%	Folder	
%ResultsFol...	Folder	
%ExceSavin...	Text Value	
%InternetEx...	WebBrow...	
%DataFrom...	List of Te...	
%ExcelInsta...	Excel Inst...	
%FirstFreeC...	Numerical...	
%FirstFreeR...	Numerical...	
%CurrentUrl%	<Unknown>	
%Details%	List of Te...	
%ColumnInd...	Numerical...	
%CurrentDet...	Text Value	

Start-Pause-Stop a Process

Since Debugging is expected to involve running the program, making a change, running it again, etc, no Logs are recorded when you run the Process from the Process Designer. In the Process Designer Window, you can also see error icons to the left of any Action that has errors "✖" and therefore cannot be run, and to the right of any property field in the Action Property Dialog Box "❗" to help you pinpoint errors to Debug the Process.

If you want to start running the Process from a specific action: You can right-click on this action and select "Start from Here" on the context menu that will appear. This will start the debugging from the selected action as if it was the first action of the Process, ignoring all actions above it. Please note that this may lead to unexpected results, as the ignored actions will not populate the variables that may be needed by the executed actions. Keep in mind that you will not be able to start running a Process from an action within a Loop, as it makes sense that this would not be applicable to the logic of the script in terms of what we are looping through.

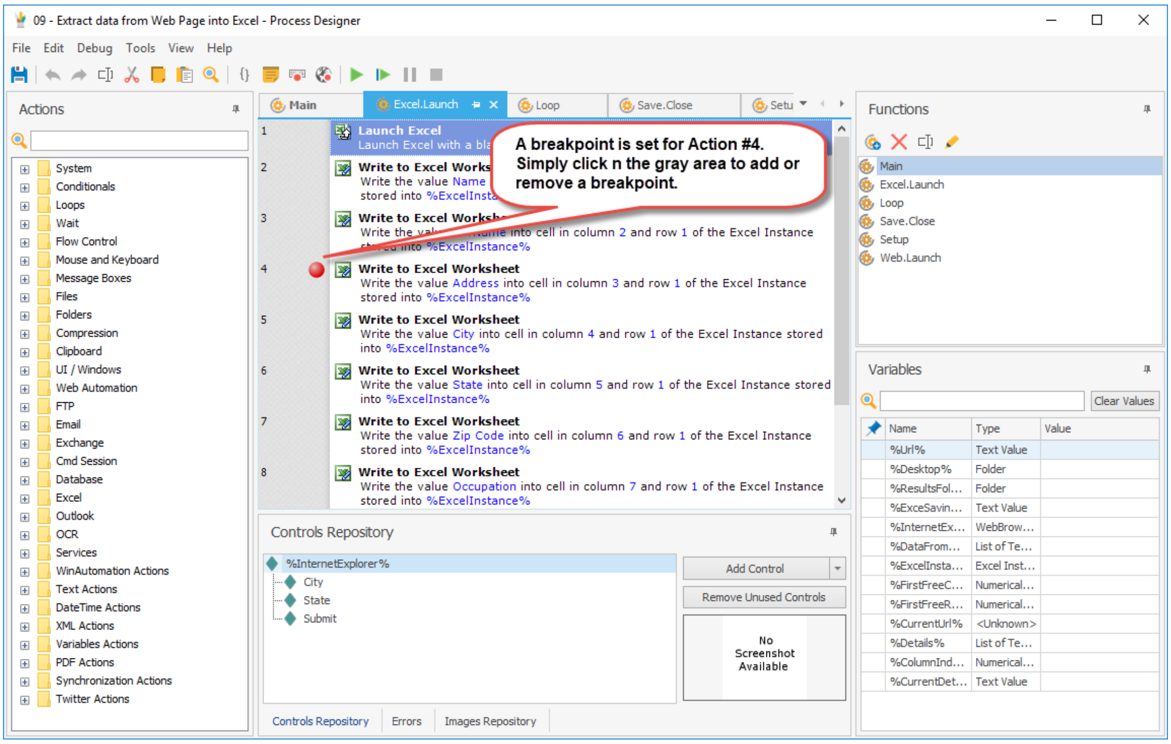


"Start from here" option

3.5.2 Adding Breakpoints

You can add **breakpoints** to stop the Process at any Action. Simply click in the gray column to the left of the Action you wish to pause at.

A red dot "●" will appear to mark the breakpoint, and the Process will pause at the beginning of that Action. Pressing the Run button will continue the Process, though if the breakpoint is in a Loop, it will pause again when the process gets to that Action. Since there is an Icon to Execute Next Action 201, you can add a breakpoint at the first Action of a Process and then use the Execute Next Action button to move through the Process manually, one Action at a time.



A breakpoint is set for Action #4. Simply click n the gray area to add or remove a breakpoint.

1 Launch Excel
Launch Excel with a bla

2 Write to Excel Works
Write the value Name
stored into %ExcelInsta

3 Write to Excel Worksh
Write the val Name into cell in column 2 and row 1 of the Excel Instance
into %ExcelInstance%

4 Write to Excel Worksheet
Write the value Address into cell in column 3 and row 1 of the Excel Instance stored into %ExcelInstance%

5 Write to Excel Worksheet
Write the value City into cell in column 4 and row 1 of the Excel Instance stored into %ExcelInstance%

6 Write to Excel Worksheet
Write the value State into cell in column 5 and row 1 of the Excel Instance stored into %ExcelInstance%

7 Write to Excel Worksheet
Write the value Zip Code into cell in column 6 and row 1 of the Excel Instance stored into %ExcelInstance%

8 Write to Excel Worksheet
Write the value Occupation into cell in column 7 and row 1 of the Excel Instance stored into %ExcelInstance%

Name	Type	Value
%Url%	Text Value	
%Desktop%	Folder	
%ResultsFol…	Folder	
%ExceSavin…	Text Value	
%InternetEx…	WebBrow…	
%DataFrom…	List of Te…	
%ExcelInsta…	Excel Inst…	
%FirstFreeC…	Numerical…	
%FirstFreeR…	Numerical…	
%CurrentUrl%	<Unknown>	
%Details%	List of Te…	
%ColumnInd…	Numerical…	
%CurrentDet…	Text Value	

Breakpoints are considered, only when you are running the Process through the Process Designer (debugging). When you run a Process through the Console all breakpoints set in the Process are totally ignored.

3.5.3 Execute step by step

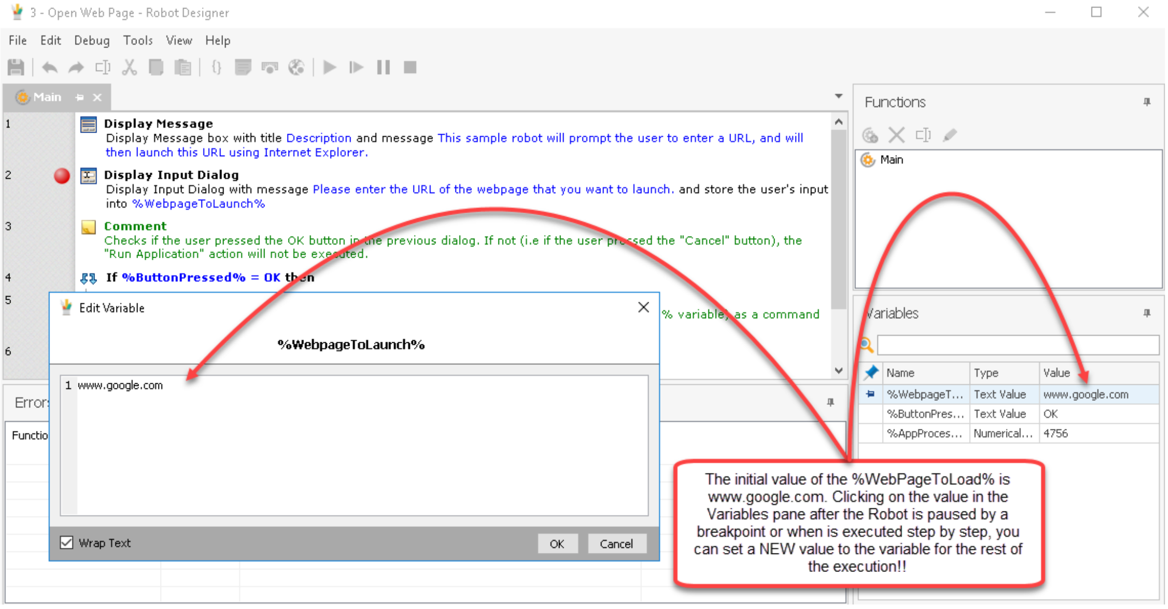
You can move through a Process one step at a time by clicking Debug -> Execute Next Action, or by clicking on the Execute Next Action button ▶ on the toolbar. This will start the Process, but pause before the first Action. You can then click Execute Next Action to move through the Process. By using the Variables Pane 164, you can watch the variable values as they change.

Additionally, you can use this button after a Process being stopped by a breakpoint to execute only the subsequent action instead of pressing the Start button that will resume the execution of the Process.

Variable inspection during execution:

You can examine a Process at a particular Action step by adding a breakpoint at that step as mentioned above, or by moving through the Process manually with the Execute Next Action Icon. Once you have stopped at the Action you want, you can view the Variables through the Variables Pane 164 of the Process Designer Window.

You are able to see what is the last value stored in each variable once the execution is completed. Also, once the execution pauses on a breakpoint you have the option to change a variable's value dynamically through the Variables Visualizer Window 167, set a different one and resume the execution to see how the script will react to that value.



1 **Display Message**
Display Message box with title Description and message This sample robot will prompt the user to enter a URL, and will then launch this URL using Internet Explorer.

2 **Display Input Dialog**
Display Input Dialog with message Please enter the URL of the webpage that you want to launch. and store the user's input into %WebpageToLaunch%

3 **Comment**
Checks if the user pressed the OK button in the previous dialog. If not (i.e if the user pressed the "Cancel" button), the "Run Application" action will not be executed.

4 **If %ButtonPressed% = OK then**

5 % variable, as a command

6

%WebpageToLaunch%

1 www.google.com

Variables

Name	Type	Value
%WebpageT...	Text Value	www.google.com
%ButtonPres...	Text Value	OK
%AppProces...	Numerical...	4756

The initial value of the %WebPageToLoad% is www.google.com. Clicking on the value in the Variables pane after the Robot is paused by a breakpoint or when is executed step by step, you can set a NEW value to the variable for the rest of the execution!!

As a last note, instead of clicking on the button you may as well press the designated Hotkey. This is especially useful when debugging Processes that control the mouse and you don't want to use the mouse at the same time to click on the button. The default key for executing the next action is F9, but you can change this through the Process Designer Options 196 dialog.

3.5.4 Full Error View

From WinAutomation version and on, when running a Process from the Process Designer, then the only thing that the user was able to see was the error message. The Additional details of the error was only available in the Logs, only when running the Process from the WinAutomation Console.

Now, when a Process throws an exception, then you can go to the Errors pane at the bottom of the Designer, and double click on the error. Once you do so, the Error message window will popup. This window will have information about:

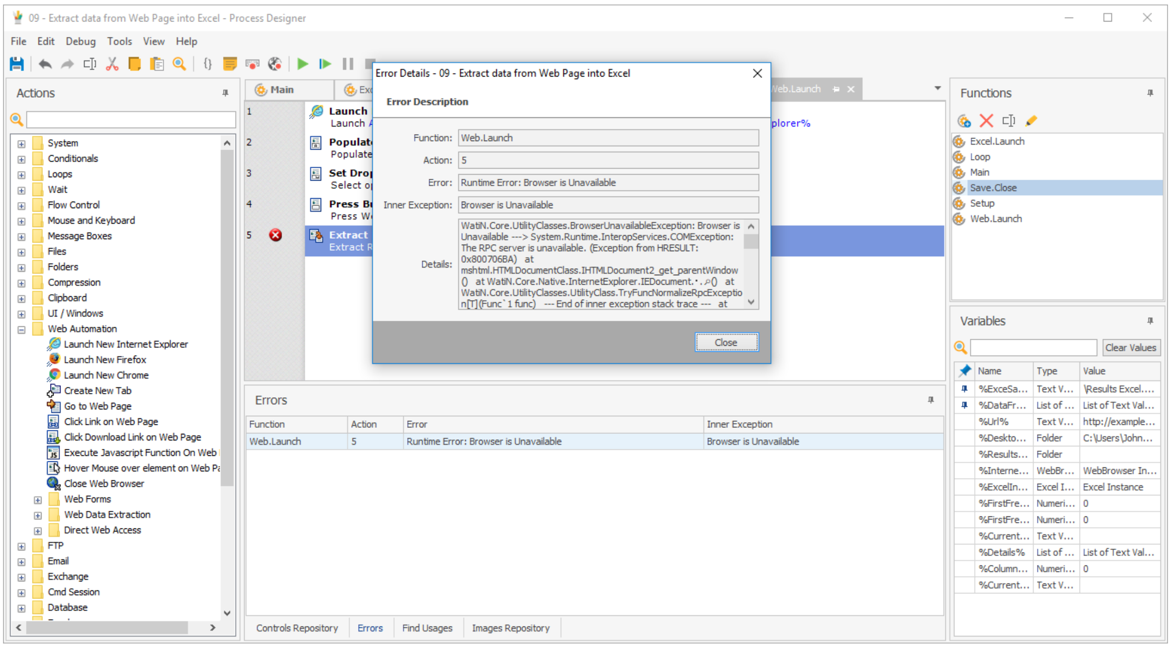
1. The Funtion that the error took place

2. The action number in the Function that the Error took place

3. The Error message per se

4. The Inner Exception of the Error

5. The additional details of the Error. These details are very helpful when debugging as they are giving a clear message to the user about why the error happened and what is it's real cause.



Error Details - 09 - Extract data from Web Page into Excel

Error Description

Function: Web.Launch

Action: 5

Error: Runtime Error: Browser is Unavailable

Inner Exception: Browser is Unavailable

Details: WatiN.Core.UtilityClasses.BrowserUnavailableException: Browser is Unavailable ---> System.Runtime.InteropServices.COMException: The RPC server is unavailable. (Exception from HRESULT: 0x800706BA) at mshtml.HTMLDocumentClass.IHTMLDocument2_get_parentWindow() at WatiN.Core.Native.InternetExplorer.IEDocument.•.⌕() at WatiN.Core.UtilityClasses.UtilityClass.TryFuncNormalizeRpcException[T](Func`1 func) --- End of inner exception stack trace --- at

Errors

Function	Action	Error	Inner Exception
Web.Launch	5	Runtime Error: Browser is Unavailable	Browser is Unavailable

Variables

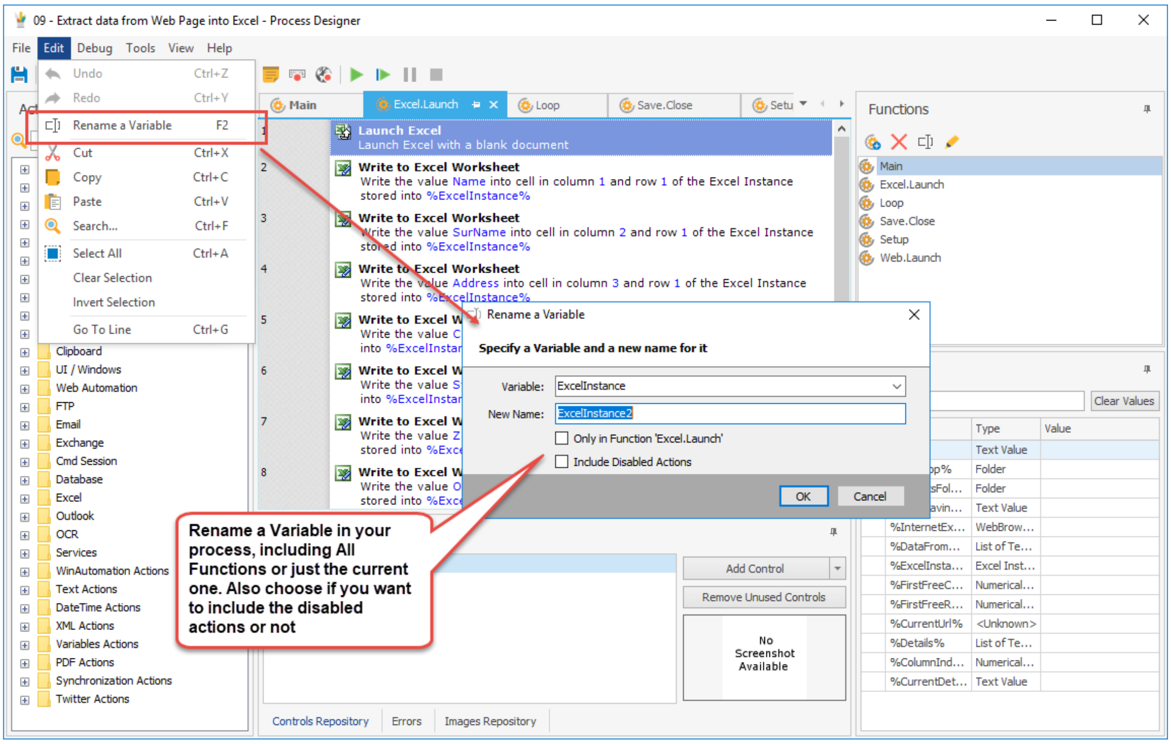
	Name	Type	Value
	%ExceSa…	Text V…	\Results Excel.…
	%DataFr…	List of …	List of Text Val…
	%Url%	Text V…	http://example…
	%Deskto…	Folder	C:\Users\John…
	%Results…	Folder	
	%Interne…	WebBr…	WebBrowser In…
	%ExcelIn…	Excel I…	Excel Instance
	%FirstFre…	Numeri…	0
	%FirstFre…	Numeri…	0
	%Current…	Text V…	
	%Details%	List of …	List of Text Val…
	%Column…	Numeri…	0
	%Current…	Text V…	

Full Error View through the Designer

3.5.5 Rename a Variable

You have the option to massively Rename a variable in your Process while in the Process Designer by clicking on Edit > Rename a Variable or by clicking on the Rename Variables icon "⌶" in the toolbar.

In the window that pops up you can select to rename the variable on in the 'Main' function and also include disabled actions.



Rename a Variable

Specify a Variable and a new name for it

Variable: ExcelInstance

New Name: ExcelInstance2

☐ Only in Function 'Excel.Launch'

☐ Include Disabled Actions

OK Cancel

Rename a Variable in your process, including All Functions or just the current one. Also choose if you want to include the disabled actions or not

3.6 The Macro Recorder

3.6.1 Simulating the activity of a user

A user (like YOU) inputs his/her commands and data through the Mouse and Keyboard. Through Mouse, Keyboard and UI Automation Actions, WinAutomation can simulate you (a user). You can create this simulation by choosing Mouse, Keyboard and UI Automation Actions or by using the Macro Recorder - which will automatically generate an appropriate set of Actions that mimic your own, recorded activity.

Remember - since you are creating an Interactive Process 328, WinAutomation cannot simulate a user (and run the Process) when no users are logged on. Here is where the AutoLogin feature of the Professional edition comes handy.

3.6.2 Recording vs Building a Process

In addition to building a Process by combining and configuring Actions, you can also use WinAutomation to simulate a user's activities by controlling the mouse and the keyboard. When you open the Macro Recorder, it records your activities and creates a set of Actions out of it, as a Process.

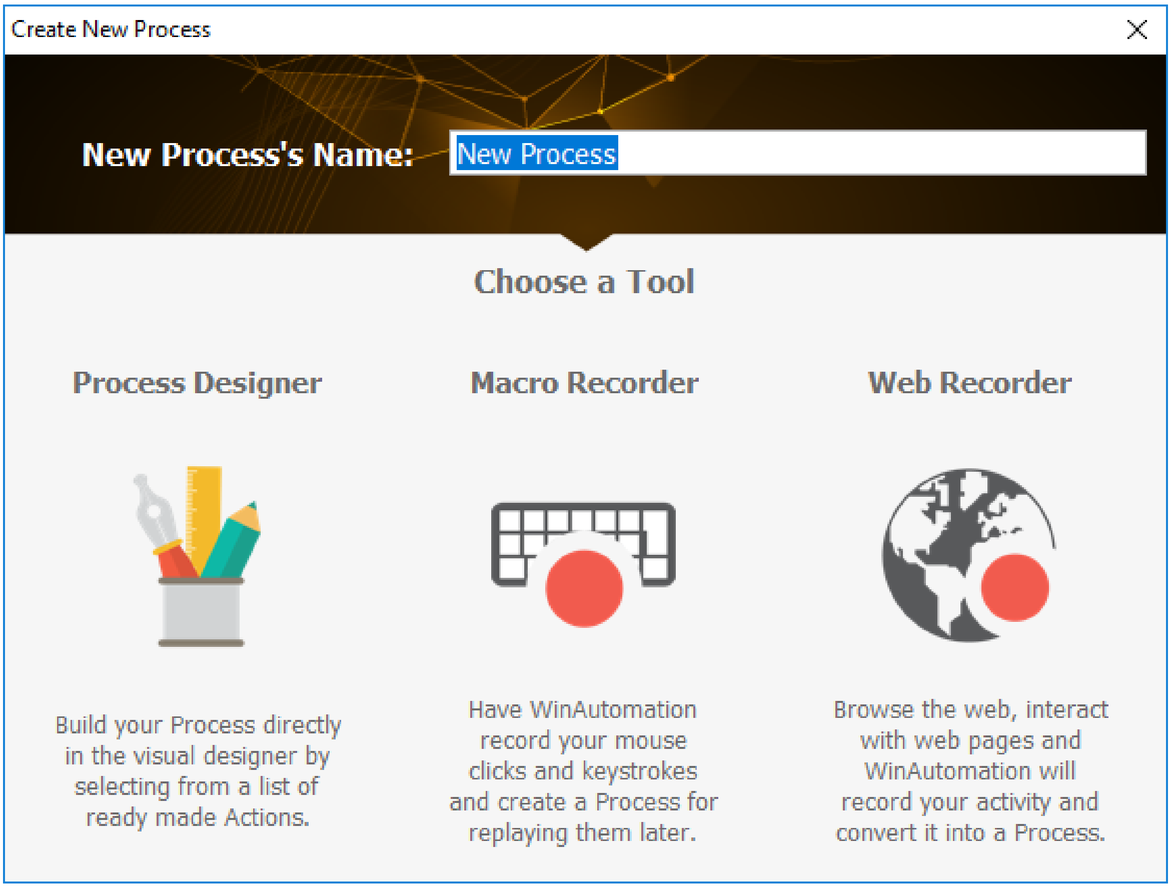
Launch the Macro Recorder and it will record everything you do. When you finish recording, WinAutomation then converts this to a set of Actions for your Process. These can be edited and added to later. If you use the Recorder with a Process that already has Actions, it will add the steps above the highlighted Action or at the bottom if you don't have any highlighted. The Macro Recorder is really just a way to input Actions in an easier interface than writing them all out would be.

Keep in mind that you can use the Macro Recorder to record the backbone of your script. Of course there are tasks that will have no issue running, only by recording them once and not modify any of the actions generated. Still there are cases when the generated script has to be modified to work as intended. For example you might need to add a Loop in the script, or there are redundant actions generated that you should remove. In cases as such we add/remove the appropriate actions from the ones generated from the Recorder and if any error occurs while executing we identify the problem or the error and we try to use alternative actions to cope with the situation and have it run flawlessly.

3.6.3 Starting the Macro Recoder

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

To start the Macro Recorder when you create a Process, after you name the Process, choose option 2: Open Macro Recorder and click OK.



Create New Process

New Process's Name: New Process

Choose a Tool

Process Designer

Build your Process directly in the visual designer by selecting from a list of ready made Actions.

Macro Recorder

Have WinAutomation record your mouse clicks and keystrokes and create a Process for replaying them later.

Web Recorder

Browse the web, interact with web pages and WinAutomation will record your activity and convert it into a Process.

If you have already created the Process, you can open the Macro Recorder in the Process Designer Window (that is, inside the Process you wish to edit) by clicking Tools -> Record Macro or by clicking on the Record Macro button on the toolbar.

3.6.4 Macro Recorder

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

While you can build a Process in WinAutomation by combining and configuring actions from the list of ready made actions in Process Designer, you may find it more efficient to use Macro Recorder to simulate your activities by just controlling the mouse and the keyboard.

Launch the Macro Recorder and perform the activities you want your Process to reproduce. Macro Recorder will record everything you do and when you finish recording it, it will convert this to a set of Actions for your Process. Of course, these can be edited or added to other actions within the Process Designer.

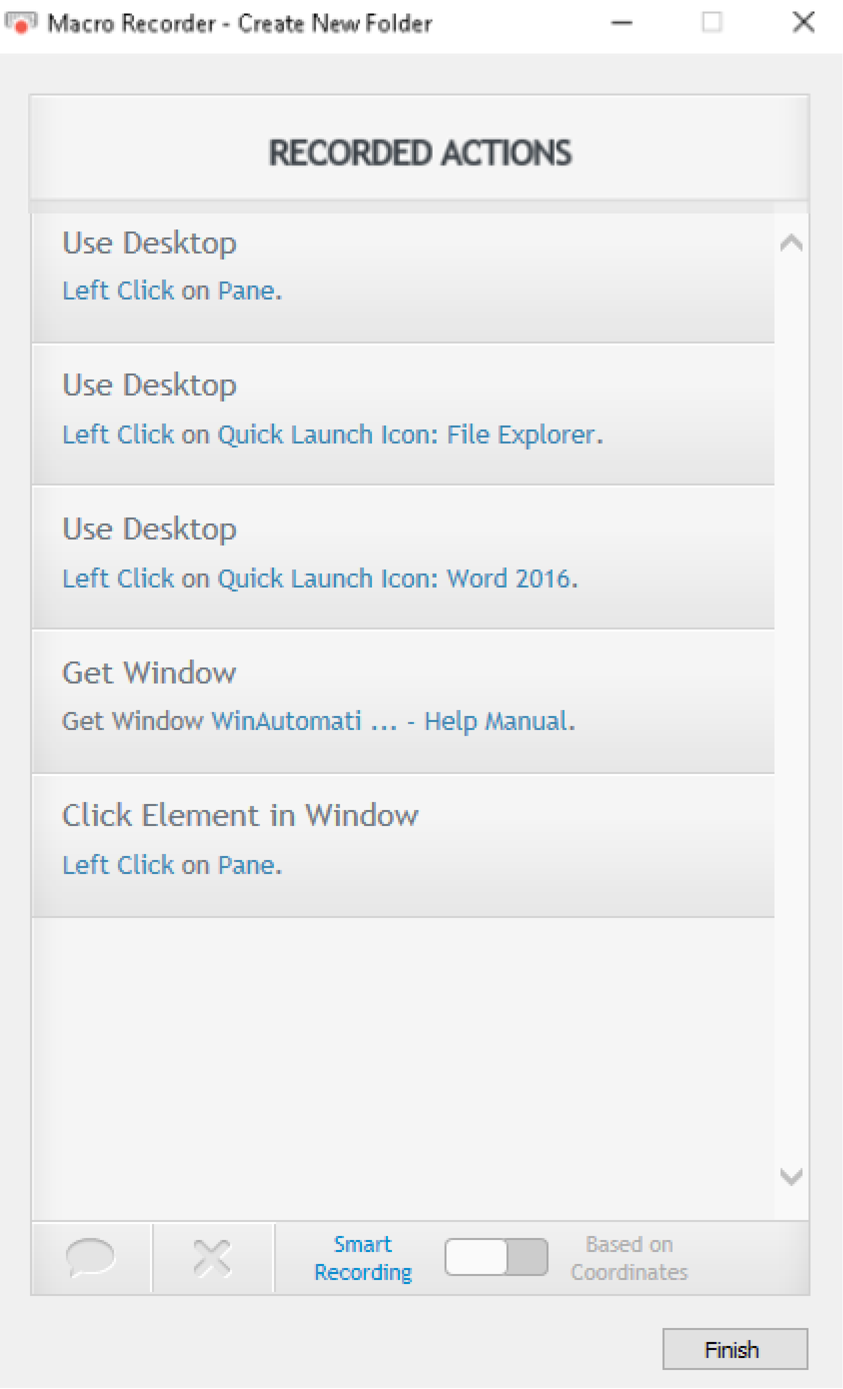
Using the Macro Recorder is a quicker and easier way to define Actions that compose a Process than manually selecting them and inputting them in the Process Designer.

While in previous versions of WinAutomation, Macro Recorder was using relative coordinates on the screen (or the active window) to record mouse moves **with WinAutomation 5.0 on, the Macro Recorder by default recognizes the different elements on the screen (such as buttons, text boxes and other standard Windows controls) and injects the appropriate UI/Windows actions to build your Process with.**

Starting the Macro Recorder

In order to create your Process using the Macro Recorder, choose option “Macro Recorder” from the tools of the “Create a Process” window, or (if you are already within the Process Designer) choose the Macro Recorder button on the toolbar of Process Designer window (inside the Process you wish to edit) or choose Tools > Macro Recorder.

Launching the Macro Recorder opens the sidebar where you can preview the recording while performing your activities.



Macro Recorder - Create New Folder

RECORDED ACTIONS

Use Desktop
Left Click on Pane.

Use Desktop
Left Click on Quick Launch Icon: File Explorer.

Use Desktop
Left Click on Quick Launch Icon: Word 2016.

Get Window
Get Window WinAutomati ... - Help Manual.

Click Element in Window
Left Click on Pane.

The Macro Recorder can record in two modes: Smart and Coordinate-based.

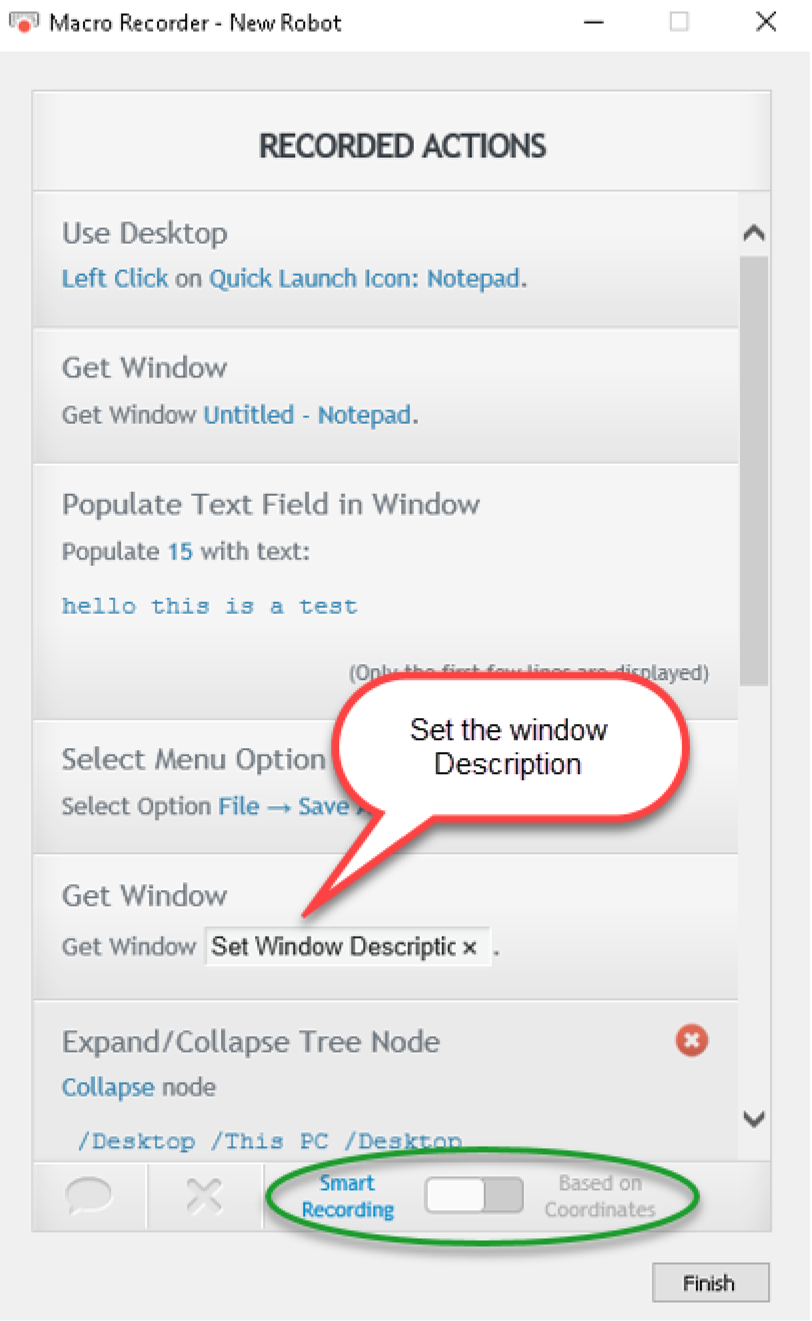
Smart Recording (Default): The actions produced by this type of recording will click on elements such as windows, buttons and menu items based on UI selectors rather than absolute locations. UI selectors are very similar to the CSS Selectors 317 utilized by Web Automation actions. This type of recording is the recommended one, since it produces flexible and portable Processes.

Coordinate Based: Coordinate based actions will move the mouse to the specific, absolute recorded locations inside the active window. Consequently, any change in the absolute positions of the target elements could potentially render the actions inoperable. Absolute positions depend on screen resolution, operating system and application settings as well as various other factors. This type of recording is only recommended for users that face compatibility issues with the default recording setting.

Each activity you perform will be recorded in the sidebar and once you have completed the desired sequence of activities and click the "Finish" button, you will be transferred back to the Process Designer where it will have automatically been translated into a set of UI Automation actions.

While recording, if you perform an activity unintentionally and you do not want it to be included in the final sequence of actions, you can move the mouse over the action that you want to delete in the sidebar and a red "⊗" button will appear in the action's top right corner, as shown below. By clicking on the ⊗ button the action will be removed from the list of recorded actions.

If you want to change parameters of the actions recorded (the actions' parts you can edit are displayed in blue) you can do so by clicking them and editing their text.
Note: Changing the description of an Element will not change the actual selector



Macro Recorder - New Robot

RECORDED ACTIONS

Use Desktop
Left Click on Quick Launch Icon: Notepad.

Get Window
Get Window Untitled - Notepad.

Populate Text Field in Window
Populate 15 with text:

```
hello this is a test
```

(Only the first few lines are displayed)

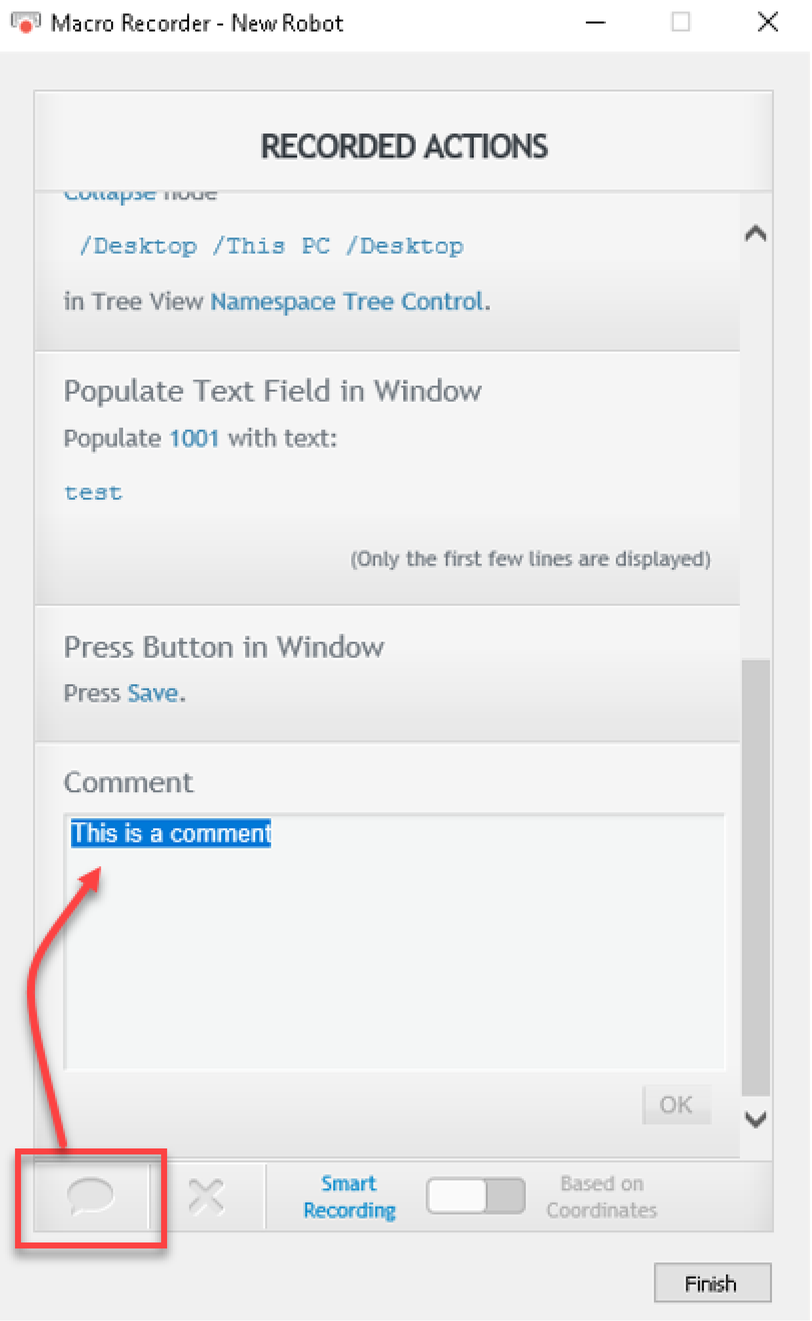
Select Menu Option
Select Option File → Save

Get Window
Get Window Set Window Descriptic ×.

Expand/Collapse Tree Node
Collapse node

```
/Desktop /This PC /Desktop
```

You can also take notes that will make the design of your Process more meaningful for you and that may be useful if you chose to edit the actions later in the Process Designer. To do so, you click on the "Insert Comment" button 💬 and a comment action will be appended in the sidebar. Your comments will also be displayed (along with the corresponding action) in the Process Designer.



Macro Recorder - New Robot

RECORDED ACTIONS

Collapse node

/Desktop /This PC /Desktop

in Tree View Namespace Tree Control.

Populate Text Field in Window

Populate 1001 with text:

test

(Only the first few lines are displayed)

Press Button in Window

Press Save.

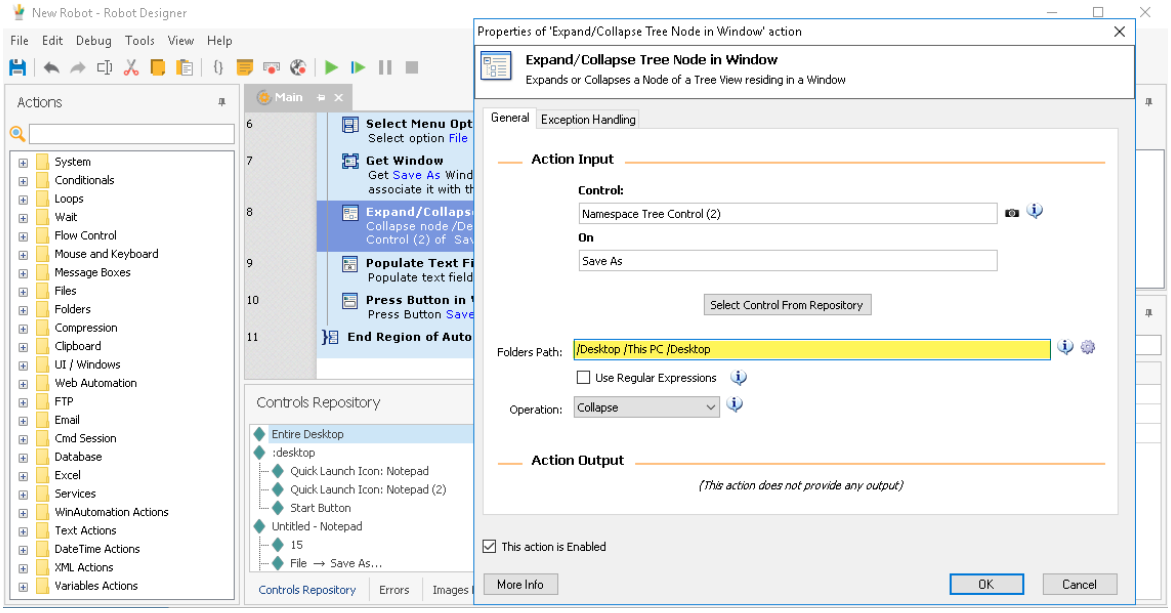
Comment

This is a comment

To discard all the actions you have recorded and restart your recording from scratch, press the "Reset Recorded Actions" button (which is located next to the “Insert Comment” button). A message box will appear for you to confirm the delete.

To complete the recording session and return to the Process Designer, click the Finish button on the sidebar. The recorded Actions will be inserted into the Process Designer Window within a region named “Region of Autogenerated, UI Automation Actions”

Of course you can further edit each of the actions (e.g. use variables as input where applicable) within the Process Designer.



Properties of 'Expand/Collapse Tree Node in Window' action

Expand/Collapse Tree Node in Window

Expands or Collapses a Node of a Tree View residing in a Window

Action Input

Control: Namespace Tree Control (2)

On: Save As

Folders Path: /Desktop /This PC /Desktop

□ Use Regular Expressions

Operation: Collapse

Action Output

(This action does not provide any output)

☑ This action is Enabled

You may also insert additional Actions to your Process to be performed before or after the Macro Recorded section Actions, either by manually selecting and configuring them from the “Actions” pane, or by using once again the Macro Recorder.

3.7 The Custom Dialog Designer

3.7.1 Designing a Custom Dialog

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Dialog vs. Custom Dialog

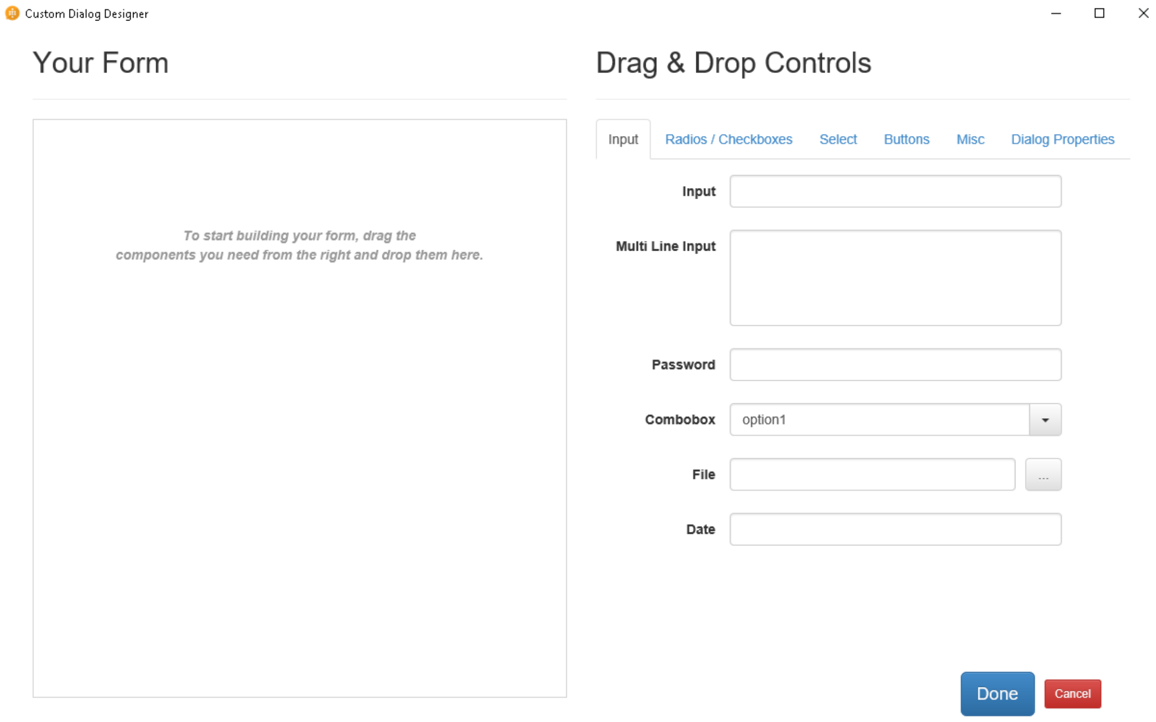
WinAutomation offers a wide variety of dialog-producing actions, categorized under "Message Boxes" in the Actions' Pane 162. Selection dialogs allow you to assign a value to a variable (be it Text 460, Date 461, List Selection 464, File 468 or Folder 470) while the Process is running. Once the value is entered, the user can either press the "OK" or the "Cancel" button. This button choice can also be assigned to a variable (%ButtonPressed%). Simple, default dialogs come in handy when there is only *one* *configurable parameter* that needs to be set. For example, it is very common to include a "Display Select File Dialog 468" action at the beginning of a Process and use the value assigned to the %SelectedFile% throughout the remaining actions.

With a Custom Dialog on the other hand, you may *configure multiple parameters* in a single action. Custom Dialogs buttons are not limited to "OK"/"Cancel" and can also invoke Functions 183, with the Dialog itself optionally persisting throughout the Function execution. Nearly every aspect of the Custom Dialog and its controls is configurable including, but not limited to, their general appearance, positioning and displayed text.

Given such flexibility, the "Display Custom Dialog 456" action will allow you create a fully featured Graphical User Interface (GUI) for your Process, with the ease of drag and drop.

The Custom Dialog Designer

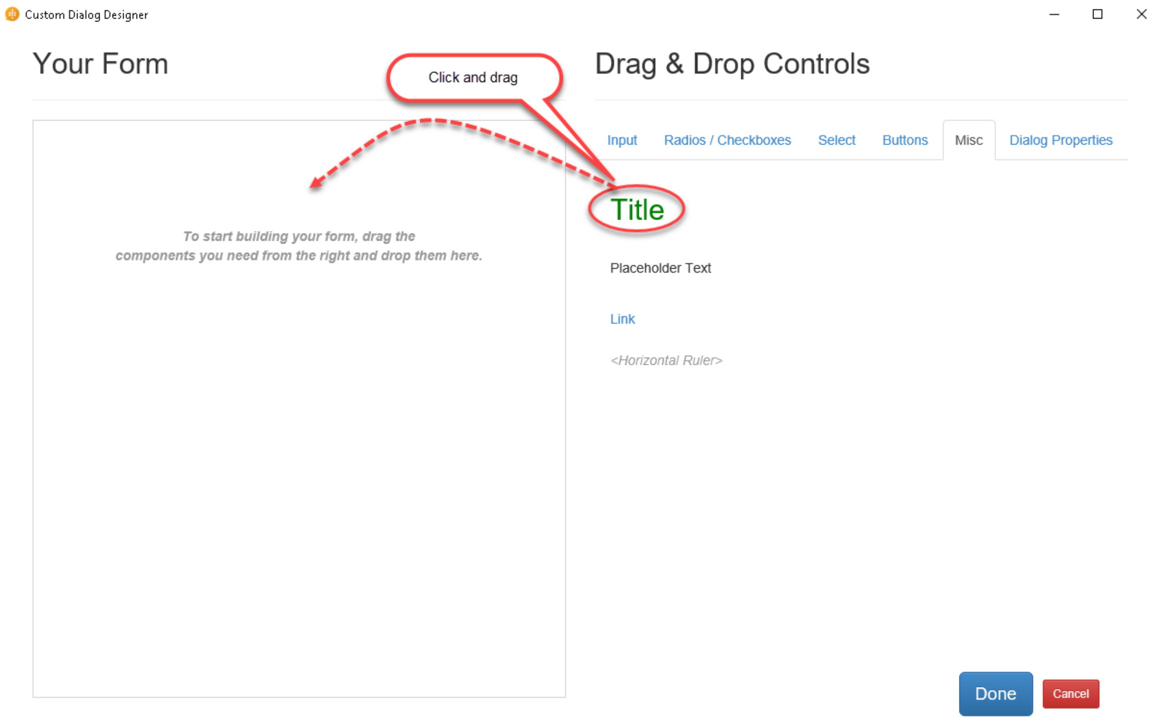
When you initially place a "Display Custom Dialog 456" action into your Process, the Custom Dialog Designer automatically opens up:



To bring it up again for any consequent modifications, double click on the action and press on the "Open Designer" button.

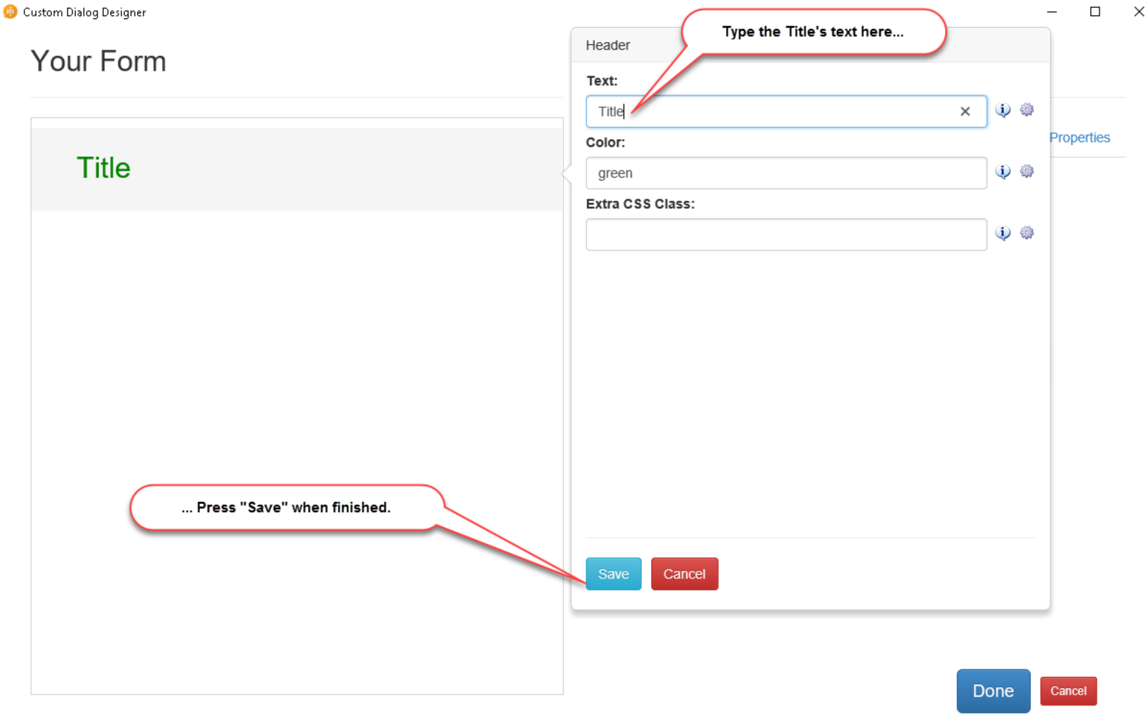
The Designer Window consists of two panes: **Your Form** on the left and the **Drag & Drop controls** on the right. You may select any of the tabs of the **Drag & Drop controls** pane, to reveal the controls of the corresponding category or edit the Dialog's properties. Controls can be added or rearranged by drag and drop.

For example, to add a "Title" control, select "Misc" and drag the Title from the pane on the right, to your form on the left:

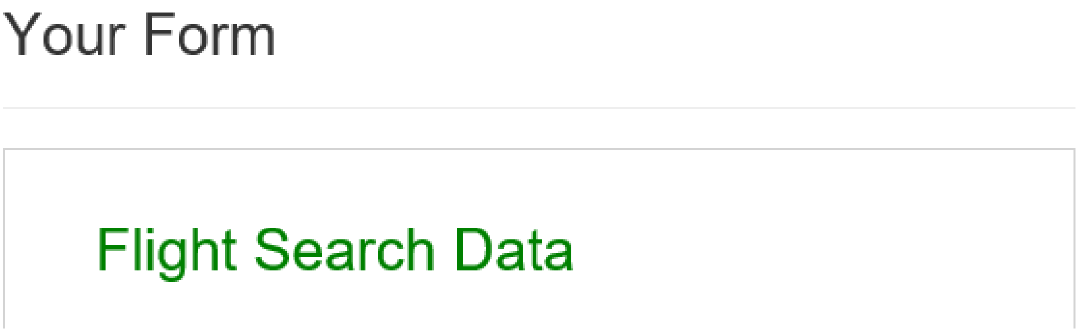


To start building your form, drag the components you need from the right and drop them here.

When a control is added to the form, the control's property editor comes up:



With the help of the editor, you may modify the control's properties. As always, you can insert preexisting variables in any of the fields by clicking on the gear (⚙) icon. When you are done editing, press the "Save" button. Saving also updates the live preview of the dialog presented on **Your Form**.



If you need to modify any of the control's properties at a later point, left click on the placed control so that the property editor reappears.

Control Types

Input

Simple Input Holds a single-line text value, the most common form of input.

Multiline Input Holds a multi line text value, suitable for short messages or lists. The value returned is still a single Text variable containing line breaks, which can be split 771 if necessary.

Password Similar to the Simple Input, but masks typed characters so that passwords do not appear on the screen as plaintext.

Combobox The Combobox allows the user to either make a selection from a pre-defined list or type their own, custom, value. The value returned is a list variable containing the text of the selected item(s).

File Lets you select one or multiple Files or a Folder. The value returned is a File/Folder variable for single items, or a File List Variable when you allow multiple item selection.

Date Holds and returns a Date Time variable. If no value is entered by the user, the current date and time is returned.

Radios / Checkboxes

Inline Radios Select among a group of radio-buttons that are distributed horizontally. Only single item can be selected inside a group. The text/label of the selected item is the value returned.

Multiline Radios Select among a group of radio-buttons that are distributed vertically. Only single item can be selected inside a group. The text/label of the selected item is the value returned.

Checkbox A single checkbox that the user can leave checked, or unchecked. Returns a Boolean variable with the value %True% when the box is checked, %False% otherwise.

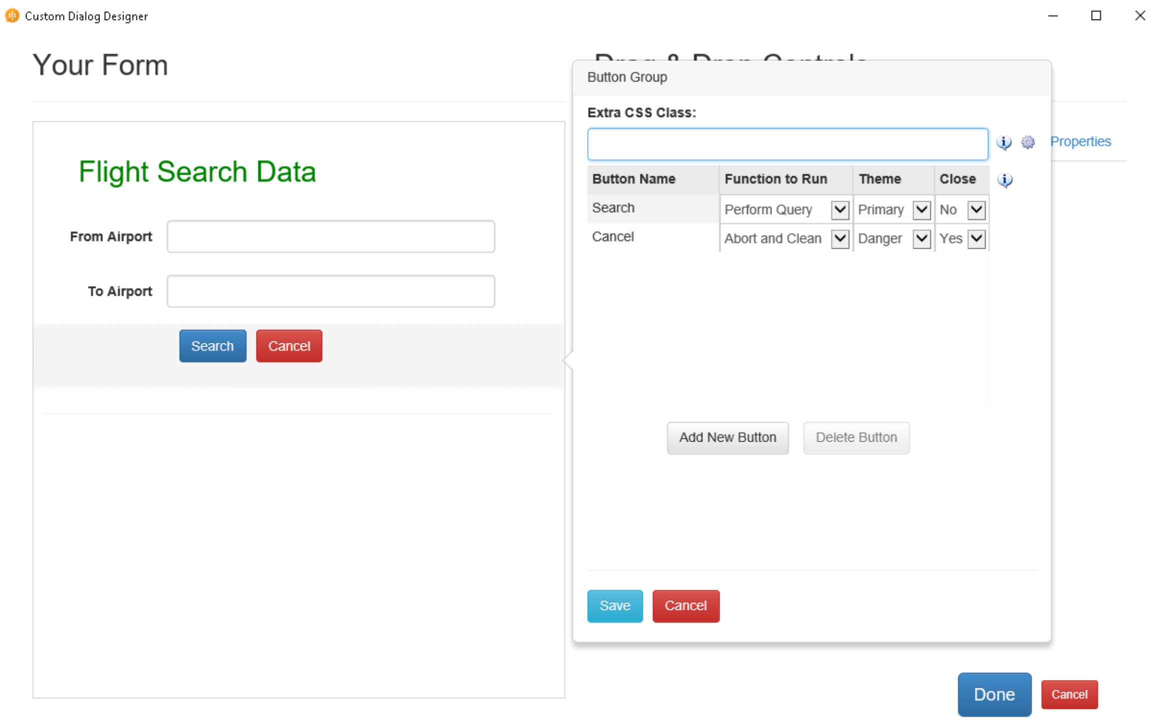
Select

Select Similar to the Combobox, but does not allow the insertion of custom values: the user can select only among the existing options.

Multiple Select Allows the selection of multiple items from the provided list. The value returned is a single Text variable containing the text/labels of the selected items, separated by linebreaks.

Button Groups

Button groups can contain one or more buttons, each one with its own name, style and assigned operation. You may modify the buttons belonging to a group by bringing up the property editor:



Button Name	Function to Run	Theme	Close
Search	Perform Query	Primary	No
Cancel	Abort and Clean	Danger	Yes

You will find more information regarding the configurable button properties, in the Button Properties subsection, below.

Miscellaneous

Title A Title control is a large text label, suitable for titling the entire form or sections of it. Does not return any value.

Placeholder Text Simple text control. You can use it for displaying any desired text at any part of the form. Does not return any value.

Link Adds a text control that when clicked, opens up the system's default browser and navigates to the specified linked URL. Does not return any value.

Horizontal Ruler Adds a horizontal dividing ruler, suitable for dividing controls into logical groups. Does not return any value.

Control Properties

General Properties

ID / Name Used for retrieving the value entered/selection made for this specific control. Must be unique and cannot contain spaces.

Label / Text The text displayed as label to the control or on the control itself.

Link Specific to Link controls - The URL of the target page for this Link control.

Enter Password Specific to Password Inputs - Allows the entry of unescaped '%' characters inside the default password property.

Default Value The value that the control will be prepopulated with, when the dialog is first shown.

Default Password Specific to Password Inputs - Similarly to the default value, enter here the value that the Password control will hold when the Custom Dialog opens.

File Selector Title Specific to File Inputs - The text to be used as title of the "Select File Dialog" that emerges when the "..." button of the control is pressed.

Pick Specific to File Inputs - Specifies whether the file selection dialog will allow File(s) or Folder selection.

Multiple Selection Specific to File Inputs - When selecting files, specify whether the user is allowed to select only one or multiple.

Short Description A small, optional description that gets displayed the legend of the control.

Popup Help Text The popup text to be displayed when the user hovers over the info icon on the right of the control.

Size The size that the control should have. (Overrides CSS style)

Extra CSS Class You can assign an extra CSS class on the control, which is useful for custom styling.

Button Properties

Button Name Defines name of the button and also the text displayed on it.

Function to Run Select a Function from the drop down list to assign it to the button. Once the User presses the button, the selected function will be invoked. You may have only one function executing per custom dialog at a time.

Theme Select among various appearance styles for the button.

Close Choose whether the custom dialog should close when the button gets pressed.

Whenever a button that has not be set as the "Cancel Button" gets pressed, all input gets validated against the following rules, where they may apply:

Validation

Required Specify whether populating this input field is mandatory.

Allowed Value Specify the accepted format of the user-supplied input value. You may choose one of the pre-defined formats, or define your own, custom one.

File Filter Specific to File Inputs - The file filter applied to the "Select File Dialog" that emerges when the "..." button of the control is pressed.

Check if File Exists Specific to File Inputs - Specify whether the selected file(s) are required to exist.

Min/Max Date Specific to Date Inputs - Restricts the range of the date supplied.

Validation fails will prevent function execution and Custom Dialog termination. Moreover, a validation fail always produces an appropriate error message on the form.

Dialog Properties

Title Specify the title to be used for the Custom Dialog.

Initial State Choose among Minimized, Maximized and Normal states for the Custom Dialog's Window.

Initial Position Specify an initial position for the Custom Dialog's Window. When "custom" is selected, you have to also specify the coordinates (X,Y)

Height Specify the height of the Custom Dialog's Window.

Width Specify the width of the Custom Dialog's Window.

Accept Button Specify a button to be automatically pressed when the user presses Enter with the dialog open.

Cancel Button Specify a button to be automatically pressed when the user presses Escape with the dialog open. Validation of input is skipped.

Dialog Icon Specify a custom icon for the dialog. The icon is visible both on the task bar and the upper left corner of the Custom Dialog's Window.

Keep on Top Specify whether the Custom Dialog's Window should remain on top of all other windows.

Allow Resizing Allow/Disallow resizing of the Custom Dialog's Window.

Retrieving Entered Values from a Custom Dialog

The input controls of a Custom Dialog hold useful values, entered by the user in runtime. All of the populated values get stored inside a Data Row variable as defined in the "Display Custom Dialog 456" action's properties (default variable name: %CustomDialogResults%). Values are available to functions invoked by a button press on the Dialog and actions following the "Display Custom Dialog 456" action.

Input controls store their value on a "column" with the ID/Name of the corresponding control. For instance, the value populated into the "Combobox1" control can be accessed as such:

%CustomDialogResults["Combobox1"]% (Assuming that the default names were kept)

Some controls may hold a variable with additional properties 290 or even a list. You may access the properties and the list items as well:

%CustomDialogResults["File"].Size% is the size of the selected file and **%CustomDialogResults["MultipleSelect"][0]%** is the first selected item.

Advanced Customization of the Dialog's appearance

You may add your own CSS rules applying to the Custom Dialog and its controls, in the Advanced Tab of the "Display Custom Dialog" action. Styling rules entered inside the "CSS Theming Overrides" box are effective immediately; you can preview them on the Custom Dialog Designer, or view them directly at the resulting Dialog that is produced during runtime.

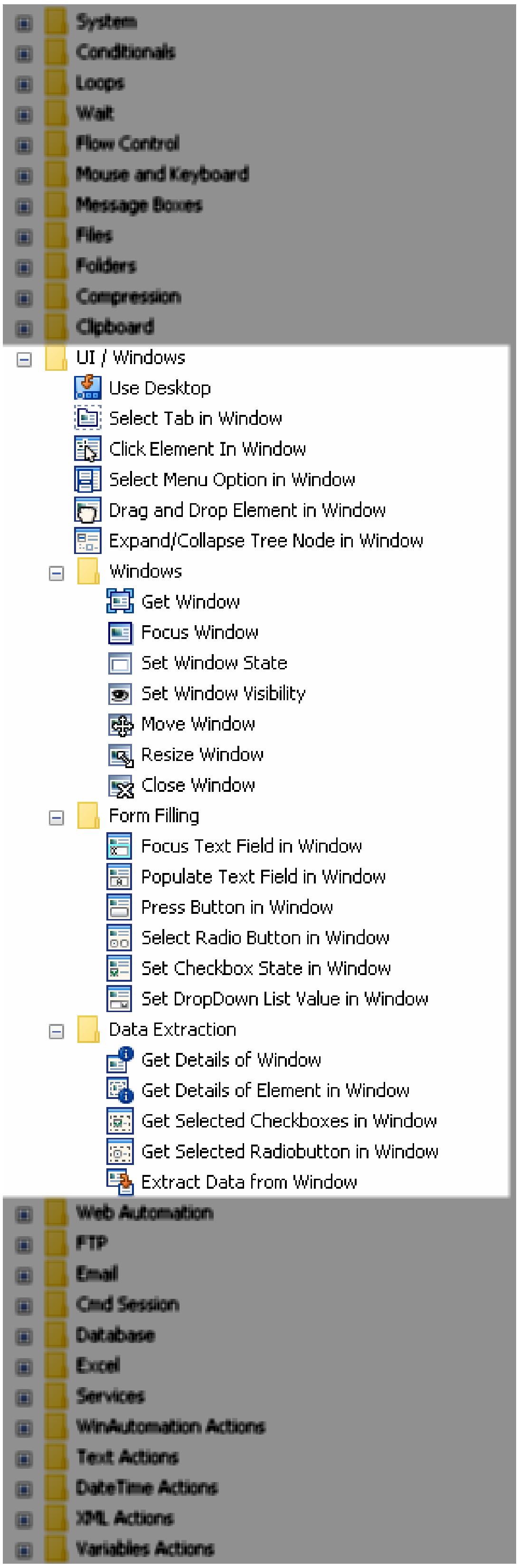
Each control can be assigned an "Extra CSS Class" through the corresponding property. A CSS class allows you to set a particular style for one or many HTML elements with that particular class in your custom CSS rules.

3.8 UI Automation

3.8.1 UI Automation Overview

WinAutomation actions under the “UI/Windows” category are capable of directly manipulating Windows applications, or any window for that matter (apart from web application that can be automated with "Web Automation"), their controls, as well as extracting data from them.

Processes can click on buttons, menu items, populate edit boxes directly, etc. and all that without the use of absolute coordinates or image recognition!



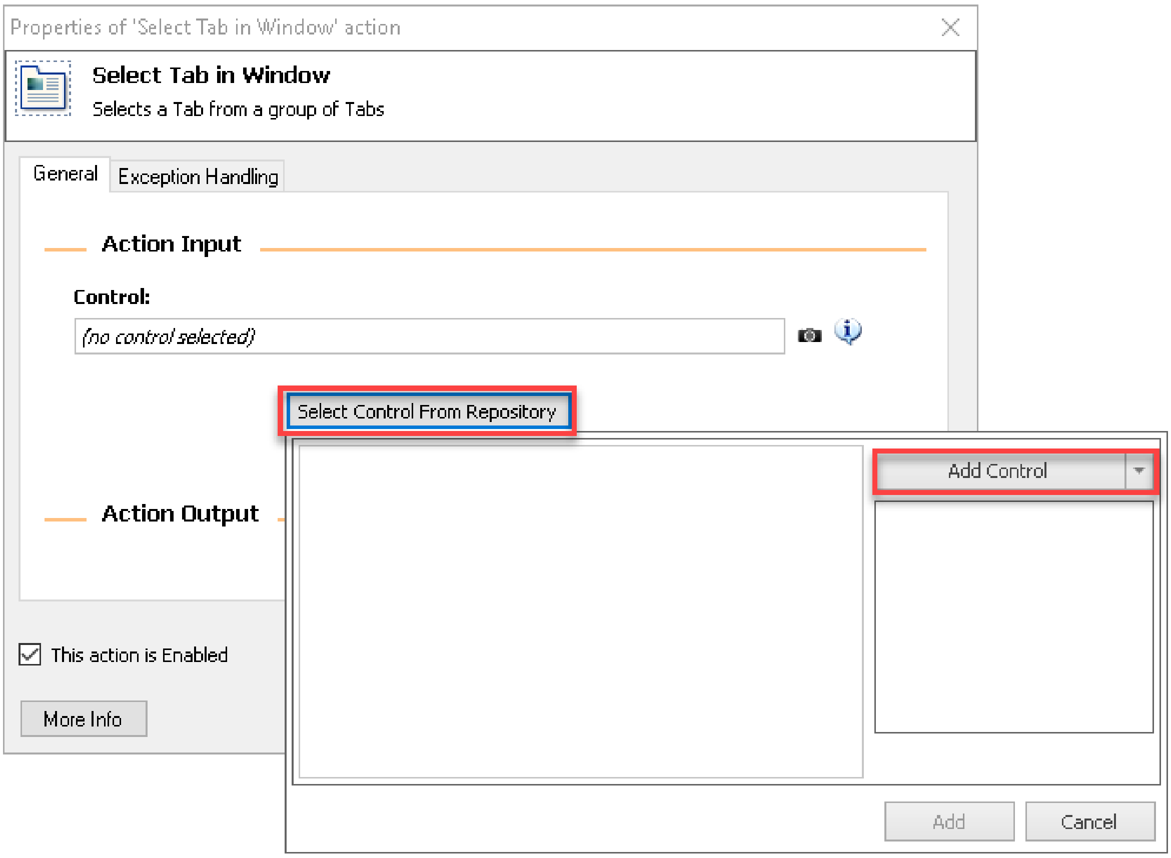
The UI Windows Actions

UI Automation based Processes can be conveniently authored with the help of the Macro Recorder 206 (with the Smart Recording option enabled). Alternatively, you can build your Process manually by combining and configuring the appropriate actions in the Process Designer.

Window handling actions, such as "Focus Window 520", "Move Window 532" etc. can both act on a specific window from your Control Repository.

Control handling actions, on the other hand (e.g. "Click Element in Window 510"), act on a target control of your repository.

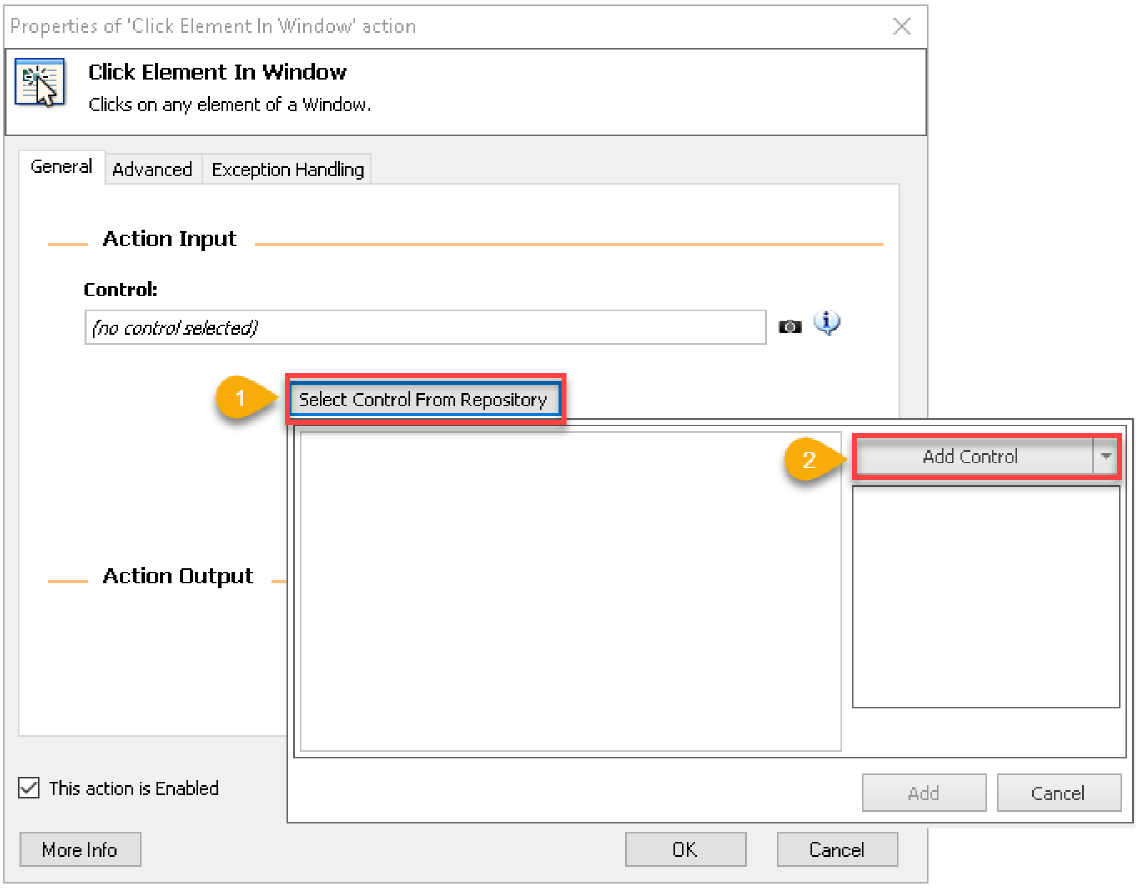
Using the "Select Control from Repository" in the UI/Windows actions' properties and adding Controls using the "Add Control" option is the most convenient method for specifying the target control(s) for your actions.



3.8.2 UI Elements - Select Controls

The "Select Control from Repository" or "Add Control" in the Control Repository pane, allows you to easily select a desired target control, on any currently open application window. To select a control simply click on the "Select Control from Repository" option in the action's properties. Having done so you have two options:

1. "Add Control":

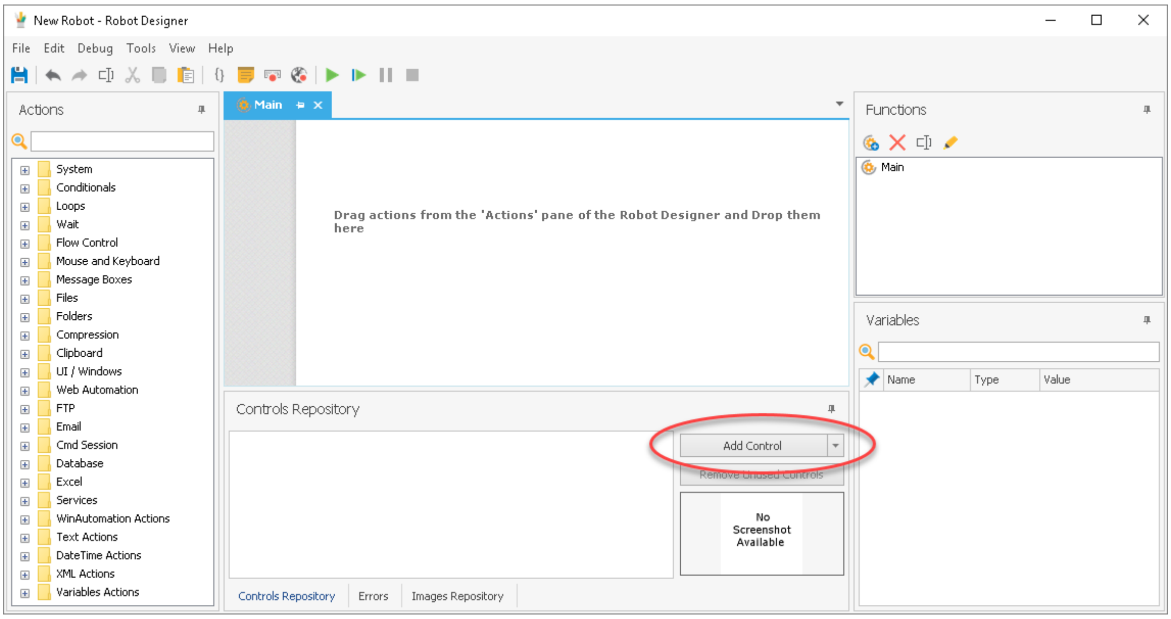


Properties of 'Click Element In Window' action

Click Element In Window

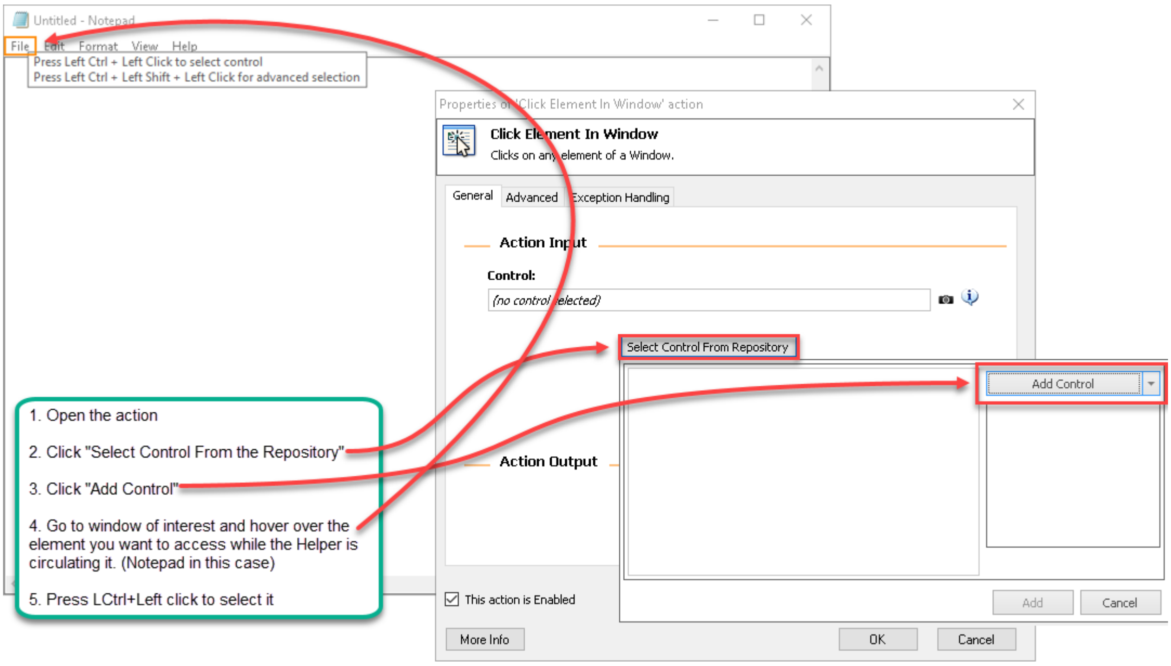
Clicks on any element of a Window.

OR...



Drag actions from the 'Actions' pane of the Robot Designer and Drop them here

After selecting to Add a control with either ways mentioned above, you are able to select the element you wish. The Live Helpers (orange boxes circulating the accessible elements) will appear and you can navigate to the window of interest in order to access the element. Once this element is highlighted by the helpers, then simply press "LCtrl+LShift+Left Click" to select the control.



Press Left Ctrl + Left Click to select control
Press Left Ctrl + Left Shift + Left Click for advanced selection

1. Open the action

2. Click "Select Control From the Repository"

3. Click "Add Control"

4. Go to window of interest and hover over the element you want to access while the Helper is circulating it. (Notepad in this case)

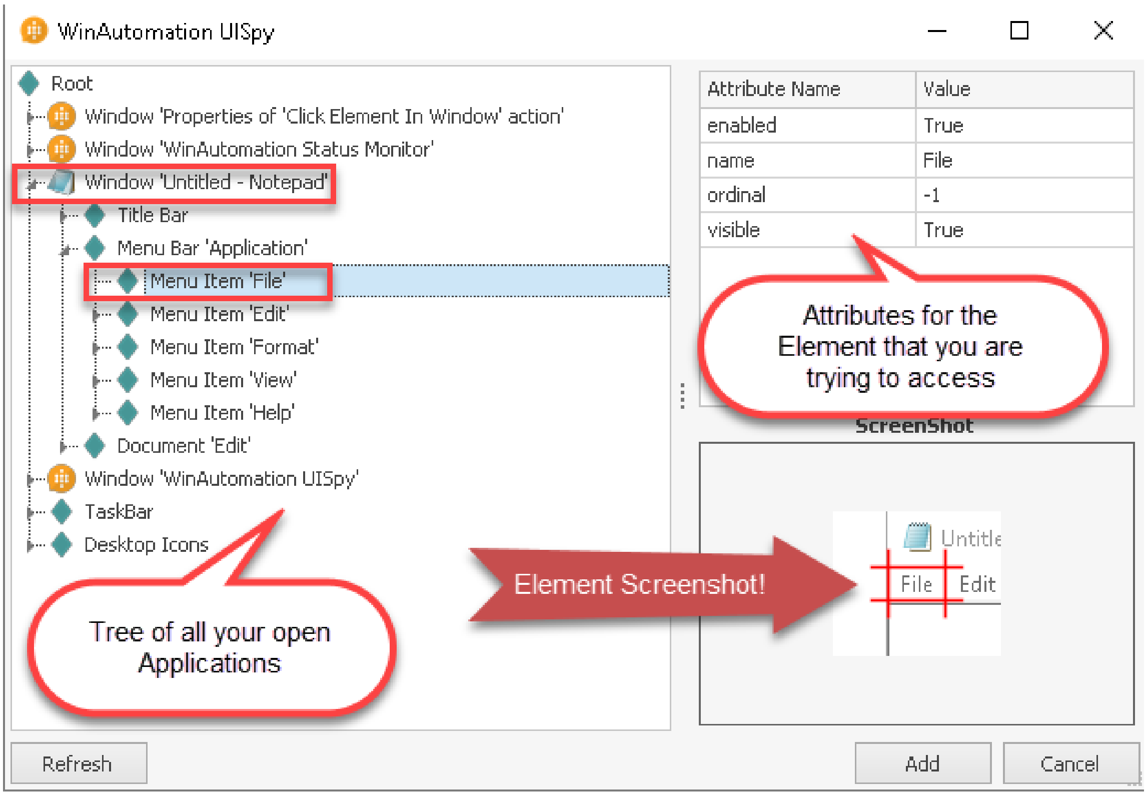
5. Press LCtrl+Left click to select it

Having done so the ***WinAutomation UISpy*** window will appear with three panes.

1. the tree of the all open applications and their controls, on your machine,

2. the attributes for the element that you are trying to access and

3. a screenshot of the element that you selected to add.

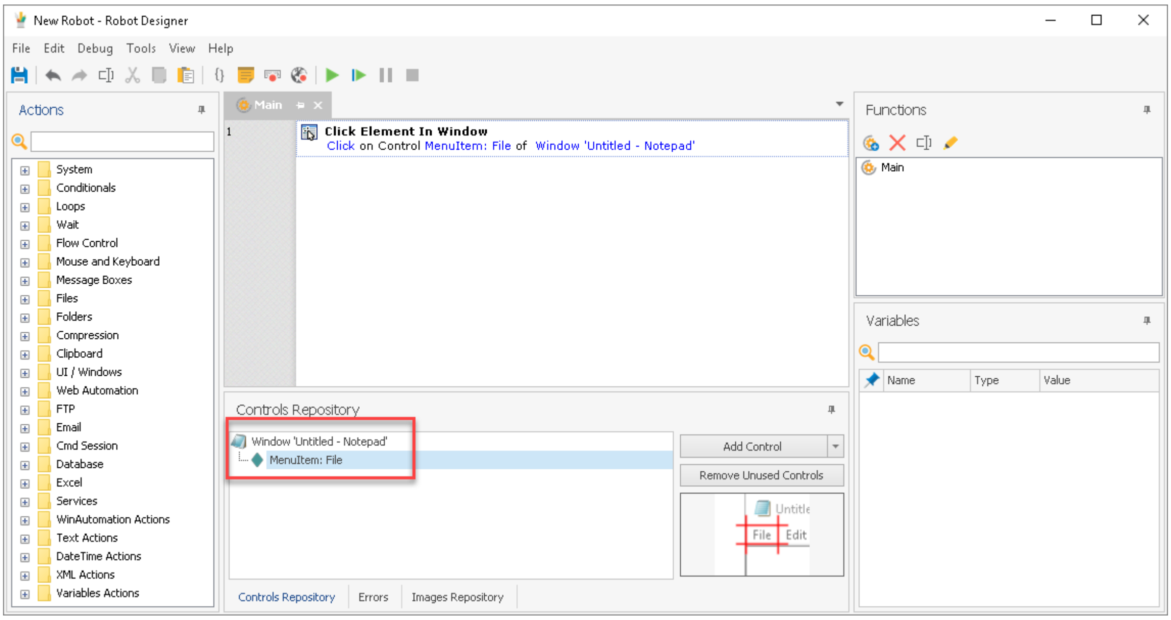


WinAutomation UISpy
Root
Window 'Properties of 'Click Element In Window' action'
Window 'WinAutomation Status Monitor'
Window 'Untitled - Notepad'
Title Bar
Menu Bar 'Application'
Menu Item 'File'
Menu Item 'Edit'
Menu Item 'Format'
Menu Item 'View'
Menu Item 'Help'
Document 'Edit'
Window 'WinAutomation UISpy'
TaskBar
Desktop Icons
Tree of all your open Applications
Element Screenshot!
Attributes for the Element that you are trying to access
ScreenShot
Untitle
File
Edit
Refresh
Add
Cancel

Attribute Name	Value
enabled	True
name	File
ordinal	-1
visible	True

Click on the "Add" button to add the Control to your Repository. The Control Repository pane in your Process Designer will now have the Window and the element.

Should you wish the WinAutomation UISpy not to be displayed and have the control directly passed into your repository, then instead of "LCtrl+LShift+Left Click" simply use "LCtrl+Left Click" (without the LShift).



1 Click Element In Window
Click on Control MenuItem: File of Window 'Untitled - Notepad'

You can go on adding more Controls in your Repository, building your Processes with different actions until you have completed your Process.

3.8.3 Manage Controls Repository

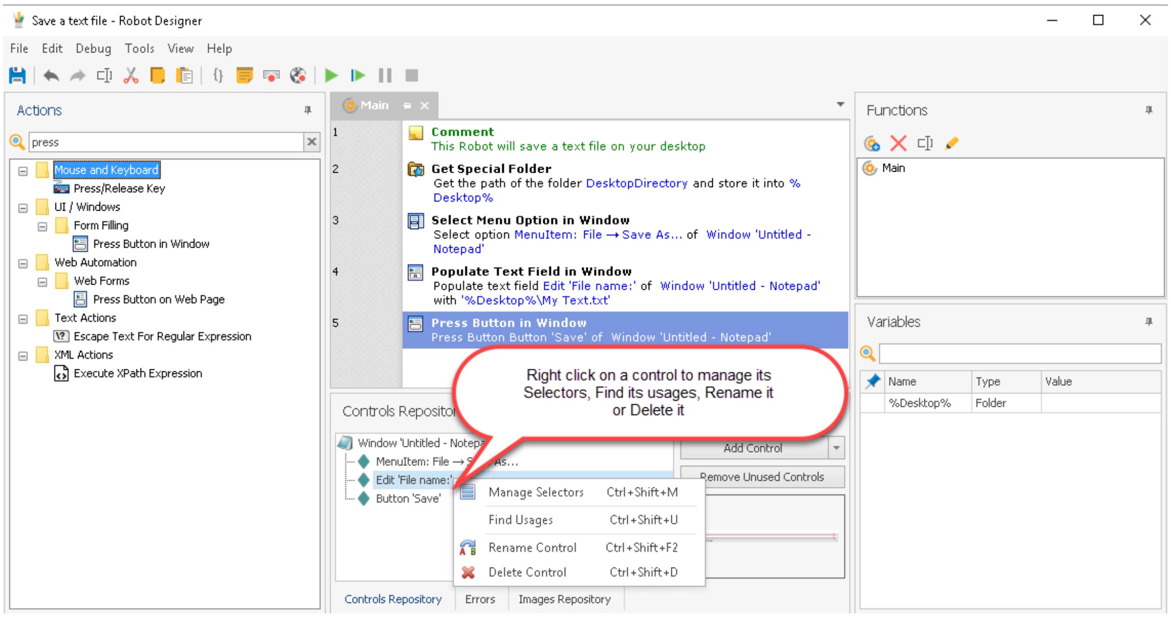
You can right click on an item in the Control Repository to:

1. **Manage** the Selectors that were generated from WinAutomation to change them or make your own if you believe that they can be more efficient. In case you want you can also add variables in the selectors.

2. **Find Usages** of the control. You may want to identify which action is currently using this control.

3. **Rename** the control. You may want to give a different name to the control.

4. **Delete** the control, in case you no longer wish to have it in your Repository.



1 **Comment**
This Robot will save a text file on your desktop

2 **Get Special Folder**
Get the path of the folder DesktopDirectory and store it into %Desktop%

3 **Select Menu Option in Window**
Select option MenuItem: File → Save As... of Window 'Untitled - Notepad'

4 **Populate Text Field in Window**
Populate text field Edit 'File name:' of Window 'Untitled - Notepad' with '%Desktop%\My Text.txt'

5 **Press Button in Window**
Press Button Button 'Save' of Window 'Untitled - Notepad'

Name	Type	Value
%Desktop%	Folder	

Right click on a control to manage its Selectors, Find its usages, Rename it or Delete it

To manage the selectors of a control, you can either double click on it, or right click and select "Manage Selectors". On the window that pops-up the selectors for the element will be listed.They are usually more than one and they work in the notion that if the first one fails to access the element, the Process will fall back to the second one. If the second one still fails to access the element the Process will fall back to the third one...an so forth. The action will error out only if all the selector fail.

You can click on the "Remove Unused Controls", in order to clear the "Control Repository" from any controls that in the end where not used by your script.

3.8.4 Manage Images Repository

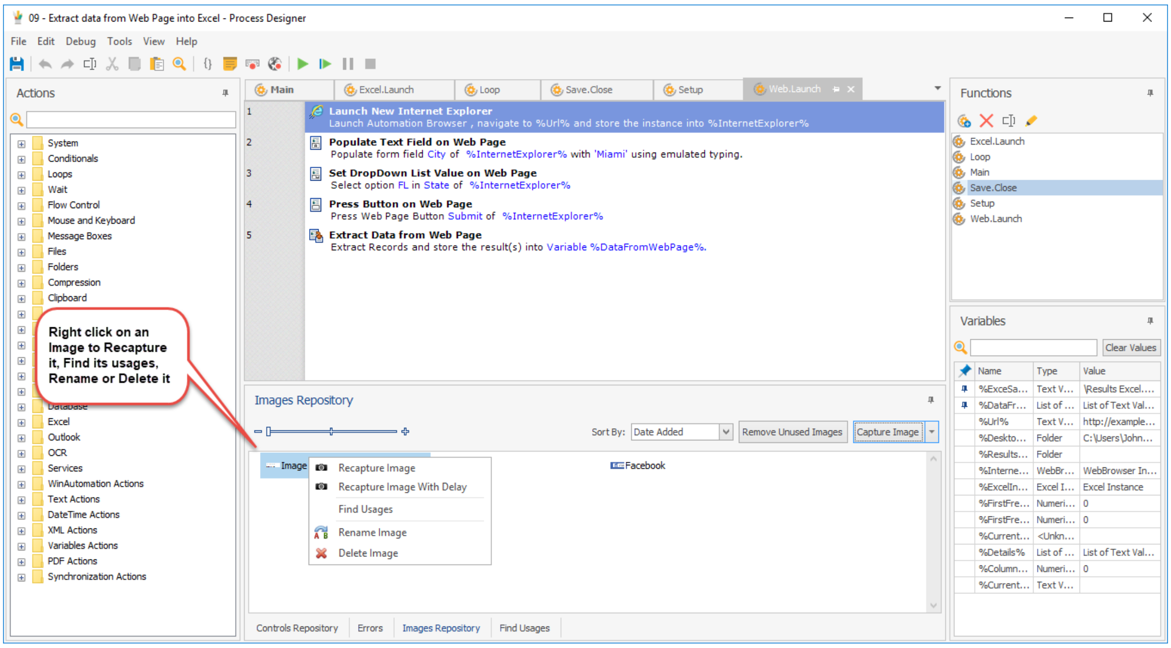
You can right click on an item in the Control Repository to:

1. **Recapture** the Images that you captured earlier.

2. **Find Usages** of the Images. You may want to identify which action is currently using this image.

3. **Rename** the Image. You may want to give a different name to the Image.

4. **Delete** the Image, in case you no longer wish to have it in your Repository.



1. **Launch New Internet Explorer**
   Launch Automation Browser , navigate to %Url% and store the instance into %InternetExplorer%
2. **Populate Text Field on Web Page**
   Populate form field City of %InternetExplorer% with 'Miami' using emulated typing.
3. **Set DropDown List Value on Web Page**
   Select option FL in State of %InternetExplorer%
4. **Press Button on Web Page**
   Press Web Page Button Submit of %InternetExplorer%
5. **Extract Data from Web Page**
   Extract Records and store the result(s) into Variable %DataFromWebPage%.

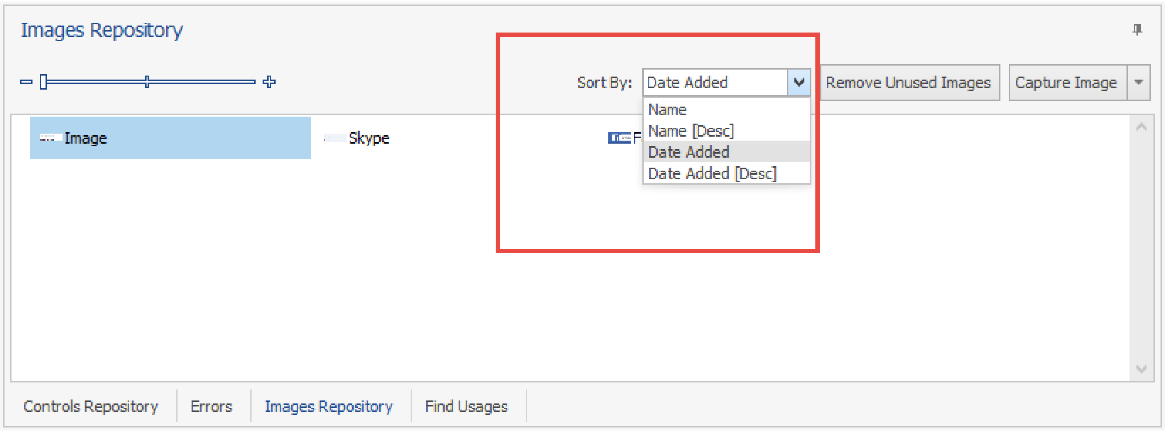
Name	Type	Value
%ExceSa…	Text V…	\Results Excel…
%DataFr…	List of …	List of Text Val…
%Url%	Text V…	http://example…
%Deskto…	Folder	C:\Users\John…
%Results…	Folder	
%Interne…	WebBr…	WebBrowser In…
%ExcelIn…	Excel I…	Excel Instance
%FirstFre…	Numeri…	0
%FirstFre…	Numeri…	0
%Current…	<Unkn…	
%Details%	List of …	List of Text Val…
%Column…	Numeri…	0
%Current…	Text V…	

Right click on an Image to Recapture it, Find its usages, Rename or Delete it

Images Repository

You can click on the "Remove Unused Images", in order to clear the "Image Repository" from any images that in the end where not used by your script.

Another option that you have is to sort the Images in your Repository, based on the Name or the Date Added. In large processes where a lot of images are saved, this option will be very beneficial for quick and east debugging.



Sort Images

3.8.5 Manage UI Selectors

To manage the selectors of a control, you can either double click on it, or right click and select "Manage Selectors".

The same goes for CSS selectors for Web Automation actions, also.

In the window that pops up you are able to:

a) **Add Selector**. This button will give you two options.

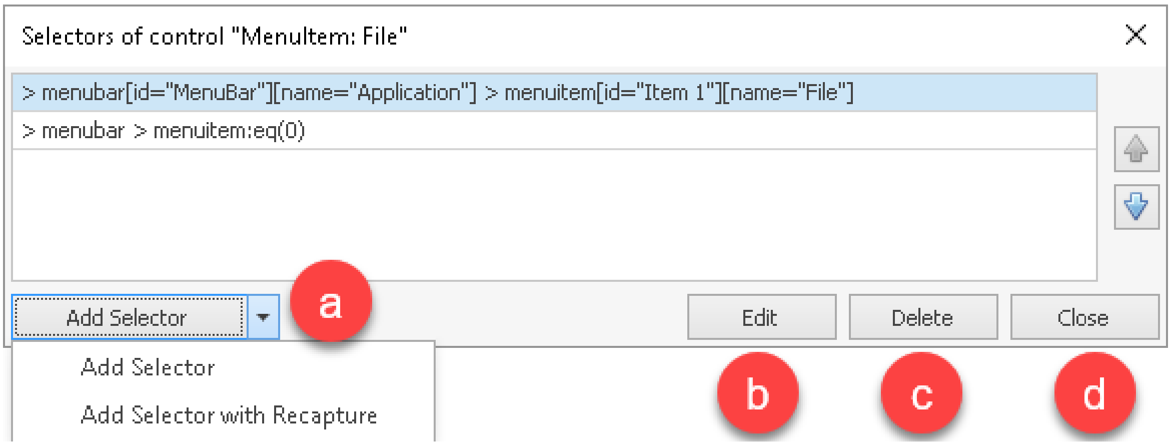
i) Add a selector based on the existing one, in the Selector Builder Window where you can check or uncheck the attributes to use for this element or

ii) Add a selector by recapturing it, in which case the helpers will again appear so that you can LCtrl+Left click on the element.

b) **Edit**. Click on the selector you want to edit, to pop up the Selector Builder window.

c) **Delete**. Click on the selector that you want to delete.

d) **Close**. Close the Window.

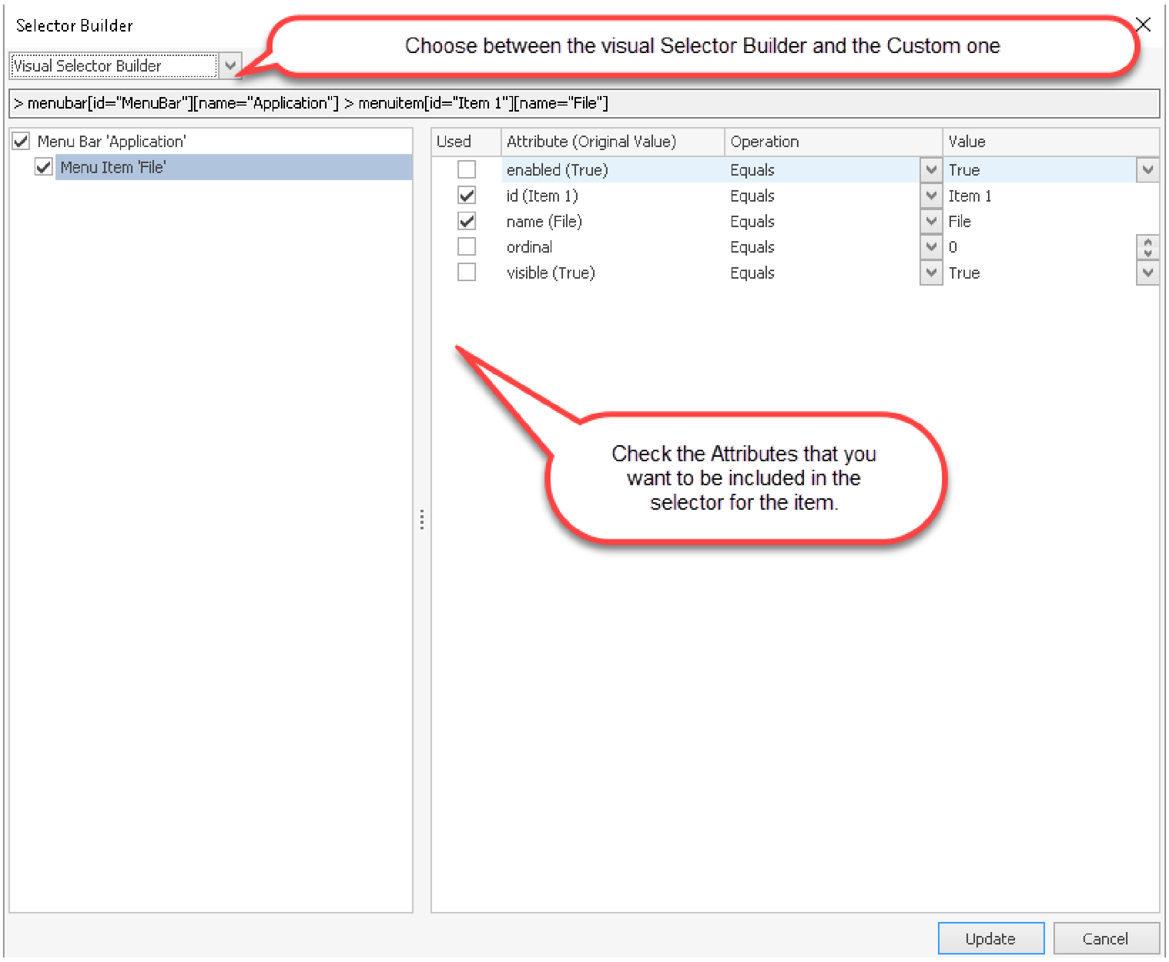


Selectors of control "MenuItem: File"

```
> menubar[id="MenuBar"][name="Application"] > menuitem[id="Item 1"][name="File"]
> menubar > menuitem:eq(0)
```

When you choose to Edit a Selector the the "Selector Builder" window pops-up. In here you can see the UI or CSS selector and you can choose the attributes that you want to be included in the selector for the item.

You can also choose whether you want the Visual Selector Builder or the Custom builder.



Selector Builder

Visual Selector Builder

Choose between the visual Selector Builder and the Custom one

> menubar[id="MenuBar"][name="Application"] > menuitem[id="Item 1"][name="File"]

☑ Menu Bar 'Application'
- ☑ Menu Item 'File'

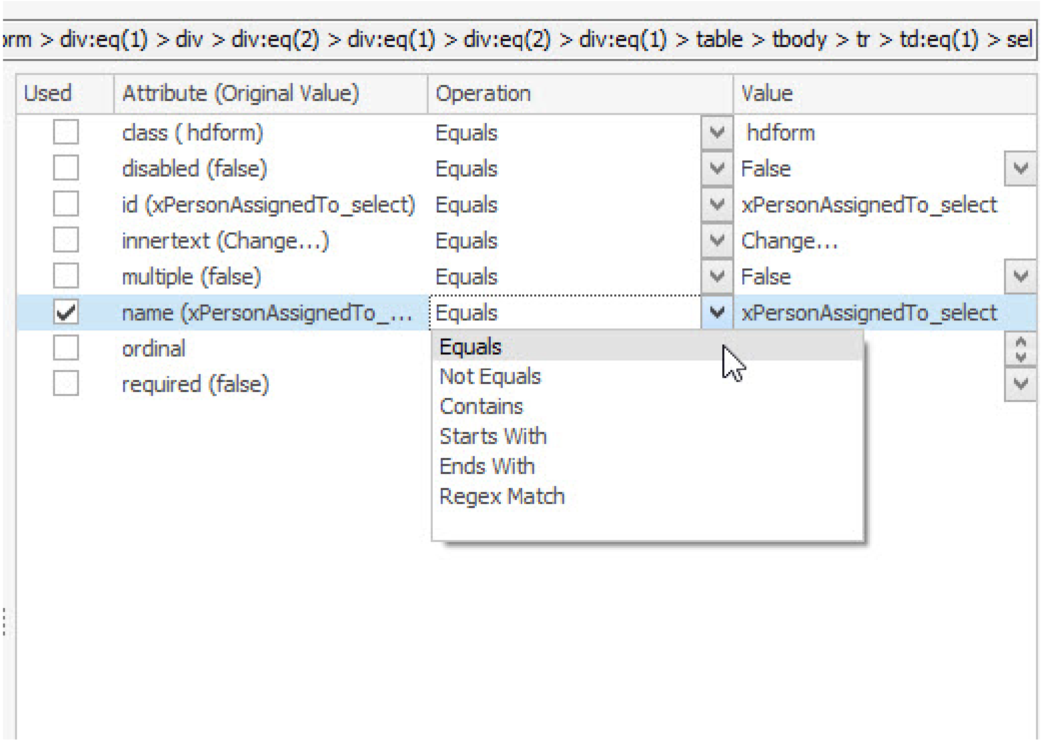
Used	Attribute (Original Value)	Operation	Value
□	enabled (True)	Equals	True
☑	id (Item 1)	Equals	Item 1
☑	name (File)	Equals	File
□	ordinal	Equals	0
□	visible (True)	Equals	True

Check the Attributes that you want to be included in the selector for the item.

Selector Builder

Notice that in the "Operation" column, you have the option to select what how the value will relate to the checked attribute. While the "Value" column of the Selector Builder is editable, you can click on the Operation arrow and choose the relation between the attribute and the value to be:

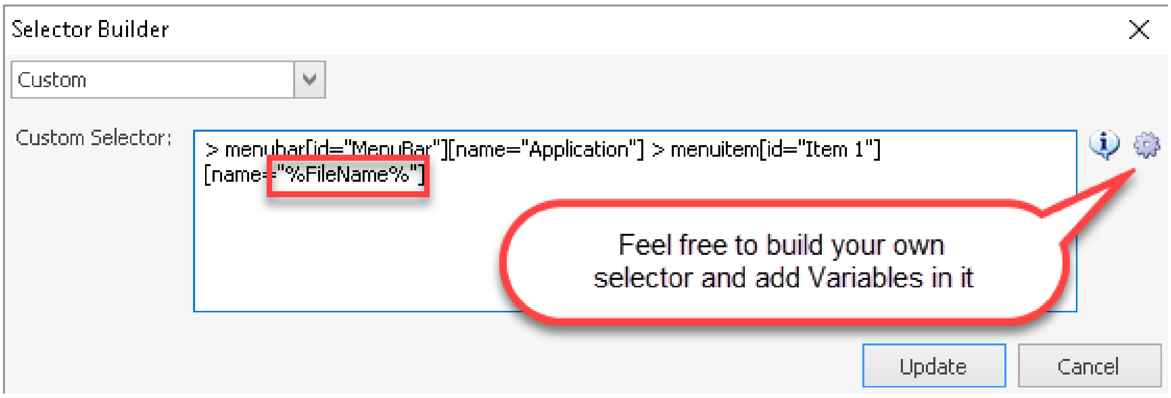
-Equals
-Not Equals
-Contains
-Starts with
-Ends with
-Regex match



rm > div:eq(1) > div > div:eq(2) > div:eq(1) > div:eq(2) > div:eq(1) > table > tbody > tr > td:eq(1) > sel

Used	Attribute (Original Value)	Operation	Value
□	class (hdform)	Equals	hdform
□	disabled (false)	Equals	False
□	id (xPersonAssignedTo_select)	Equals	xPersonAssignedTo_select
□	innertext (Change…)	Equals	Change…
□	multiple (false)	Equals	False
☑	name (xPersonAssignedTo_…	Equals	xPersonAssignedTo_select
□	ordinal		
□	required (false)		

If you choose the Custom builder, form the drop down list menu option on the top left part of the window the the following window appears where you are free to build your own selector and even use Variables from the gear icon.



Selector Builder

Custom

Custom Selector: > menubar[id="MenuBar"][name="Application"] > menuitem[id="Item 1"][name="%FileName%"]

Feel free to build your own selector and add Variables in it
Update
Cancel

3.8.6 Building UI Selectors

The UI selectors are very useful when using UI/Windows actions, as they help you access any windows/elements you want.

UI selectors are generated for each control you add in your Control Repository and can be shown should you double click on a Control.

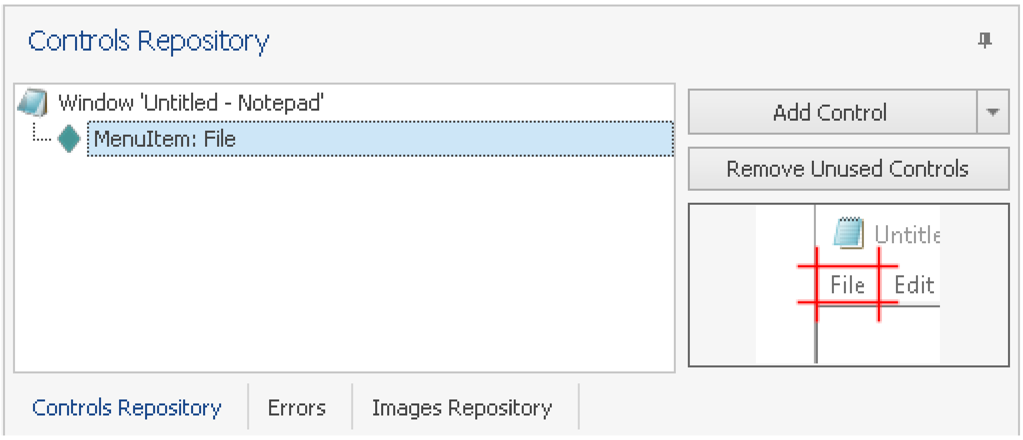
WinAutomation automatically generates one or more selectors. This means that, if the first selector fails to access the element, then we fall back to the second selector; and in case of a new failure we fall back to the third and so on. The action will error out, if none of the selectors are able to get the element and there is no Exception handling in the relative tab of the action.

You do have the option to modify the existing generated selectors (delete one or two of them, enhance them, or build them yourself from scratch) so that you can get the desired window or element.

Let's say that you have an "Untitled – Notepad" window open on your desktop which you wish to get.

Selectors are read from left to right using ">" to show that the element that follows in contained within the previous one in a parent > child notion. Let's say that you want to access a Notepad Window and then click on the File Menu option.

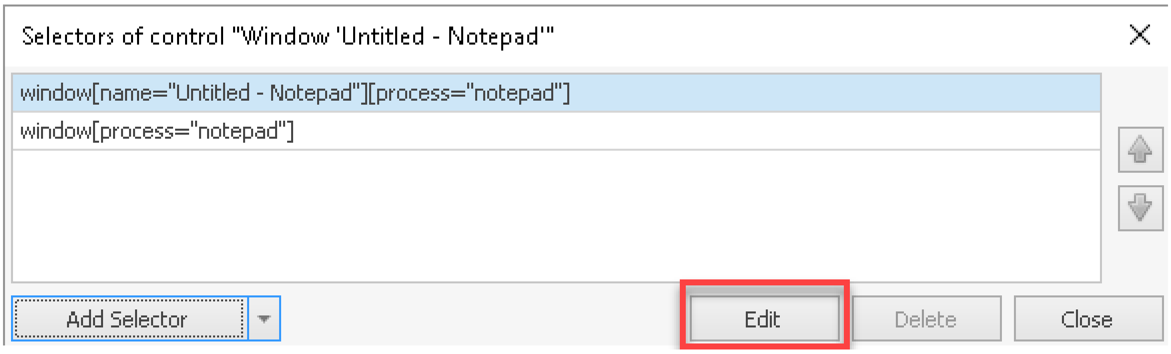
You would have to use a "Click Element in Window" action and add the Control to the Repository. You will end up with the control as follows:



The Window **'Untitled-Notepad'** will have its selectors and once accessed the Process will move on to the Menu Item:File for this window.

What if you want to get a text document with another specific name??

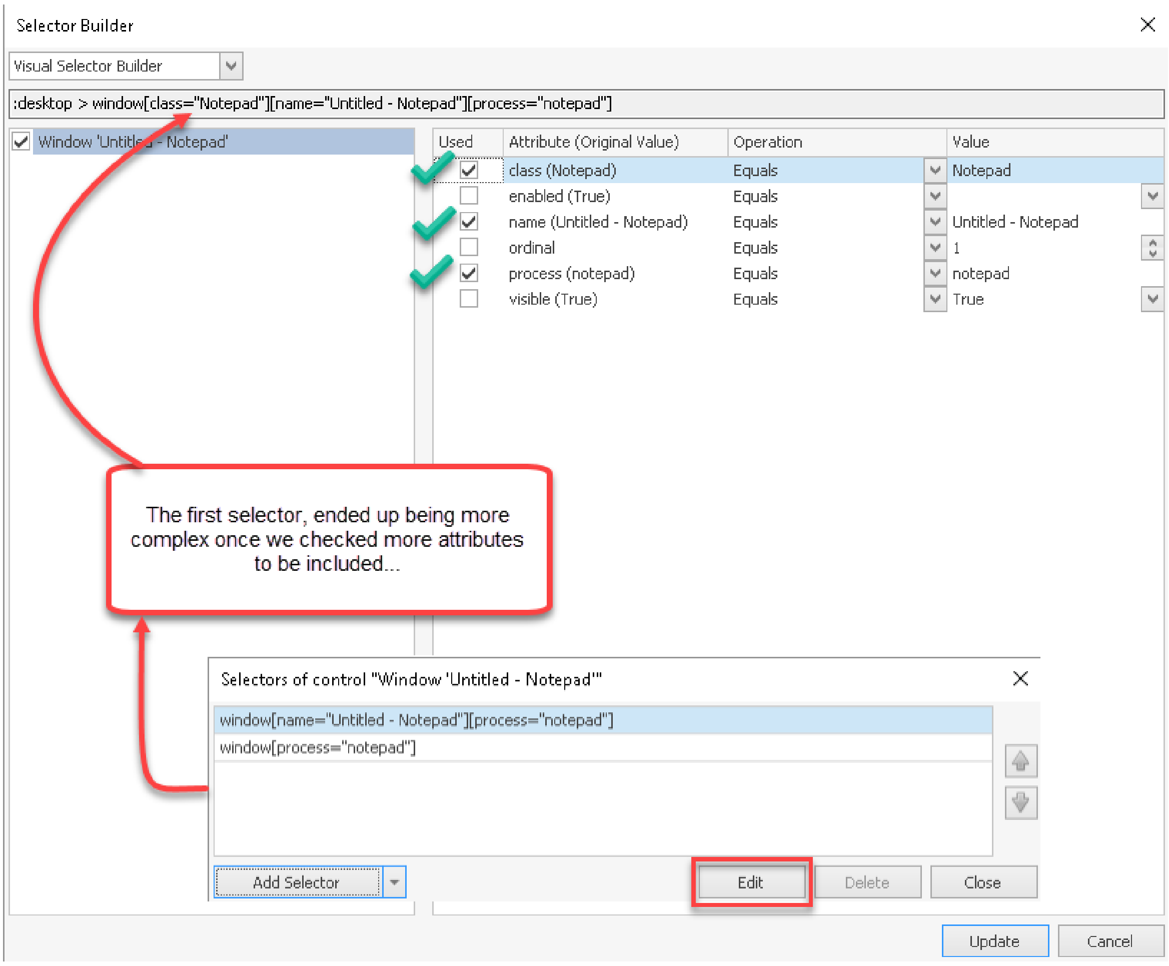
Double click on the Window 'Untitled-Notepad' and in the window that pops up hit the Edit button for each selector.



Selectors of control "Window 'Untitled - Notepad'"

```
window[name="Untitled - Notepad"][process="notepad"]
window[process="notepad"]
```

In the selector builder Window that will appear you can check other attributes that you want to include in the existing Selector for the window. Thus, the selector will become more complex.



Selector Builder

```
:desktop > window[class="Notepad"][name="Untitled - Notepad"][process="notepad"]
```

☑ Window 'Untitled - Notepad'

Used	Attribute (Original Value)	Operation	Value
☑	class (Notepad)	Equals	Notepad
□	enabled (True)	Equals	
☑	name (Untitled - Notepad)	Equals	Untitled - Notepad
□	ordinal	Equals	1
☑	process (notepad)	Equals	notepad
□	visible (True)	Equals	True

The first selector, ended up being more complex once we checked more attributes to be included...

Selectors of control "Window 'Untitled - Notepad'"

```
window[name="Untitled - Notepad"][process="notepad"]
window[process="notepad"]
```

OR, you can choose to build a Custom Selector form the drop down list menu option on the top left part of the Selector Builder window.

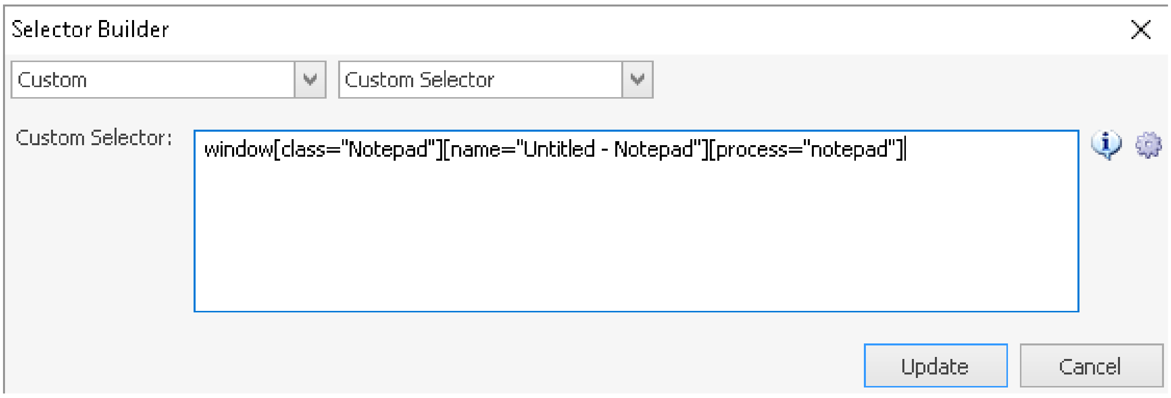
In general the selector for a specific window with "n" attributes is:

window[Attribute1=”Attribute1Name”][Attribute2=”Attribute2Name”]... [Attributen=”AttributenName”]

So, for the notepad with title "Untitled" the selector can be:

window[process="Notepad"][name="Untited - Notepad"][class="Notepad"]

...you can delete one or more attributes and you can just keep the ones that you think will make your selector more efficient, in the Selector Builder Window.



Custom Selector: window[class="Notepad"][name="Untitled - Notepad"][process="notepad"]

- ***Using Variables in Selectors:***

If you have a variable that holds the name of the text file then in the Custom Selector you can insert that variable. Let's say that you are certain that the file you want to access is named "Example.txt".

The selector to access that window can simply be:

window[process="Notepad"][name="Example"][class="Notepad"]

or

window[name="Example"][process="Notepad"]

Further on, if you have the name of the file in a variable like %FileName%=Example then the selector can be:

window[process="Notepad"][name="%FileName%"][class="Notepad"]

- ***Useful Tips for more efficient Selectors:***

window[name^=”Untitled”][process=”notepad”]

would get any Notepad window that its title starts with “Untitled”.

window[name$=”Notepad”][process=”notepad”]

would get any Notepad window that its title ends with Notepad.

window[name~=”Untitled”][process=”notepad”]

would get any Notepad window that contains the word Untitled in its title.

NOTE:

:eq(n) is a very frequently used selector attribute. It selects the element at index "n" within the matched set (keep in mind that it is always zero based). If the index is negative then the (|n| – 1) element is picked counting from the last element to the first.

For example if you have several buttons in a window and you write something like:

…> button:eq(0) >… this means that you are looking for the first button, while **button:eq(1)** would be the second button and **button:eq(2)** would be the third one and so on.

3.8.7 UI Data Extraction

WinAutomation's UI Automation technology allows the extraction of textual data from any open application window. You will find all the relevant actions under the "Data Extraction" subcategory of the "UI and Windows" group, inside the Action's Pane 162.

"Get Details of Window 552" and "Get Details of Element in Window 554", are suitable for extracting certain useful attributes from the target Window or Element, such as the Window's Title or the Element's location. Both of the actions are also capable of getting the text displayed by the element, including any text belonging to visible child elements.

The following two actions, "Get Selected Checkboxes in Window 556" and "Get Selected Radiobutton in Window 557" are specialized actions, dedicated in extracting the current selection state of Checkboxes and Radiobuttons.

Last but not least, "Extract Data from Window 559" extracts *only the text displayed on elements* (and their visible children). For simple control elements, "Extract Data from Window 559" will get the exact same results as the equivalent "Get Details of Element in Window 554" action. Certain controls, on the other hand, will yield data in the form of List or Table variables. More specifically, Tree and Tree Item controls (e.g. the tree view pane of Windows Explorer) as well as List controls produce the text data in a List variable. Data Grid controls always get their data extracted in the form of a table. In other words, "Extract Data from Window 559" allows the retention of the original organization of the data extracted, making any further processing significantly easier.

3.9 Web Automation

3.9.1 Web Automation Overview

With WinAutomation you are able to automate your web related tasks in an intuitive manner with unprecedented speed and reliability. The Process Designer includes a number of actions under the "Web Automation" category, each of them corresponding to an action that a user would manually perform within a web browser.

For Web Automation Process WinAutomation support four Browsers:

1. **Google Chrome**
2. **Mozilla Firefox**
3. **Internet Explorer**
4. **The WinAutomation Automation Browser**

In the current Web Automation Topic we will focus on the Internet Explorer browser to demonstrate the Web functionality, but, do keep in mind that everything explained here, is 100% applicable to the other browsers also!

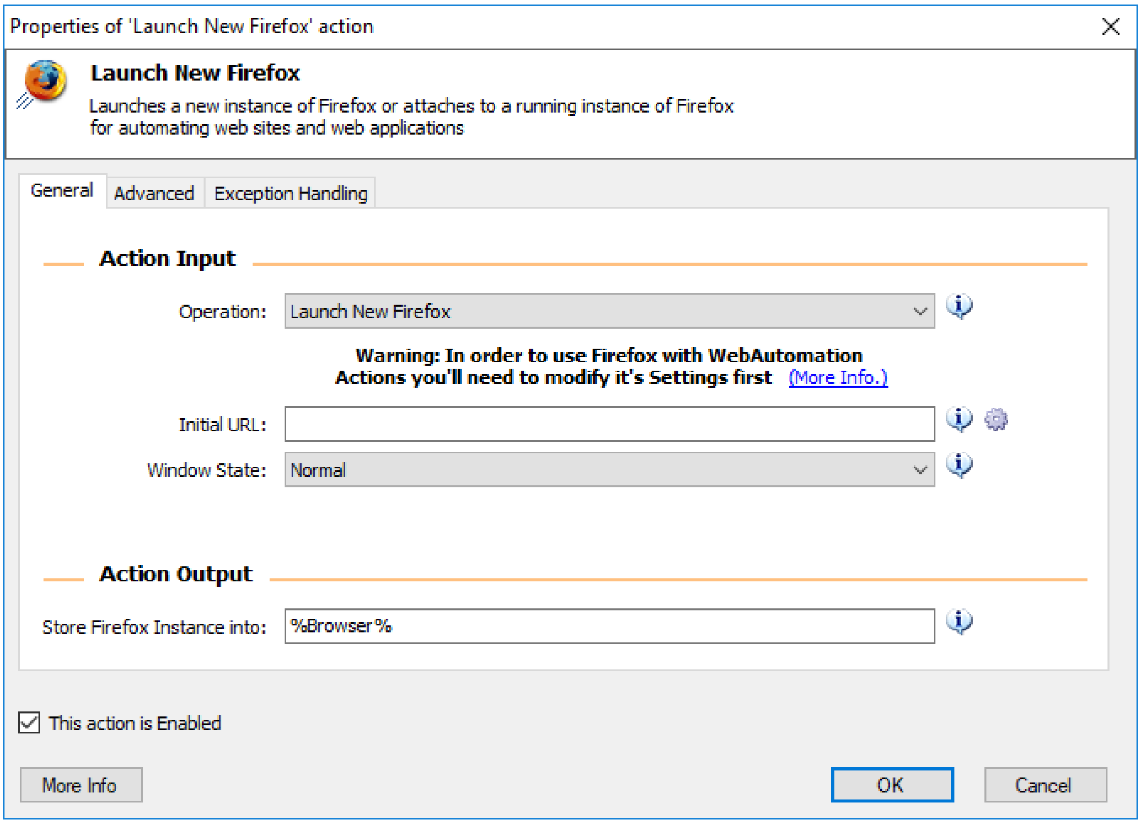
The usual sequence for creating a Web Automation Process is the following:

1. You launch a browser window (or attach to an existing one) using one of the following three actions: "Launch New Internet Explorer 562", "Launch New Chrome 572" or "Launch New Firefox 567". These actions generate a variable containing the instance of the web browser that needs to be passed to subsequent actions (this is useful when you need to automate more that one browsers concurrently).

   By default a Web Browser instance is stored in %Browser%, but you can change the name of the variable to the most convenient name for you. Do keep in mind that any web actions on this specific browser that you opened with these actions, should respond to this instance.

   For example if you wish to use the "Click Link on Web Page" action, in the Web

Browser Instance you should indicate the variable %Browser% (or the variable's name that you gave to the instance in any of the Launch new Browser actions).



Properties of 'Launch New Firefox' action

Launch New Firefox

Launches a new instance of Firefox or attaches to a running instance of Firefox for automating web sites and web applications

Action Input

Operation: Launch New Firefox

Warning: In order to use Firefox with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Initial URL:

Window State: Normal

Action Output

Store Firefox Instance into: %Browser%

☑ This action is Enabled

2. You add the appropriate actions based on the steps that you want to automate. There are actions available for clicking on links, filling and submitting web forms, extracting data from web pages, etc. In each action you will need to pass the variable containing the web browser instance (for example %Browser%) to specify the browser on which the action will be performed, as previously mentioned in [1].

3. Optionally, you may close the browser used for the automation using the "Close Web Browser 587" action.

In order to build your Process you have plenty of tools at your disposal. The easiest way to start is to use the Web Recorder 246 that gives you the ability to record your web activities as you perform them and convert them into a Process.

Alternatively, you can build your Process manually by combining (and configuring) the appropriate actions in Process Designer. The rest of the overview will focus on the Process Designer approach, for Web Recorder usage please refer to the corresponding topic 246.

3.9.2 Building a WebAutomation Process

Building a Web Automation Process in the Process Designer:

As mentioned before, you will start with the "Launch New Internet Explorer 562" action and specify the initial web address to visit:

In addition to the initial URL, you may also specify:

- The type of Internet browser you wish to work with, by choosing among launching the Automation Browser, a new Internet Explorer, or attaching to an already running IE .

  The Automation Browser may be preferred as it offers a minimal and fully-functional browser interface, while allowing you avoid inconsistencies and delays that Internet Explorer add-ons, toolbars and widgets may cause. (More information you can find in the Actual Internet Explorer VS Automated Browser 280 topic)

- Whether the web browser window will be launched in normal, maximized or minimized (in case you want the Process to run in the background) state.

The main outcome of Launch New Internet Explorer action is to generate a variable containing the instance of the web browser that will be passed as input to the rest web-related actions of your script. Since it is possible that within the same Process you may need to automate more than one browsers concurrently (if for example you may want to extract data from one web site and populate some fields of another), you can include multiple "Launch New Internet Explorer" actions and store the generated Internet Explorer Instances appropriately, so that you can pass them to the respective subsequent web-automation actions.

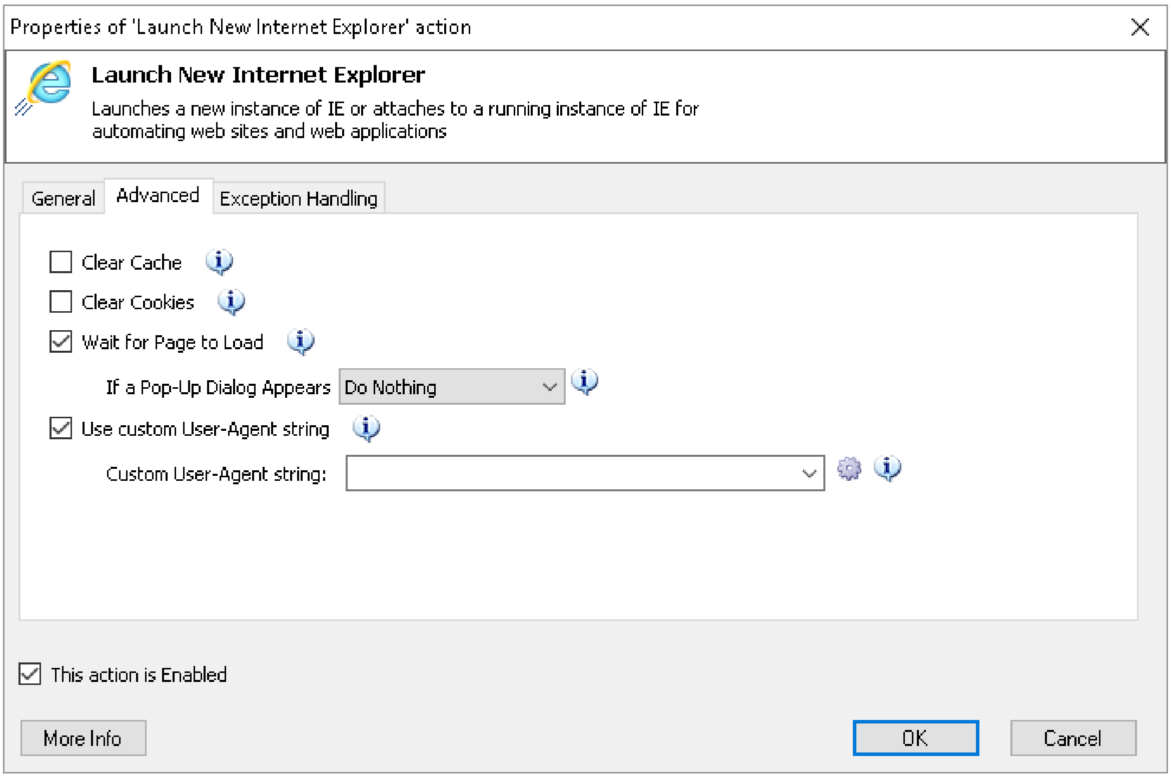
The most commonly selected option is to Launch a new Internet Explorer. However, by default, IE comes with security settings disallowing any external applications (WinAutomation in our case) from controlling it. Therefore, it is essential to configure its security settings 267 first.

Alternatively, you can use the WinAutomation's browser that does not require any configuration changes.

When selecting to launch a new browser, you can specify some further options, found in the **Advanced** tab of Properties of Launch New Internet Explorer action window:

- Whether to clear the browser's cache and/or any stored cookies right after launching it (depending on the size of cache or stored cookies this procedure may take a while).

- Whether you need the Process to wait for the new web page to load completely before proceeding to the next the action.
- How should the action respond if a pop-up dialog appears while loading the initial web page (i.e. close, ignore or interact with it).
- Specify the user-agent string that you want the runtime web helper to advertise to the website's that it is instructed to navigate to.



Properties of 'Launch New Internet Explorer' action

Launch New Internet Explorer

Launches a new instance of IE or attaches to a running instance of IE for automating web sites and web applications

☐ Clear Cache

☐ Clear Cookies

☑ Wait for Page to Load

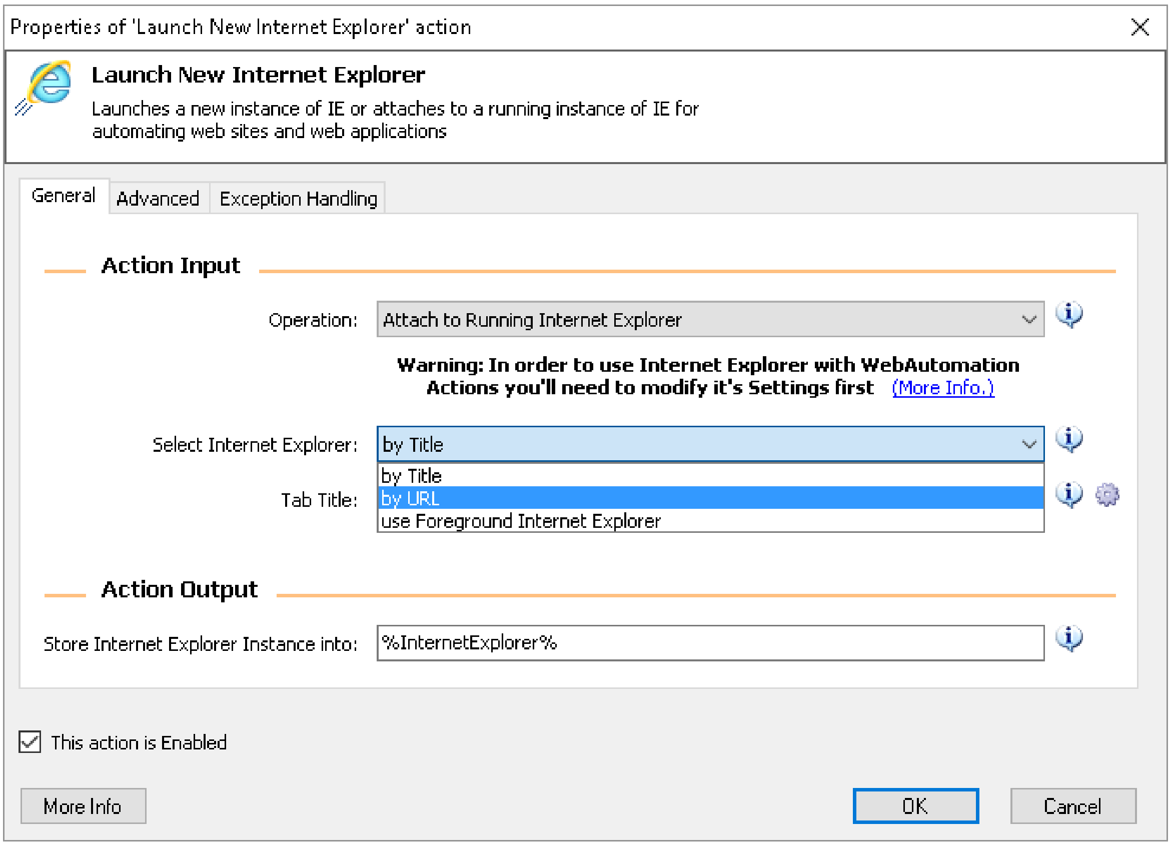
If a Pop-Up Dialog Appears: Do Nothing

☑ Use custom User-Agent string

Custom User-Agent string:

☑ This action is Enabled

If you set the action to attach to a running Internet Explorer (instead of launching a new one) you are prompted to choose whether it will attach to an Internet Explorer Tab based on its Title, URL, or just pick the Active Tab of the Internet Explorer running as the Foreground Window.



Properties of 'Launch New Internet Explorer' action

Launch New Internet Explorer

Launches a new instance of IE or attaches to a running instance of IE for automating web sites and web applications

Action Input

Operation: Attach to Running Internet Explorer

Warning: In order to use Internet Explorer with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Select Internet Explorer: by Title

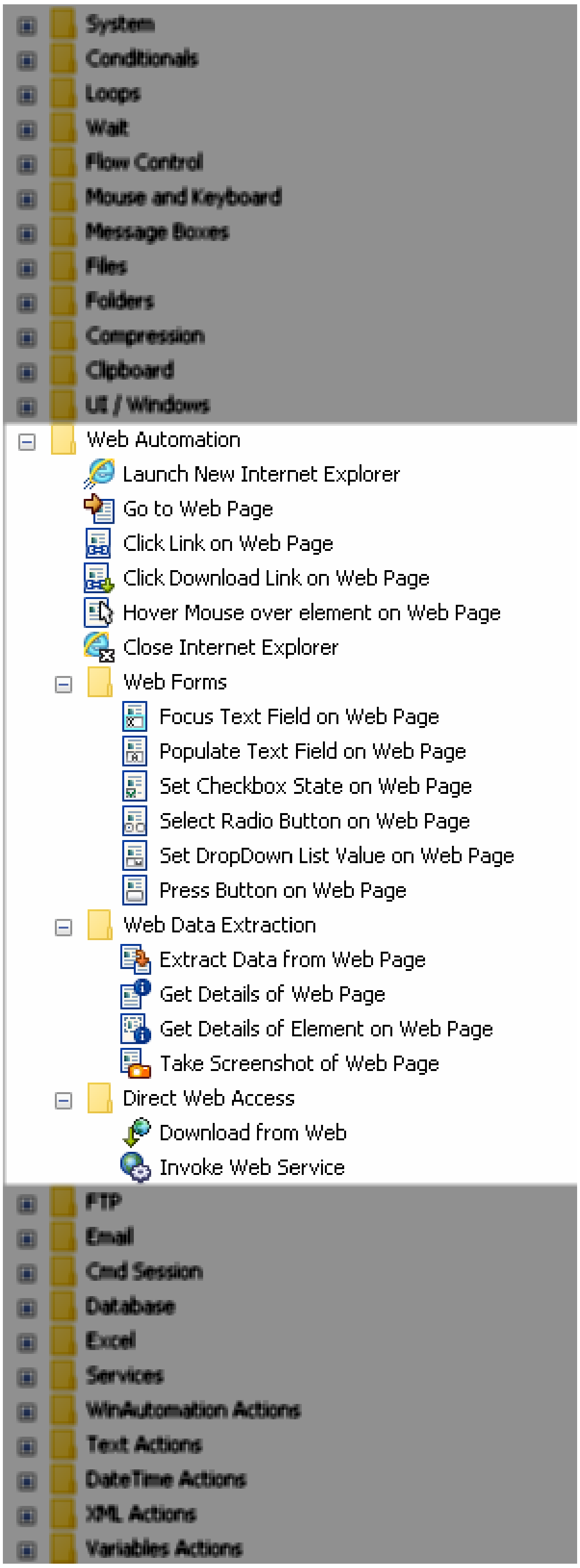
Action Output

Store Internet Explorer Instance into: %InternetExplorer%

☑ This action is Enabled

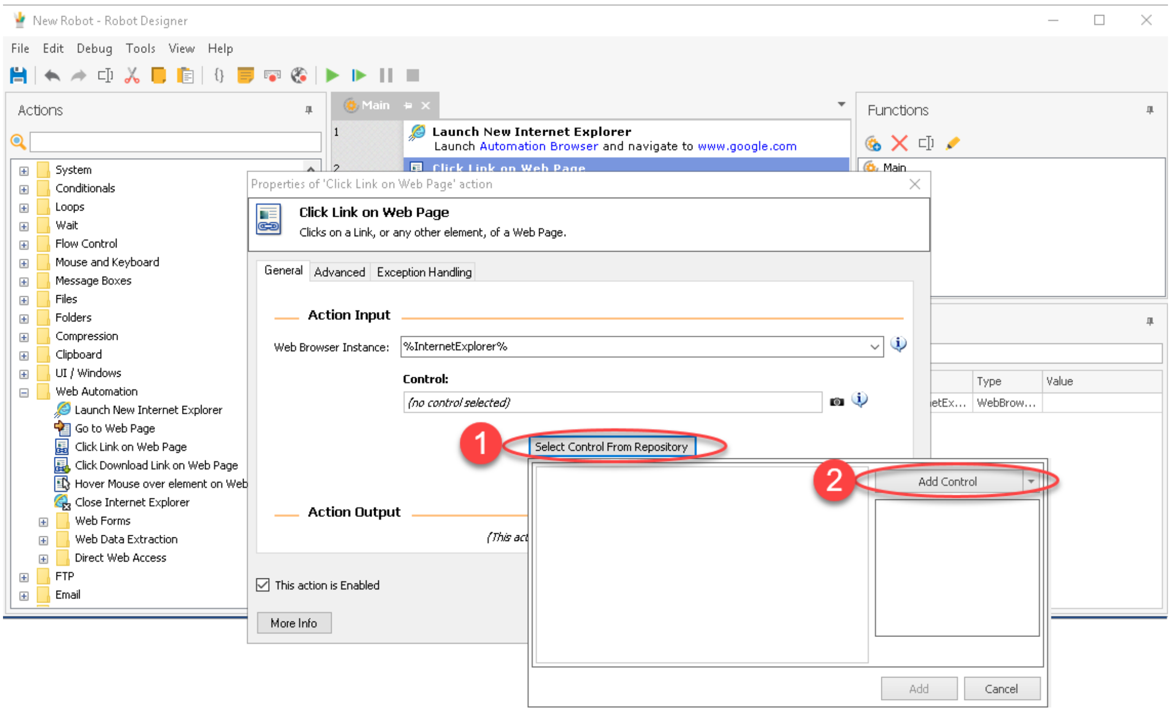
Next, you will append other actions to interact with elements in the web page.

There are actions available for clicking on links, filling and submitting web forms, extracting data from web pages, etc.


System
Conditionals
Loops
Wait
Flow Control
Mouse and Keyboard
Message Boxes
Files
Folders
Compression
Clipboard
UI / Windows
Web Automation
Launch New Internet Explorer
Go to Web Page
Click Link on Web Page
Click Download Link on Web Page
Hover Mouse over element on Web Page
Close Internet Explorer
Web Forms
Focus Text Field on Web Page
Populate Text Field on Web Page
Set Checkbox State on Web Page
Select Radio Button on Web Page
Set DropDown List Value on Web Page
Press Button on Web Page
Web Data Extraction
Extract Data from Web Page
Get Details of Web Page
Get Details of Element on Web Page
Take Screenshot of Web Page
Direct Web Access
Download from Web
Invoke Web Service
FTP
Email
Cmd Session
Database
Excel
Services
WinAutomation Actions
Text Actions
DateTime Actions
XML Actions
Variables Actions

Although each action has its specific features there is an overall mode in setting the web-related actions' properties.

Say, for example that you need to click on a link. For that you will need to use the "Click Link on Web Page 583" action:



1 Launch New Internet Explorer
Launch Automation Browser and navigate to www.google.com

2 Click Link on Web Page

Properties of 'Click Link on Web Page' action

Click Link on Web Page
Clicks on a Link, or any other element, of a Web Page.

General | Advanced | Exception Handling

Action Input

Web Browser Instance: %InternetExplorer%

Control: (no control selected)

Select Control From Repository

Action Output

(This act

☑ This action is Enabled

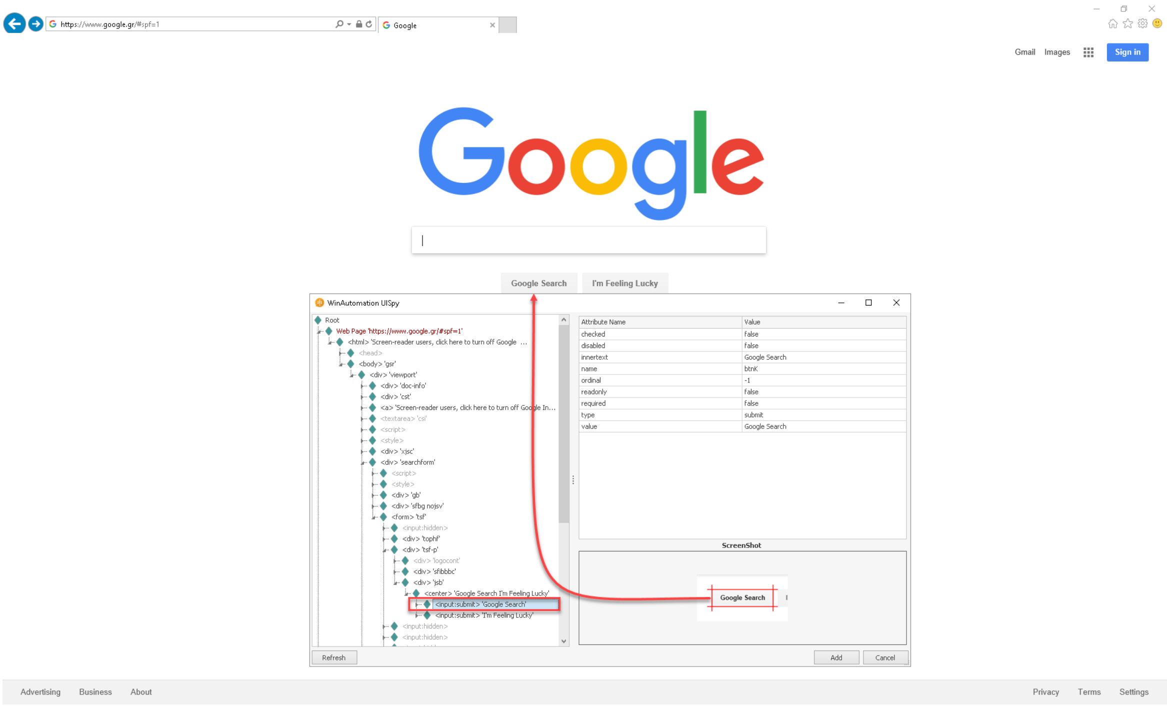
More Info

As you can see in the screenshot above, you will first need to select the Browser Instance on which the action will be performed. The next step is to specify the link you want to click on and add it in your Control Repository. You can do this in two ways:

1. Select the Control form your Repository, if it is already there from a previous selections, or

2. Click "Select Control Repository" and then click "Add Control". This will open the Live Helpers. Hover your mouse over the element that you want to access in the Internet Explorer and hit LeftCtrl+LeftClick to select it.

Once you do the **WinAutomation UISpy** window will pop up, that it will show you the HTML tree of the element as well as its attributes in the right pane of the window.



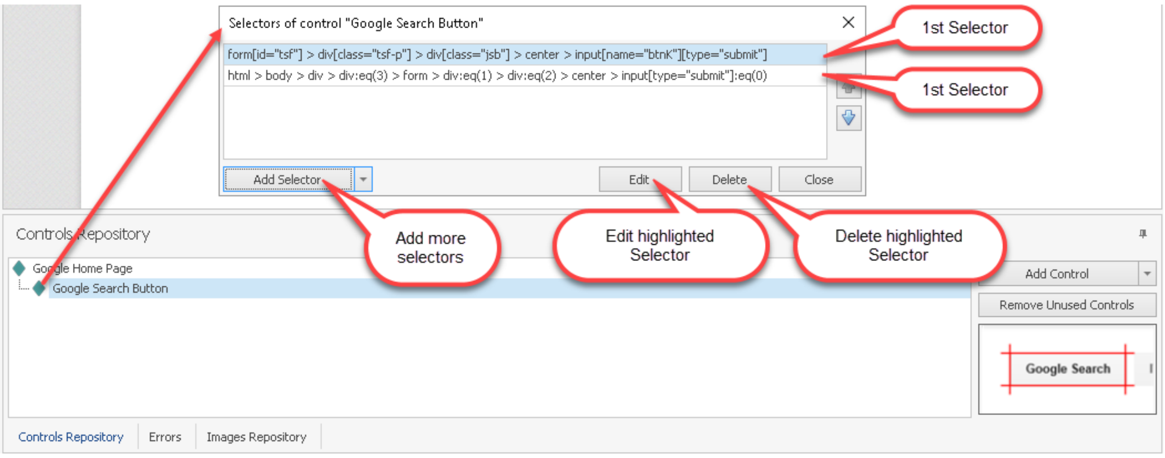
```
Root
  Web Page 'https://www.google.gr/#spf=1'
    <html> 'Screen-reader users, click here to turn off Google  ...
      <head>
      <body> 'gsr'
        <div> 'viewport'
          <div> 'doc-info'
          <div> 'cst'
          <a> 'Screen-reader users, click here to turn off Google In...
          <textarea> 'csi'
          <script>
          <style>
          <div> 'xjsc'
          <div> 'searchform'
            <script>
            <style>
            <div> 'gb'
            <div> 'sfbg nojsv'
            <form> 'tsf'
              <input:hidden>
              <div> 'tophf'
              <div> 'tsf-p'
                <div> 'logocont'
                <div> 'sfibbbc'
                <div> 'jsb'
                  <center> 'Google Search I'm Feeling Lucky'
                    <input:submit> 'Google Search'
                    <input:submit> 'I'm Feeling Lucky'
              <input:hidden>
              <input:hidden>
```

Attribute Name	Value
checked	false
disabled	false
innertext	Google Search
name	btnK
ordinal	-1
readonly	false
required	false
type	submit
value	Google Search

Click on "Add" to add this control to your Repository.

<u>Under the hood:</u>

What the Web Helper does is extract the CSS Path of the selected element and a meaningful description adding it to your Control Repository. Should you double click on the control, the Selectors for it will pop up as per the screenshot below:

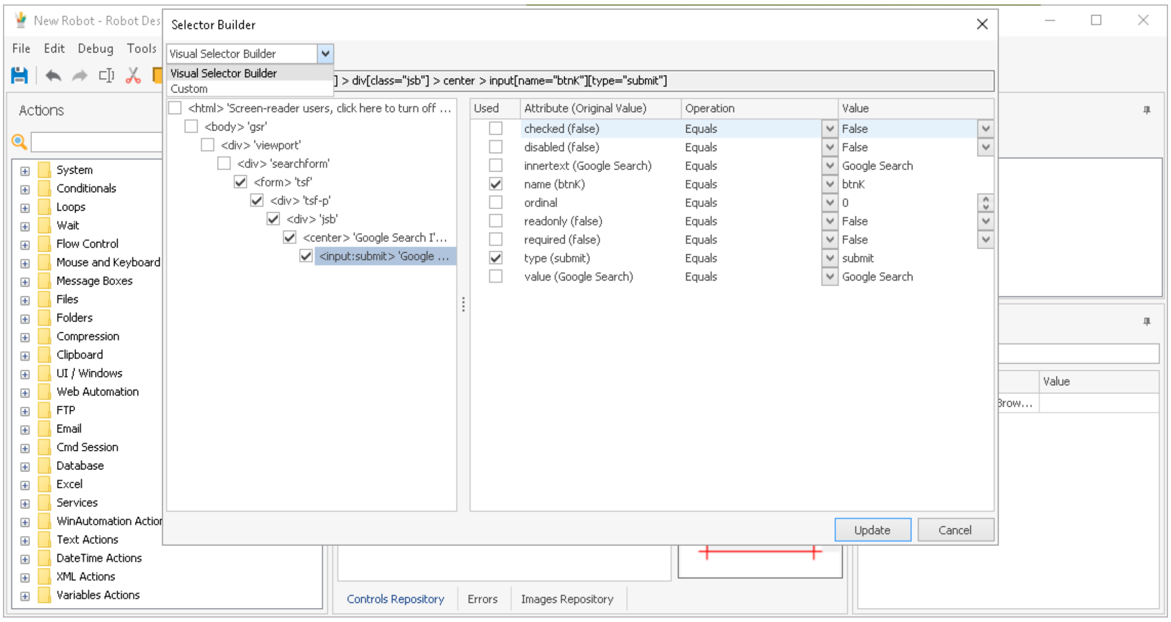


Selectors of control "Google Search Button"

```
form[id="tsf"] > div[class="tsf-p"] > div[class="jsb"] > center > input[name="btnK"][type="submit"]
html > body > div > div:eq(3) > form > div:eq(1) > div:eq(2) > center > input[type="submit"]:eq(0)
```

Should you click on "Add Selector" or "Edit" the Selector Builder will appear.

In the Selector Builder you are able to add or remove attributes to the CSS selector by checking or un-checking the relevant check-boxes. You can also choose to build a custom Selector from the Custom Option.



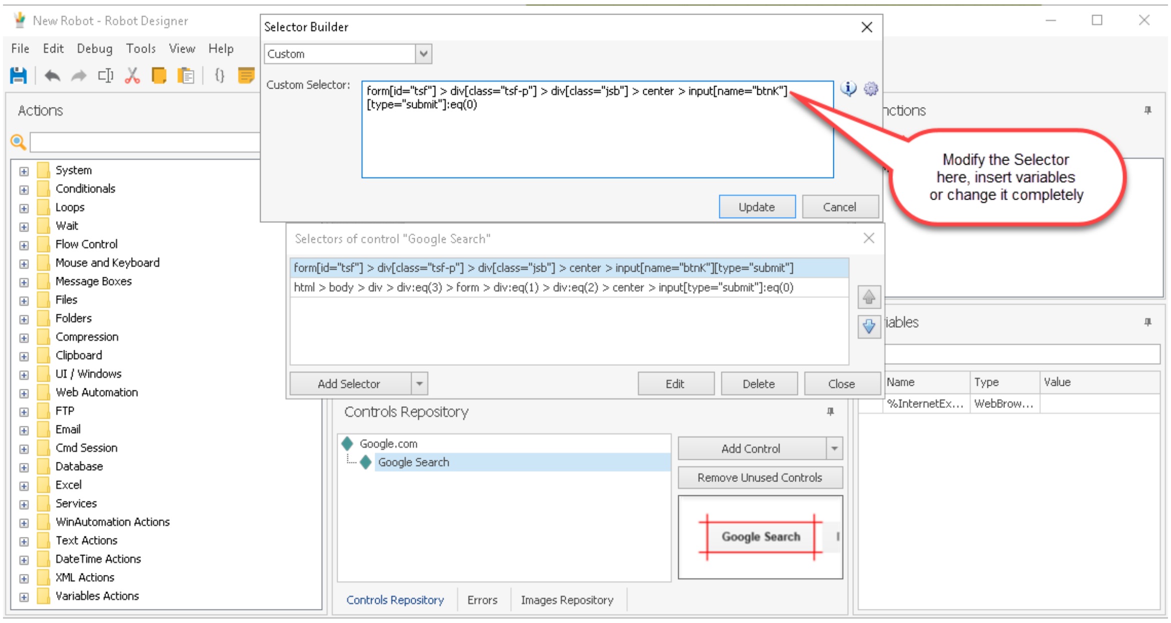
Selector Builder: Visual Selector Builder

] > div[class="jsb"] > center > input[name="btnK"][type="submit"]

- ☐ <html> 'Screen-reader users, click here to turn off ...
  - ☐ <body> 'gsr'
    - ☐ <div> 'viewport'
      - ☐ <div> 'searchform'
        - ☑ <form> 'tsf'
          - ☑ <div> 'tsf-p'
            - ☑ <div> 'jsb'
              - ☑ <center> 'Google Search I'...
                - ☑ <input:submit> 'Google ...

Used	Attribute (Original Value)	Operation	Value
☐	checked (false)	Equals	False
☐	disabled (false)	Equals	False
☐	innertext (Google Search)	Equals	Google Search
☑	name (btnK)	Equals	btnK
☐	ordinal	Equals	0
☐	readonly (false)	Equals	False
☐	required (false)	Equals	False
☑	type (submit)	Equals	submit
☐	value (Google Search)	Equals	Google Search

In the Custom selector Builder window you can modify the Selector, insert variables, or change it completely.



Selector Builder: Custom

Custom Selector: form[id="tsf"] > div[class="tsf-p"] > div[class="jsb"] > center > input[name="btnK"][type="submit"]:eq(0)

Modify the Selector here, insert variables or change it completely

Selectors of control "Google Search"

form[id="tsf"] > div[class="tsf-p"] > div[class="jsb"] > center > input[name="btnK"][type="submit"]

html > body > div > div:eq(3) > form > div:eq(1) > div:eq(2) > center > input[type="submit"]:eq(0)

To learn more about the values you can enter in the "CSS Selector" field and how to select a single element within a web page you may refer to the CSS Selectors 317 topic.

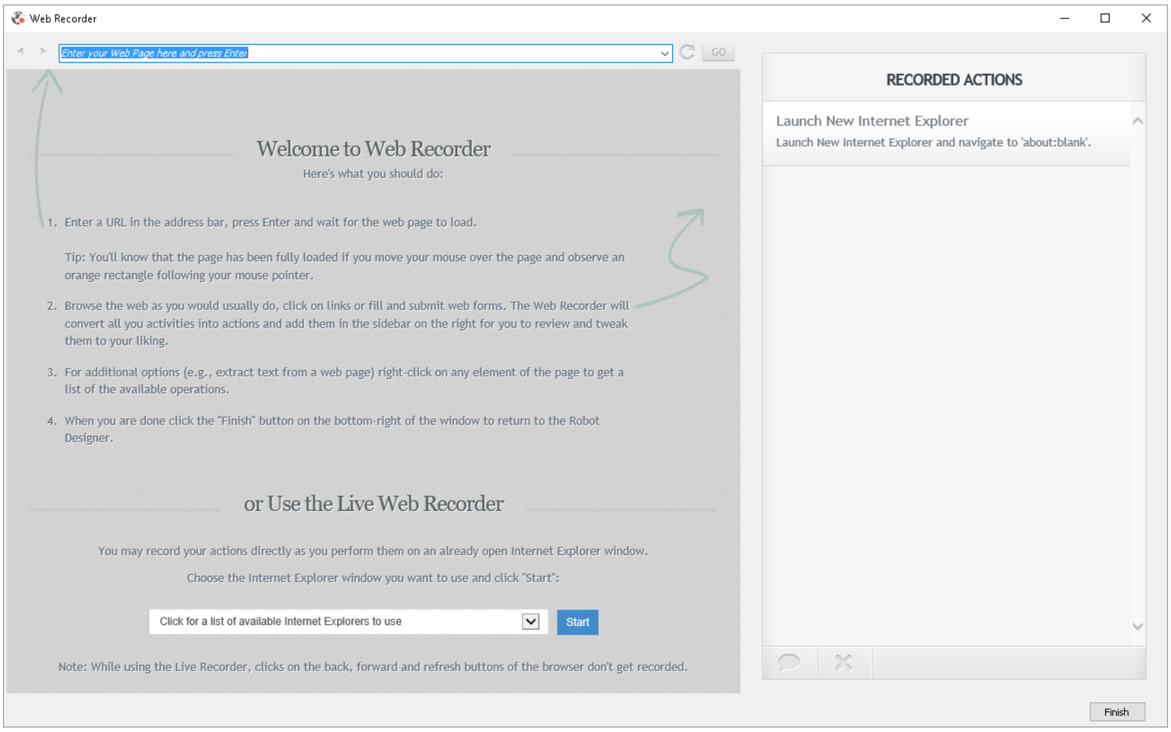
This is the logic behind any web-related action where you need to specify an element and perform an operation on it.

3.9.3 The Web Recorder

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

While you can create a Web Automation Process by combining and configuring actions in the Process Designer, as you would do for any other other Process, it is much easier to build your web related Processes by using the Web Recorder

You can open the web recorder either while creating a new Process 85 or from within the Process Designer by clicking on the Web Recorder button on the toolbar.



Welcome to Web Recorder

Here's what you should do:

1. Enter a URL in the address bar, press Enter and wait for the web page to load.

   Tip: You'll know that the page has been fully loaded if you move your mouse over the page and observe an orange rectangle following your mouse pointer.

2. Browse the web as you would usually do, click on links or fill and submit web forms. The Web Recorder will convert all you activities into actions and add them in the sidebar on the right for you to review and tweak them to your liking.

3. For additional options (e.g., extract text from a web page) right-click on any element of the page to get a list of the available operations.

4. When you are done click the "Finish" button on the bottom-right of the window to return to the Robot Designer.

or Use the Live Web Recorder

You may record your actions directly as you perform them on an already open Internet Explorer window.

Choose the Internet Explorer window you want to use and click "Start":

Click for a list of available Internet Explorers to use

Note: While using the Live Recorder, clicks on the back, forward and refresh buttons of the browser don't get recorded.

Launch New Internet Explorer

Launch New Internet Explorer and navigate to 'about:blank'.

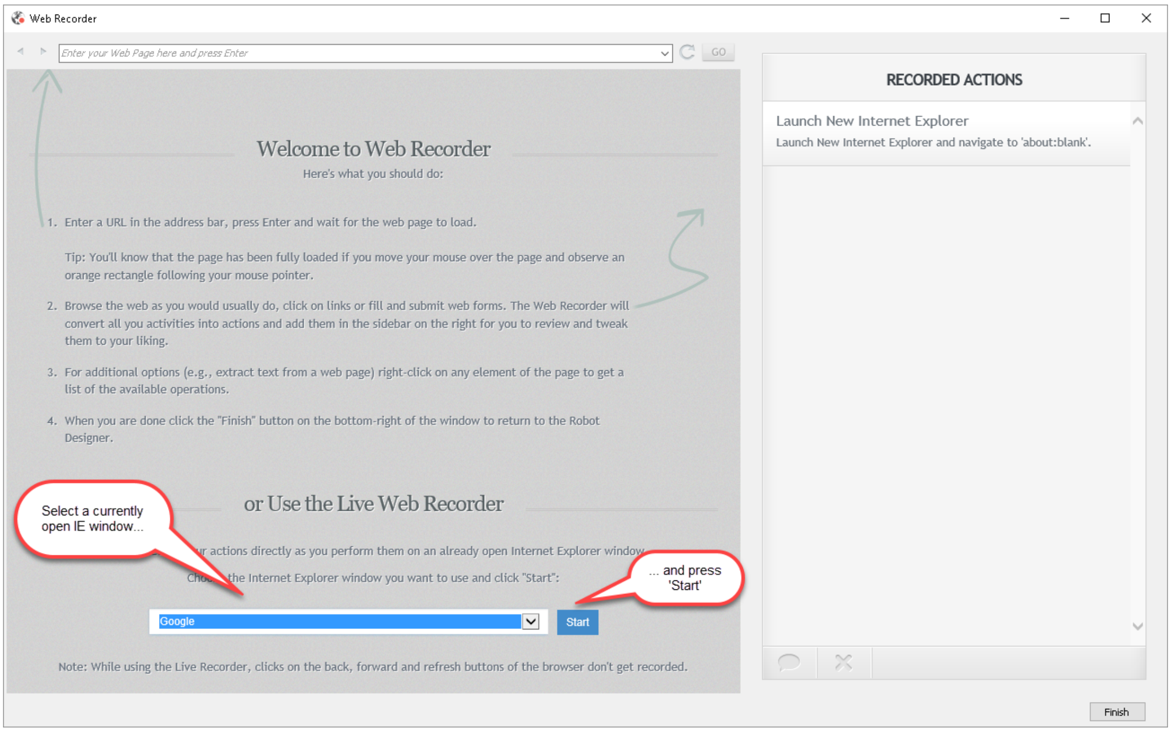
This is the initial screen of the Web Recorder. It consists of two parts, the Web Automation browser on the left and the sidebar with the recorded actions on the right. At this point, you are presented with a browser choice. You can either record on the Web Automation browser (initially displaying the "Welcome to Web Recorder" page) or you may use any already open Internet Explorer window with the help of the Live Web Recorder.

Use the Web Automation browser for the recording

As with the Web Helper 281, the fist step here is to enter in the address bar the URL of the site you want to visit and press "Go" (or Enter). Immediately you will see that the first action in the sidebar gets updated with the website address. This indicates that the recording has started and in the sidebar you will see the corresponding actions that get added as you interact with the web page.

Record the actions on an already open Internet Explorer window (Live Web Recorder)

The Live Web Recorder does not require you type a URL. Instead, the starting web page is determined by your selection of the Internet Explorer window. In other words, the current address of the selected window is where the recording starts from. Therefore, when there are more than one Internet Explorer windows open, you should select the one displaying the site you want to visit before pressing the "Start" button:


Web Recorder
Enter your Web Page here and press Enter
GO
RECORDED ACTIONS
Select a currently open IE window...
... and press 'Start'
Google
Start
Finish

Welcome to Web Recorder

Here's what you should do:

1. Enter a URL in the address bar, press Enter and wait for the web page to load.

   Tip: You'll know that the page has been fully loaded if you move your mouse over the page and observe an orange rectangle following your mouse pointer.

2. Browse the web as you would usually do, click on links or fill and submit web forms. The Web Recorder will convert all you activities into actions and add them in the sidebar on the right for you to review and tweak them to your liking.

3. For additional options (e.g., extract text from a web page) right-click on any element of the page to get a list of the available operations.

4. When you are done click the "Finish" button on the bottom-right of the window to return to the Robot Designer.

or Use the Live Web Recorder

ur actions directly as you perform them on an already open Internet Explorer window

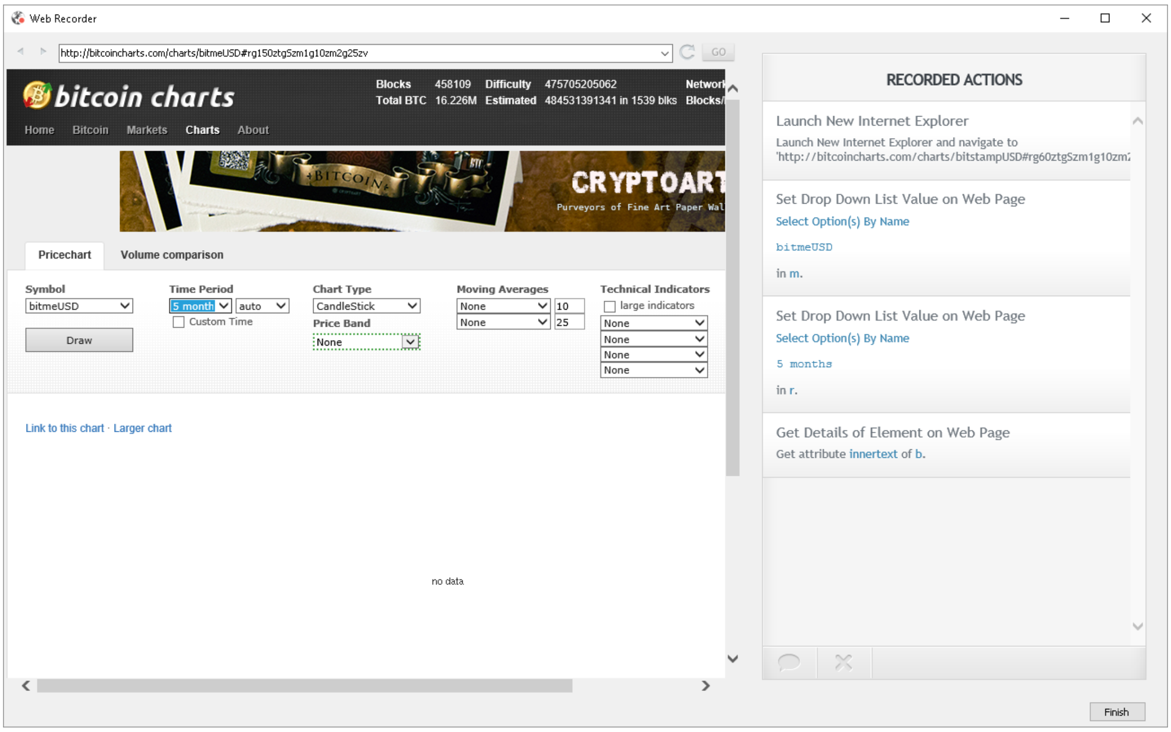
Cho the Internet Explorer window you want to use and click "Start":

Note: While using the Live Recorder, clicks on the back, forward and refresh buttons of the browser don't get recorded.

Launch New Internet Explorer

Launch New Internet Explorer and navigate to 'about:blank'.

With the correct browser window selected, press the "Start" button to start the recording. The sidebar will now appear on the top right part of the selected Internet Explorer and the Web Automation browser (which is now unnecessary) will hide.



http://bitcoincharts.com/charts/bitmeUSD#rg150ztgSzm1g10zm2g25zv

Blocks 458109 Difficulty 475705205062 Networ
Total BTC 16.226M Estimated 484531391341 in 1539 blks Blocks/

Symbol: bitmeUSD

Time Period: 5 month, auto

□ Custom Time

Chart Type: CandleStick

Price Band: None

Moving Averages: None 10, None 25

Technical Indicators: □ large indicators; None; None; None; None

Launch New Internet Explorer

Launch New Internet Explorer and navigate to 'http://bitcoincharts.com/charts/bitstampUSD#rg60ztgSzm1g10zm2

Set Drop Down List Value on Web Page

Select Option(s) By Name

bitmeUSD

in m.

Set Drop Down List Value on Web Page

Select Option(s) By Name

5 months

in r.

Get Details of Element on Web Page

Get attribute innertext of b.

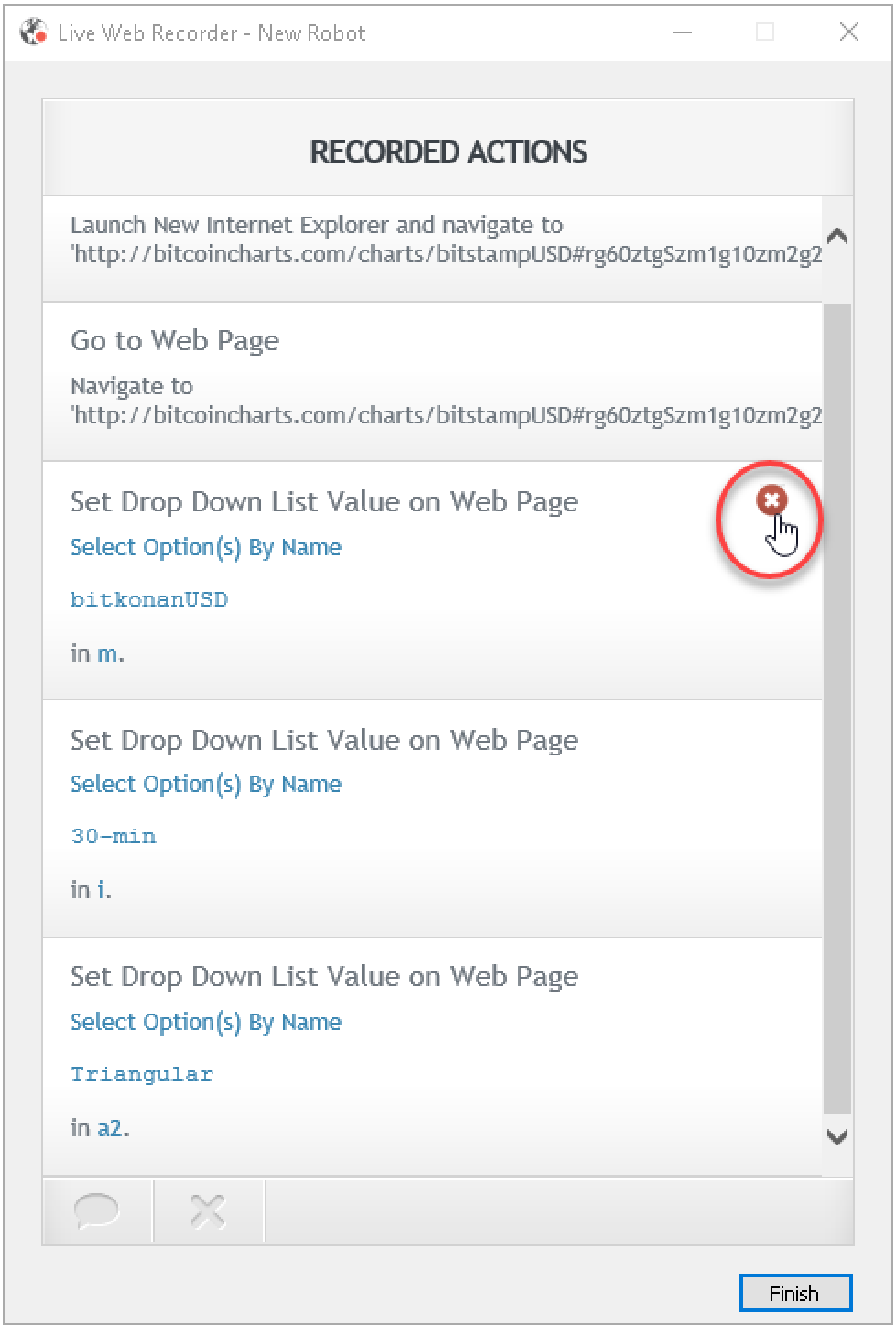
Note that while using the Live Web Recorder, clicks on the back, forward and refresh buttons of the browser do not get recorded.

Making the Recording

As soon as you start the recording, the process is similar irregardless of your selection between the Live Web Recorder and the Web Automation browser.

Whatever you do gets recorded. So, for example, if you click on a link a new "Click Link on Web Page 583" action will be appended on the sidebar. Enter some text into a text field, submit a form, navigate back or click on another link; every activity you perform will be translated into the appropriate action and added to the sidebar.

If you perform an action unintentionally and you do not want it to be included in the final sequence of actions, you can move the mouse over the action that you want to delete and a red ✖ button will appear in the action's top right corner, as shown below. By clicking on the x button the action will be removed from the list of recorded actions.



RECORDED ACTIONS

Launch New Internet Explorer and navigate to 'http://bitcoincharts.com/charts/bitstampUSD#rg60ztgSzm1g10zm2g2

Go to Web Page

Navigate to 'http://bitcoincharts.com/charts/bitstampUSD#rg60ztgSzm1g10zm2g2

Set Drop Down List Value on Web Page

Select Option(s) By Name

bitkonanUSD

in m.

Set Drop Down List Value on Web Page

Select Option(s) By Name

30-min

in i.

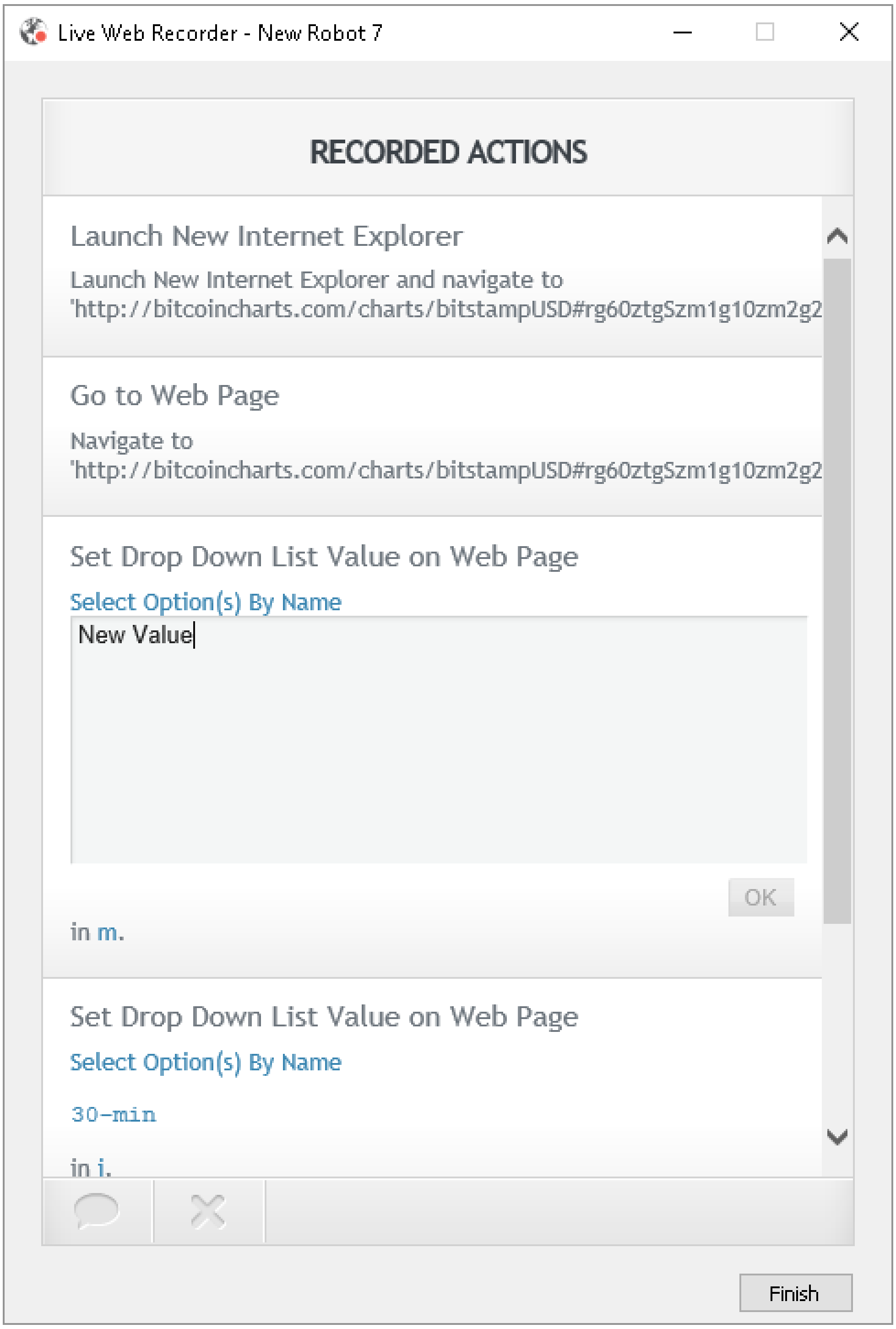
Set Drop Down List Value on Web Page

Select Option(s) By Name

Triangular

in a2.

Most actions have part of their text in blue. These pieces of text correspond to the parameters of the action and can be edited by clicking on them. As an example we'll click on the email address that we entered into the email field and change it:



RECORDED ACTIONS

Launch New Internet Explorer

Launch New Internet Explorer and navigate to 'http://bitcoincharts.com/charts/bitstampUSD#rg60ztgSzm1g10zm2g2

Go to Web Page

Navigate to 'http://bitcoincharts.com/charts/bitstampUSD#rg60ztgSzm1g10zm2g2

Set Drop Down List Value on Web Page

Select Option(s) By Name

New Value

in m.

Set Drop Down List Value on Web Page

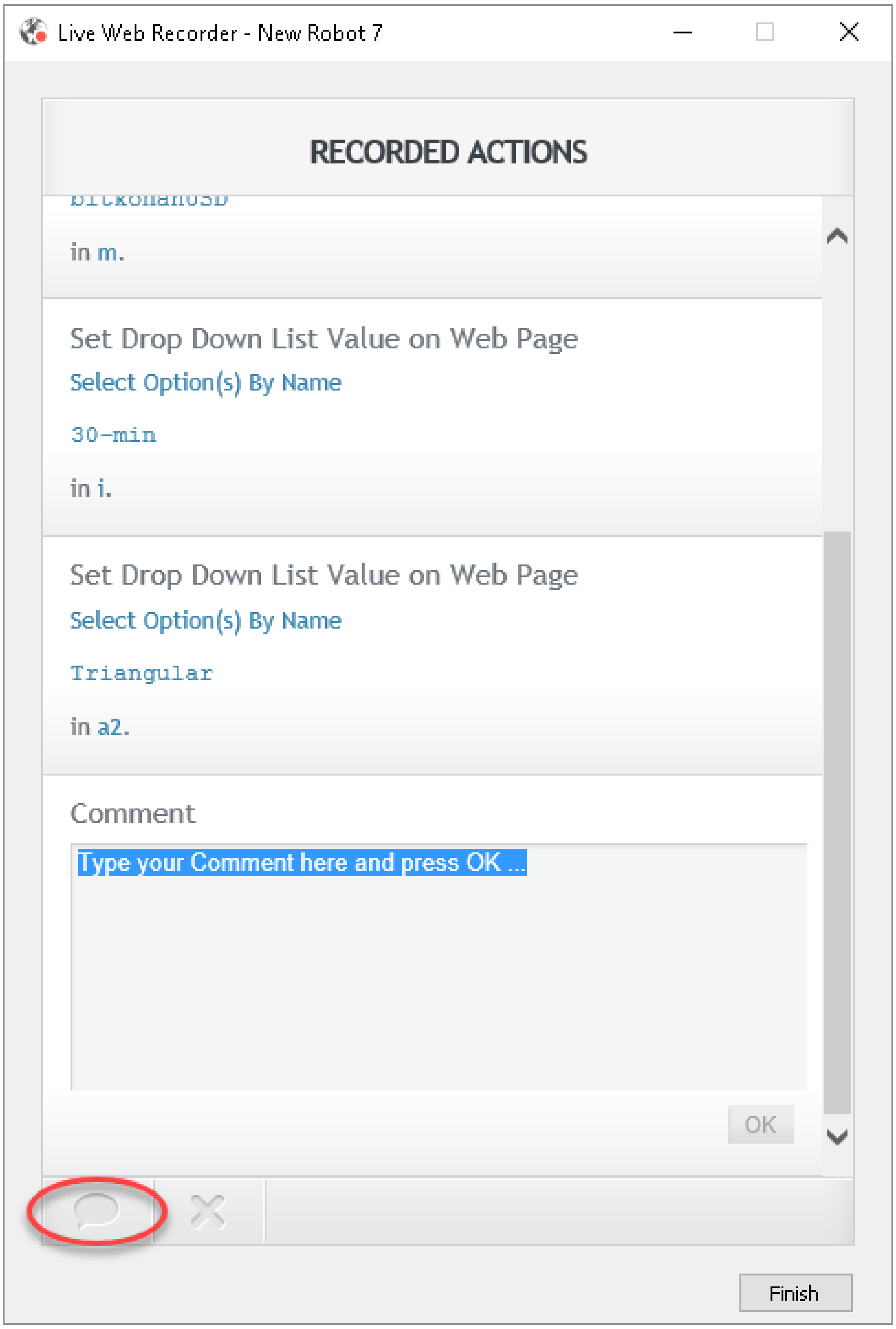
Select Option(s) By Name

30-min

in i.

This feature is also useful for changing the name the Web Recorder assigns to each element. WinAutomation makes its best effort to extract a name for every element you interact with, however this may not always be possible or you may want to replace the auto generated name with another one that makes more sense to you.

While recording you may want to take notes that will be useful if you chose to edit the actions later in the Process Designer. To do so you need to click on the "Insert Comment" button 💬 and a comment action will be appended in the sidebar. This action, holding the comment that you entered, will be part of the recorded actions that will be sent back to the Process Designer.



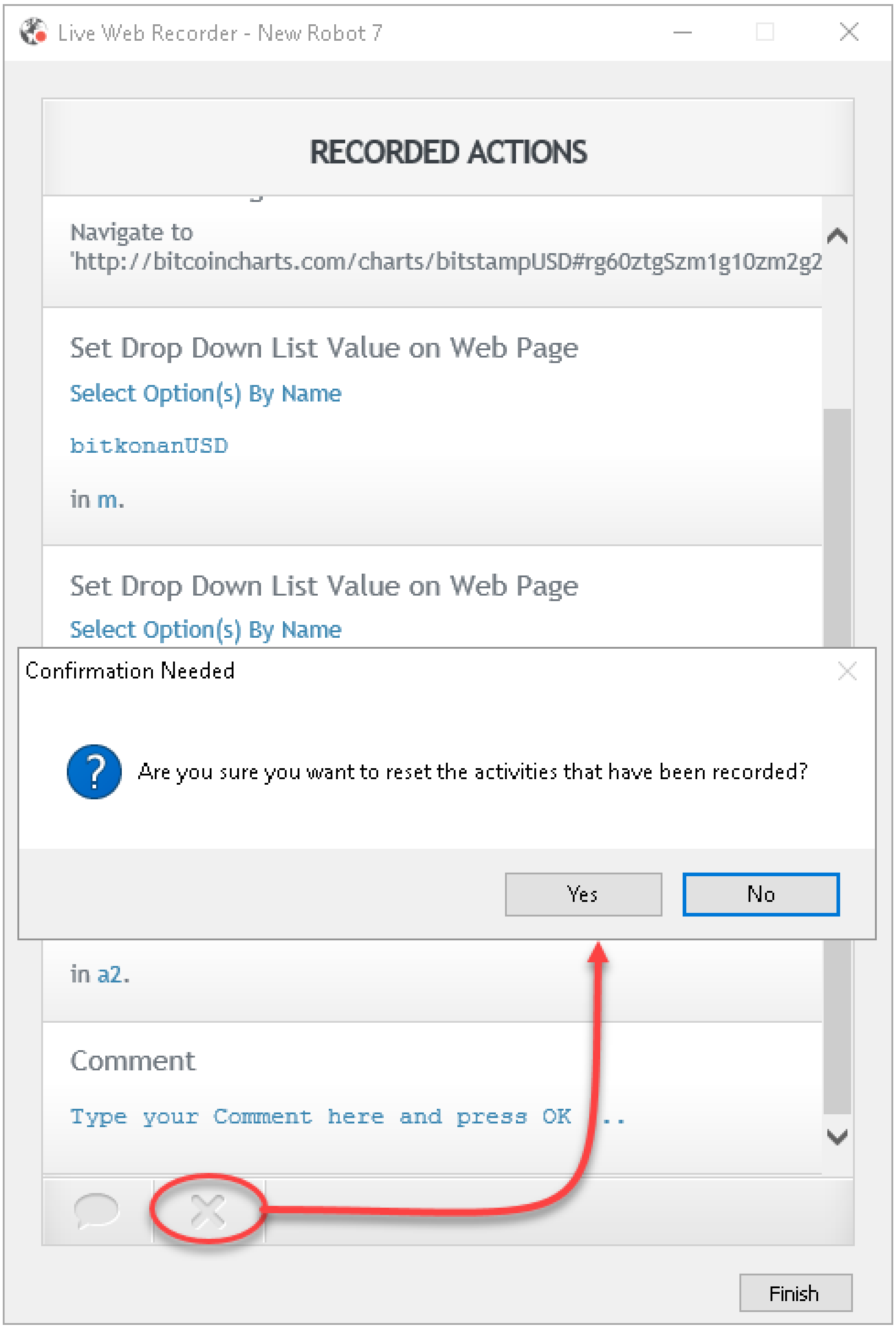
in m.

Set Drop Down List Value on Web Page
Select Option(s) By Name
30-min
in i.

Set Drop Down List Value on Web Page
Select Option(s) By Name
Triangular
in a2.

Comment
Type your Comment here and press OK ...

If, at any point you want to discard all the actions you have recorded so far and start from scratch, you can press the "Reset Recorded Actions" button. A message box will appear for you to confirm the delete.



Live Web Recorder - New Robot 7

RECORDED ACTIONS

Navigate to 'http://bitcoincharts.com/charts/bitstampUSD#rg60ztgSzm1g10zm2g2

Set Drop Down List Value on Web Page
Select Option(s) By Name
bitkonanUSD
in m.

Set Drop Down List Value on Web Page
Select Option(s) By Name

Confirmation Needed

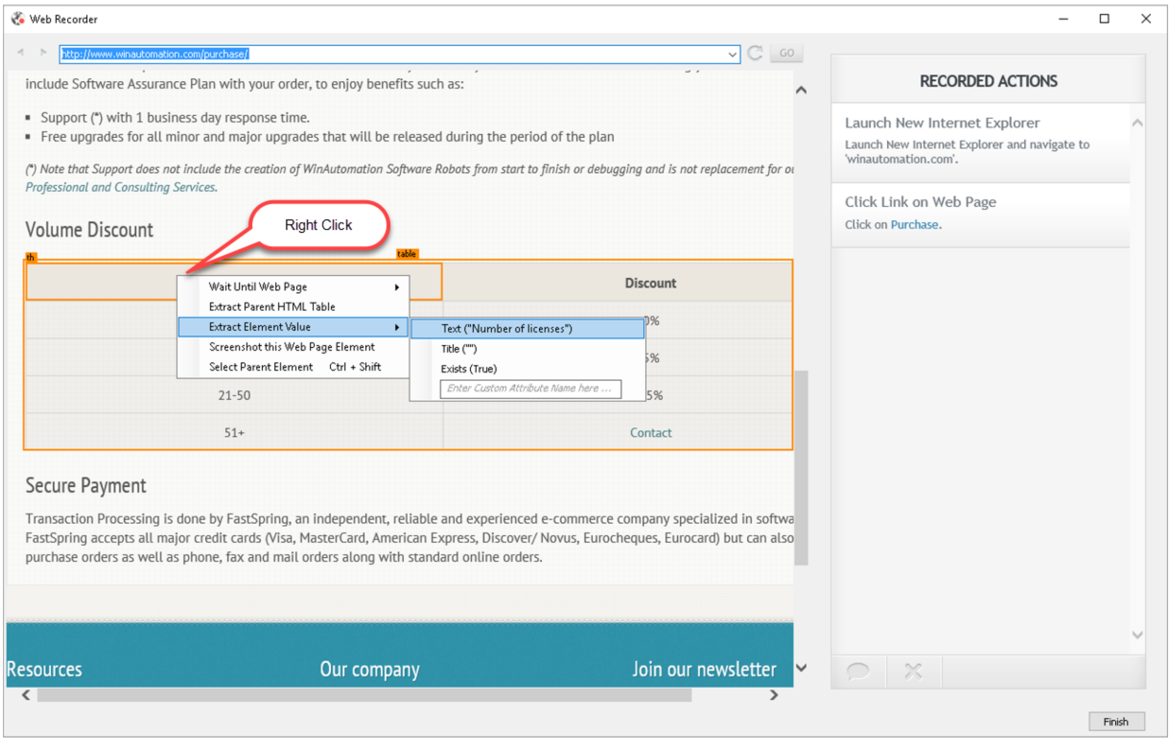
Are you sure you want to reset the activities that have been recorded?

in a2.

Comment
Type your Comment here and press OK ...

Extracting Data while Recording

The Web Recorder also includes the functionality of the Data Extraction Web Helper 255 so that while you are recording you can specify any data on the web page you are visiting that you want to extract. This is done simply by right-clicking on the element you want to extract and from the context menu that will appear select the "Extract Element Value" and then the attribute that you want to extract.


Web Recorder
http://www.winautomation.com/purchase/
GO
Right Click
th
table
Wait Until Web Page
Extract Parent HTML Table
Extract Element Value
Screenshot this Web Page Element
Select Parent Element Ctrl + Shift
Text ("Number of licenses")
Title ("")
Exists (True)
Enter Custom Attribute Name here ...
Discount
0%
5%
21-50
5%
51+
Contact
Resources
Our company
Join our newsletter
RECORDED ACTIONS
Finish

include Software Assurance Plan with your order, to enjoy benefits such as:

- Support (*) with 1 business day response time.
- Free upgrades for all minor and major upgrades that will be released during the period of the plan

(*) Note that Support does not include the creation of WinAutomation Software Robots from start to finish or debugging and is not replacement for o Professional and Consulting Services.

Volume Discount

Secure Payment

Transaction Processing is done by FastSpring, an independent, reliable and experienced e-commerce company specialized in softwa FastSpring accepts all major credit cards (Visa, MasterCard, American Express, Discover/ Novus, Eurocheques, Eurocard) but can also purchase orders as well as phone, fax and mail orders along with standard online orders.

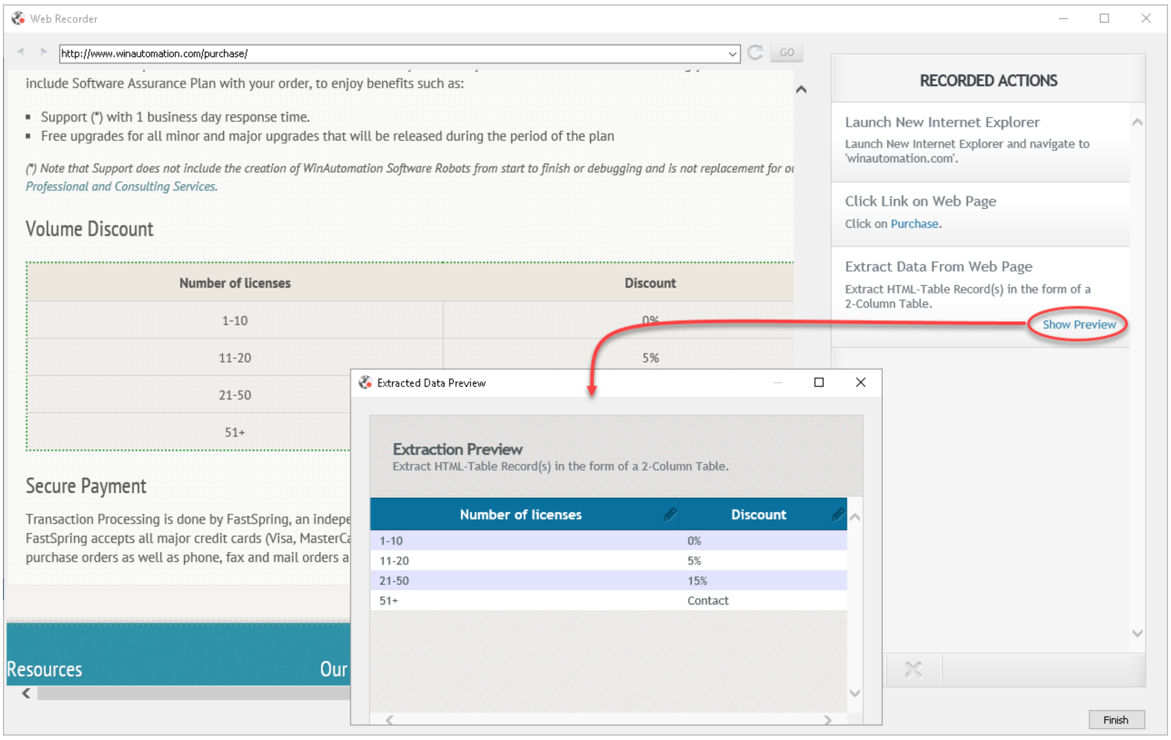
Launch New Internet Explorer

Launch New Internet Explorer and navigate to 'winautomation.com'.

Click Link on Web Page

Click on Purchase.

As with the Data Extraction Web Helper 255 you may select multiple elements and the Extraction action will be updated accordingly. The action will also include a link to a preview of the selected data as it is going to be extracted.



include Software Assurance Plan with your order, to enjoy benefits such as:

- Support (*) with 1 business day response time.
- Free upgrades for all minor and major upgrades that will be released during the period of the plan

(*) Note that Support does not include the creation of WinAutomation Software Robots from start to finish or debugging and is not replacement for o Professional and Consulting Services.

Volume Discount

Number of licenses	Discount
1-10	0%
11-20	5%
21-50	
51+	

Secure Payment

Transaction Processing is done by FastSpring, an indepe FastSpring accepts all major credit cards (Visa, MasterCa purchase orders as well as phone, fax and mail orders a

Launch New Internet Explorer
Launch New Internet Explorer and navigate to 'winautomation.com'.

Click Link on Web Page
Click on Purchase.

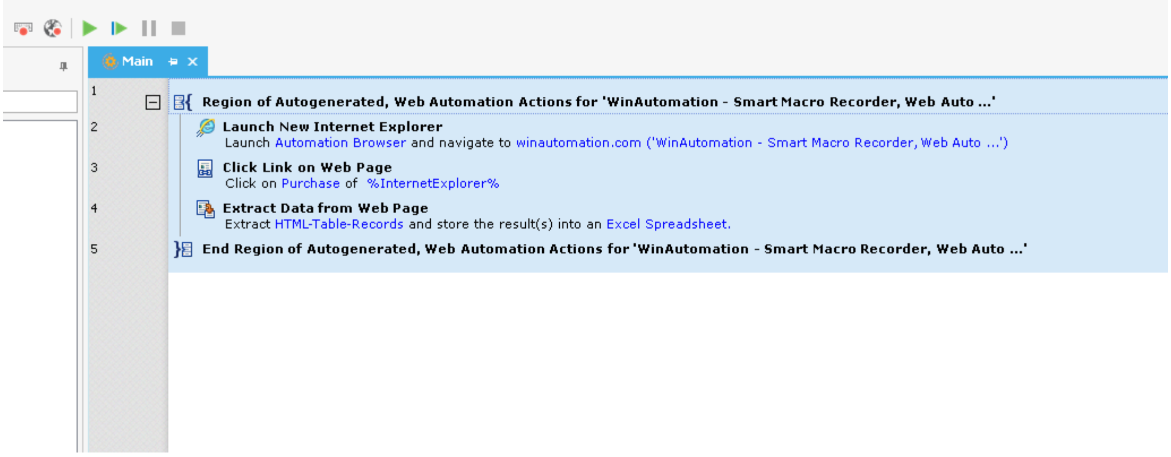
Extract Data From Web Page
Extract HTML-Table Record(s) in the form of a 2-Column Table.

Extraction Preview
Extract HTML-Table Record(s) in the form of a 2-Column Table.

Number of licenses	Discount
1-10	0%
11-20	5%
21-50	15%
51+	Contact

By right-clicking on an element you can also insert an action that takes a screenshot of that element, or an action that waits until the text contained in that element appears/disappears from the page. The latter is useful especially for dynamic/ajax-powered websites that you need to make sure that the page has been updated before moving on the the next action.

Finally, once you are happy with the process you have recorded you can press the "Finish" button and all the actions will be transferred back to the Process Designer:



```
1  Region of Autogenerated, Web Automation Actions for 'WinAutomation - Smart Macro Recorder, Web Auto ...'
2    Launch New Internet Explorer
     Launch Automation Browser and navigate to winautomation.com ('WinAutomation - Smart Macro Recorder, Web Auto ...')
3    Click Link on Web Page
     Click on Purchase of  %InternetExplorer%
4    Extract Data from Web Page
     Extract HTML-Table-Records and store the result(s) into an Excel Spreadsheet.
5  End Region of Autogenerated, Web Automation Actions for 'WinAutomation - Smart Macro Recorder, Web Auto ...'
```

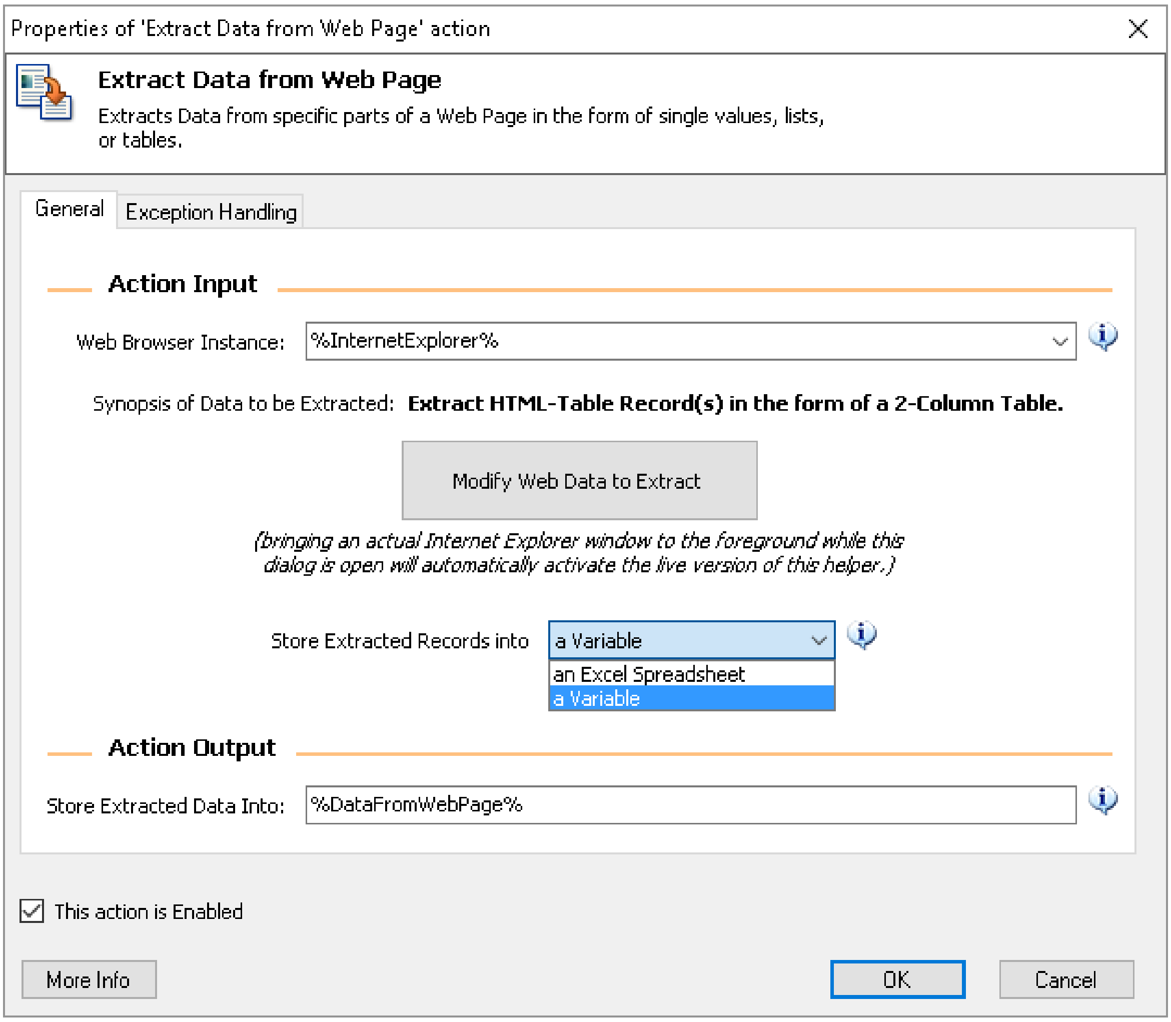
As you can see from the screenshot above, all actions (along with any comments you may have added while recording) have been inserted into your Process. From this point you can continue editing and modifying your actions as you would for any other Process whether it has been generated by the Web Recorder or not.

3.9.4 Web Data Extraction Part I

Extracting data from web pages is a big part of Web Automation. In WinAutomation there are four actions dedicated to this task, with the "Extract Data from Web Page 606 " being the more important and versatile.

The other actions allow you to take a screenshot of a web page element 611, retrieve details of a web page 608 such as its title or its HTML source and finally retrieve any HTML attribute of any web page element 609 or even its text.

So far so good, however, very often, you want to retrieve information displayed into the page in the form of tables or lists, rather than technical values. And this is where the "Extract Data from Web Page 606" action comes into play:



Properties of 'Extract Data from Web Page' action

Extract Data from Web Page

Extracts Data from specific parts of a Web Page in the form of single values, lists, or tables.

Action Input

Web Browser Instance: %InternetExplorer%

Synopsis of Data to be Extracted: **Extract HTML-Table Record(s) in the form of a 2-Column Table.**

(bringing an actual Internet Explorer window to the foreground while this dialog is open will automatically activate the live version of this helper.)

Store Extracted Records into: a Variable

Action Output

Store Extracted Data Into: %DataFromWebPage%

☑ This action is Enabled

As with any other web-related action you will first need to specify the web browser instance containing the page you want to extract data from. The next step is to specify the data itself and finally to select where the extracted data will be stored. The default value is to be written into a newly generated Excel spreadsheet, but to do so you need to have Microsoft Excel installed in your computer.

Alternatively you can have the data stored into a variable for further processing by later actions. Note that the extracted data can be in any of the following forms:

1. Single Value:

Say that from a web page containing info about a product, your extract the product name only. In this case, if the extracted data is stored into a variable this variable will contain a text value.

2. Handpicked (multiple) values:

Say that, in our previous example you select to extract not only the product name, but also the description and its price. In this case three separate values will be extracted and the resulting variable will hold a value of type DataRow.

You will be able to access each one of the retrieved values using the following form: %DataFromWebPage[...]% where within the brackets you will enter either a number or the name of the value.

3. Lists:

You are no longer in the page containing the product info, but in a page containing the list of all products. If you choose to retrieve all the product names displayed in the page then you'll end up with a list. Subsequently, the variable holding the extracted data will be of type List.

4. Tables

In the previous example of the web page containing a list of products you select to retrieve both the name and the price for each product. In this case the resulting variable will hold a DataTable with a product in each row and two columns (with the product name stored in the first column and the product price in the second one).

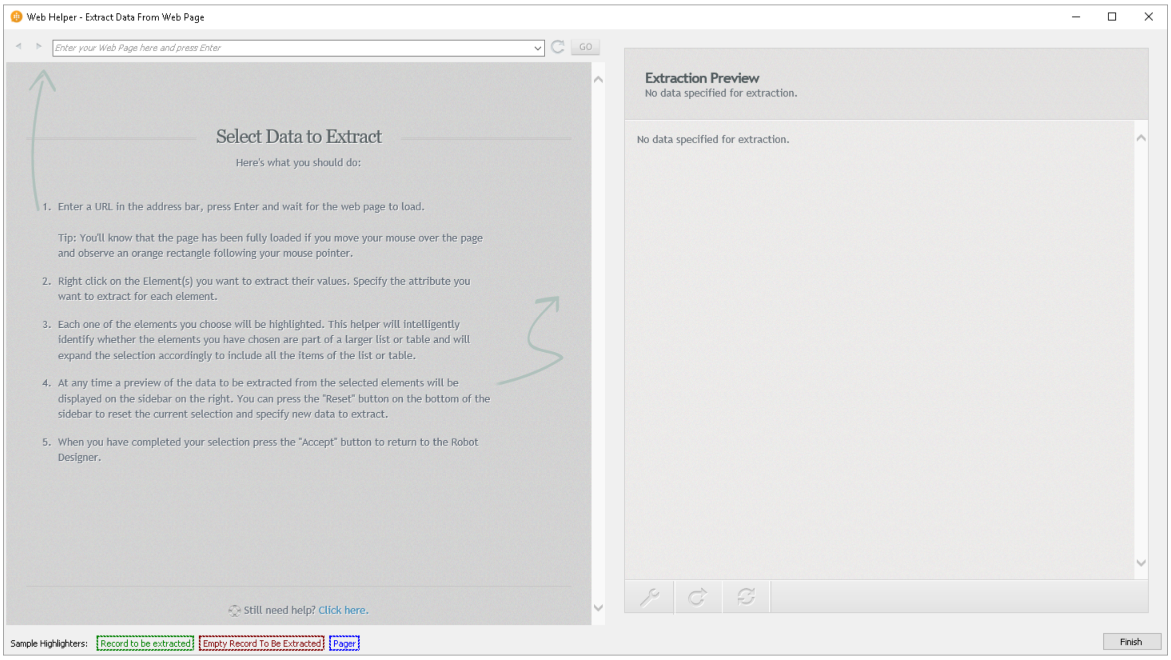
Selecting the Data to extract from a Web Page

To specify which data you want to extract from the web page you will need to use a Data Extraction Web Helper[281]. The target data can be specified either by using the live version of the Web Helper, or the standard one.

Live Web Helpers conveniently work on an existing Internet Explorer window. Just have the action "Extract data from Web Page" open in your designer and click on the Internet Explorer of your interest.

The standard Web Helper on the other hand, is a browser window itself and opens by pressing the "Specify Web Data to Extract".

Should you click on the "Specify Data to Extract" button the Web Helper Window will appear.


Web Helper - Extract Data From Web Page
Enter your Web Page here and press Enter
GO

Select Data to Extract

Here's what you should do:

1. Enter a URL in the address bar, press Enter and wait for the web page to load.

   Tip: You'll know that the page has been fully loaded if you move your mouse over the page and observe an orange rectangle following your mouse pointer.

2. Right click on the Element(s) you want to extract their values. Specify the attribute you want to extract for each element.

3. Each one of the elements you choose will be highlighted. This helper will intelligently identify whether the elements you have chosen are part of a larger list or table and will expand the selection accordingly to include all the items of the list or table.

4. At any time a preview of the data to be extracted from the selected elements will be displayed on the sidebar on the right. You can press the "Reset" button on the bottom of the sidebar to reset the current selection and specify new data to extract.

5. When you have completed your selection press the "Accept" button to return to the Robot Designer.

Still need help? Click here.

Extraction Preview

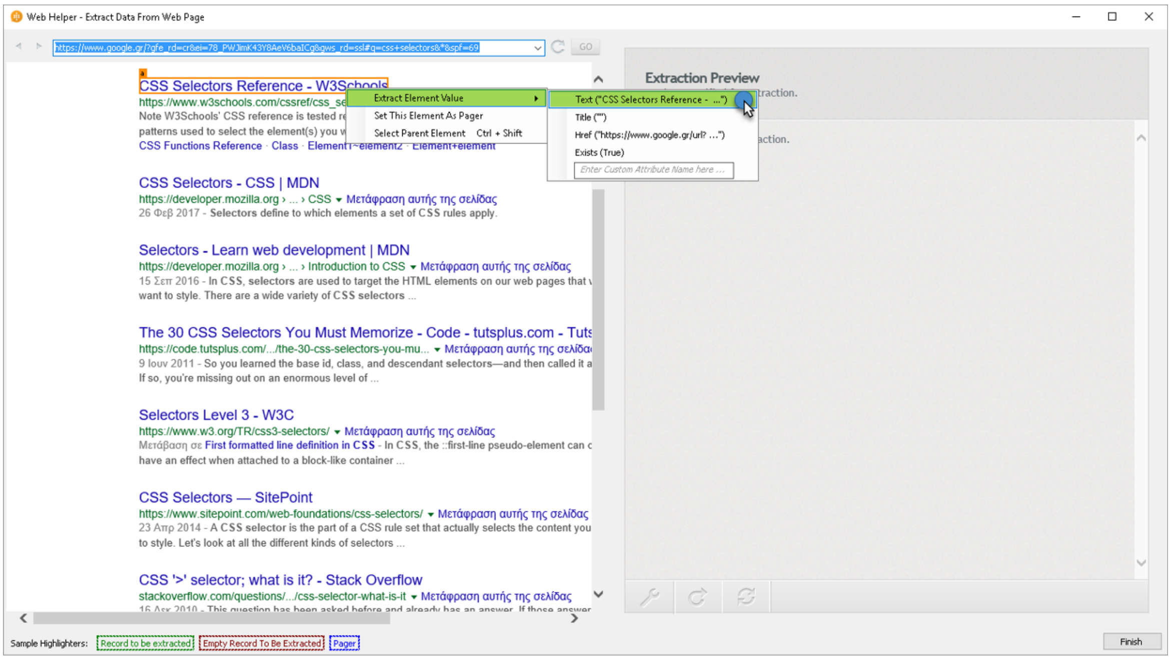
No data specified for extraction.

No data specified for extraction.

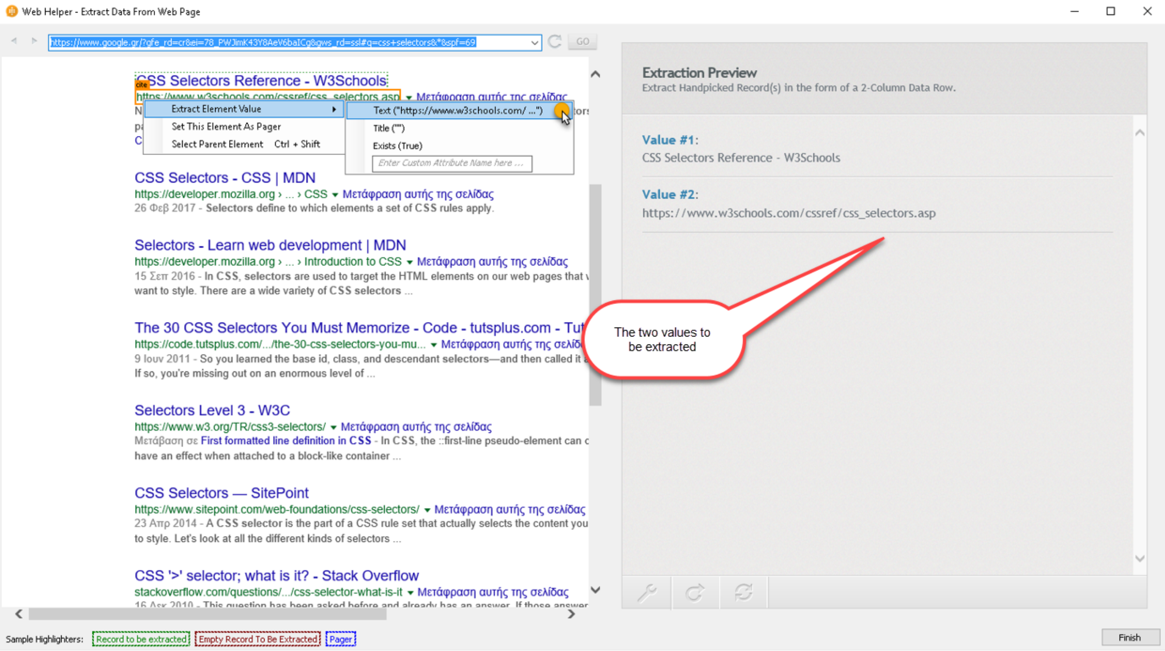
this window consists of two parts, the left pane which is the web browser and the right sidebar which displays a preview of the data selected for extraction.

As with the Web Helpers, the first step is to enter the URL in the address bar and navigate to the page containing the data to be extracted.

Next, all you have to do is right click on any element of the page that you want to retrieve and select the property you want to extract. Most often you will want to extract the text of the element, but you have also the choice to specify any HTML attribute you want to retrieve.


Web Helper - Extract Data From Web Page
GO
CSS Selectors Reference - W3Schools
Extract Element Value
Set This Element As Pager
Select Parent Element Ctrl + Shift
Text ("CSS Selectors Reference - ...")
Title ("")
Href ("https://www.google.gr/url? ...")
Exists (True)
Enter Custom Attribute Name here ...
Extraction Preview
CSS Selectors - CSS | MDN
Selectors - Learn web development | MDN
The 30 CSS Selectors You Must Memorize - Code - tutsplus.com - Tuts
Selectors Level 3 - W3C
CSS Selectors — SitePoint
CSS '>' selector; what is it? - Stack Overflow
Sample Highlighters:
Record to be extracted
Empty Record To Be Extracted
Pager
Finish

At any point you can press the "Accept" button and finish the process of selecting the data you want to extract, or you may continue by selecting more elements. Depending on the elements you select, the web helper may or may not expand the selection. For example, if the next element you select is the URL of the element chosen in the previous screenshot (shown in green in the screenshots) you will have just two elements selected:


Web Helper - Extract Data From Web Page
GO
CSS Selectors Reference - W3Schools
Extract Element Value
Set This Element As Pager
Select Parent Element Ctrl + Shift
Text ("https://www.w3schools.com/ ...")
Title ("")
Exists (True)
Enter Custom Attribute Name here ...
CSS Selectors - CSS | MDN
Selectors - Learn web development | MDN
The 30 CSS Selectors You Must Memorize - Code - tutsplus.com - Tut
Selectors Level 3 - W3C
CSS Selectors — SitePoint
CSS '>' selector; what is it? - Stack Overflow
Sample Highlighters:
Record to be extracted
Empty Record To Be Extracted
Pager
Finish

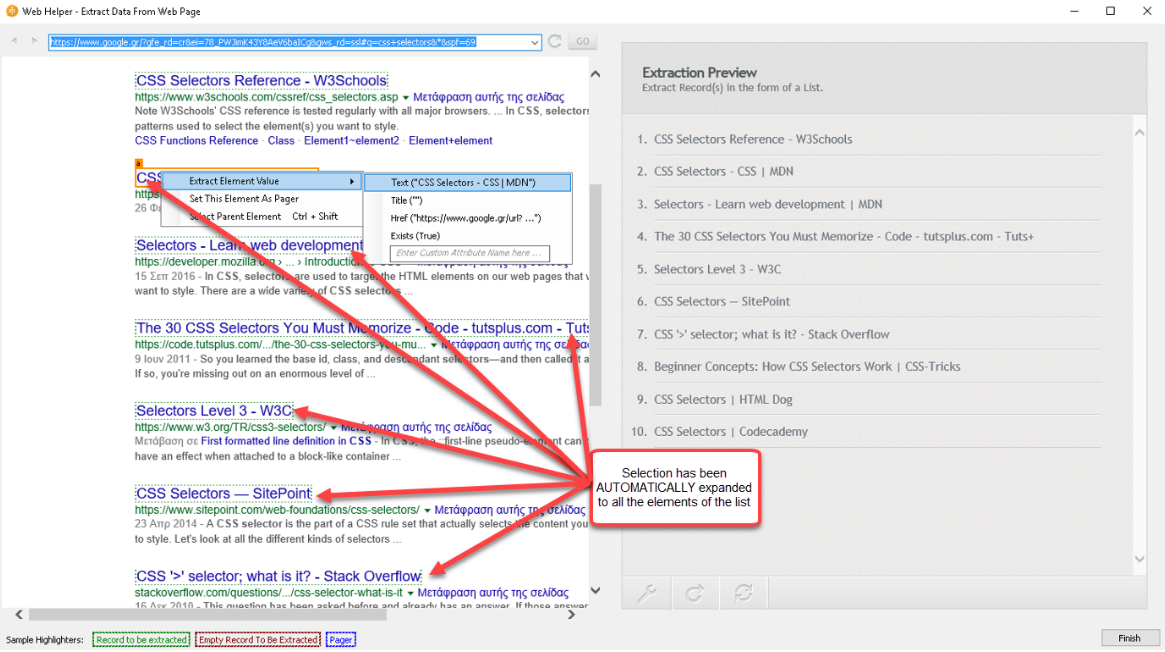
Extraction Preview
Extract Handpicked Record(s) in the form of a 2-Column Data Row.

Value #1:
CSS Selectors Reference - W3Schools

Value #2:
https://www.w3schools.com/cssref/css_selectors.asp

The two values to be extracted

If, however, the second element you selected was another search result title, WinAutomation would detect that you are extracting a list and would expand the selection to all items of the list:


Web Helper - Extract Data From Web Page
GO
Extract Element Value
Set This Element As Pager
Select Parent Element Ctrl + Shift
Text ("CSS Selectors - CSS | MDN")
Title ("")
Href ("https://www.google.gr/url? ...")
Exists (True)
Enter Custom Attribute Name here ...
Sample Highlighters:
Record to be extracted
Empty Record To Be Extracted
Pager
Finish

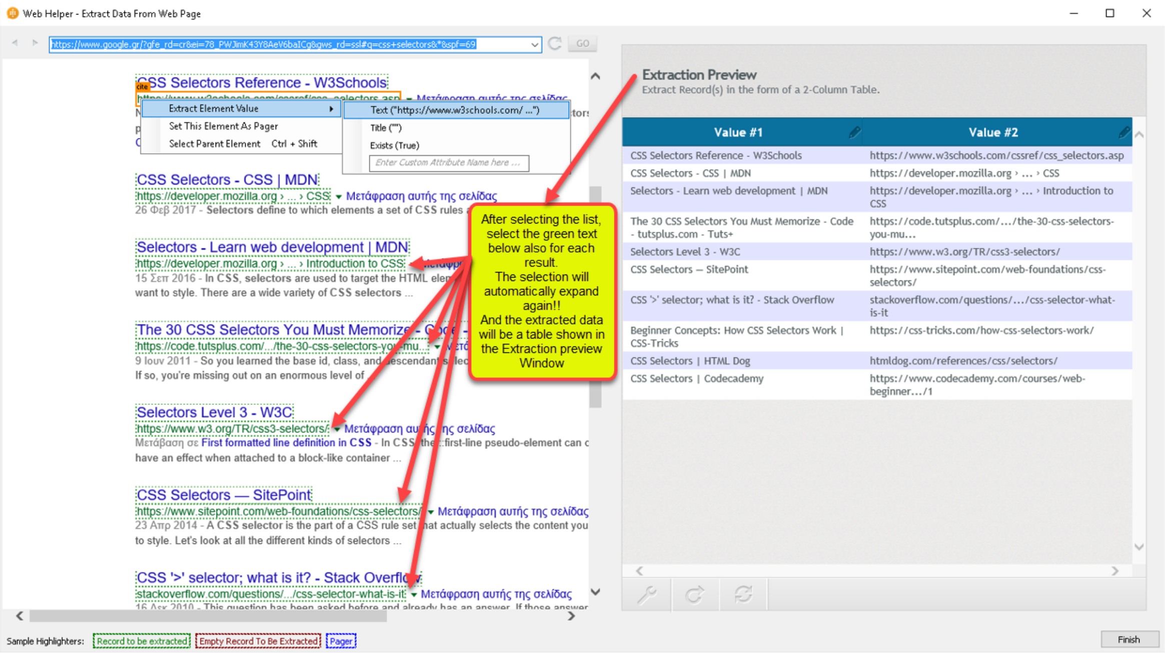
Extraction Preview
Extract Record(s) in the form of a List.

1. CSS Selectors Reference - W3Schools
2. CSS Selectors - CSS | MDN
3. Selectors - Learn web development | MDN
4. The 30 CSS Selectors You Must Memorize - Code - tutsplus.com - Tuts+
5. Selectors Level 3 - W3C
6. CSS Selectors – SitePoint
7. CSS '>' selector; what is it? - Stack Overflow
8. Beginner Concepts: How CSS Selectors Work | CSS-Tricks
9. CSS Selectors | HTML Dog
10. CSS Selectors | Codecademy

Selection has been AUTOMATICALLY expanded to all the elements of the list

On the right sidebar you see the preview of the data to be extracted in the form of a list.

So now you have specified that you want to extract a list. If you select an additional element, WinAutomation will extract the corresponding data for each element already in the list, returning the result in the form of a table:


Web Helper - Extract Data From Web Page
https://www.google.gr/?gfe_rd=cr&ei=78_PWJimK43Y8AeV6baICg&gws_rd=ssl#q=css+selectors&*&spf=69
GO
CSS Selectors Reference - W3Schools
cite
Extract Element Value
Set This Element As Pager
Select Parent Element Ctrl + Shift
Text ("https://www.w3schools.com/ ...")
Title ("")
Exists (True)
Enter Custom Attribute Name here ...
CSS Selectors - CSS | MDN
https://developer.mozilla.org › ... › CSS ▾ Μετάφραση αυτής της σελίδας
26 Φεβ 2017 - Selectors define to which elements a set of CSS rules
Selectors - Learn web development | MDN
https://developer.mozilla.org › ... › Introduction to CSS
15 Σεπ 2016 - In CSS, selectors are used to target the HTML elem
want to style. There are a wide variety of CSS selectors ...
The 30 CSS Selectors You Must Memorize - Code
https://code.tutsplus.com/.../the-30-css-selectors-you-mu...
9 Ιουν 2011 - So you learned the base id, class, and descendant selec
If so, you're missing out on an enormous level of
Selectors Level 3 - W3C
https://www.w3.org/TR/css3-selectors/ ▾ Μετάφραση αυτής της σελίδας
Μετάβαση σε First formatted line definition in CSS - In CSS the ::first-line pseudo-element can c
have an effect when attached to a block-like container ...
CSS Selectors — SitePoint
https://www.sitepoint.com/web-foundations/css-selectors/ ▾ Μετάφραση αυτής της σελίδας
23 Απρ 2014 - A CSS selector is the part of a CSS rule set that actually selects the content you
to style. Let's look at all the different kinds of selectors ...
CSS '>' selector; what is it? - Stack Overflow
stackoverflow.com/questions/.../css-selector-what-is-it ▾ Μετάφραση αυτής της σελίδας
Sample Highlighters:
Record to be extracted
Empty Record To Be Extracted
Pager
Finish

After selecting the list, select the green text below also for each result.
The selection will automatically expand again!!
And the extracted data will be a table shown in the Extraction preview Window

Extraction Preview
Extract Record(s) in the form of a 2-Column Table.

Value #1	Value #2
CSS Selectors Reference - W3Schools	https://www.w3schools.com/cssref/css_selectors.asp
CSS Selectors - CSS | MDN	https://developer.mozilla.org › ... › CSS
Selectors - Learn web development | MDN	https://developer.mozilla.org › ... › Introduction to CSS
The 30 CSS Selectors You Must Memorize - Code - tutsplus.com - Tuts+	https://code.tutsplus.com/.../the-30-css-selectors-you-mu...
Selectors Level 3 - W3C	https://www.w3.org/TR/css3-selectors/
CSS Selectors — SitePoint	https://www.sitepoint.com/web-foundations/css-selectors/
CSS '>' selector; what is it? - Stack Overflow	stackoverflow.com/questions/.../css-selector-what-is-it
Beginner Concepts: How CSS Selectors Work | CSS-Tricks	https://css-tricks.com/how-css-selectors-work/
CSS Selectors | HTML Dog	htmldog.com/references/css/selectors/
CSS Selectors | Codecademy	https://www.codecademy.com/courses/web-beginner.../1

By selecting an additional element, the table would simply get an additional column. You can edit the column names by clicking on them in the preview sidebar.

If the data spreads over multiple pages there will be a "Next" link somewhere that points to the next page. You can right click on that link and select "Set This Element As Pager". This way, WinAutomation at runtime will not retrieve the data just from the first page but will continue and retrieve the same data from the next pages too.

At any point you can press the "**Reset**" button to discard the selection made so far and start over. You can also examine and modify the CSS Selectors generated by the Web Helper that specify which info needs to be extracted by pressing the "**Advanced Settings**" button .

Finally you can press the "**Recalculate Now**" button to highlight which data will be extracted from a web page based on the current selection. This can be useful if, for example, you select some elements to extract from a web page containing info about a product. You can then visit a page containing info on another product and click the "Recalculate Now" button to make sure that appropriate info will be retrieved from the second page too.

As mentioned before, after you have finished with selecting the data you want to extract you can press the "Accept" button to return to the action's properties dialog.

3.9.5 Web Data Extraction Part II

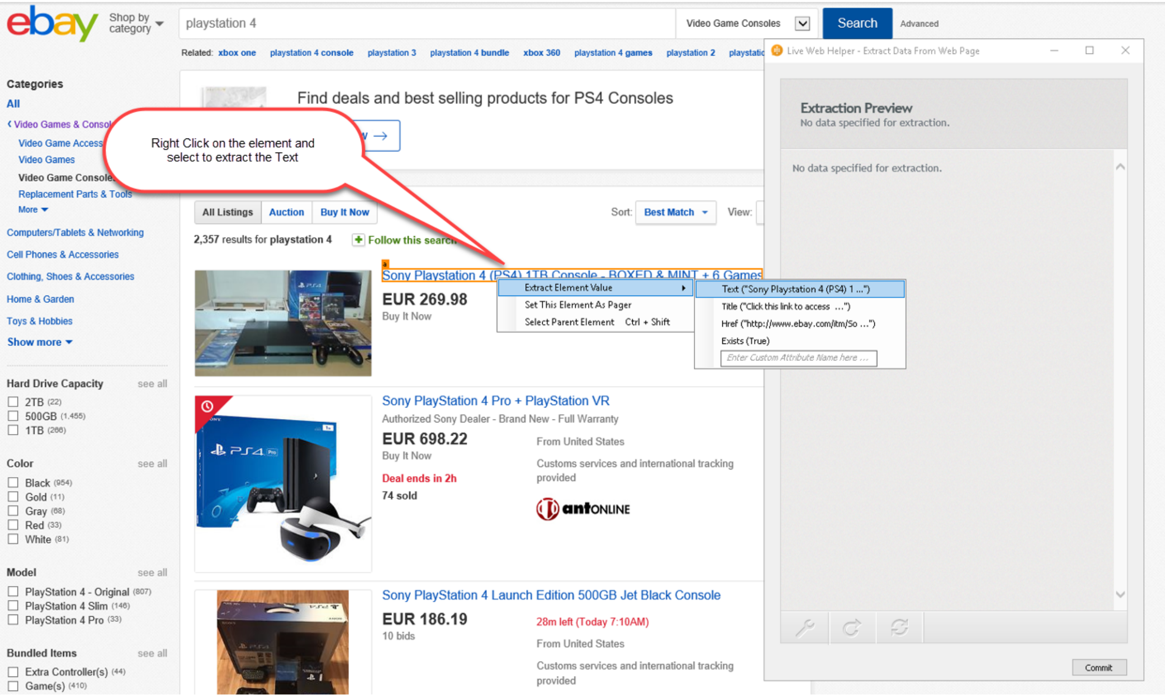
The web data extraction can also take place on an actual IE if you have the "Extract data from Web Page" action open while you move your mouse pointer to the page of interest.

Should you click in the webpage, then the "Live Web Helper- Extract Data From Web Page" window will pop up. In this Window you will be able to preview the extracted data.

Extracting a List:

Lets say that you wish to extract the title for all available results in a webpage.

Having the "Extract data from Web Page" action open, hover your mouse on the page (or click on a blank area). Then right click on the first result and extract its Text as in the screenshot below:



Right Click on the element and select to extract the Text

Live Web Helper - Extract Data From Web Page

Extraction Preview
No data specified for extraction.

No data specified for extraction.

Extract Element Value
Set This Element As Pager
Select Parent Element Ctrl + Shift
Text ("Sony Playstation 4 (PS4) 1 ...")
Title ("Click this link to access ...")
Href ("http://www.ebay.com/itm/So ...")
Exists (True)
Enter Custom Attribute Name here ...
Commit
Sony Playstation 4 (PS4) 1TB Console - BOXED & MINT + 6 Games
EUR 269.98
Sony PlayStation 4 Pro + PlayStation VR
EUR 698.22
Sony PlayStation 4 Launch Edition 500GB Jet Black Console
EUR 186.19
playstation 4
Search
2,357 results for playstation 4

Do the same for the second result and the list of all the items' text will be automatically extracted. Click on the "Advanced Settings" icon to review the CSS selector which you can modify and make it even more efficient.

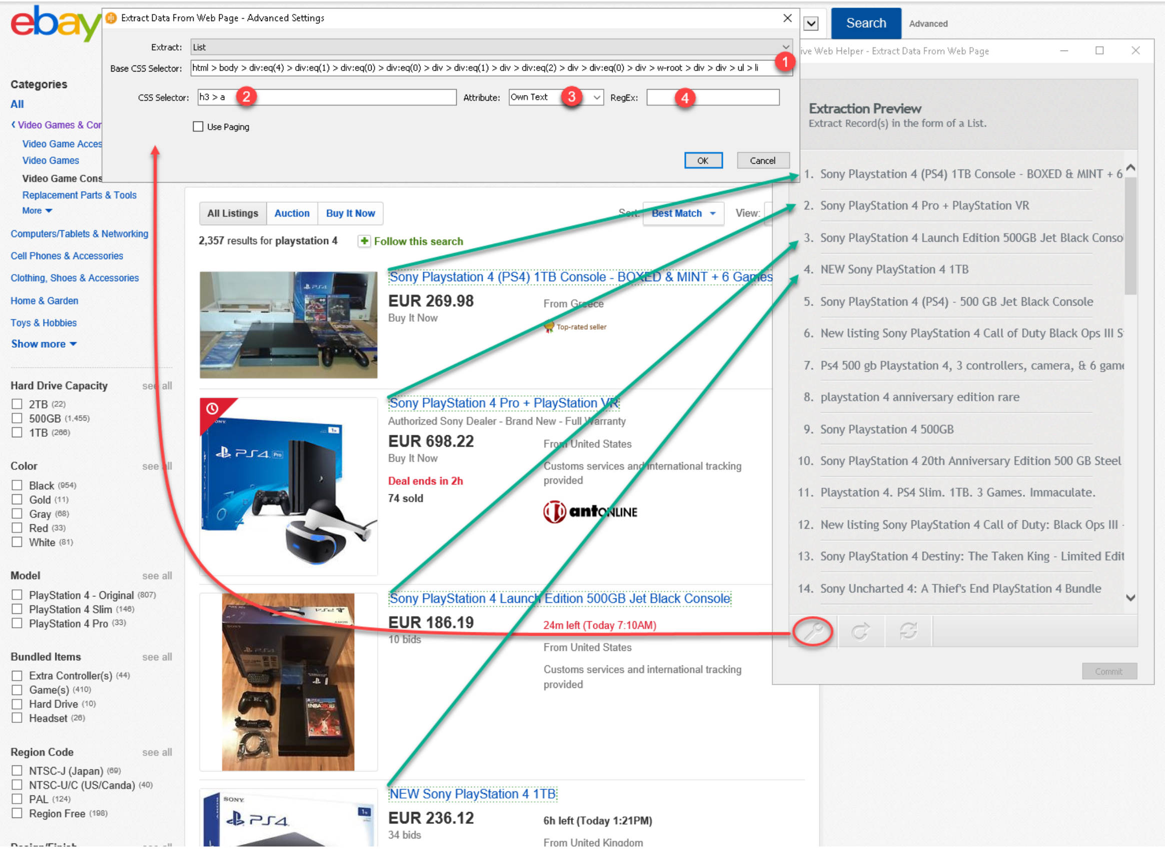
1. As you can see while extracting a list, we have the ***Base Selector*** and the ***CSS selector***. The Base selector is the root element in the HTML code, under which the items of the list are listed. This means that the extraction starts from the ".....div:eq(1) > ul > li"

2. For each list item from the list "...div:eq(1) > ul > li" and then it gets the "h3 > a" element.

3.The attribute that you are extracting is "Own Text" and it can be changed to "Title", "Href", "SourceLink", "Exists" or any other Attribute is available in the HTML code of the page for this element.

4. You also have the option to apply Regular Expressions on the extracted text, in order to get just a part of it.

Changing the selector by hand, then you can click on the "Recalculate now" button to see the extraction's Result.



Extract Data From Web Page - Advanced Settings

Extract: List

Base CSS Selector: html > body > div:eq(4) > div:eq(1) > div:eq(0) > div:eq(0) > div > div:eq(1) > div > div:eq(2) > div > div:eq(0) > div > w-root > div > div > ul > li

CSS Selector: h3 > a

Attribute: Own Text

RegEx:

□ Use Paging

Extraction Preview
Extract Record(s) in the form of a List.

1. Sony Playstation 4 (PS4) 1TB Console - BOXED & MINT + 6
2. Sony PlayStation 4 Pro + PlayStation VR
3. Sony PlayStation 4 Launch Edition 500GB Jet Black Conso
4. NEW Sony PlayStation 4 1TB
5. Sony PlayStation 4 (PS4) - 500 GB Jet Black Console
6. New listing Sony PlayStation 4 Call of Duty Black Ops III S
7. Ps4 500 gb Playstation 4, 3 controllers, camera, & 6 game
8. playstation 4 anniversary edition rare
9. Sony Playstation 4 500GB
10. Sony PlayStation 4 20th Anniversary Edition 500 GB Steel
11. Playstation 4. PS4 Slim. 1TB. 3 Games. Immaculate.
12. New listing Sony PlayStation 4 Call of Duty: Black Ops III -
13. Sony PlayStation 4 Destiny: The Taken King - Limited Edit
14. Sony Uncharted 4: A Thief's End PlayStation 4 Bundle

1
2
3
4
OK
Cancel
Search
Advanced
Commit
All Listings
Auction
Buy It Now
2,357 results for playstation 4
Follow this search
Sony Playstation 4 (PS4) 1TB Console - BOXED & MINT + 6 Games
EUR 269.98
Sony PlayStation 4 Pro + PlayStation VR
EUR 698.22
Sony PlayStation 4 Launch Edition 500GB Jet Black Console
EUR 186.19
NEW Sony PlayStation 4 1TB
EUR 236.12

Extracting a Table:

In order to extract more than one piece of info for each result you would have to extract a table.

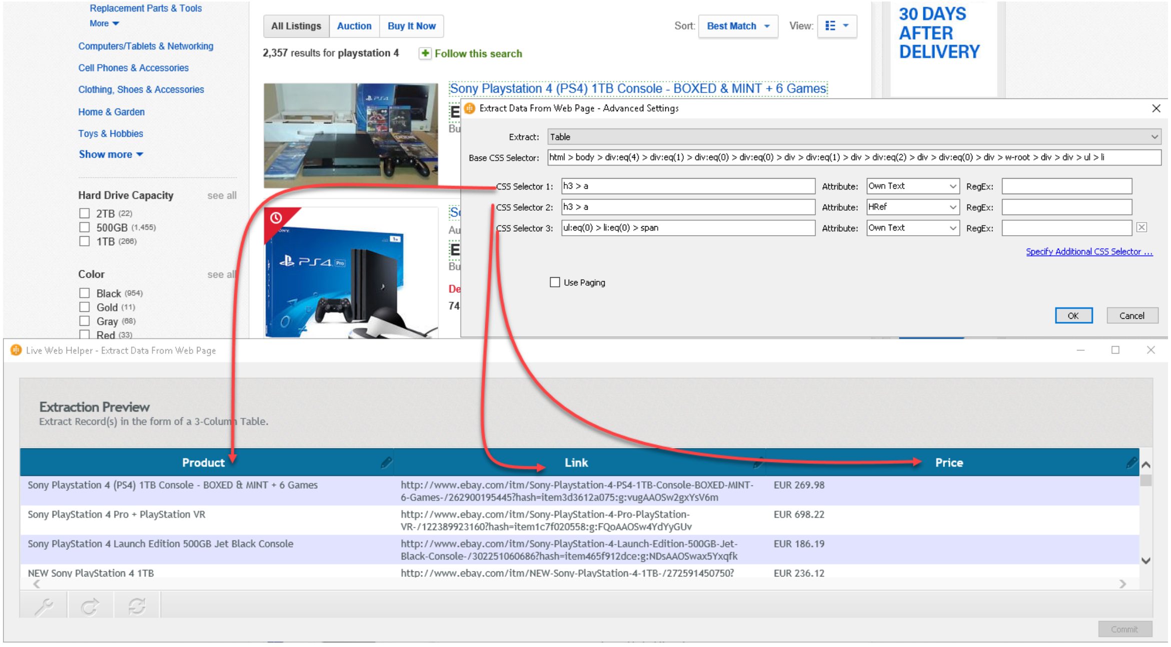
Let's say that we want to extract the Title of the product, the link behind it and the price.

For the first result we right click on the title, extract its "Text", then right click again to extract the "Href" and finally we right click on the price element to extract its "Text".

We move on to the second result/product to do the same and the table is automagically created in the extraction preview window.

For the table, in the same notion as extracting the list, we have the Base CSS Selector, which is the root element in the HTML code, under which the data of each result/product exist. This means that the extraction starts from the "**.....div:eq(1) > ul > li**" and then for each of the item we extract the

- **h3 > a** Attribute "Own Text"
- **h3 > a** Attribute "Href"
- **ul:eq(0) > li:eq(0) > span** Attribute "Own Text


Replacement Parts & Tools
More
Computers/Tablets & Networking
Cell Phones & Accessories
Clothing, Shoes & Accessories
Home & Garden
Toys & Hobbies
Show more
Hard Drive Capacity
see all
2TB (22)
500GB (1,455)
1TB (266)
Color
see all
Black (954)
Gold (11)
Gray (68)
Red (33)
All Listings
Auction
Buy It Now
2,357 results for playstation 4
Follow this search
Sort: Best Match
View:
30 DAYS AFTER DELIVERY
Sony Playstation 4 (PS4) 1TB Console - BOXED & MINT + 6 Games
Specify Additional CSS Selector ...
OK
Cancel
Live Web Helper - Extract Data From Web Page
Commit

Extract Data From Web Page - Advanced Settings

Extract: Table

Base CSS Selector: html > body > div:eq(4) > div:eq(1) > div:eq(0) > div:eq(0) > div > div:eq(1) > div > div:eq(2) > div > div:eq(0) > div > w-root > div > div > ul > li

CSS Selector 1: h3 > a Attribute: Own Text RegEx:

CSS Selector 2: h3 > a Attribute: HRef RegEx:

CSS Selector 3: ul:eq(0) > li:eq(0) > span Attribute: Own Text RegEx:

□ Use Paging

Extraction Preview

Extract Record(s) in the form of a 3-Column Table.

Product	Link	Price
Sony Playstation 4 (PS4) 1TB Console - BOXED & MINT + 6 Games	http://www.ebay.com/itm/Sony-Playstation-4-PS4-1TB-Console-BOXED-MINT-6-Games-/262900195445?hash=item3d3612a075:g:vugAAOSw2gxYsV6m	EUR 269.98
Sony PlayStation 4 Pro + PlayStation VR	http://www.ebay.com/itm/Sony-PlayStation-4-Pro-PlayStation-VR-/122389923160?hash=item1c7f020558:g:FQoAAOSw4YdYyGUv	EUR 698.22
Sony PlayStation 4 Launch Edition 500GB Jet Black Console	http://www.ebay.com/itm/Sony-PlayStation-4-Launch-Edition-500GB-Jet-Black-Console-/302251060686?hash=item465f912dce:g:NDsAAOSwax5Yxqfk	EUR 186.19
NEW Sony PlayStation 4 1TB	http://www.ebay.com/itm/NEW-Sony-PlayStation-4-1TB-/272591450750?	EUR 236.12

Attributes to extract:

In the Attribute field of the "Advanced Settings" of the "Extraction Preview" window, other than the attributes that are listed in the drop down list, you can specify any other attribute that the element has. For example if an element in the HTML code of the page is:

<li class="sresult lvresult clearfix li shic" id="item463b90d307" _sp="p2045573.m1686.l2210" r="3" listingid="301647057671">.......</li>

Then in the attribute dropdown list you can write "class" if you want to extract its class, "id" if you want to extract its id...and so on.

NOTE

- You can extract the plain html code of the element -and all its children elements- should you write "outerhtml"

- You can extract the plain html code of all the children elements of the element should you write "innerhtml"

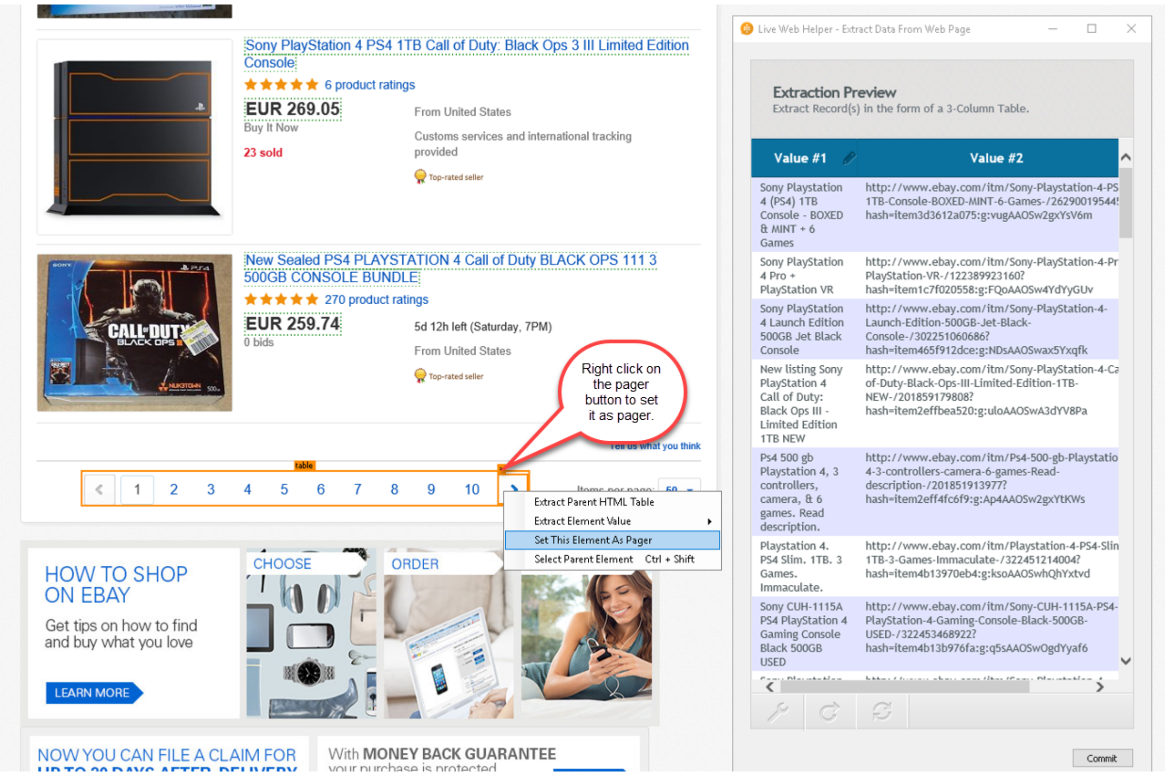
This is very helpful if you want to extract a piece of info that resides in the html for this element by applying some Regular Expressions on the extracted code.

3.9.6 Web Data Extraction Part III

Very often we want to extract data from a web page after a search, which has returned more than one page of results. In this case we want to perform the extraction to all, or to a number of pages.

This can be achieved with the "Extract Data from Web Page" action, if you select to set an element as "Pager". As shown below, you can right click on the pager element and select "Set This Element As Pager".

Having done so, upon extraction of the data, the Process will keep clicking on the "next page" button and extracting what you have set it to extract, up until when the pager element is enabled and present on the web page.


Sony PlayStation 4 PS4 1TB Call of Duty: Black Ops 3 III Limited Edition Console
6 product ratings
EUR 269.05
Buy It Now
23 sold
From United States
Customs services and international tracking provided
Top-rated seller
New Sealed PS4 PLAYSTATION 4 Call of Duty BLACK OPS 111 3 500GB CONSOLE BUNDLE
270 product ratings
EUR 259.74
0 bids
5d 12h left (Saturday, 7PM)
From United States
Top-rated seller
Tell us what you think
table
1 2 3 4 5 6 7 8 9 10
Items per page: 50
Extract Parent HTML Table
Extract Element Value
Set This Element As Pager
Select Parent Element Ctrl + Shift
HOW TO SHOP ON EBAY
Get tips on how to find and buy what you love
LEARN MORE
CHOOSE
ORDER
NOW YOU CAN FILE A CLAIM FOR UP TO 30 DAYS AFTER DELIVERY
With MONEY BACK GUARANTEE your purchase is protected
Live Web Helper - Extract Data From Web Page
Commit

Right click on the pager button to set it as pager.

Extraction Preview

Extract Record(s) in the form of a 3-Column Table.

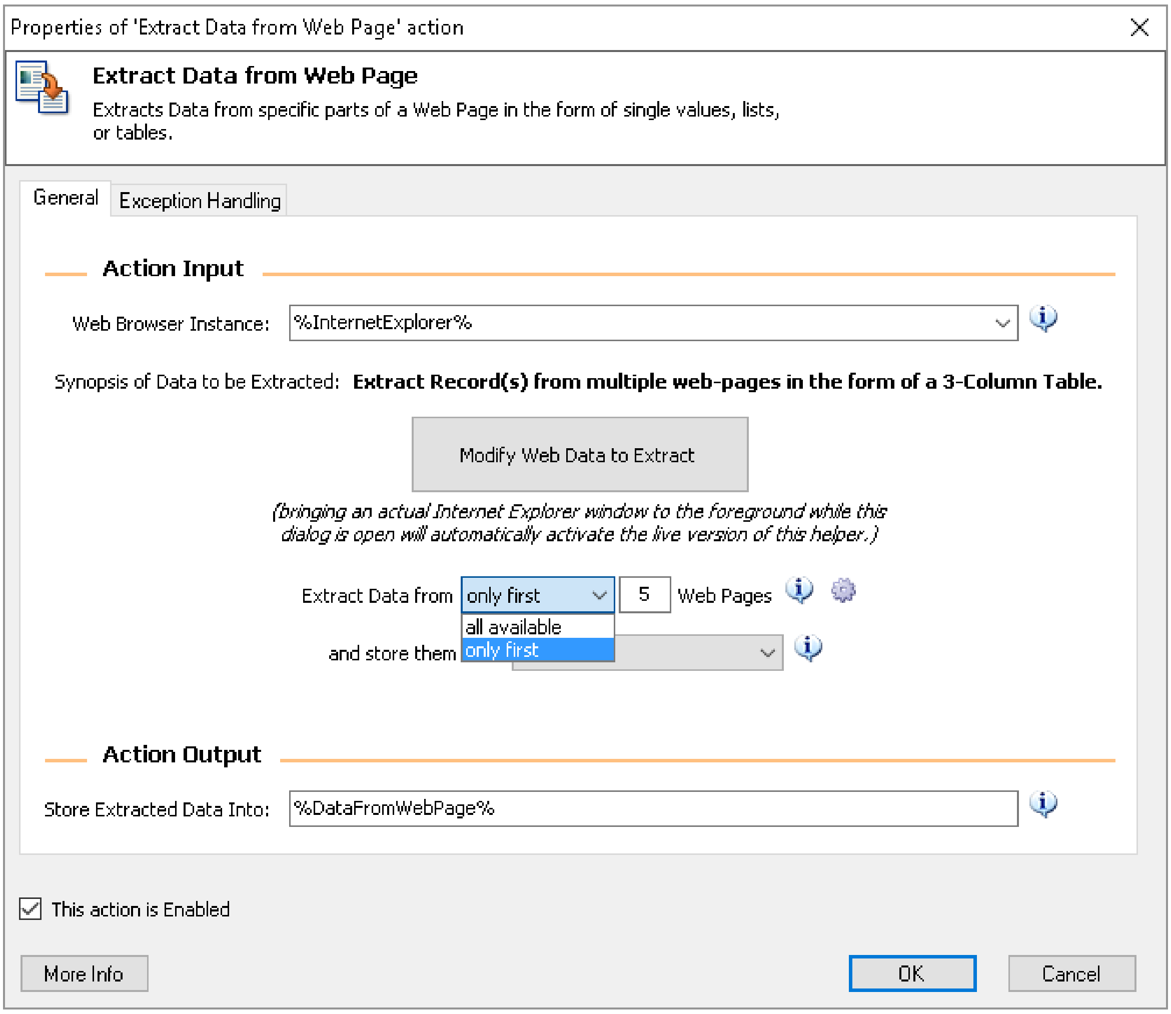
Value #1	Value #2
Sony Playstation 4 (PS4) 1TB Console - BOXED & MINT + 6 Games	http://www.ebay.com/itm/Sony-Playstation-4-PS 1TB-Console-BOXED-MINT-6-Games-/26290019544 hash=item3d3612a075:g:vugAAOSw2gxYsV6m
Sony PlayStation 4 Pro + PlayStation VR	http://www.ebay.com/itm/Sony-PlayStation-4-Pr PlayStation-VR-/122389923160? hash=item1c7f020558:g:FQoAAOSw4YdYyGUv
Sony PlayStation 4 Launch Edition 500GB Jet Black Console	http://www.ebay.com/itm/Sony-PlayStation-4-Launch-Edition-500GB-Jet-Black-Console-/302251060686? hash=item465f912dce:g:NDsAAOSwax5Yxqfk
New listing Sony PlayStation 4 Call of Duty: Black Ops III - Limited Edition 1TB NEW	http://www.ebay.com/itm/Sony-PlayStation-4-Ca of-Duty-Black-Ops-III-Limited-Edition-1TB-NEW-/201859179808? hash=item2effbea520:g:uloAAOSwA3dYV8Pa
Ps4 500 gb Playstation 4, 3 controllers, camera, & 6 games. Read description.	http://www.ebay.com/itm/Ps4-500-gb-Playstatio 4-3-controllers-camera-6-games-Read-description-/201851913977? hash=item2eff4fc6f9:g:Ap4AAOSw2gxYtKWs
Playstation 4. PS4 Slim. 1TB. 3 Games. Immaculate.	http://www.ebay.com/itm/Playstation-4-PS4-Slin 1TB-3-Games-Immaculate-/322451214004? hash=item4b13970eb4:g:ksoAAOSwhQhYxtvd
Sony CUH-1115A PS4 PlayStation 4 Gaming Console Black 500GB USED	http://www.ebay.com/itm/Sony-CUH-1115A-PS4-PlayStation-4-Gaming-Console-Black-500GB-USED-/322453468922? hash=item4b13b976fa:g:q5sAAOSwOgdYyaf6

The CSS selector for the pager is shown in the "Advanced Settings" for the Extraction Preview window. You can modify it and use your own if you are familiar with CSS selector and maybe use its id and class attributes to make it 100% consistent.

Once you have set the data to extract, press "Commit". Back in the "Extract Data from Web Page" action you can choose to extract the results from:

- All Available pages, which means that the extraction will finish once there are no more result pages, or

- only first 'X' Web Pages, which means that the extraction will finish after extracting the data from the X web page.



Properties of 'Extract Data from Web Page' action

Extract Data from Web Page

Extracts Data from specific parts of a Web Page in the form of single values, lists, or tables.

General | Exception Handling

Action Input

Web Browser Instance: %InternetExplorer%

Synopsis of Data to be Extracted: **Extract Record(s) from multiple web-pages in the form of a 3-Column Table.**

Modify Web Data to Extract

(bringing an actual Internet Explorer window to the foreground while this dialog is open will automatically activate the live version of this helper.)

Extract Data from: only first (all available / only first) 5 Web Pages

and store them

Action Output

Store Extracted Data Into: %DataFromWebPage%

☑ This action is Enabled

Feel free to have a look at the Create CSS Selectors topic 317.

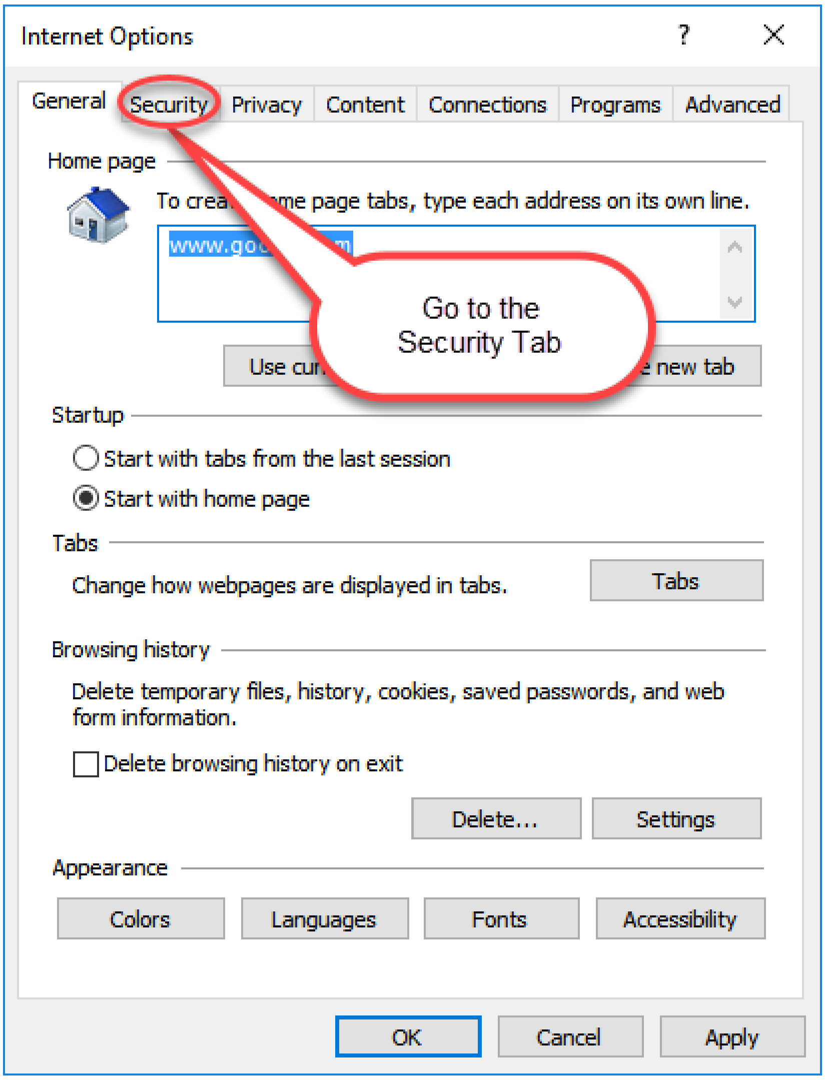
3.9.7 Configure Internet Explorer for Web Automation

For automating your web related tasks you can either use the WinAutomation's automation browser or an Internet Explorer window. The latter choice is especially useful when you want the task to be performed through an IE browser window that is already open.

While you can use the WinAutomation's browser without the need to configure anything, for being able to control IE you will need to modify some of its settings. By default, Internet Explorer comes with security settings enabled that do not allow an external application (WinAutomation in our case) to control it.

To change this, you perform the following steps

Open the Internet Options dialog in Internet Explorer and click on the "Security" tab:



To crea me page tabs, type each address on its own line.

www.go m

○ Start with tabs from the last session

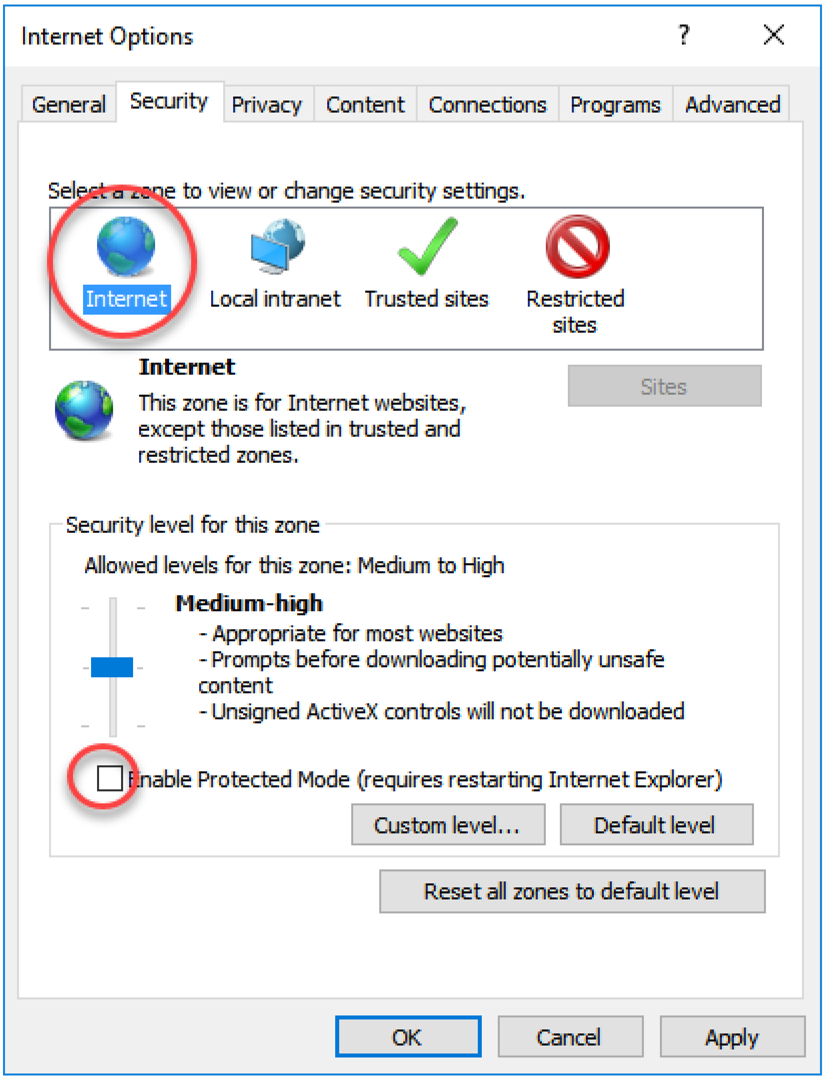
● Start with home page

Change how webpages are displayed in tabs.

Delete temporary files, history, cookies, saved passwords, and web form information.

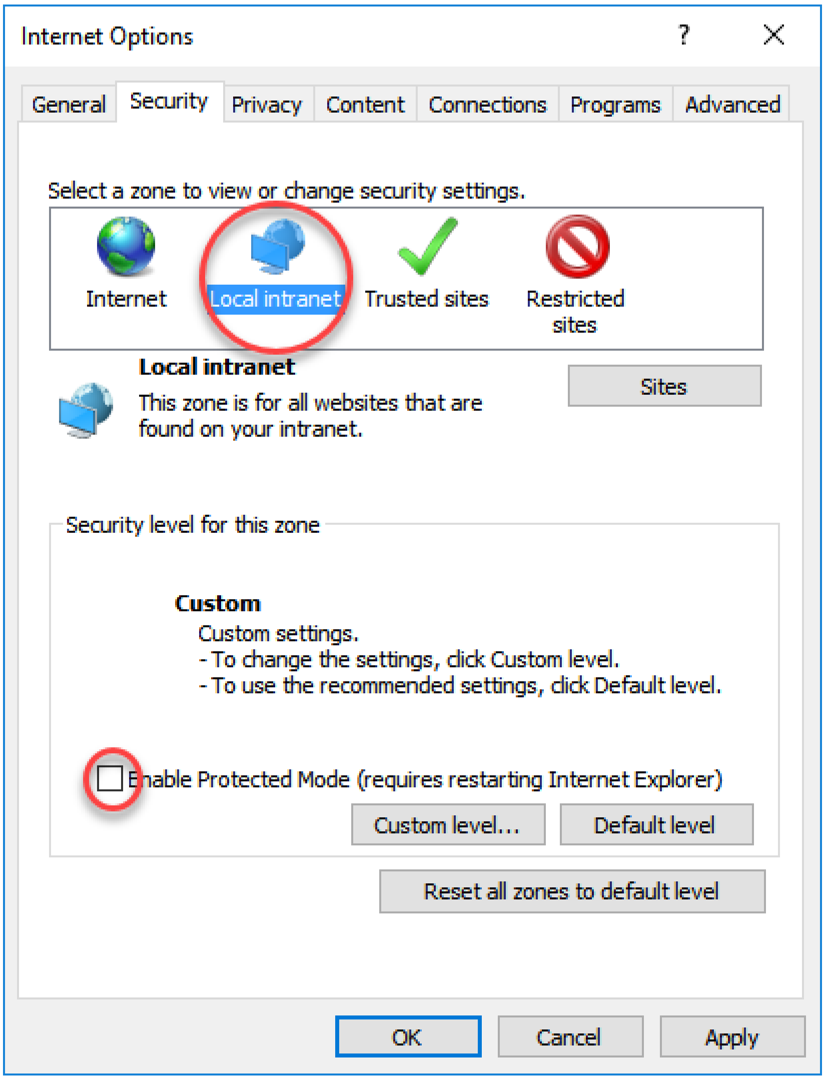
☐ Delete browsing history on exit

Select the "Internet" zone and UNCHECK the "Enable Protected Mode" checkbox:



Internet Options
General
Security
Privacy
Content
Connections
Programs
Advanced
Select a zone to view or change security settings.
Internet
Local intranet
Trusted sites
Restricted sites
Internet
This zone is for Internet websites, except those listed in trusted and restricted zones.
Sites
Security level for this zone
Allowed levels for this zone: Medium to High
Medium-high
- Appropriate for most websites
- Prompts before downloading potentially unsafe content
- Unsigned ActiveX controls will not be downloaded
□ Enable Protected Mode (requires restarting Internet Explorer)
Custom level...
Default level
Reset all zones to default level
OK
Cancel
Apply

Select the "Local intranet" zone and UNCHECK the "Enable Protected Mode" checkbox:



Select a zone to view or change security settings.

Local intranet

This zone is for all websites that are found on your intranet.

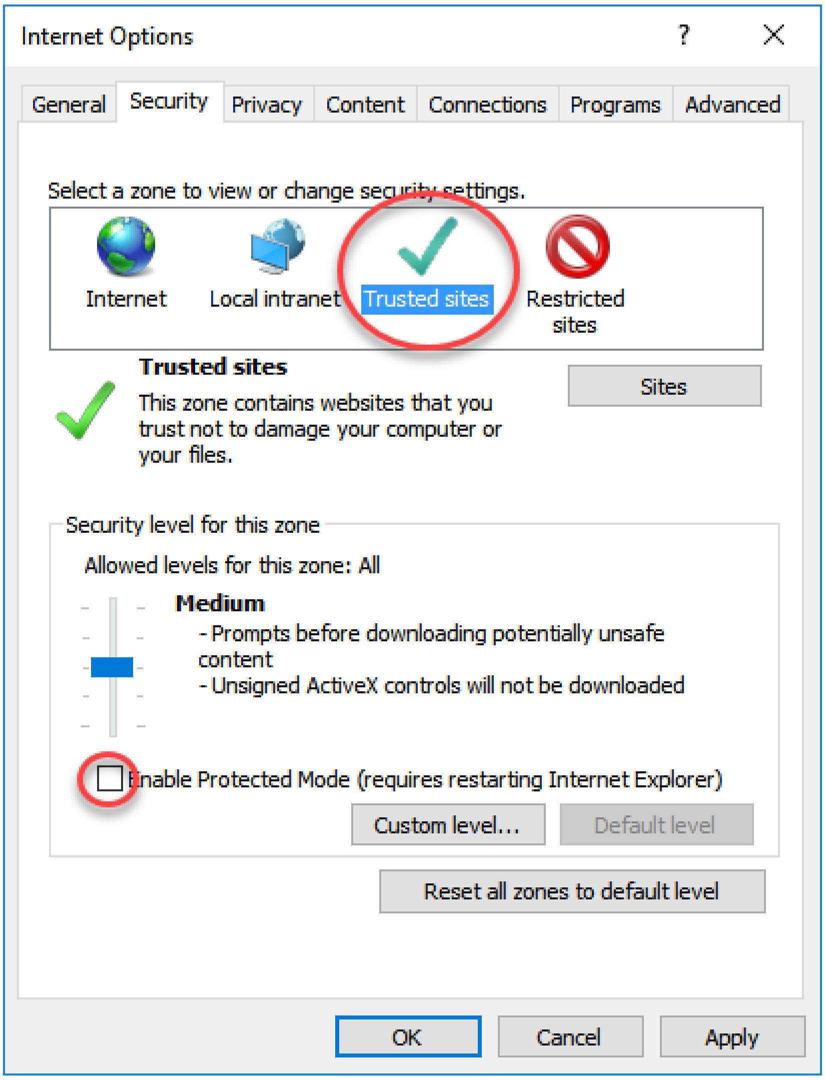
Security level for this zone

Custom

Custom settings.
- To change the settings, click Custom level.
- To use the recommended settings, click Default level.

□ Enable Protected Mode (requires restarting Internet Explorer)

Select the "Trusted Sites" zone and UNCHECK the "Enable Protected Mode" checkbox:



Select a zone to view or change security settings.

Trusted sites

This zone contains websites that you trust not to damage your computer or your files.

Security level for this zone

Allowed levels for this zone: All

Medium

- Prompts before downloading potentially unsafe content
- Unsigned ActiveX controls will not be downloaded

□ Enable Protected Mode (requires restarting Internet Explorer)

Finally click the OK button and restart Internet Explorer. You will now be able to control Internet Explorer through WinAutomation for automating all kinds of web sites and web applications.

3.9.8 Configure Internet Explorer for Servers

If you have WinAutomation installed on a Server, for automating your web related tasks please note the following.

Windows Servers have the "Internet Explorer Enhanced Security Configuration" (IEESC for short) feature turned "On" by default, which prohibits any and all WinAutomation Processes from properly launching an Internet Explorer or the Automation Browser via the "Launch New Internet Explorer" action.

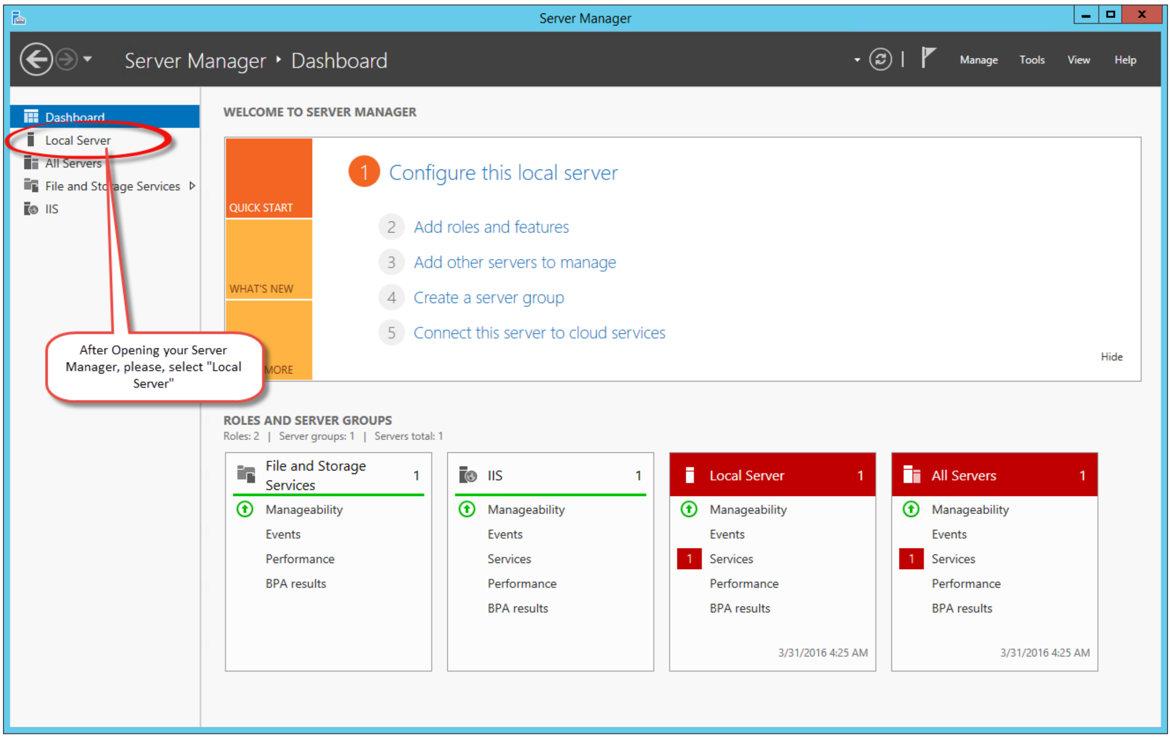
Likewise, as long as the IEESC feature is "On" any and all web-automation actions will too fail to work as intended. Moreover, the design-time Web Helpers of the aforementioned actions will not work either as long as the IEESC feature is "On".

In order to be able to overcome the above, you would have to change the Security Configuration as per the screenshots below in 3 small steps.

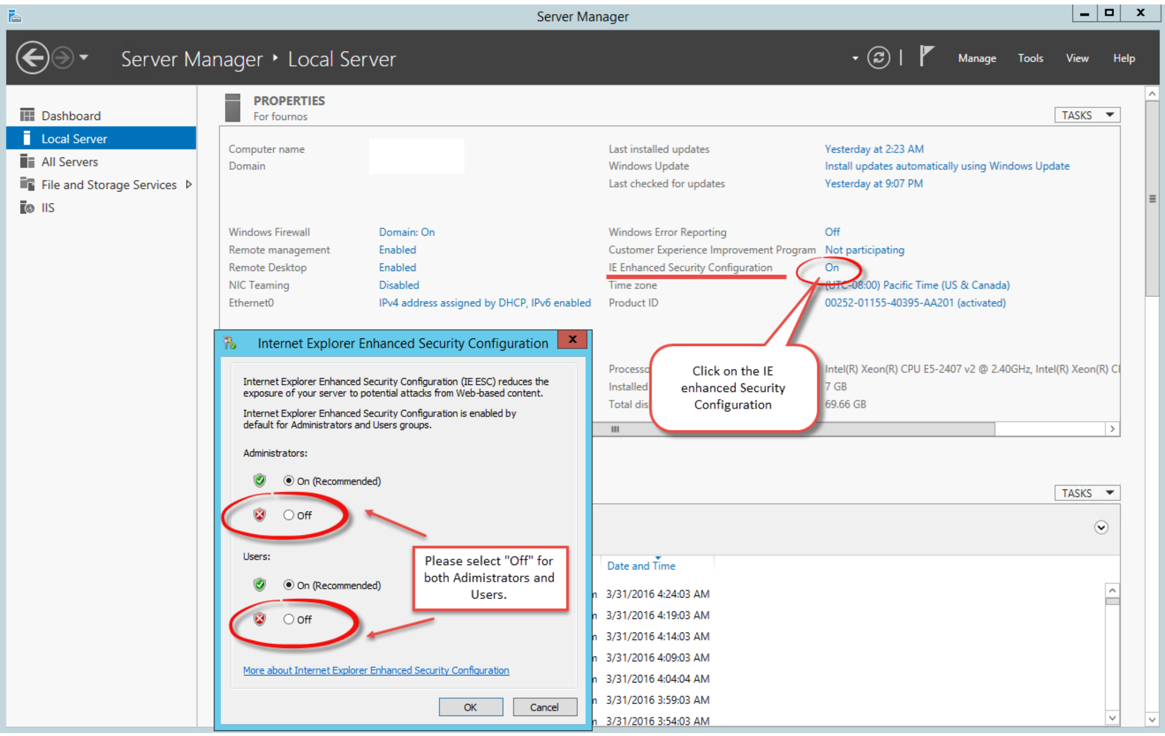
1. Open the "Server Manager" and go to "Local Server"

2. Click on the "IE Enhanced Security Configuration"

3. Both for Administrators and Users select the "Off" radio button and click "OK".



After Opening your Server Manager, please, select "Local Server"



PROPERTIES
For fournos

Computer name
Domain

Last installed updates: Yesterday at 2:23 AM
Windows Update: Install updates automatically using Windows Update
Last checked for updates: Yesterday at 9:07 PM

Windows Firewall: Domain: On
Remote management: Enabled
Remote Desktop: Enabled
NIC Teaming: Disabled
Ethernet0: IPv4 address assigned by DHCP, IPv6 enabled

Windows Error Reporting: Off
Customer Experience Improvement Program: Not participating
IE Enhanced Security Configuration: On
Time zone: (UTC-08:00) Pacific Time (US & Canada)
Product ID: 00252-01155-40395-AA201 (activated)

Processo… Intel(R) Xeon(R) CPU E5-2407 v2 @ 2.40GHz, Intel(R) Xeon(R) C
Installed… 7 GB
Total dis… 69.66 GB

Click on the IE enhanced Security Configuration

Internet Explorer Enhanced Security Configuration

Internet Explorer Enhanced Security Configuration (IE ESC) reduces the exposure of your server to potential attacks from Web-based content.

Internet Explorer Enhanced Security Configuration is enabled by default for Administrators and Users groups.

Administrators:

● On (Recommended)

○ Off

Users:

● On (Recommended)

○ Off

Please select "Off" for both Adimistrators and Users.

More about Internet Explorer Enhanced Security Configuration

Date and Time
3/31/2016 4:24:03 AM
3/31/2016 4:19:03 AM
3/31/2016 4:14:03 AM
3/31/2016 4:09:03 AM
3/31/2016 4:04:04 AM
3/31/2016 3:59:03 AM
3/31/2016 3:54:03 AM

You will now be able to control Internet Explorer through WinAutomation for automating all kinds of web sites and web applications.

3.9.9 Configure Chrome and Firefox for Web Automation

Unlike with IE, WinAutomation is using add-ons to communicate with Chrome and Firefox.

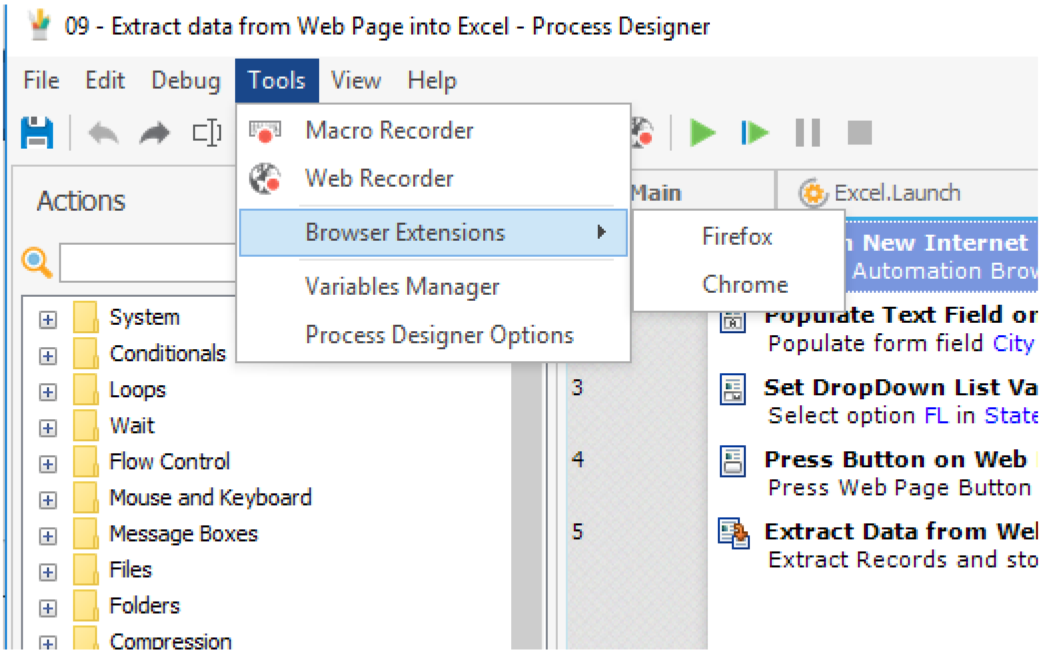
These addons are included in the WinAutomatoin installation where you will be prompted to include the extensions.

However, should you not want to install the extensions right up front, you can do so at a later point through the Process Designer.

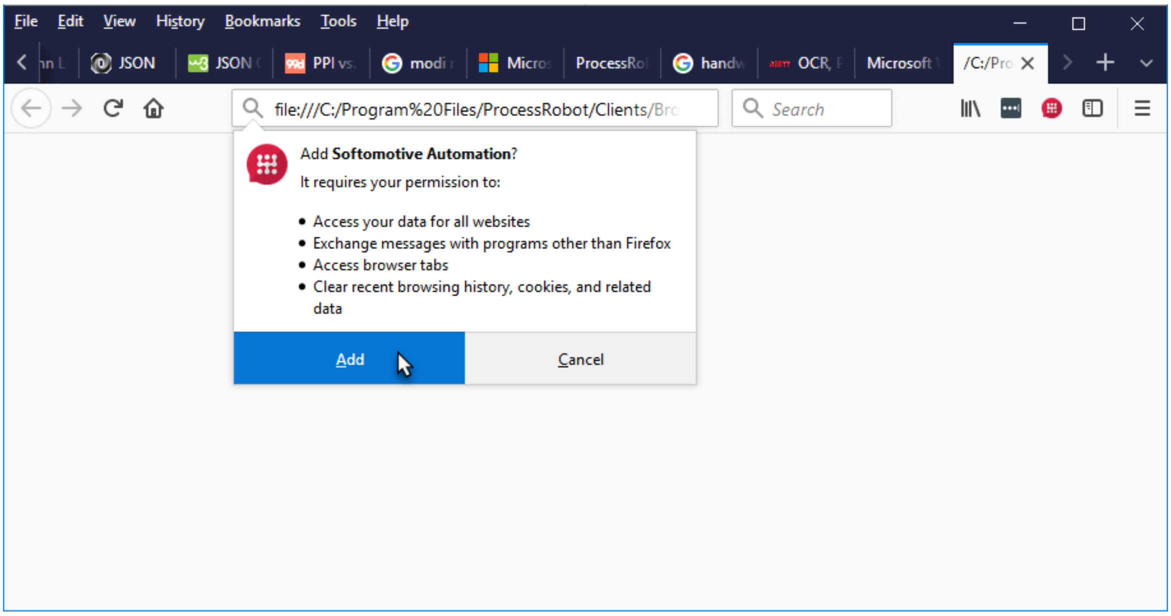
This showcase scenario shows you how to install the add-ons and how to enable them or disable them in your browser:

(a) Installing add-ons for Firefox or Chrome

1. Open your "Process Designer>Tools> Browser Extensions" and select the Browser you want to work with (Firefox or Chrome).



This will launch (or bring to the foreground) Firefox or Chrome with the following screen:

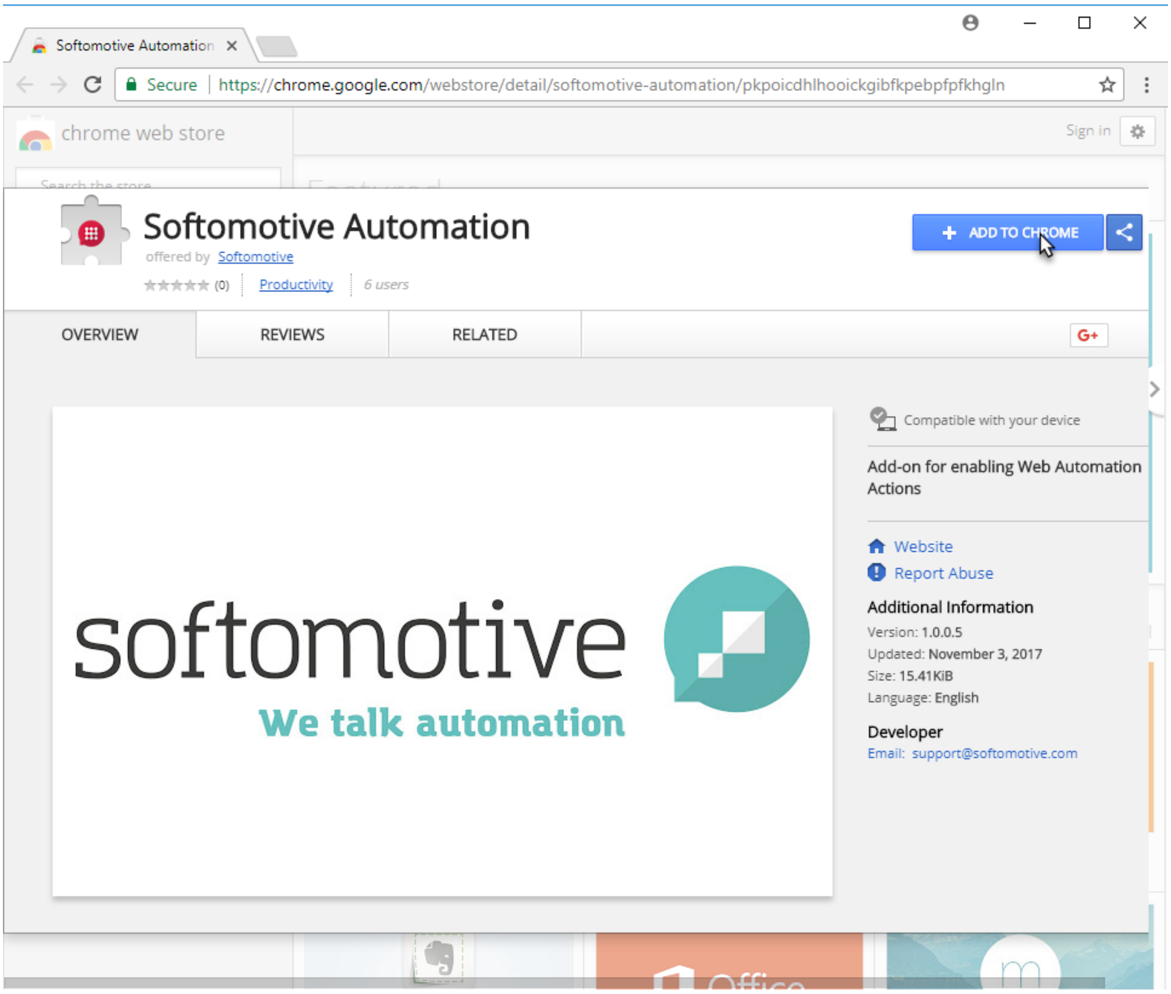


Add Softomotive Automation?

It requires your permission to:

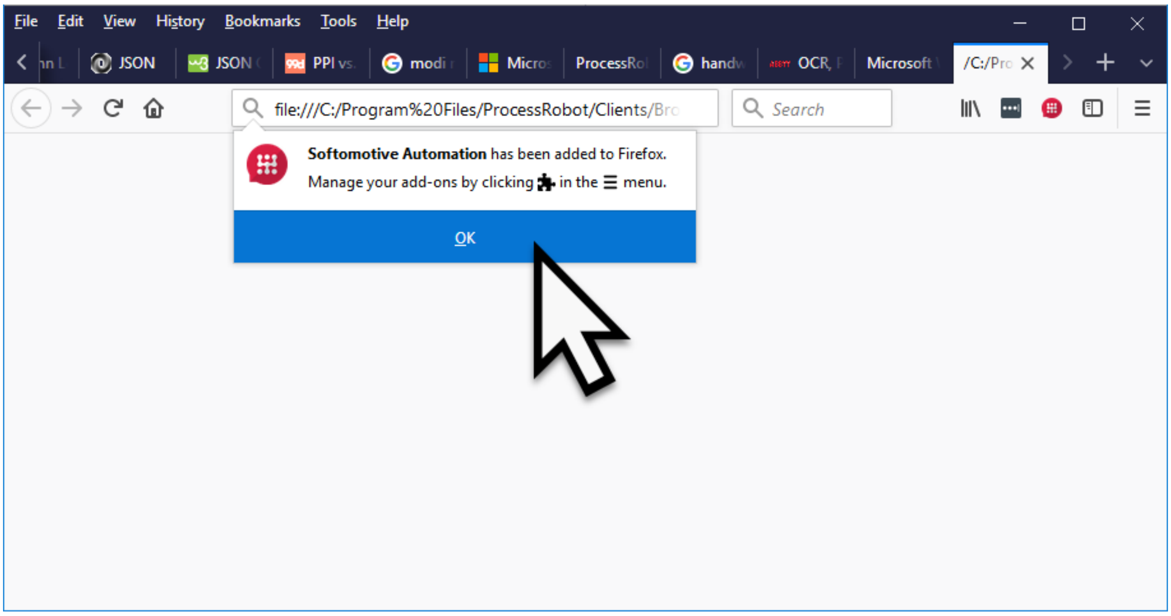
- Access your data for all websites
- Exchange messages with programs other than Firefox
- Access browser tabs
- Clear recent browsing history, cookies, and related data

Firefox



Chrome

2. Click Add and then OK or "Add Extension".

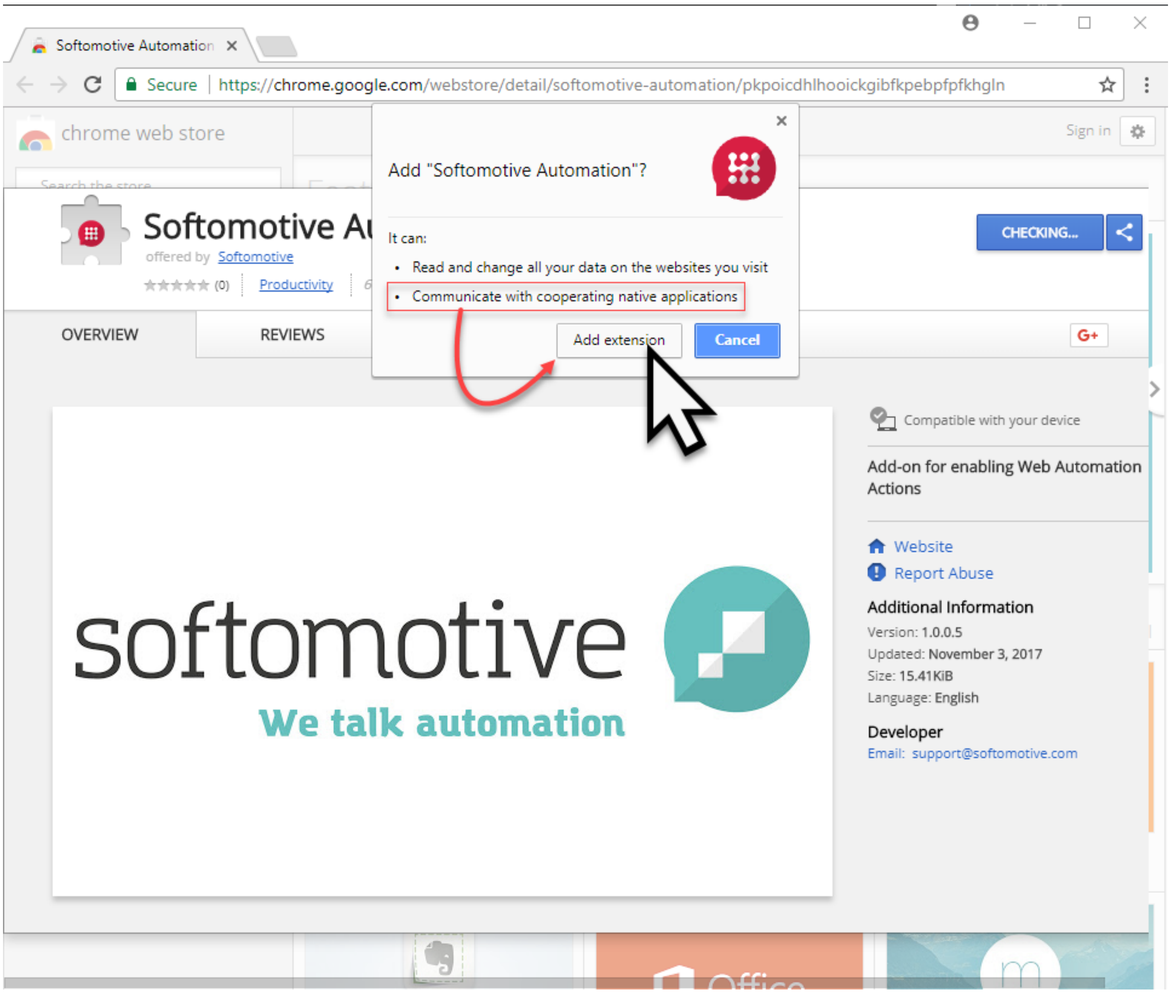


File Edit View History Bookmarks Tools Help
JSON
JSON
PPI vs.
modi
Micros
ProcessRo
handw
OCR,
Microsoft
/C:/Pro
file:///C:/Program%20Files/ProcessRobot/Clients/Bro
Search

Softomotive Automation has been added to Firefox.

Manage your add-ons by clicking in the ☰ menu.

Firefox



https://chrome.google.com/webstore/detail/softomotive-automation/pkpoicdhlhooickgibfkpebpfpfkhgln

Add "Softomotive Automation"?

It can:

- Read and change all your data on the websites you visit
- Communicate with cooperating native applications

Add extension | Cancel

Compatible with your device

Add-on for enabling Web Automation Actions

Additional Information

Version: 1.0.0.5
Updated: November 3, 2017
Size: 15.41KiB
Language: English

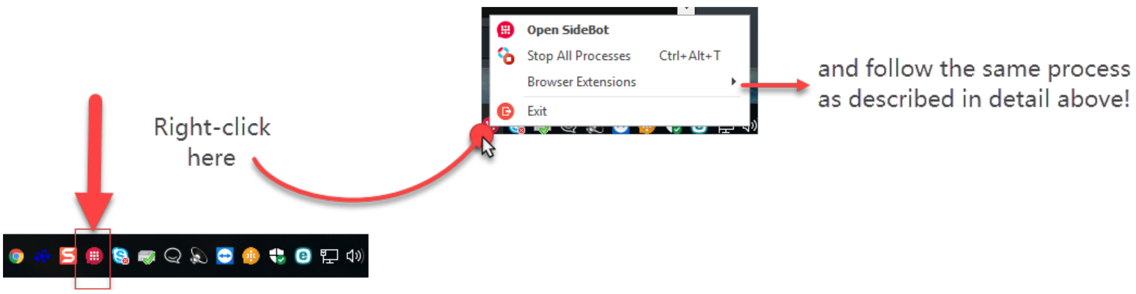
Developer

Email: support@softomotive.com

Chrome

What's left is to go through (b) "Additional Settings that Might Influence Automation for Firefox or Chrome" and you'll be ready to start using Firefox or Chrome for your web automation.

Another option would be to install the browsers from the WinAutomation Icon in the System Tray:



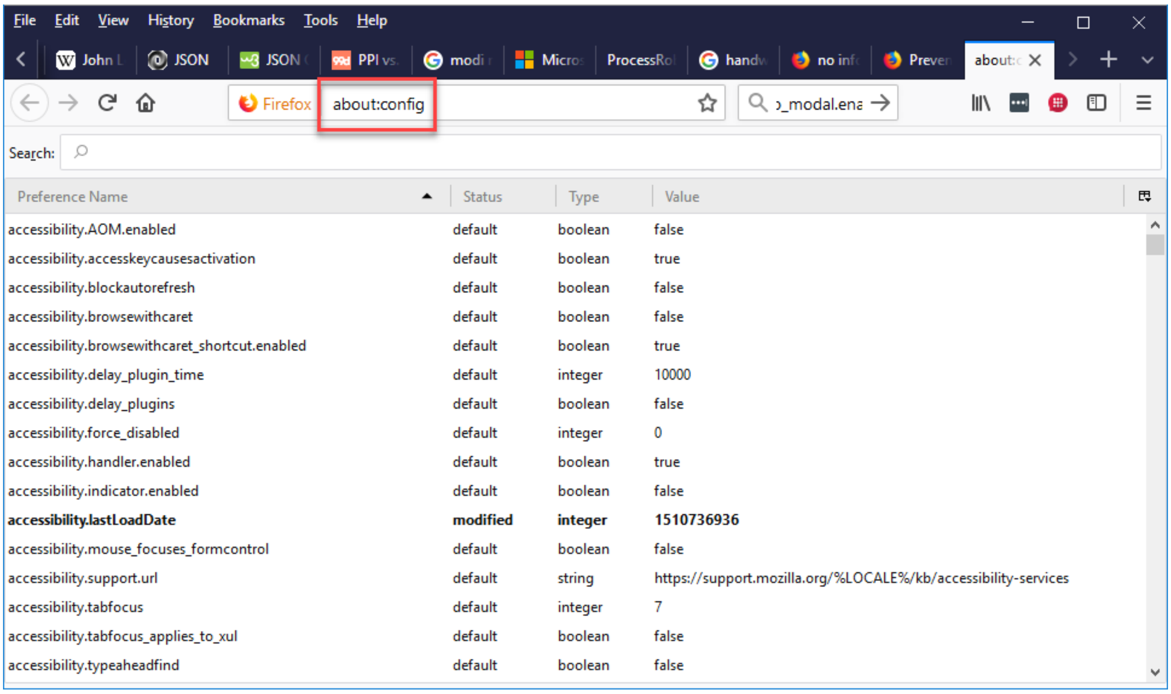
Right-click here

and follow the same process as described in detail above!

(b) Additional Settings that Might Influence Automation for Firefox or Chrome

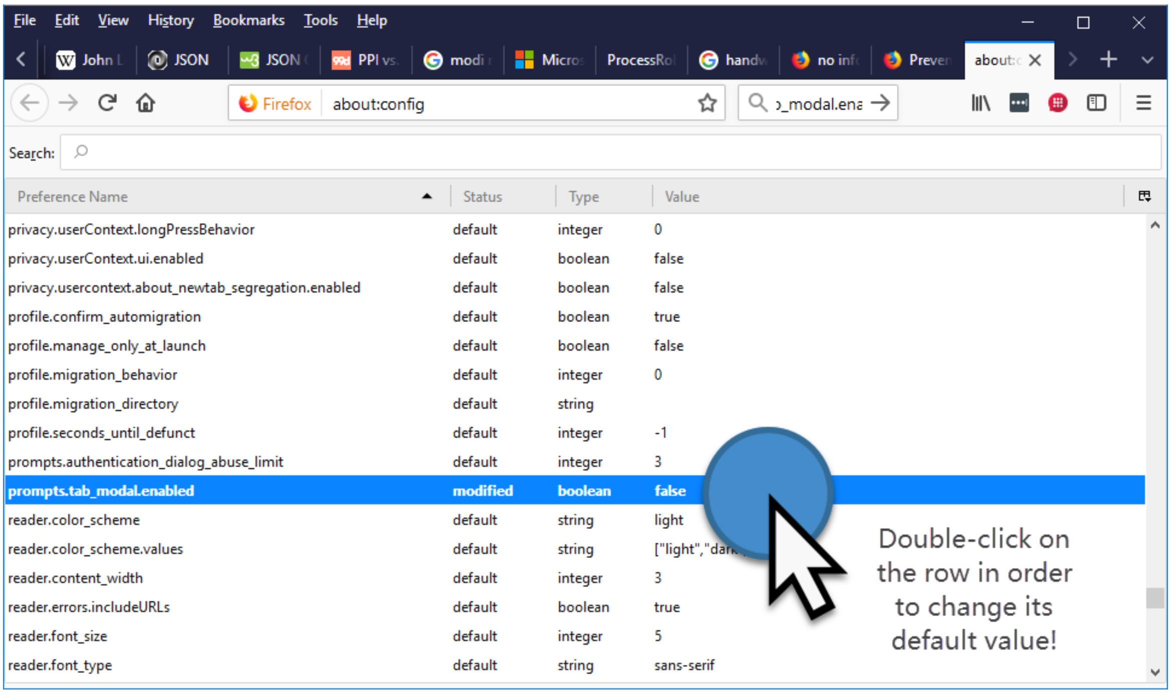
For Firefox: Another thing you might want to know however regarding Firefox is how to enable or disable (default seems to be enabled) alerts in "modal" dialog boxes that freeze your browser and prevent you from switching to other tabs or windows. This setting enabled can have a real impact on the viability of your automations so this is how you can disable it:

1. Enter the text "about:config" on the URL bar of a new tab on Firefox and press Go:


File Edit View History Bookmarks Tools Help
John L JSON JSON PPI vs modi Micro ProcessRo handv no inf Preven about:
Firefox about:config
_modal.ena
Search:

Preference Name	Status	Type	Value
accessibility.AOM.enabled	default	boolean	false
accessibility.accesskeycausesactivation	default	boolean	true
accessibility.blockautorefresh	default	boolean	false
accessibility.browsewithcaret	default	boolean	false
accessibility.browsewithcaret_shortcut.enabled	default	boolean	true
accessibility.delay_plugin_time	default	integer	10000
accessibility.delay_plugins	default	boolean	false
accessibility.force_disabled	default	integer	0
accessibility.handler.enabled	default	boolean	true
accessibility.indicator.enabled	default	boolean	false
accessibility.lastLoadDate	**modified**	**integer**	**1510736936**
accessibility.mouse_focuses_formcontrol	default	boolean	false
accessibility.support.url	default	string	https://support.mozilla.org/%LOCALE%/kb/accessibility-services
accessibility.tabfocus	default	integer	7
accessibility.tabfocus_applies_to_xul	default	boolean	false
accessibility.typeaheadfind	default	boolean	false

2. Search for the "prompts.tab_modal.enabled " preference name in the resulting list and double-click on it in order to change it to false:

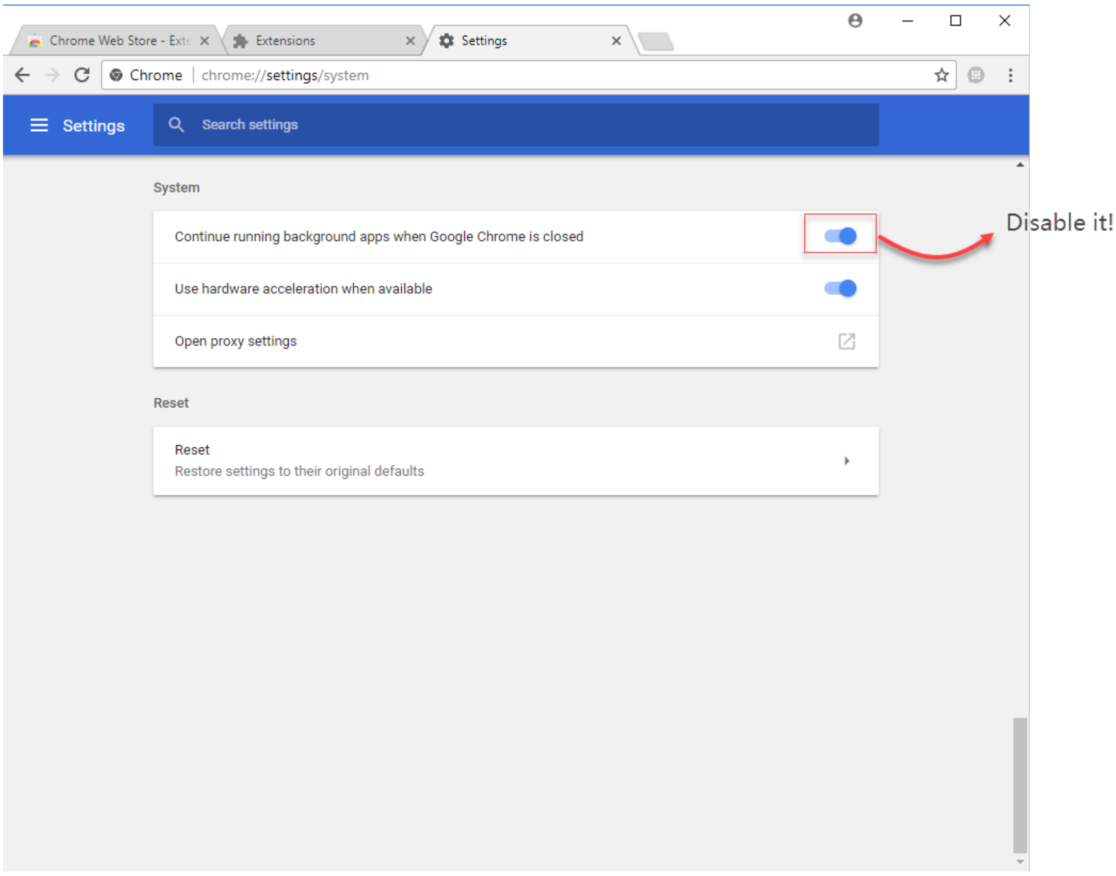


Preference Name	Status	Type	Value
privacy.userContext.longPressBehavior	default	integer	0
privacy.userContext.ui.enabled	default	boolean	false
privacy.usercontext.about_newtab_segregation.enabled	default	boolean	false
profile.confirm_automigration	default	boolean	true
profile.manage_only_at_launch	default	boolean	false
profile.migration_behavior	default	integer	0
profile.migration_directory	default	string	
profile.seconds_until_defunct	default	integer	-1
prompts.authentication_dialog_abuse_limit	default	integer	3
prompts.tab_modal.enabled	**modified**	**boolean**	**false**
reader.color_scheme	default	string	light
reader.color_scheme.values	default	string	["light","dar
reader.content_width	default	integer	3
reader.errors.includeURLs	default	boolean	true
reader.font_size	default	integer	5
reader.font_type	default	string	sans-serif

Double-click on the row in order to change its default value!

For Chrome:

Disable running background apps when Google Chrome is closed Settings>Settings Navicon>Advanced>System



System

Continue running background apps when Google Chrome is closed

Use hardware acceleration when available

Open proxy settings

Reset

Reset
Restore settings to their original defaults

Disable it!

3.9.10 Actual Internet Explorer VS Automated Broswer

Differences and limitations for using the WinAutomation Runtime Browser versus the Actual Internet Explorer:

1. "Click Download link from Web Page" action:

This action only works with the Automated browser regardless the IE version, while in an actual IE, version 8 and below is a requirement.

2. For the actual IE to work reliably with the Web Automation Actions one needs to change its security options. (Configure Internet Explorer for Web Automation 267)

Such tweaks are not necessary when using the WinAutomation Runtime Browser. This can come in handy for users working in companies having certain standards when it comes to the security (thusly prohibiting users from changing the security settings of IE). For these users the WinAutomation Runtime Browser is the way to go.

3. The WinAutomation Runtime Browser suppresses any and all message dialogs that may pop up unhindered in the actual IE.

When this feature of the WinAutomation Runtime Browser is undesirable (e.g. when dealing with authentication dialogs) we apply the "(ShowDialogs)" suffix at the end of the url inside the Launch New Internet Explorer action, so as to temporarily allow such dialogs to pop up. Using such a workaround is not needed in the actual IE.

4. The WinAutomation Runtime Browser does not support tabs or opening links in windows.

When the user clicks on a link in an actual IE, which would open in a new window, the Automated browser automagically opens the link it in the same window/instance (this discards all navigation history etc).

5. There is a small performance advantage with the Automated browser because it does not load unnecessary elements and ad-ons like the actual IE does.

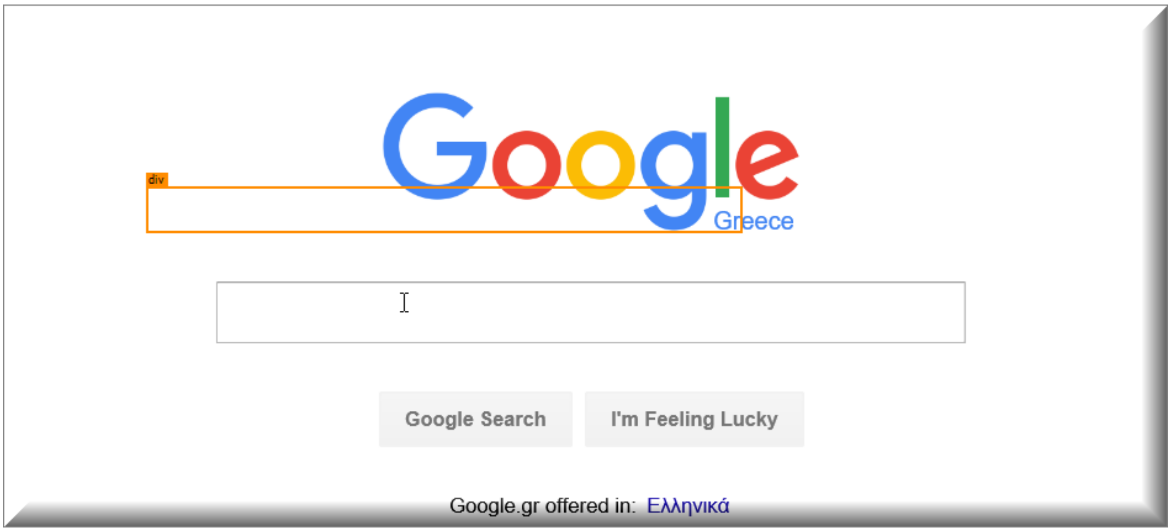
6. When it comes to converting Processes to .exe files the actual IE is a bit more handy than the embedded one if the .exe is to be distributed to computers that WinAutomation has never been installed.

The reason for this is that for those machines that want to run a .exe with the embedded IE the client must install (and then uninstall) WinAutomation in order for certain registry-keys to be installed in the registry, instructing the Windows OS to run the Runtime Web Helper of WinAutomation as the IE version of most recent vintage. If this does not take place then the Runtime Web Helper will be running as IE6 by default which can cause severe problems in certain websites, thus breaking the .exe Process.

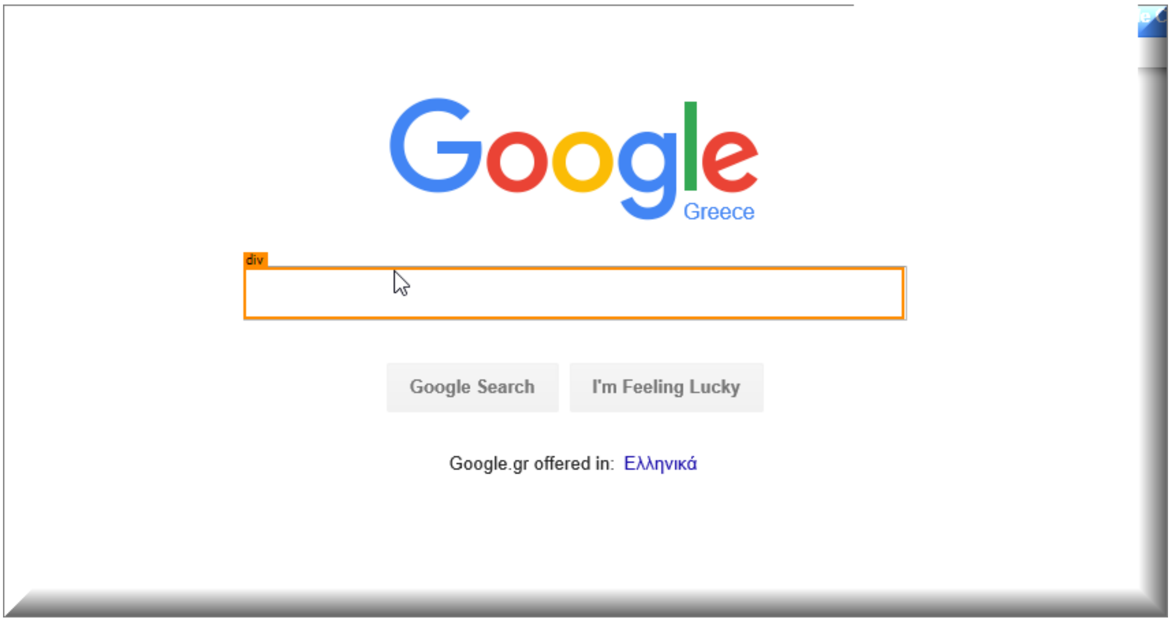
3.9.11 Web Helpers Offset

Sometimes, elements in a web page may be nested one into another, and still have the same size. In this case you can only highlight the deepest element and by moving the cursor out of it you also move it out of its parent elements (since they all have the same size). In this case, to select a parent element, move the mouse cursor over it and click Control-Shift to move the selection to its parent element instead of the deepest one. You can press Control-Shift repeatedly to walk up the elements hierarchy.

Also, there might be cases where the Web Helpers appear with an offset relative to the elements themselves. This is caused from the fact that the web page display is not at 100% and as a result the helpers are in a different position than the one actually expected. In order to overcome this issue, you can simple press **Ctrl+** (for zooming in) or **Ctrl-** (for zooming out) to make the Helpers circulate the elements correctly!



Helpers with offset.



Helpers with no offset.

4. Advanced Topics

4 Advanced Topics

4.1 Add-ons

4.1.1 What is an Add-on?

WinAutomation being a feature-rich automation platform, includes a vast collection of actions that are available to you whenever you install the application. However, some actions are a little too specialized to be included as part of WinAutomation's core (e.g. a group of actions that automates Twitter, does not interest everyone). This is why WinAutomation allows you to use Add-ons.

Add-ons in WinAutomation are essentially external packs of actions that you can download from our website and install separately in the application according to your needs. The main purpose of Add-ons, is to provide WinAutomation's users with as many features as possible while keeping the number of core actions easily manageable. This practically means that we do not have to sacrifice flexibility for features or vice versa.

4.1.2 Install and Remove Add-ons

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

You can open the WinAutomation Add-on Manager through "Options > Addons" tab in the console.

Browse All Available Add-ons

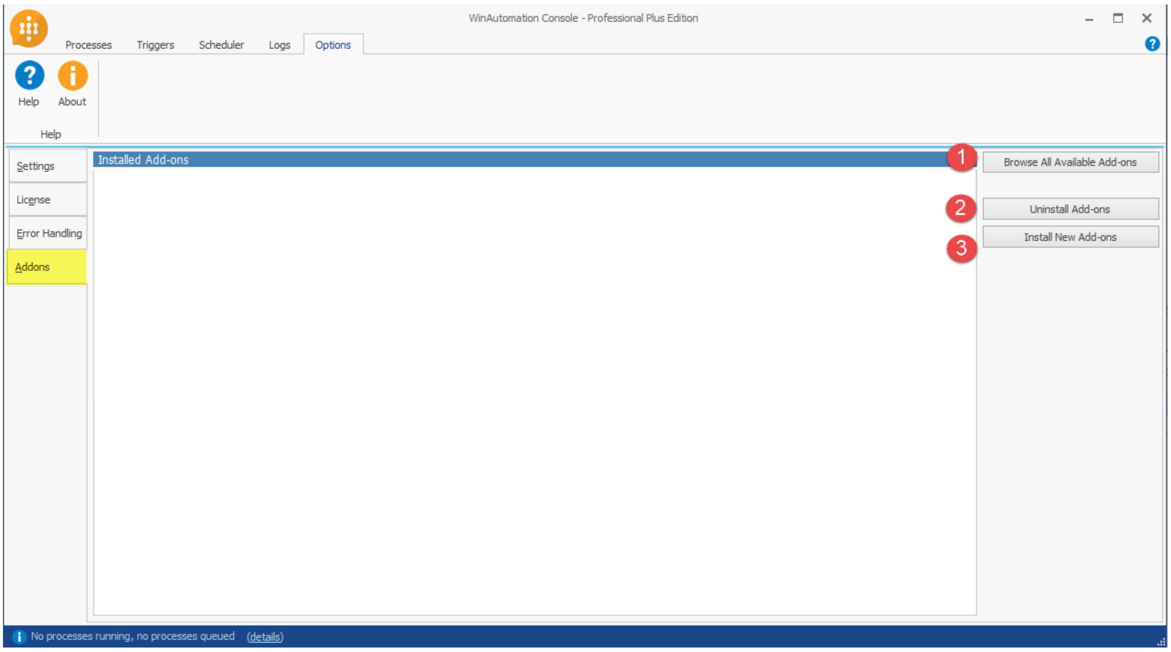
This button will get you to the WinAutomation official website where you can review and download all the available addons.

Uninstall an Add-on

You can uninstall any Add-on that you no longer need, just by selecting it in the list of installed add-ons and clicking on the "Uninstall Selected Add-on" button. Note here that when you uninstall an add-on, any Processes that contain actions from that add-on will not work anymore. This does not apply to compiled Processes that are independent but only to Processes that run within WinAutomation.

Install New Add-ons

After you have downloaded an Add-on, you can install it by pressing the "Install new Add-on" button and selecting the .wao file that you downloaded.



Add-ons designed for WinAutomation version 5 will not work with WinAutomation version 6 and vice versa. If you accidentally installed an incompatible add-on, you can safely delete the file Addons.dat, which is by default located in the same folder as your Processes.dat file 329. Having done that, you may proceed and download the latest compatible version of the add-on by pressing the “Browse All Available Add-ons” button.

4.2 Variables

Throughout your Processes, you will need to store useful information for passing them from on action to another: the current date, the file that the user selected, the contents of the clipboard. WinAutomation allows you to store this kind of data, for later use, through variables. A variable simply acts like a storage bin that saves valuable information for the Process’ execution, so that you can use it later. You can stuff different types of data into variables, such as text or numbers. For more information about Data Types you can see here 286.

In order to use variables, you will have to use the specific notation associated with them: the variable’s name should be enclosed in percentage characters. For example, in order to use a variable called “ClipboardText” as an input for “Set Clipboard Text” action, you must write: %ClipboardText% in the “Text to store into Clipboard” field of the specific action’s properties dialog box.

Creating Variables

There are 2 main ways to create a new variable:

1. Through the “Variables Manager Window”. For more information about where to find and how to use this method you can see: “Variables Manager Window 195”.

2. Variables can also be created by Actions. Most actions generate output based on the input that has been provided to them. For example the “Get Text Length” action under “Text Actions” category, will accept the text that you want to measure as an input, and provide the number of chars that this text contains as an output. This output will be stored in a variable for later use.

Using Variables

Variables can be used to store any specific type of information that may need to be utilized throughout the Process. Most of the variables that you will use are the “product of a specific action’s labor”: the current date, the files contained in a specific folder, the text that is stored in the clipboard, is information that you can retrieve and store in variables through specific actions.

WinAutomation provides you with an easy and straightforward way to use variables that have been previously created in your Processes: there is a special “gear” icon ⚙ next to every input that accepts variables in the Action Properties Dialog box. By clicking on that icon, you will be able to directly select any variable or variable property (for information about properties you can check “Data type Properties 290”) that you want to use as an input.
Notice that the gear icon is placed only next to the “Action’s Inputs” (there are no gear icons next to “Outputs”). This does not mean that you cannot use a variable that already exists, as an output, thus overwriting its contents and, possibly, changing the type of data that the variable contains. However, it is suggested that you use a new variable to store a different action’s output: it will help you to keep your Process clear and have a full understanding of what kind of data each variable contains at any given time of your Process’ execution.

4.2.1 Data Types

Every piece of information that you store in your variables, has a specific type. There are 14 main data types that WinAutomation recognizes:

- **Text:**
  A “Text” variable can contain any kind of text, from your email address to the text contents of txt file. Notice that the user’s input through the “Display Input Dialog 460” action will always be stored as text (even if the user enters a number). In order to convert text into number you will have to use the “Convert Text to Number 762” action.

- **Number:**
  This is the data type of a variable that holds a number.

- **Boolean:**
  Can be either True or False. For example the attributes of a file (such as "Hidden") are of type Boolean. If a file is stored in a variable called %MyFile%, %MyFile.IsHidden% will be True if the file is hidden and False if it is not (IsHidden is a property of the File Data Type; for more information about the data type properties see "Data Type Properties 290").

- **Custom Dialog Instance:**
  A variable of that type is created through the "Display Custom Dialog 456" action. It is used to uniquely identify the specific custom dialog created by the action. Every Custom Dialog Instance has properties (e.g. LastButtonPressed). For more information about data type properties see "Data Type Properties 290". Variables of the "Custom Dialog Instance" type can be used in place of a UI Automation "Window Instance" in UI and Windows actions.

- **Custom Object:**
  Custom Objects are a type of Variable in WinAutomatoin that allows users to generate and/or translate ("Convert Custom Object To Json") data in JSON format. Custom Objects are essentially collections of pairs of Property Names and corresponding Values. You can access these values using dot (.) notation or bracket ([]) notation since any two different Properties of a Custom Object may have the same Value but not the same Name.

- **List:**
  A list contains a collection of values (it is the equivalent of single-dimensional arrays in programming). Depending on the type of the items of the list we can have List of Texts, List of Numbers, List of Files etc. For more information about lists, see "Lists 289".

- **Data Table:**
  A data table contains data in a tabular form (it is the equivalent of two-dimensional arrays in programming). For more information about data tables, see "Data Tables 289".

- **DataRow:**
  A data row is an iterable collection that contains all values corresponding to the columns of a data table for a given row. It is the product of an iteration of a data table.

- **Date Time:**
  Contains basic date and time information. The form that will be used to print a "date time" variable (e.g. through a "Display message" action) depends on the machine's regional settings. To retrieve a special textual representation of a Date Time value you need to convert the value into text with the "Convert DateTime to Text 766" action.

- **Excel Instance:**
  A variable of that type can be created through the "Launch Excel" action. It is used to uniquely identify the specific instance of Excel that was launched. Every other action under "Excel" category (e.g. "Read from Excel") will require from you to specify an existing Excel instance (i.e. the specific excel file whose data will be

read). Variables of the "Excel Instance" type can be used in place of a UI Automation "Window Instance" in UI and Windows actions.

- **FTP Connection:**
  A variable of that type can be created through the “Open FTP Connection” and “Open Secure FTP Connection” actions. It is used to uniquely identify the FTP connection that was opened. Every other action under “FTP” category (e.g. “Download File(s) from FTP”) will require from you to specify an existing FTP connection (i.e. the specific FTP site where the file(s) will be downloaded from).

- **File:**
  Represents a file. Files can be used as input in any of the actions under “Files” category. Every file has properties (e.g. Size). You can retrieve a file’s properties by using the following notation: %VariableName.PropertyName%. For more information about data type properties see “Data Type Properties 290”.

- **Folder:**
  Represents a folder. Folders can be used as input in any of the actions under “Folders” category. Every folder has properties (e.g. CreationTime). You can retrieve a folder’s properties by using the following notation: %VariableName.PropertyName%. For more information about data type properties see “Data Type Properties 290”.

- **Browser Instance:**
  A variable of that type can be created through the “Launch New Internet Explorer 562 ” action or the other web Launching actions. It is used to uniquely identify the specific instance of Internet Explorer that was launched or attached to. Every other action under “Web Automation” category (e.g. “Click Link on Web Page 583”) will require you to specify an existing Internet Explorer instance (i.e. the specific browser window that contains the link to be clicked). Variables of the "Internet Explorer Instance" type can be used in place of a UI Automation "Window Instance" in UI and Windows actions.

- **Mail Message:**
  Represents an email. Email variables are populated by the "Retrieve Emails 645" action. Every email has properties (e.g. Subject). You can retrieve an email’s properties by using the following notation: %VariableName.PropertyName%. For more information about data type properties see “Data Type Properties 290”.

- **OCR Engine:**
  A variable of this type can be created through the "Create OCR Engine" group of actions. It will hold the OCR's engine's instance created in a variable, in order to be used into further OCR related actions that need the engine to be initialized, for them to work. Such actions are: "Extract Text With OCR", "Extract text From PDF With OCR" and any ocr related action.

- **Window Instance:**
  A variable of that type can be created through the “Get Window 517” action. It is used to uniquely identify an application window on the user's desktop. UI and Windows actions will require you to specify a target Window instance (i.e. the specific window which will be acted upon / contains the target element(s)).

4.2.2 List Variables

Lists are collections of items of the same type. You can create a list through the “Create New List” action (under “Variables” category) and add an item to that list through the “Add Item to List” action. You can also create a list through actions that generate lists as output (e.g. “Read text from file” will return a list if you select to store the file’s contents as a list and "Get Files in Folder" action will return a List of Files).

In order to retrieve a specific item of a list, you will have to use the following notation:

%VariableName[ItemNumber]%

Keep in mind that the “ItemNumber” should be 0 for the first item of the list, 1 for the second and so on.

For example, if you have a list that is stored in the variable %MyList% and contains 10 items, you can retrieve the first item with: **%MyList[0]%** and the last item with **%MyList[9]%**.

Very often the "For Each" loop is used for iterating through the items of a list.

4.2.3 Data Tables

Data tables contain data in a tabular form (it is the equivalent of two-dimensional arrays in programming). A data table contains rows and columns and each item stored in the data table can be retrieved through its unique row and column number. You can think of data tables as lists: each item of the list is also a list.

There is no direct way to create a data table but there are 2 actions that generate a data table as an output: the “Read from Excel” action and the “Execute SQL Statement” action.

In order to retrieve a specific item of a data table, you will have to use the following notation:

%VariableName[RowNumber][ColumnNumber]%

Keep in mind that “RowNumber” and “ColumnNumber” should be 0 for the first item (row or column), 1 for the second and so on.

For example, if you have a data table that is stored in the variable **%MyDataTable%**, you can retrieve the first item with: **%MyDataTable[0][0]%**.

Data Rows
If you loop through a data table with a "For Each" action, the variable that will contain the current iteration's data, is considered to be a "Data Row". Data rows are basically lists: they are no different than regular lists (they contain several items, their items can be retrieved through the regular list notation), except for the part that they represent a row in the data table's scheme. Remember that you can still treat them as if they were lists without any problem at all.

4.2.4 Data type Properties

Some of the built in WinAutomation data types have properties, which are values associated to the value stored in the variable. The value of these properties can be accessed directly through the following notation: %VariableName.PropertyName%.

Below you can find the available properties for the different built-in WinAutomation data types:

Data type Text has the following property:

- **Length**: the length (in characters) of the text stored into the variable.

Data type DateTime has the following properties:

- **Year**: The year part of the DateTime value.
- **Month**: The month part of the DateTime value.
- **Day**: The day part of the DateTime value.
- **DayOfWeek**: The name of the day (e.g. Sunday, Monday etc)
- **DayOfYear**: The day of the year part of the DateTime value (1-365/6)
- **Hour**: The hour part of the DateTime value.
- **Minute**: The minute part of the DateTime value.
- **Second**: The seconds part of the DateTime value.

Data type List has the following property:

- **Count**: the number of items stored into the list.

Data type File has the following properties:

- **FullName**: The full path to the file.
- **RootPath**: The root path of the file (e.g. C:\).

- **Directory**: The directory where the file is stored.
- **Name**: The name of the file, including the extension (e.g. MyFile.txt).
- **NameWithoutExtension**: The name of the file, without its extension.
- **Extension**: The extension of the file.
- **Size**: The size of the file (in bytes).
- **CreationTime**: The date when the file was created.
- **LastAccessed**: The date when the file was last accessed.
- **LastModified**: The date when the file was last modified.
- **IsHidden**: This property is true if the file is hidden or false if the file is visible.
- **IsSystem**: This property is true if the file is a system file or false if it is not.
- **IsReadOnly**: This property is true if the file is read only or false if it is not.
- **IsArchive**: This property is true if the file is an archive or false if it is not.
- **Exists**: This property is true if the file exists or false if the file does not exist.

Data type Folder has the following properties:

- **FullName**: The full path to the folder.
- **RootPath**: The root path of the folder (e.g. C:\).
- **Parent**: The parent directory of the folder.
- **Name**: The name of the folder.
- **CreationTime**: The date when the folder was created.
- **LastModified**: The date when the folder was last modified.
- **IsHidden**: This property is true if the folder is hidden or false if the folder is visible.
- **Exists**: This property is true if the folder exists or false if the folder does not exist.

Data type Mail Message has the following properties:

- **MailFolder:** the name folder the email message is retrieved from

- **Uid:** the unique identifier of the message

- **From:** the sender of the email message

- **To:** a list of values containing the recipients of the message

- **Cc:** a list of values containing additional recipients for the message (carbon copy)

- **Date:** the date and time in which the message was sent

- **Subject:** the subject of the message

- **Body:** the body of the message. This can be in plain text or in HTML form

- **BodyText:** if the previous property contains HTML, this property contains the body of the message in plain text form.

- **Attachments:** a list of File 290 data types that represent the attachments of the email message (if any) after they have been saved locally.

Data type FTPFile has the following properties:

- **FullName**: The full path to the file.
- **Directory**: The directory where the file is stored on the FTP Server.
- **Name**: The name of the file, including the extension (e.g. MyFile.txt).
- **NameWithoutExtension**: The name of the file, without its extension.
- **Extension**: The extension of the file.
- **Size**: The size of the file (in bytes).
- **LastModified**: The date when the file was last modified.

Data type FTPFolder has the following properties:

- **FullName**: The full path to the folder.
- **Parent**: The parent directory of the folder.
- **Name**: The name of the folder.
- **LastModified**: The date when the folder was last modified.

Data type DataTable has the following properties:

- **RowsCount**: The number of rows of the DataTable
- **Columns**: A list that contains the names of the columns of the DataTable

Data type DataRow has the following property:

- **ColumnsCount**: The number of columns that the DataRow holds.

Data type Custom Dialog Instance has the following property:

- **LastButtonPressed**: The name of the button that was last pressed on the dialog.
- **DialogWasForciblyClosed**: This property is true if the dialog was closed by a close window command or by pressing the "Cancel Button", false otherwise.
- **Handle**: The handle of the Window belonging to this specific Custom Dialog.

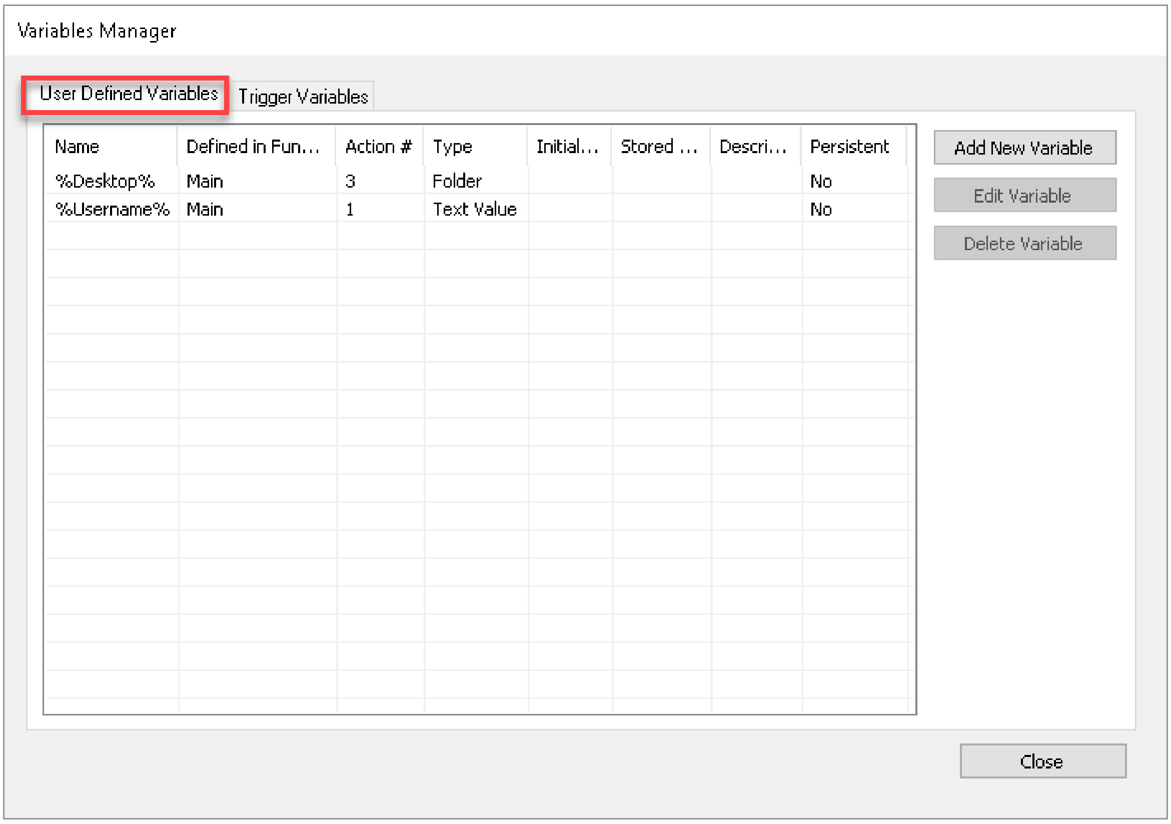
4.2.5 Persistent Variables

What Persistent Variables are and why do I need them?

When you are creating a Process with WinAutomation, you may sometimes want to keep the value of a specific variable available for the future executions of the Process. Persistent Variables allow you to do exactly that: keep a variable's value available for the next time that the Process executes.

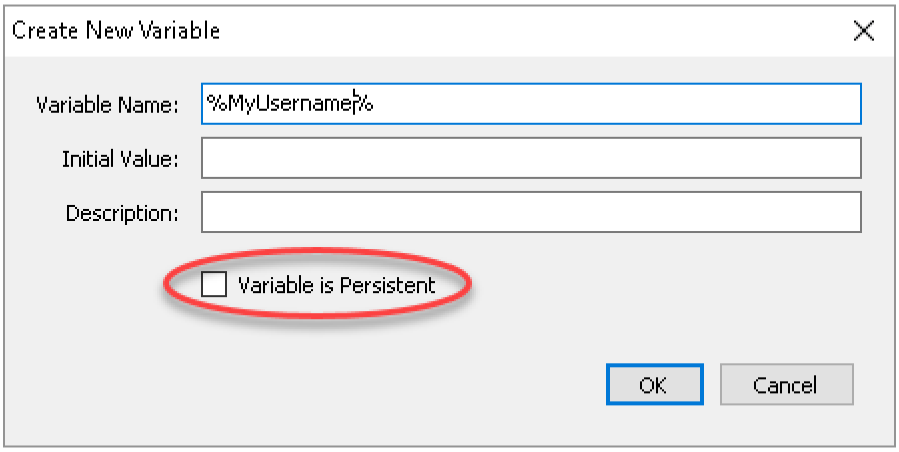
Before this feature was available, the standard way to keep values was to store them into external files, a process which sometimes could be complicated. Now by simply marking a variable as persistent we can be sure that its value will be kept between the executions of the Process.

You can set a variable as persistent through the Tools Menu option > Variables Manager 195 window while in the Process Designer.



Name	Defined in Fun...	Action #	Type	Initial...	Stored ...	Descri...	Persistent
%Desktop%	Main	3	Folder				No
%Username%	Main	1	Text Value				No

If the variable that you want to make persistent already exists, you can just select it in the “User Defined Variables” tab and then hit the “Edit Variable” option. If you want to create a brand new variable and make it persistent, click on the "Add New Variable" button.



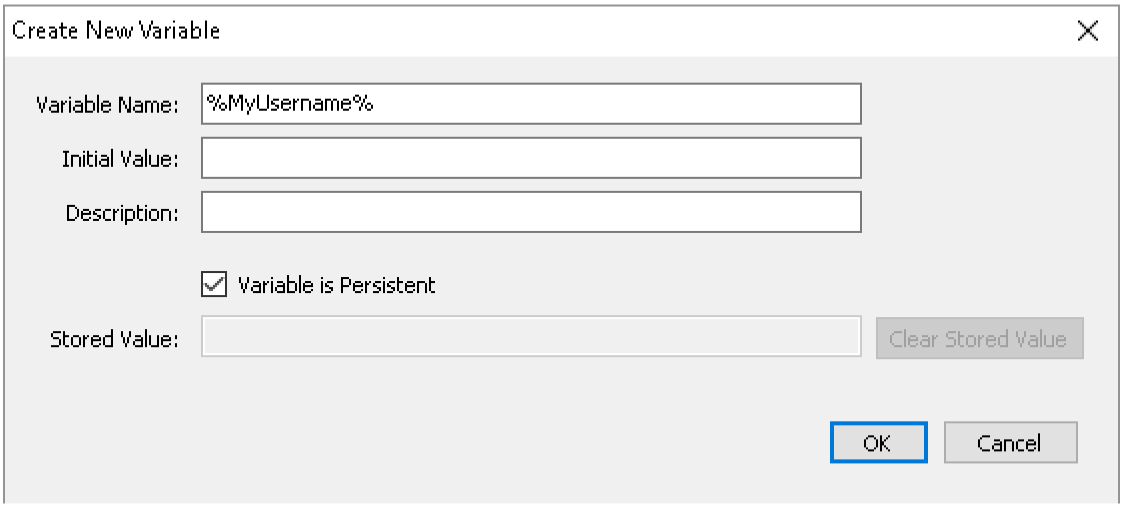
Variable Name: %MyUsername%

Initial Value:

Description:

☐ Variable is Persistent

In the new dialog box, you will have to enter a name for the new variable and check the “Variable is Persistent” option.



Create New Variable

Variable Name: %MyUsername%

Initial Value:

Description:

☑ Variable is Persistent

Stored Value:

When you first create the persistent variable it will not have any stored value. However, if you run the Process and give the variable a specific value, you will be able to see the currently stored value from the “Edit Variable” window in the Process Designer’s Variable Manager.

Persistent Variables in Compiled Processes

If you compile a Process that includes persistent variables, there will still be persistent variables available in the compiled executable, but the stored values will be reset.

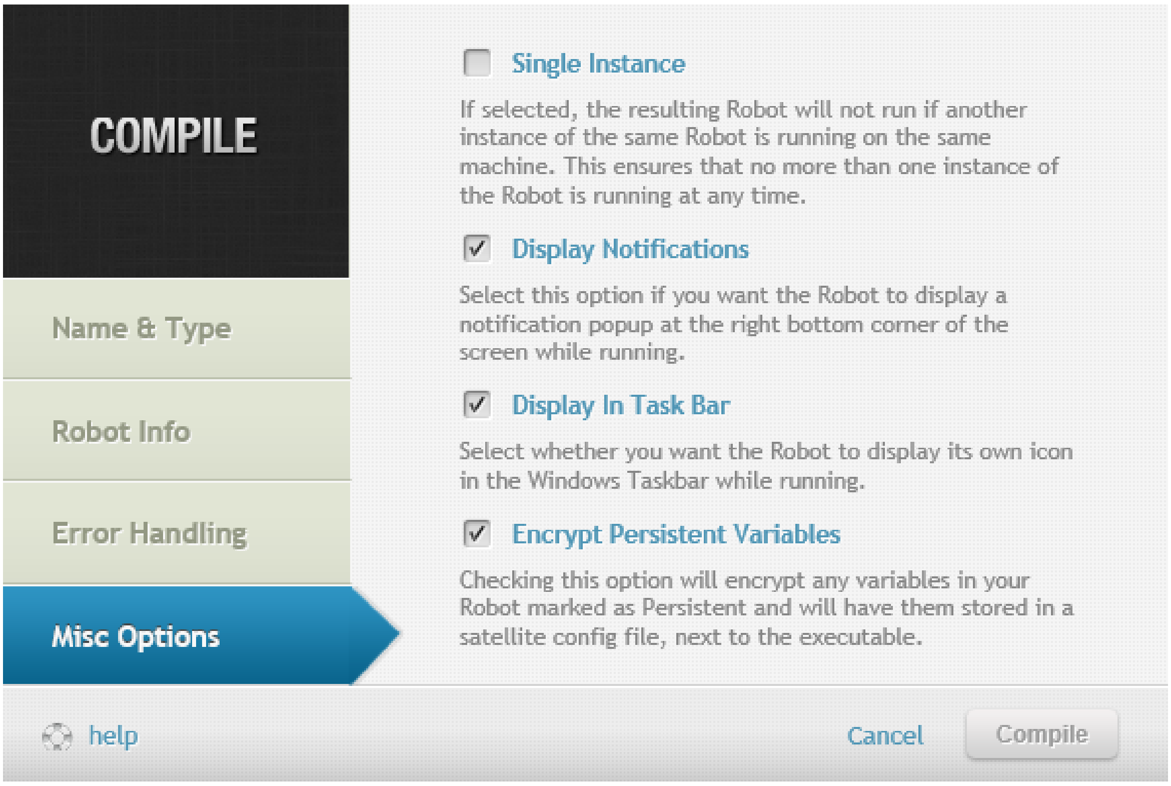
The values of persistent variables, after a compiled Process has been executed for the first time, are stored in a file that is located in the same directory with the compiled Process and is named according to the following notation:

CompiledProcessName.config

So if, for example, you have a compiled Process named: UploadFolder.exe, the persistent variables will be stored in a file named UploadFolder.config that is located in the same directory with UploadFolder.exe.

Notice, that the current value of a compiled Process’s persistent variable can be read if you open the .config file with a simple text editor (e.g. notepad). However, in some cases, you may want to store sensitive data, like passwords, in a persistent variable.

In this case, you will have to select the “Encrypt Persistent Variables” checkbox in the “Misc Options” tab of the “Compile Process” dialog.



□ Single Instance

If selected, the resulting Robot will not run if another instance of the same Robot is running on the same machine. This ensures that no more than one instance of the Robot is running at any time.

☑ Display Notifications

Select this option if you want the Robot to display a notification popup at the right bottom corner of the screen while running.

☑ Display In Task Bar

Select whether you want the Robot to display its own icon in the Windows Taskbar while running.

☑ Encrypt Persistent Variables

Checking this option will encrypt any variables in your Robot marked as Persistent and will have them stored in a satellite config file, next to the executable.

This way, all the values from the persistent variables will be encrypted in the .config file.

4.2.6 External Variables

If from a Process (Process A) you run a different Process (Process B) by using the "Start Process" action, all variables of Process A are available to Process B. These variables in Process B are considered "External Variables" and can be used for passing data from one Process to another.

For Process B to access any of the external variables, the "ext:" prefix must be included before the variable name. For example, if Process A defines a variable **%MyData%**, Process B can access the value of that variable using the notation: **%ext:MyData%**

4.2.7 Custom Date Formats

You can customize the way that the date is represented in the Convert Date Time to Text Action 766 by entering characters that represent various parts of the Date/Time along with any other characters that can be used to link the Date/Time parts.

Various characters and combinations can be used, some of which are displayed below.

When displayed on their own these characters produce the following formats:

· d: The Short Date (04/02/2010)

· D: The Long Date (Friday, April 02, 2010)

· f: The Full Date Time - short Time (Friday, April 02, 2010 10:00 AM)

· F: The Full Date Time (Friday, April 02, 2010 10:00:46 AM)

· g: General Date Time - short Time (04/02/2010 10:00 AM)

· G: The General Date Time - long Time: (04/02/2010 10:00:46 AM)

· M: The Month and day of the month: (April 02)

· m: The Month and day of the month: (April 02)

· r: A Shorter Full date (Fri, 02 Apr 2010 10:00:46 GMT)

· R: A Shorter Full date (Fri, 02 Apr 2010 10:00:46 GMT)

· s: The Sortable Date Time (2010-04-02T10:00:46)

· t: The short time (10:00 AM)

· T: The Long Time (10:00:46 AM)

· y: The Month and Year: (April, 2010)

When used as a combination the characters have the following representation:

· d: The day of the month as a number from 1 to 31 (2)

· dd: The day of the month as a number from 01 to 31 (02)

· ddd: The abbreviated day of the week (Fri)

· dddd: The full day of the week (Friday)

· gg: The period era (A.D.)

· h: The hour as a number from 1 to 12 (10)

· hh: The hour as a number from 01 to 12 (10)

· HH: The hour as a number from 00 to 23 (10)

· m: The minutes as a number from 0 to 59 (0)

· mm: The minutes as a number from 00 to 59 (00)

· M: The month as a number from 1 to 12: (4)

· MM: The month as a number from 01 to 12 (04)

· MMM: The abbreviated month (Apr)

· MMMM: The month (April)

· s: The seconds as a number from 0 to 59 (46)

· ss: The seconds as a number from 00 to 59 (46)

· tt: The AM/PM designator (AM)

· y: The last digit of the year (0)

· yy: The last two digits of the year (10)

· yyyy: The year (2010)

· zz: The time zone (+02)

· zzz: The time zone in full format (+02:00)

You can mix and match these special characters in the Custom Date Time Format and add any other characters you wish to connect them. If you wish to use any of the characters seen in the above list as a connection character you will need to use the backslash(\) in front of it. For example if in your custom date you need to represent the phrase 'The date is ' followed by the Date you will need to enter the following in the Custom Date field:

T\he \da\te i\s: d/M/yy

4.2.8 Custom Objects

Custom Objects are a type of Variable in WinAutomation that allows users to generate and translate data in JSON format.

This topic consists of the following sections:

a) What is JSON and why is it important?

b) The JSON format

c) The Custom Object format

If you already know what JSON is please feel free to jump straight to c) The Custom Object format.

a) What is JSON and why is it important?

JSON is a text format that is:

a) easy for humans to read and write,

b) easy for machines to parse and generate and

c) completely language independent but uses conventions that are familiar to programmers.

These properties make JSON an ideal data-interchange language that is very popular among web developers.

JSON stands for Javascript Object Notation and it is based on a subset of the JavaScript Programming Language. You can read more about JSON on the Standard's official page.

b) The JSON format

Here is an example of JSON data:

```
{
     "firstName": "John",
     "lastName": "Locke",
     "address": {
         "streetAddress": "24 2nd Street",
         "city": "Somerset",
         "kingdom": "England",
         "postalCode": 10210
     },
     "phoneNumbers": [
         "212 555-1294",
         "646 555-6567"
     ]
 }
```

As you can see, the JSON format is inspired after two structures:

i) an Object, which can be seen as an unordered set of name/value pairs, like { "firstName": "John", "lastName": "Michael" } inside curly braces and separated by commas.

All names has to be strings (i.e. text values), while values can be almost anything, from Boolean to another Object.

Another thing to note is the colon (:) used to separate the name from its corresponding value.

ii) an Array, which is an ordered collection of values, like [1,2,3,4] inside brackets and separated by commas.

Same as before, values can be almost anything, from numbers to strings!

The combination of these two structures is allowing the creation of ordered lists of name/value pairs. You can access individual object values by using either the dot (.) notation in the following manner:

```
myObj = { "name":"John", "age":378, "car":null };
x = myObj.name;
```

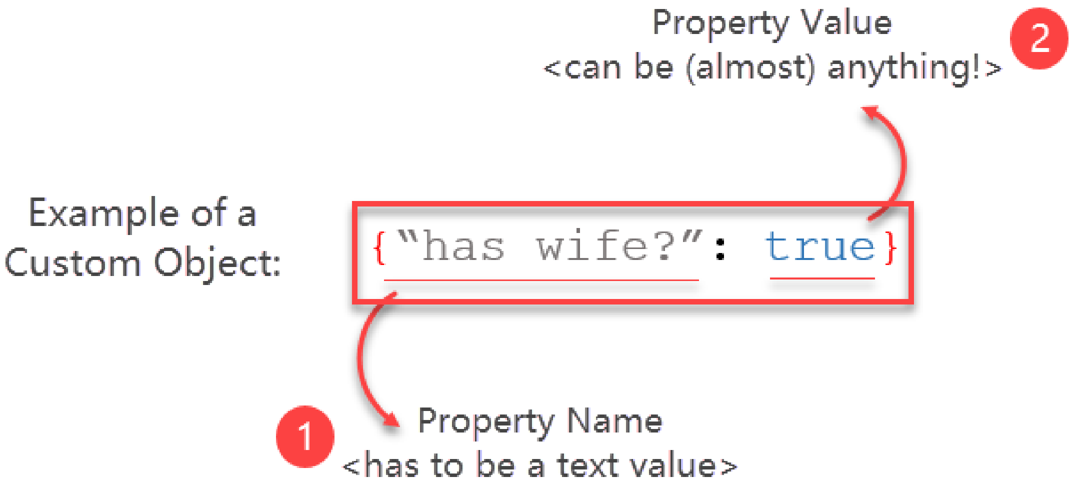
or by using the **bracket ([]) notation**:

```
myObj = { "name":"John", "age":378, "car":null };
```

```
x = myObj["name"];
```

c) The Custom Object format

Understanding the JSON format is important, because Custom Objects were created in order to allow us to build and use data in that format within WinAutomation.
Just like JSON, custom objects in WinAutomation consist of a name and a value; they are essentially a pair of two data:



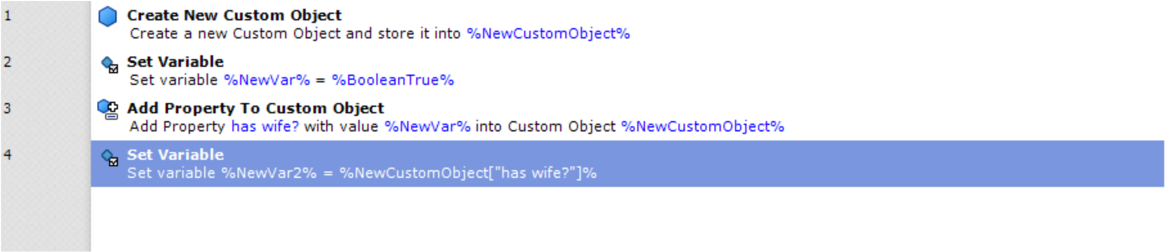
1. A Property Name:

A Property name will be by default a Text Value. Given that fact it can consist of almost any combination of characters.

However:

-We can use bracket notation in order to access the value corresponding to the Property Name of the example Custom Object in the following manner.

Setting %BooleanTrue% as true via "Tools>Variables Manager" and 'writing' the following sequence of actions:



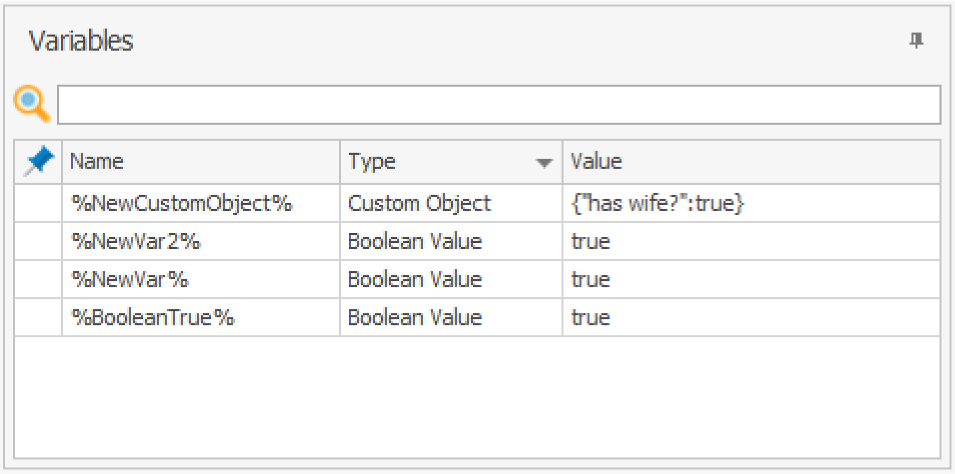
1 **Create New Custom Object**
Create a new Custom Object and store it into %NewCustomObject%

2 **Set Variable**
Set variable %NewVar% = %BooleanTrue%

3 **Add Property To Custom Object**
Add Property has wife? with value %NewVar% into Custom Object %NewCustomObject%

4 **Set Variable**
Set variable %NewVar2% = %NewCustomObject["has wife?"]%

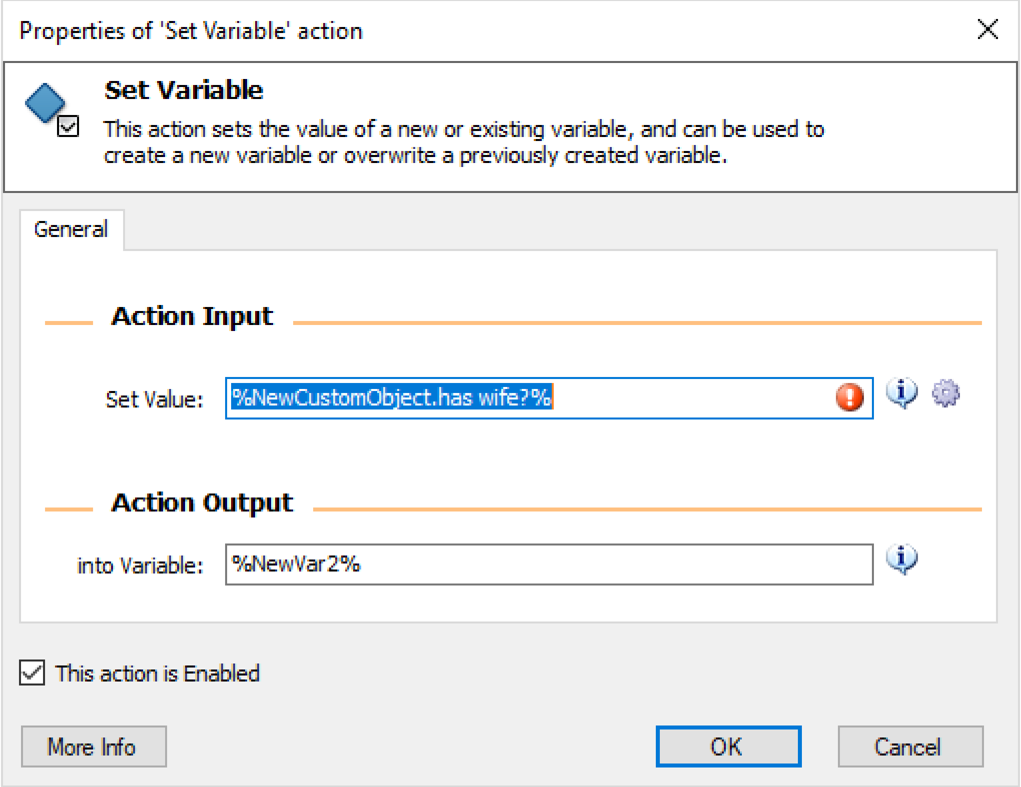
If we test this on Process Designer, it will produce the following Variable values:



Variables

Name	Type	Value
%NewCustomObject%	Custom Object	{"has wife?":true}
%NewVar2%	Boolean Value	true
%NewVar%	Boolean Value	true
%BooleanTrue%	Boolean Value	true

-if we try to access the same value, **using dot notation**, we will get a Design error on action 4, Set Variable %Newvar2%.



Properties of 'Set Variable' action

Set Variable

This action sets the value of a new or existing variable, and can be used to create a new variable or overwrite a previously created variable.

General

Action Input

Set Value: %NewCustomObject.has wife?%

Action Output

into Variable: %NewVar2%

☑ This action is Enabled

This means that in order to be able to access a value using dot notation, **we need to be careful to avoid producing syntax errors**.

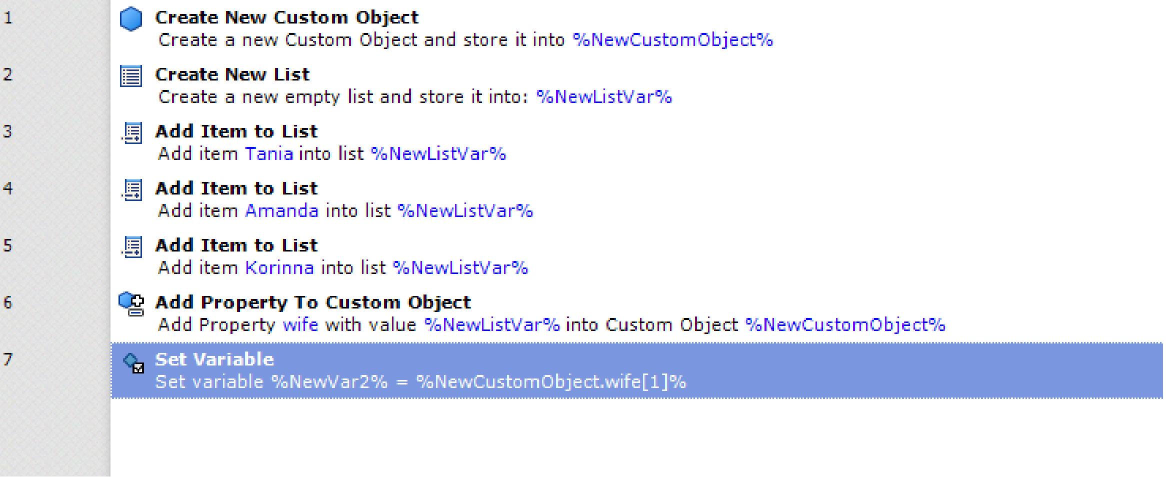
It also should be noted that two different Properties of a Custom Object may have the same Value but not the same Name! (This will produce a Runtime Error informing us that Property Name exists.)

2. A Property Value:

Just like in JSON, property values can be of almost any kind, from a Data Table to a List.

This versatility allows you to use Custom Objects either as a medium that allows you to translate data into JSON within WinAutomation, or as a custom variable type that can increase your own convenience and capabilities in WinAutomation.

For example, let us consider another example:



1 **Create New Custom Object**
Create a new Custom Object and store it into %NewCustomObject%

2 **Create New List**
Create a new empty list and store it into: %NewListVar%

3 **Add Item to List**
Add item Tania into list %NewListVar%

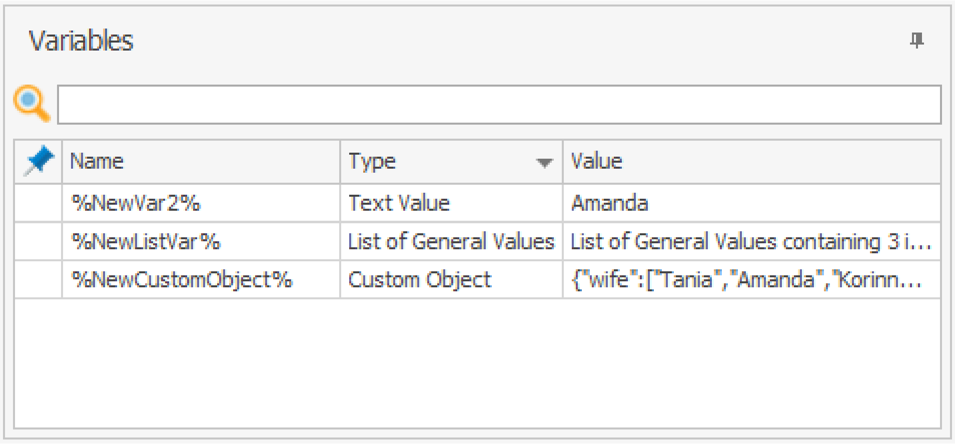
4 **Add Item to List**
Add item Amanda into list %NewListVar%

5 **Add Item to List**
Add item Korinna into list %NewListVar%

6 **Add Property To Custom Object**
Add Property wife with value %NewListVar% into Custom Object %NewCustomObject%

7 **Set Variable**
Set variable %NewVar2% = %NewCustomObject.wife[1]%

If we test this on Process Designer, it will produce the following Variable values:



Variables

Name	Type	Value
%NewVar2%	Text Value	Amanda
%NewListVar%	List of General Values	List of General Values containing 3 i...
%NewCustomObject%	Custom Object	{"wife":["Tania","Amanda","Korinn...

What is noteworthy here is the ***%NewCustomObject.wife[1]%*** dot notation syntax we used in order to access the Text Value "Amanda".

This combination of dot and bracket notation is very convenient for accessing list items within the Property Value of a Custom Object and is definitely something you should know in order to make the most of your custom object adventures.

It also should be noted that two different Properties of a Custom Object may have the same Value but not the same Name! (This will produce a Runtime Error informing us that Property Name exists.)

4.3 Loops

WinAutomation allows you to use “Loops”, a concept that is really important in programming and proves to be invaluable when combined with WinAutomation’s actions. The idea behind a loop is to make WinAutomation repeat one or more actions multiple times. Loops in WinAutomation come in 3 flavors:

- Loop: Repeats one or more actions a specific number of times. For more information see “Simple Loops 305”.

- Loop Condition: Repeats one or more actions until a specific condition is met. For more information see “Loop Condition 306”.

- For each: Repeats one or more actions for every item contained in a list or data table. A different item of the list (or data row of the data table) will be saved in a variable during each iteration, allowing you to use it inside the actions of the loop. For more information see “For Each 307”.

Note: WinAutomation will automatically indent the block of actions that will be repeated by a loop.

4.3.1 Simple Loops

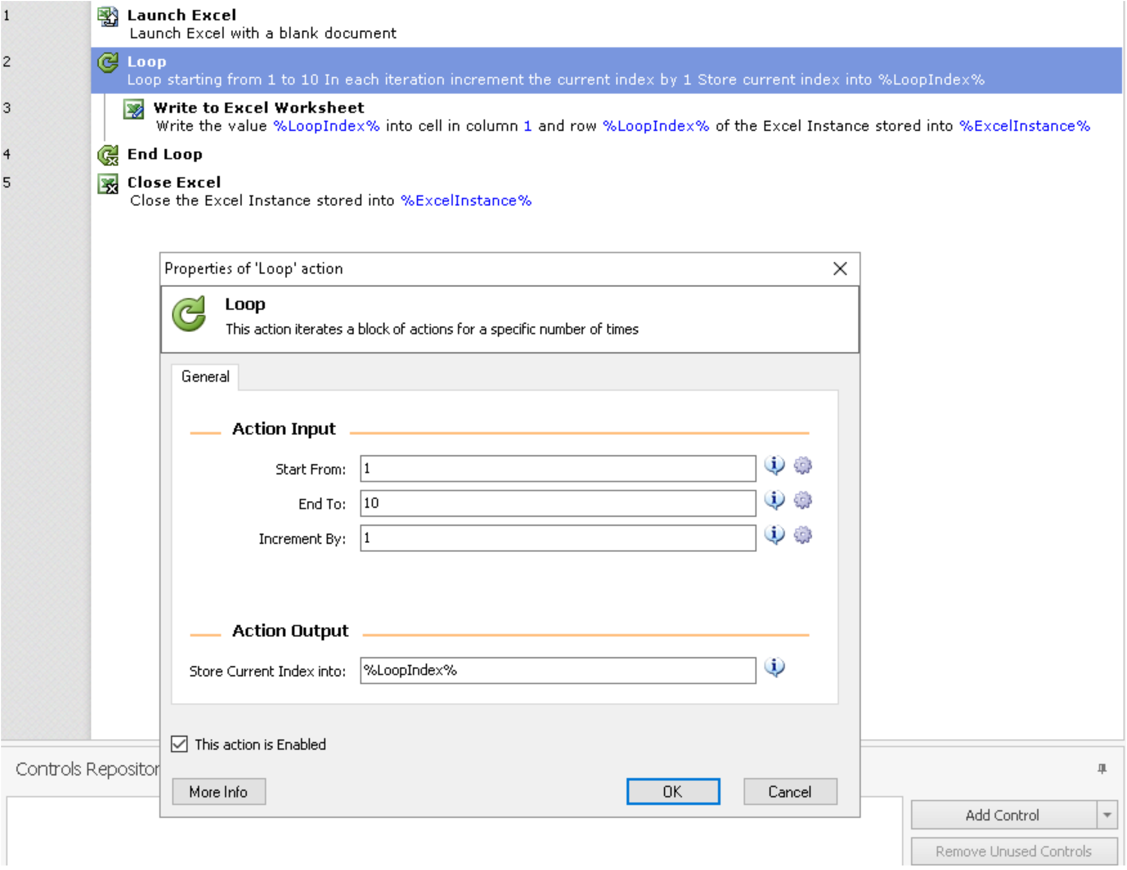
WinAutomation implements simple loops with the “Loop 399” action. Basically, a simple loop will repeat the block of actions that it contains, for a set number of times. Note that a specific variable can be created to keep track of the current iteration’s number.

Use

A simple loop is ideal to use in 2 cases:

1. If you know the exact number of times that action(s) should be repeated

2. If the %LoopIndex% variable must be used somewhere inside the loop (“LoopIndex” is the default variable’s name that WinAutomation uses to store the current iteration’s number).

3. 

1 **Launch Excel**
Launch Excel with a blank document

2 **Loop**
Loop starting from 1 to 10 In each iteration increment the current index by 1 Store current index into %LoopIndex%

3 **Write to Excel Worksheet**
Write the value %LoopIndex% into cell in column 1 and row %LoopIndex% of the Excel Instance stored into %ExcelInstance%

4 **End Loop**

5 **Close Excel**
Close the Excel Instance stored into %ExcelInstance%

Properties of 'Loop' action

Loop
This action iterates a block of actions for a specific number of times

General

Action Input

Start From: 1

End To: 10

Increment By: 1

Action Output

Store Current Index into: %LoopIndex%

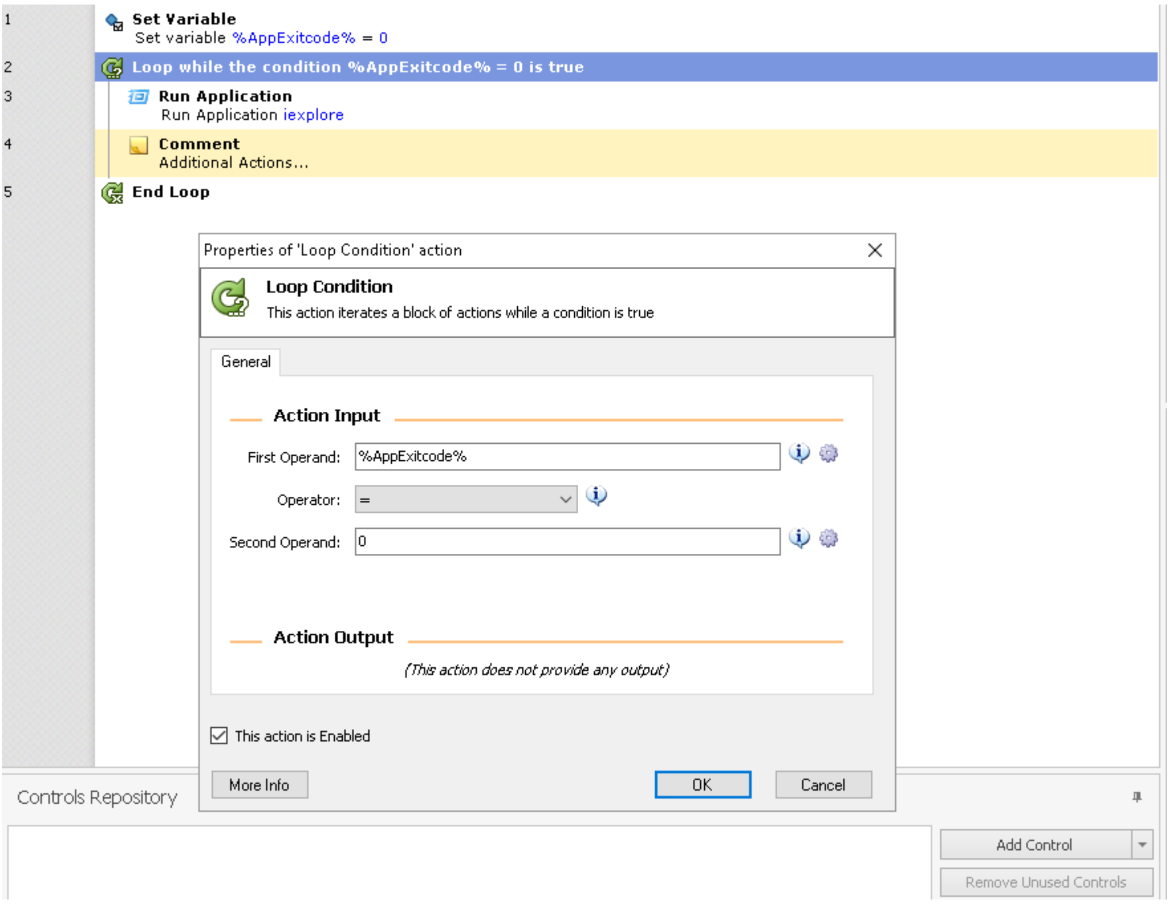
☑ This action is Enabled

You can see an example of a simple loop usage in "Advanced" category of WinAutomation's examples: "8 - Rotate Excel Data"

4.3.2 Loop Condition

A "Loop Condition" is implemented in WinAutomation through the homonym action 401. Basically, Loop Condition will repeat one or more actions while a certain condition is true (for more information about conditions check "Conditionals 310"). Keep in mind that at some point, inside the loop, you will have to make the loop's condition false otherwise it will keep on repeating and your process will never end (this is called an endless loop).

Example:
Suppose that you have an executable that you want to keep executing until it returns a non-zero error code. All you have to do is create a Loop Condition that will repeat a "Run Application" action while the %AppExitCode% equals to zero.



1 Set Variable
Set variable %AppExitcode% = 0
2 Loop while the condition %AppExitcode% = 0 is true
3 Run Application
Run Application iexplore
4 Comment
Additional Actions...
5 End Loop

Properties of 'Loop Condition' action

Loop Condition
This action iterates a block of actions while a condition is true

General

Action Input

First Operand: %AppExitcode%

Operator: =

Second Operand: 0

Action Output

(This action does not provide any output)

☑ This action is Enabled

4.3.3 For Each

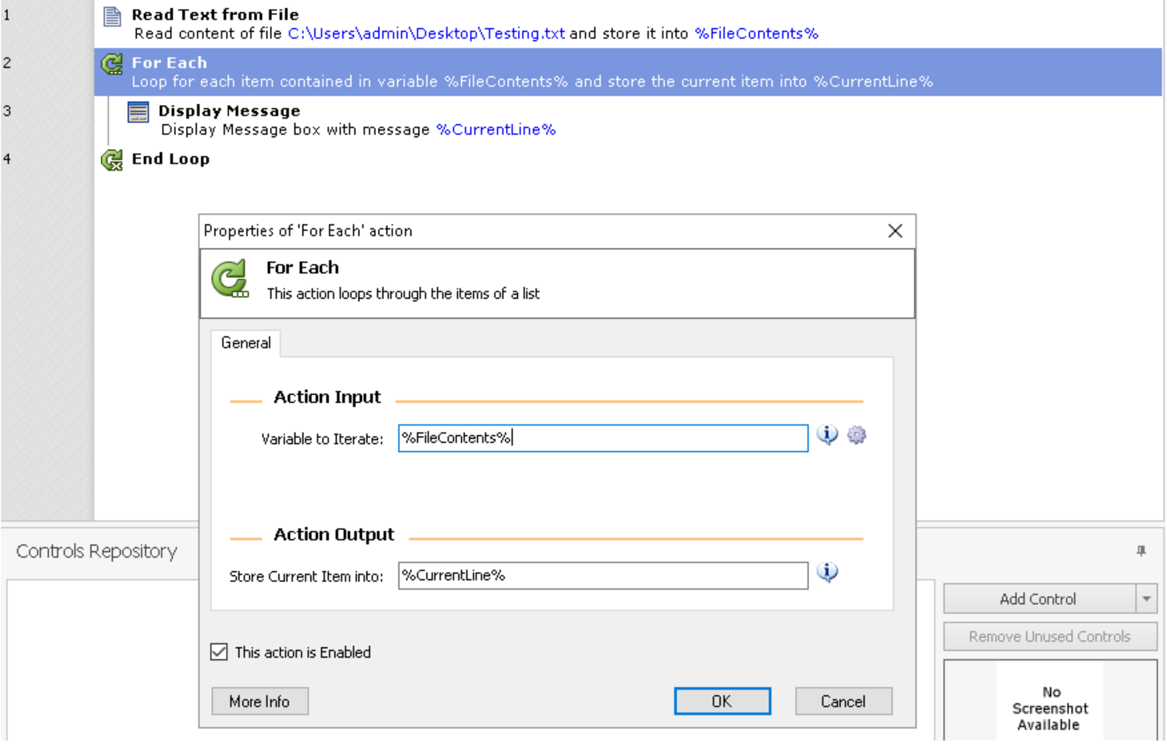
A “For Each 402” loop, iterates through every item of a list or data table, and stores the current item in a variable. This kind of loop is extremely useful when you do not know or you do not need to know the number of the iterations that will be needed, but you do want to iterate through every item of a list (or or row of a data table) and use each one of them in an action (or a series of actions).

Usage Examples

There are plenty of situations that you may need to use a “For Each” loop:

If you want to check which of the text files that are contained in a list have a specific phrase in it, or if you need to use each data row’s contents to fill in a web form, you will have to use it. Basically, if you use the words “For Each” when you are describing the task that you need to automate, you will most likely have to use this action.

Also if you choose to read a text file as a list where each item of the list will be an item, you can use a "For Each" loop in order to iterate through each line and apply some actions on it.



1 **Read Text from File**
Read content of file C:\Users\admin\Desktop\Testing.txt and store it into %FileContents%

2 **For Each**
Loop for each item contained in variable %FileContents% and store the current item into %CurrentLine%

3 **Display Message**
Display Message box with message %CurrentLine%

4 **End Loop**

Properties of 'For Each' action

For Each
This action loops through the items of a list

General

Action Input

Variable to Iterate: %FileContents%

Action Output

Store Current Item into: %CurrentLine%

☑ This action is Enabled

4.4 Connecting to a Database

WinAutomation can connect to any Database and apply SQL queries to it. All you have to do is find the correct connection string and pass it to the "Execute SQL Statement 682" action.

In computing, a connection string is a string that specifies information about a data source and the means of connecting to it. It is passed in code to an underlying driver or provider in order to initiate the connection.

The connection string may include attributes such as the name of the driver, server and database, as well as security information such as user name and password.

4.4.1 Connect to Excel or Access Database

Connect to an Excel Database:

To connect to an Excel database the most common connection string that one can use is:

Provider=Microsoft.ACE.OLEDB.12.0;Data Source=C:\myFolder\myExcelFile.xlsx;Extended Properties="Excel 12.0 Xml;HDR=YES";

Where Data Source is the full path of the Excel File.

Connect to an Access Database:

To connect to an Access Database the most common connection string is the following:

Provider=Microsoft.ACE.OLEDB.12.0;Data Source=C:\myFolder\myAccessFile.accdb; Persist Security Info=False;

Where Data Source is the full path of your Access Database

For other Databases like SQL Server, Oracle, My SQL please, have a look at the Connection strings 309 section.

4.4.2 Connection Strings and Drivers

More connection strings for any kind of Database can be found in the link below:

www.connectionstrings.com

Of course you are free to use variables in any connection string like for example:

Server=%ServerAddress%;Database=%myDataBase%;User Id=%Username%;Password=%Password%;

or

Provider=Microsoft.ACE.OLEDB.12.0;Data Source=%ExcelFile%;Extended Properties="Excel 12.0 Xml;HDR=YES";

Most common Drivers List:

You must download and install the appropriate drivers from the list below according to the database that you want to connect to:

https://www.microsoft.com/en-us/download/details.aspx?id=5793

https://www.microsoft.com/en-us/download/details.aspx?id=13255

https://www.microsoft.com/en-us/download/details.aspx?displaylang=en&id=23734

http://www.ch-werner.de/sqliteodbc/

https://dev.mysql.com/downloads/connector/odbc/

https://dev.mysql.com/downloads/connector/odbc/5.1.html (For previous generally available ODBC connectors. Make sure that you download the correct one according to your machine characteristics 32-bit or 64-bit)

An example on how the "Execute SQL Statement" action with excel and further on for any kind of database do click on the following link:

http://www.winautomation.com/community/topic/sql-syntax-example/

4.5 Conditionals

Conditionals are very important concept WinAutomation, since they allow you to execute specific actions or blocks of actions only if a certain condition is met. If the condition is not met, the action(s) that the conditional structure contains will be skipped.

Usage Examples

There are tons of examples about where you might want to use a conditional: if you want to delete only files that have not been modified during the last week, if you want to know whether a specific process is running before launching an application, if you want to verify that a file does not exist before creating it and so on. Practically, conditionals are the first thing that you will have to use in order to automate tasks through WinAutomation, since they give you the ability to choose whether some part of your process will be executed or not.

Note: WinAutomation will automatically indent the block of actions that is contained in a conditional structure.

4.5.1 If/Else/EndIf

The most common way to control which actions of your process will be executed is to use the “If 368” action. This action checks whether or not a certain condition is true. If so, the action or block of actions, that are included between “If” and “End If”, will be executed.

An “If” statement consists of 2 operands (the operands are the pieces of information that will be compared) and an operator. The operator can be:

- **“is equal to” (=),**
- **“is not equal to” (<>),**
- **“is greater than” (>),**
- **“is greater or equal to” (>=),**
- **“is smaller than” (<)**
- **“is smaller or equal to” (<=)**
- **Starts with**
- **Does not Start with**
- **Contains**
- **Does not contain**
- **Ends with**
- **Does not End with**
- **Is Empty**
- **Is not Empty**

and it defines how the first operand should relate with the second operand in order for the condition to be met.

An “If” statement may optionally contain an “Else” action. This action should always be placed between an “If” and an “End If” action, and it defines the action or set of actions that will be executed if the condition that is defined by the “If” statement is not met. Basically, you will have to place the actions that will be executed if the condition is met between “If” and “Else”, and the actions that will be executed if the condition is not met between “Else” and “End If”.

You can also use the "Else If" action (which can be placed within the If/End If block and always before the Else action) to set mutually excluded conditions for which different blocks of actions need to be executed.

Note: If the first and the second operands are variables, you will have to make sure that they have the same data type or the condition will, most likely, not be met (or it will always be met if you used the <> operator). For example, if your conditional checks whether a variable of Date Time type is equal to a variable that contains a file, this condition will never be met, hence the set of actions contained in the conditional will never be executed.

4.5.2 If Variations

Apart from the standard If action, there are 5 additional conditional actions:

1. If File Exists 369: Allows you to check if a file exists (or does not exist) before executing an action (or a block of actions). This action can prove very useful if, for example, you want to know if a specific file exists before performing an action on it.

2. If Folder Exists 370: Allows you to check if a folder exists (or does not exist) before executing an action (or a block of actions).

3. If Service 372: Allows you to perform an action (or a block of actions) if a specific service is running (or is paused or is stopped).

4. If Process 373: Allows you to perform an action (or a block of actions) if a specific process is running (or is not running).

5. If Window 374: Allows you to perform an action (or a block of actions) if a specific window is open (or is not open).

6. If Image 377: Allows you to perform an action (or a block of actions) if a specific image is found/is not found on the screen.

7. If Web Page Contains 387: Allows you to perform an action (or a block of actions) if a web page contains/does not contain a specific element or some text.

4.6 Installing MODI for OCR

To make the OCR Actions usable in runtime, please, install MODI for Microsoft Office 2007+.

This document provides methods you can follow to install MODI (Microsoft Office Document Imaging) on your computer. It also describes the alternative

methods that you can use to regain the functionalities of certain MODI features.

To install Microsoft Office Document Imaging (MODI) for use with Microsoft Office 2010, use one of following methods.

Method 1: Download and install MDI to TIFF File Converter

To download and install MDI to TIFF File Converter, go to the following Microsoft website:

http://www.microsoft.com/en-us/download/details.aspx?id=30328

Method 2: Install MODI by installing SharePoint Designer 2007

SharePoint Designer 2007 is provided as a free download from the Microsoft Download Center. To download SharePoint Designer 2007 and only include

MODI during the installation, follow these steps:

1. Download and run the SharePointDesigner.exe file from this location:

Download SharePoint Designer 2007 (https://www.microsoft.com/en-us/download/details.aspx?displaylang=en&id=21581)

2. Review, and then accept the software license.

3. Click **Customize** to open the installation options.

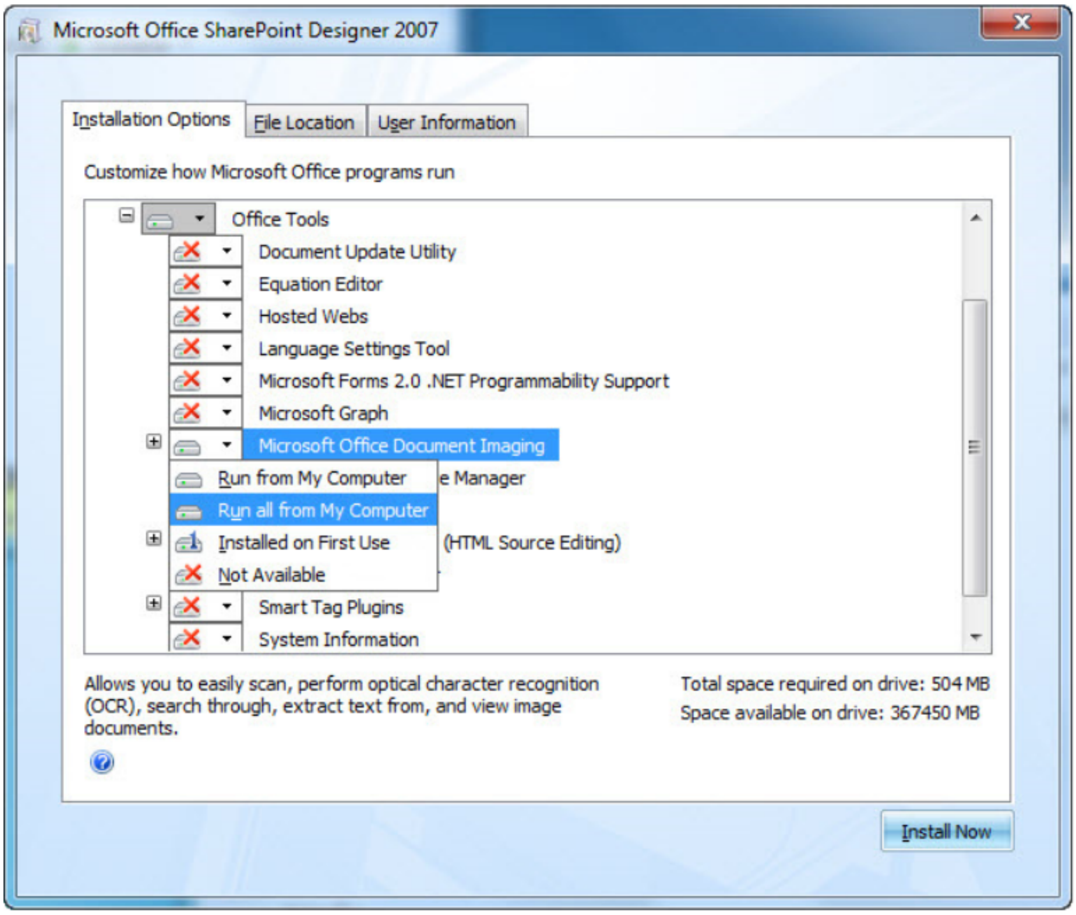
4. On the **Installation Options tab**, click the down arrow and select **Not Available** for these three sections:

- Microsoft Office SharePoint Designer
- Office Shared Features
- Office Tools

5. Expand **Office Tools**.

6. Click the down arrow for the **Microsoft Office Document Imaging** option, and then select **Run all from my computer**.

7. Click **Install Now**, and then click **Close**.



Customize how Microsoft Office programs run

Office Tools
Document Update Utility
Equation Editor
Hosted Webs
Language Settings Tool
Microsoft Forms 2.0 .NET Programmability Support
Microsoft Graph
Microsoft Office Document Imaging
e Manager
(HTML Source Editing)
Smart Tag Plugins
System Information

Allows you to easily scan, perform optical character recognition (OCR), search through, extract text from, and view image documents.

Total space required on drive: 504 MB
Space available on drive: 367450 MB

Screenshot displaying the location of MODI during a SharePoint Designer 2007 installation

To start Microsoft Office Document Imaging, follow these steps:

1. Click **Start**, and then select **All Programs**.

2. Click **Microsoft Office**, and then select **Microsoft Office Tools**.

3. Click **Microsoft Office Document Imaging**.

Method 3: Install MODI with the 2007 Office System media

To use MODI in the 2007 Office System together with Office 2010, follow these steps:

1. Start the 2007 Office System setup process.

2. Review, and then accept the software license.

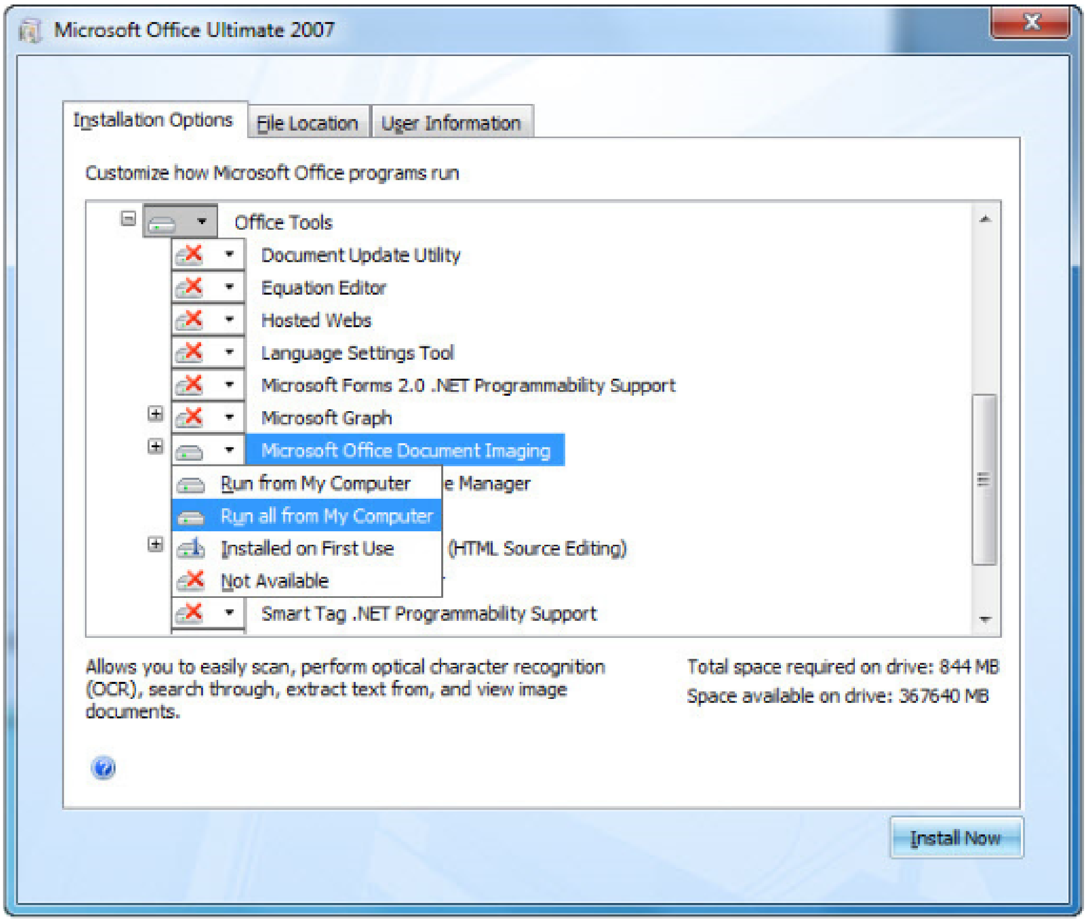
3. Click **Customize** to open the installation options.

4. On the **Installation Options tab**, click the down arrow and select **Not Available** for all sections.

5. Expand **Office Tools**.

6. Click the down arrow for the **Microsoft Office Document Imaging** option, and then select **Run all from my computer**.

7. Click **Install Now**, and then click **Close**.



Customize how Microsoft Office programs run

Allows you to easily scan, perform optical character recognition (OCR), search through, extract text from, and view image documents.

Total space required on drive: 844 MB
Space available on drive: 367640 MB

Screenshot displaying the location of MODI during the 2007 Office system installation.

To start Microsoft Office Document Imaging, follow these steps:

1. Click **Start**, and then select **All Programs**.

2. Click **Microsoft Office**, and then select **Microsoft Office Tools**.

3. Click **Microsoft Office Document Imaging**.

4.7 Get Web Browser Element Coordinates

There are cases when you might need to get the coordinates of a web element in a browser, either to hover the mouse to it or send a right click, or simply for getting the coordinates to use them on an image related action.

The "Get details of element on web page" 609 action supports the "***waelementcentercoords***" attribute which retrieves the X,Y coordinates of the element relative to the browser. However, the X and Y coordinates will be given back by WinAutomation in the form of a text with the two values being separated by a comma like:

%Attribute%= 1021, 52

Therefore, should you wish to separately get the X,Y values you should split the text using "," as a delimiter and then trim them. Also, as their data type is "Text" you will need to convert them to "Number".

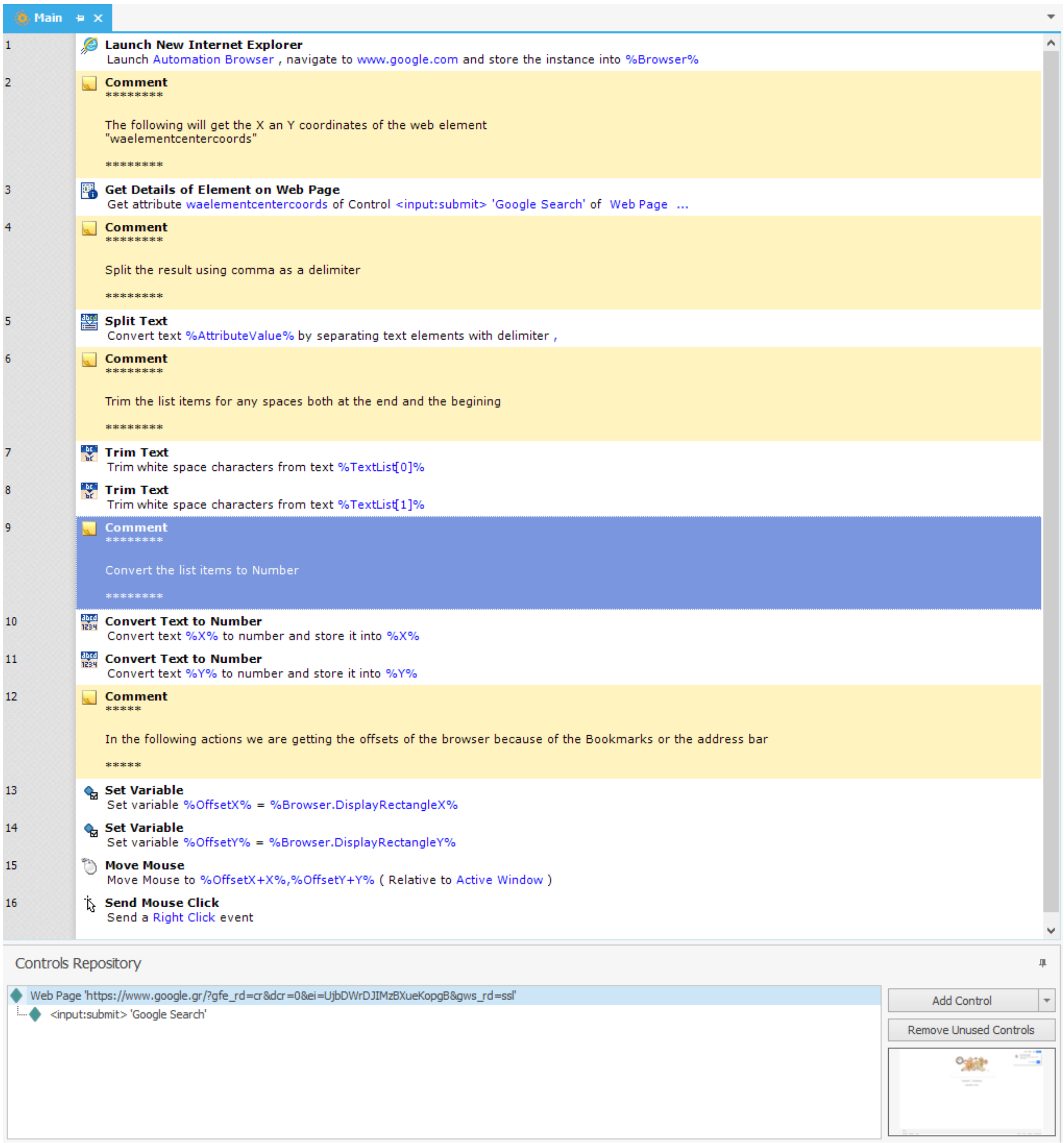
You should also note that based on the fact that each browser display area may be different - because of the bookmarks or other bars that the user has chosen to display - you should also use the:

%Browser.DisplayRectangleX%

%Browser.DisplayRectangleY%

variables and finalize the X,Y coordinates that the mouse should move to.

Below, there is an example that will **send a right click on a Web Page element** after getting its coordinates:



```
1  Launch New Internet Explorer
   Launch Automation Browser , navigate to www.google.com and store the instance into %Browser%
2  Comment
   ********

   The following will get the X an Y coordinates of the web element
   "waelementcentercoords"

   ********
3  Get Details of Element on Web Page
   Get attribute waelementcentercoords of Control <input:submit> 'Google Search' of  Web Page  ...
4  Comment
   ********

   Split the result using comma as a delimiter

   ********
5  Split Text
   Convert text %AttributeValue% by separating text elements with delimiter ,
6  Comment
   ********

   Trim the list items for any spaces both at the end and the begining

   ********
7  Trim Text
   Trim white space characters from text %TextList[0]%
8  Trim Text
   Trim white space characters from text %TextList[1]%
9  Comment
   ********

   Convert the list items to Number

   ********
10 Convert Text to Number
   Convert text %X% to number and store it into %X%
11 Convert Text to Number
   Convert text %Y% to number and store it into %Y%
12 Comment
   *****

   In the following actions we are getting the offsets of the browser because of the Bookmarks or the address bar

   *****
13 Set Variable
   Set variable %OffsetX% = %Browser.DisplayRectangleX%
14 Set Variable
   Set variable %OffsetY% = %Browser.DisplayRectangleY%
15 Move Mouse
   Move Mouse to %OffsetX+X%,%OffsetY+Y% ( Relative to Active Window )
16 Send Mouse Click
   Send a Right Click event
```

Controls Repository

Web Page 'https://www.google.gr/?gfe_rd=cr&dcr=0&ei=UjbDWrDJIMzBXueKopgB&gws_rd=ssl'
<input:submit> 'Google Search'

4.8 CSS Selectors

Web Automation functionality is one of the most important and commonly used features of WinAutomation. Web-related actions will allow you to automatically click on links, fill and submit web forms, as well as scrape data from web pages. You can build Web Automation Processes either by combining the appropriate Actions in the Process designer, or by recording your interaction with a webpage and automatically converting it into Process actions through the Web Recorder.

While WinAutomation provides you with quite a specific visual feedback (through the Web Helper or the Extract Preview window) about the webpage elements you have selected, it can also provide you with detailed information about the values used to point to the position of these elements in the HTML page, found in the Control Repository.

CSS (standing for Cascading Style Sheets) was introduced together with HTML 4, to denote the presentation semantics (the look and formatting) of a document written in a markup language. A CSS rule (essentially the statement that tells browsers how to render particular elements on an HTML page) consists of two parts, the selector (which "selects" the elements on an HTML page that are affected by the rule set) and the declaration block (which defines the style to be applied to those elements). You will find links to several external resources focusing on CSS, at the bottom of this article.

In WinAutomation we use the CSS selectors to pinpoint the web page elements we want to interact with. The information that is generated and displayed in the CSS Selector field is based on the underlying tree structure of the HTML page.

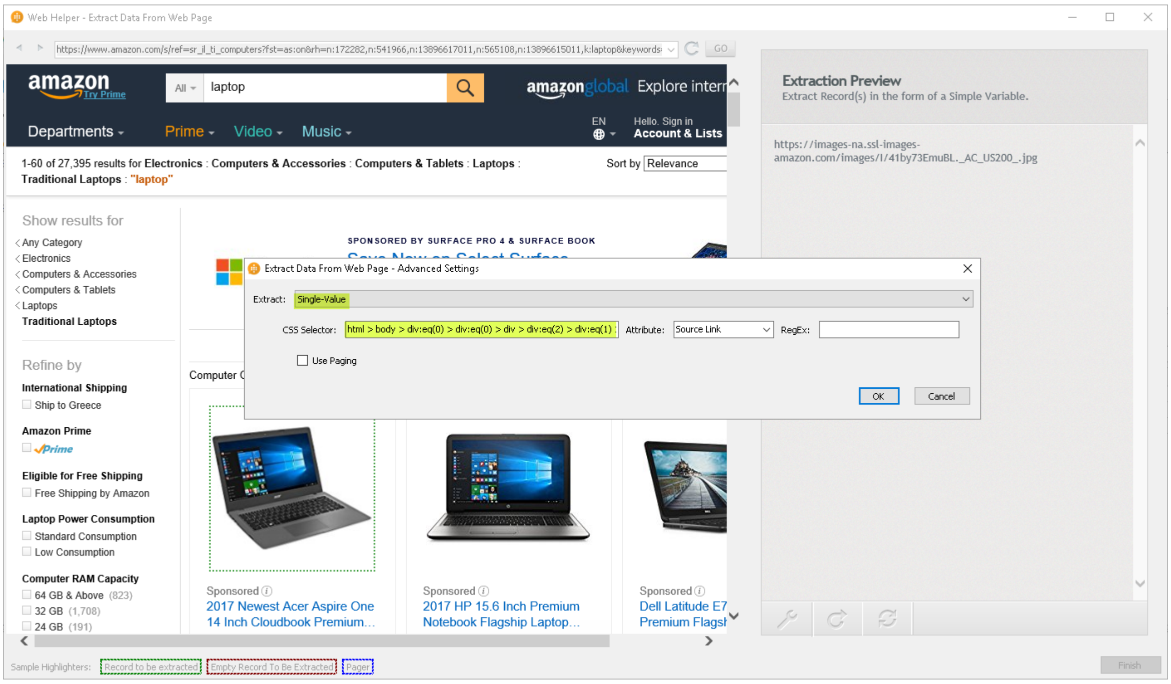
For most of the cases, defining the desired webpage elements through the Web Helper proves to be sufficient but there are exceptions for which the user has to manually point to the html element. This may be necessary either due to specific design characteristics of the HTML page structure or to subsequent -to our Process design-changes of it (although WinAutomation is adaptable to some of these variations and can still track the initially user-defined elements).

To overcome this inconsistency, a user can manually include or remove attributes for a selector, or build one from scratch that will uniquely and undoubtedly define the desired element.

Just click on the control whose selector you want to edit, click on the selector, click on "Edit", select the "Custom" option from the top left part of the Selector Builder window and build your selector in the CSS Selector field. The steps are explained in detail in the Building a WebAutomation Process 239 topic.

Selecting controls - HTML elements with CSS Selectors, can be achieved relatively easy within WinAutomation (with add control and a LeftCtrl+LeftShift+click), but it requires a more advanced knowledge of HTML and CSS when you want to build your own selectors.

Especially for the Extract Data from Web Page action, the CSS Selector can be edited through the Advanced Settings Icon of the Web Helper window (opened by the Specify Web Data to Extract button of the action’s Property Window).



Web Helper - Extract Data From Web Page

Extract Data From Web Page - Advanced Settings

Extract: Single-Value

CSS Selector: html > body > div:eq(0) > div:eq(0) > div > div:eq(2) > div:eq(1) :   Attribute: Source Link   RegEx:

☐ Use Paging

OK   Cancel

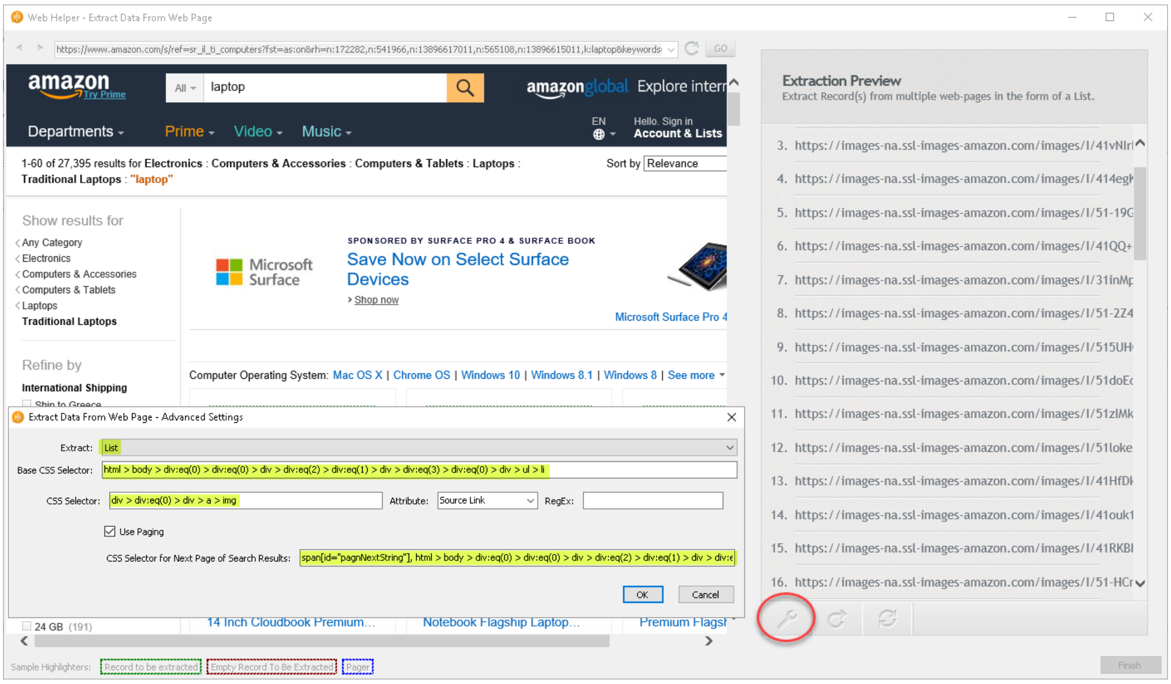
Extraction Preview

Extract Record(s) in the form of a Simple Variable.

https://images-na.ssl-images-amazon.com/images/I/41by73EmuBL._AC_US200_.jpg

Sample Highlighters: Record to be extracted   Empty Record To Be Extracted   Pager

Moreover, when extracting list-type data from a web-page, the CSS Selector has the following structure:



Web Helper - Extract Data From Web Page

Extract Data From Web Page - Advanced Settings

Extract: List

Base CSS Selector: html > body > div:eq(0) > div:eq(0) > div > div:eq(2) > div:eq(1) > div > div:eq(3) > div:eq(0) > div > ul > li

CSS Selector: div > div:eq(0) > div > a > img   Attribute: Source Link   RegEx:

☑ Use Paging

CSS Selector for Next Page of Search Results: span[id="pagnNextString"], html > body > div:eq(0) > div:eq(0) > div > div:eq(2) > div:eq(1) > div > div:e

OK   Cancel

Extraction Preview

Extract Record(s) from multiple web-pages in the form of a List.

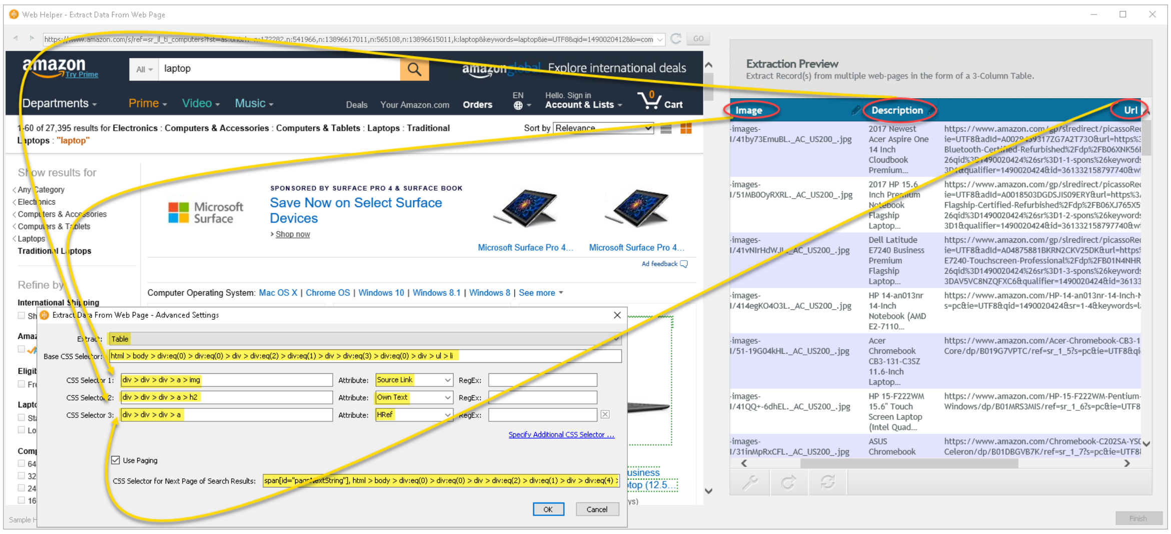
3. https://images-na.ssl-images-amazon.com/images/I/41vNIrl
4. https://images-na.ssl-images-amazon.com/images/I/414egk
5. https://images-na.ssl-images-amazon.com/images/I/51-19G
6. https://images-na.ssl-images-amazon.com/images/I/41QQ+
7. https://images-na.ssl-images-amazon.com/images/I/31inMp
8. https://images-na.ssl-images-amazon.com/images/I/51-2Z4
9. https://images-na.ssl-images-amazon.com/images/I/515UH
10. https://images-na.ssl-images-amazon.com/images/I/51doEc
11. https://images-na.ssl-images-amazon.com/images/I/51zIMk
12. https://images-na.ssl-images-amazon.com/images/I/51loke
13. https://images-na.ssl-images-amazon.com/images/I/41HfDk
14. https://images-na.ssl-images-amazon.com/images/I/41ouk1
15. https://images-na.ssl-images-amazon.com/images/I/41RKBI
16. https://images-na.ssl-images-amazon.com/images/I/51-HCr

Sample Highlighters: Record to be extracted   Empty Record To Be Extracted   Pager

where the "Base CSS Selector" represents the route on the HTML tree that points to the level of elements that constitute the list, while the "CSS Selector" part points to the specific attribute of each element (or each descendent) we want to extract.

The same logic applies also when extracting data in table format, as also explained in detailed in the Using WinAutomation > Web Automation ([Web Data Extraction Part I](255), [Web Data Extraction Part II](262), [Web Data Extraction Part III)](265) topic.

 In this case we have to specify as many CSS Selectors as the columns of the table (the categories of data we want to retrieve for each item).


Web Helper - Extract Data From Web Page
amazon
laptop
Departments
Prime
Video
Music
Deals
Your Amazon.com
Orders
Account & Lists
Cart
Save Now on Select Surface Devices
Shop now
Microsoft Surface Pro 4...

Extract Data From Web Page - Advanced Settings

Extract: Table

Base CSS Selector: html > body > div:eq(0) > div:eq(0) > div > div:eq(2) > div:eq(1) > div > div:eq(3) > div:eq(0) > div > ul > li

CSS Selector 1:	div > div > div > a > img	Attribute:	Source Link	RegEx:	
CSS Selector 2:	div > div > div > a > h2	Attribute:	Own Text	RegEx:	
CSS Selector 3:	div > div > div > a	Attribute:	HRef	RegEx:	

Specify Additional CSS Selector ...

☑ Use Paging

CSS Selector for Next Page of Search Results: span[id="pagnNextString"], html > body > div:eq(0) > div:eq(0) > div > div:eq(2) > div:eq(1) > div > div:eq(4) >

OK Cancel

Extraction Preview

Extract Record(s) from multiple web-pages in the form of a 3-Column Table.

Image	Description	Url
-images-I/41by73EmuBL._AC_US200_.jpg	2017 Newest Acer Aspire One 14 Inch Cloudbook Premium...	https://www.amazon.com/gp/slredirect/picassoRe ie=UTF8&adId=A00294593172G7A2T73O&url=https%3 Bluetooth-Certified-Refurbished%2Fdp%2FB06XNK56 26qid%3D1490020424%26sr%3D1-1-spons%26keyword 3D1&qualifier=1490020424&id=361332158797740&w
-images-I/51MB0OyRXRL._AC_US200_.jpg	2017 HP 15.6 Inch Premium Notebook Flagship Laptop...	https://www.amazon.com/gp/slredirect/picassoRe ie=UTF8&adId=A0018503DGDSJIS09ERY&url=https%3 Flagship-Certified-Refurbished%2Fdp%2FB06XJ765X5 26qid%3D1490020424%26sr%3D1-2-spons%26keyword 3D1&qualifier=1490020424&id=361332158797740&w
-images-I/41vNIrHdWJL._AC_US200_.jpg	Dell Latitude E7240 Business Premium Flagship Laptop...	https://www.amazon.com/gp/slredirect/picassoRe ie=UTF8&adId=A04875881BKRN2CKV25DK&url=https E7240-Touchscreen-Professional%2Fdp%2FB01N4NHR 26qid%3D1490020424%26sr%3D1-3-spons%26keyword 3DAV5VC8NZQFXC6&qualifier=1490020424&id=36133
-images-I/414egKO4O3L._AC_US200_.jpg	HP 14-an013nr 14-Inch Notebook (AMD E2-7110...	https://www.amazon.com/HP-14-an013nr-14-Inch- s=pc&ie=UTF8&qid=1490020424&sr=1-4&keywords=l
-images-I/51-19G04kHL._AC_US200_.jpg	Acer Chromebook CB3-131-C3SZ 11.6-Inch Laptop...	https://www.amazon.com/Acer-Chromebook-CB3-1 Core/dp/B019G7VPTC/ref=sr_1_5?s=pc&ie=UTF8&q
-images-I/41QQ+-6dhEL._AC_US200_.jpg	HP 15-F222WM 15.6" Touch Screen Laptop (Intel Quad...	https://www.amazon.com/HP-15-F222WM-Pentium- Windows/dp/B01MRS3MIS/ref=sr_1_6?s=pc&ie=UTF8
-images-I/31inMpRxCFL._AC_US200_.jpg	ASUS Chromebook	https://www.amazon.com/Chromebook-C202SA-YS Celeron/dp/B01DBGVB7K/ref=sr_1_7?s=pc&ie=UTF8

Similar to the inconsistencies that may appear when defining the desired elements through the Web Helper, we may also have to manually input the "CSS Selector for Next Page of Search Results" (used for cases of extracting records in forms other than Single Variables).

Using manually inputted CSS selectors can be a powerful alternative in pointing to the desired elements for the minority of cases that webpage 's structure hinders WinAutomation's ability to automatically spot and interact with them.

Using classes (.) and ids (#) in the CSS Selectors:

To View the source HTML code of a web page, press F12. There you can see how the page is structured and how each element is represented.

If the element you are trying to access contains a text i.e. it is a div and the html shows the below:

<div class="someclass" id="someid">text</div>

Should you wish to use its id or class i.e. then you should have something like

...>...> div.someclass or **...>...> div[class="someclass"]** if you want to use its class or,

...> ...> div#someid or **...> ...> div[id="someid"]** if you want to use its id.Note, that the id attribute is unique in the HTML for each element, so if you know the id then you can ignore the previous route and simply go with "***div#someid***" !

A very useful attribute that you can use is the ":contains("sometext")". If you know that the element you are trying to access contains a specific string then you can use this attribute to access it, i.e. for the example above:

...>...> div:contains("text")

External Links and Helpful Tutorials

http://www.w3schools.com/css/css_intro.asp

http://www.w3schools.com/cssref/css_selectors.asp

http://css.maxdesign.com.au/selectutorial

http://benhowdle.im/cssselectors

https://api.jquery.com/category/selectors/

http://www.winautomation.com/community/topic/projeto-web-recorder-running-extremely-slow/#post-62796

4.9 % and \% Notation

In WinAutomation, the % sign is used as brackets around a Variable. For example, "%name%" is the Variable 'name'. When you use %name% as an input, the Action will use the value that has previously been stored in that Variable, so you should have an earlier Action that assigned a value to %name% as an output. By assigning output values to Variables, and then using them as input in later steps, you can pass information through a WinAutomation Process.

All Variables are cleared at the end of a Process, so Variables can only run from one Process to another if they run at the same time - see External Variables 296.

There are two special situations to this notation. The first, if you want to use the percent sign as a percent sign, special notation is needed so as not to call a Variable. Therefore, write a backslash first to denote 'this is not a Variable'. Thus if you want to, say, display the text "5%" you should write "5\%" instead.

If you want to access a file named by a Variable, you might write "C:\folder\%filename%". This won't work, **as "\%" means it isn't a Variable**. Therefore, in this special case, you would need to write, "C:\folder\\%filename%", as the double backslashes mean the Variable is a Variable. Just remember:

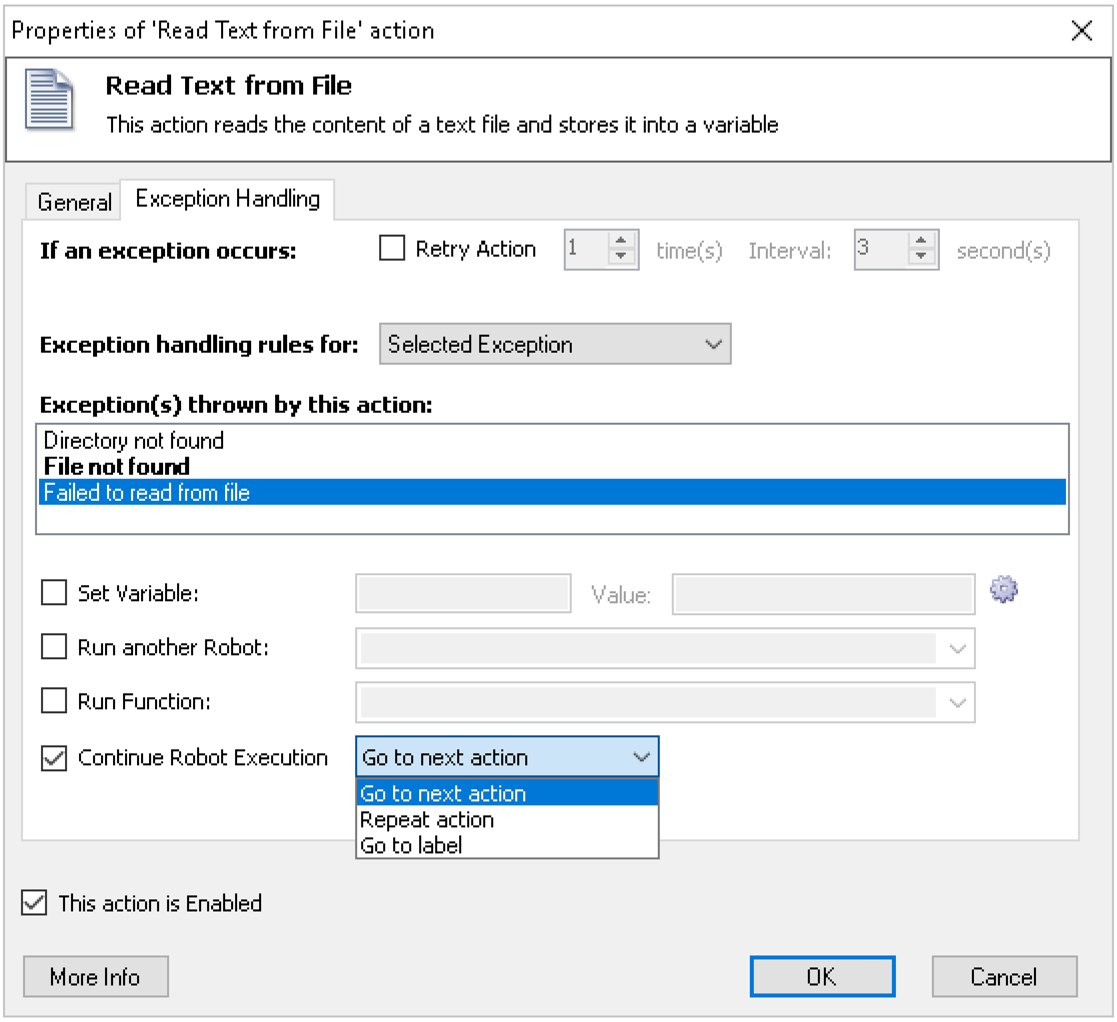
- %filename% is the Variable 'filename'

- \%filename is the text %filename

- C:\folder\\%filename% is the path to a file named in the Variable 'filename' in the folder C:\folder\

4.10 Exception Handling

Exceptions occur when a Process finds itself in an unexpected situation. For example a "Read Text from File" Action may attempt to read from a file that does not exist while the Process is running. It is also known as a Run-Time Error. The default response of WinAutomation to Exceptions is to fail that Process. However, WinAutomation also allows for other options. By going into the Exception Handling tab of an Action Properties Box, you can specify how the Action will handle an exception.



Properties of 'Read Text from File' action

Read Text from File

This action reads the content of a text file and stores it into a variable

General | Exception Handling

If an exception occurs: □ Retry Action 1 time(s) Interval: 3 second(s)

Exception handling rules for: Selected Exception

Exception(s) thrown by this action:

Directory not found
File not found
Failed to read from file

□ Set Variable: Value:

□ Run another Robot:

□ Run Function:

☑ Continue Robot Execution: Go to next action

☑ This action is Enabled

The Exception Handling Tab of an Action for a Selected Exception

In general, there are four responses an Action can have to an exception.

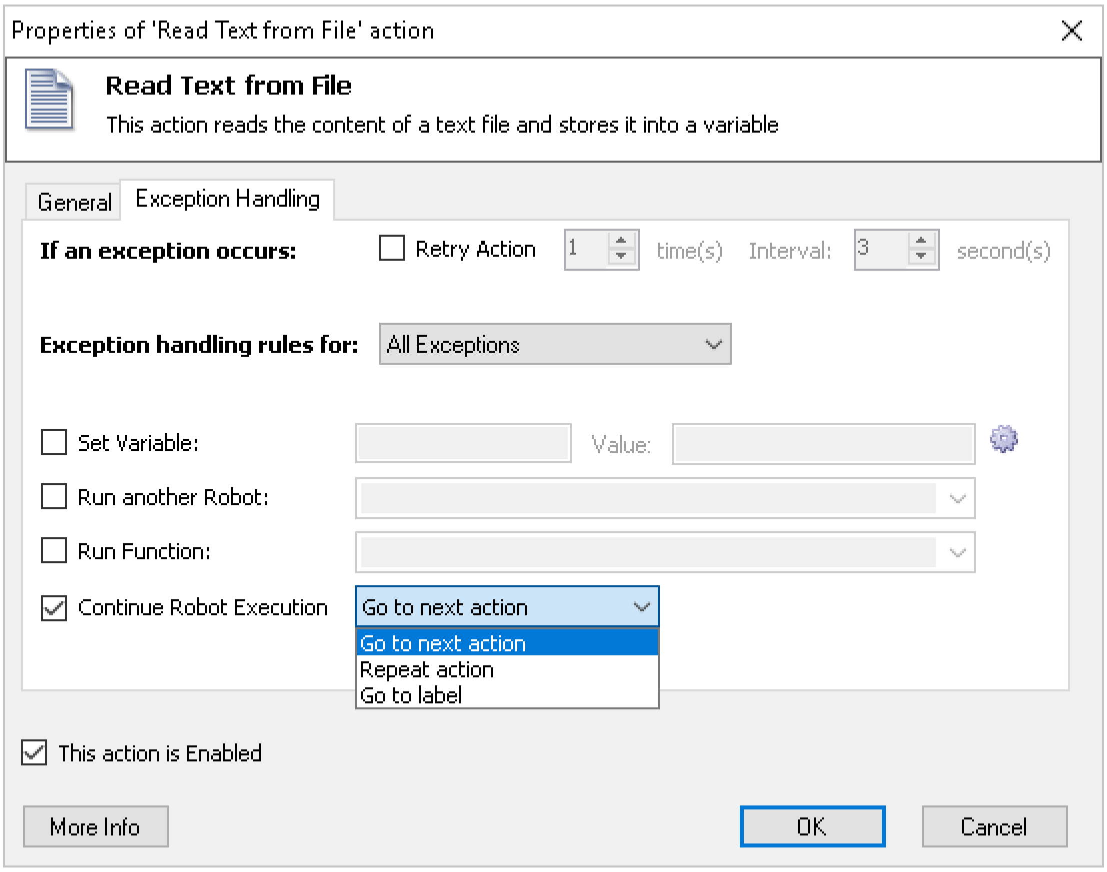
First, by default, it will fail the Action and thus the Process. Next, you could tell it to retry the Action after a specified delay, as many times as you want. For example, you could set the Exception Handling to retry 8 times, once every 5 seconds.

Or, by clicking on a specific exception, you could specify how this exception should be handled. The Action could run a different Process and/or continue. If you choose to continue, you can then tell the Action to go to the next action, a specific Label or Function (set to create a certain response to the exception), to set a Variable, that can give you a record of the exception for later Actions or even repeat that action .

Once you have set a response to one specific exception, you can click on another to record a different response. Thus the Action could handle three different exceptions in three different ways after retrying four times.

It is very important, that you can select from a variety of four options in the exception handling. First, you can set another value to a variable and retry the action using the new values of the variable. One more option that the user has, is to run another process upon the exception. For example, a process could be triggered that would email the user that the process failed. Moreover, the user can set the process to run a function after the exception occurs in order to complete part of the task. Last but not least, the user can set the process to proceed with the process execution from another point of the process.

Please note, that you can do the above for all the exceptions in one action, or alternate them according to the nature of the exception thrown in one action.



Properties of 'Read Text from File' action

Read Text from File

This action reads the content of a text file and stores it into a variable

If an exception occurs: □ Retry Action 1 time(s) Interval: 3 second(s)

Exception handling rules for: All Exceptions

□ Set Variable: Value:

□ Run another Robot:

□ Run Function:

☑ Continue Robot Execution: Go to next action

☑ This action is Enabled

The Exception Handling Tab of an Action for All Exceptions

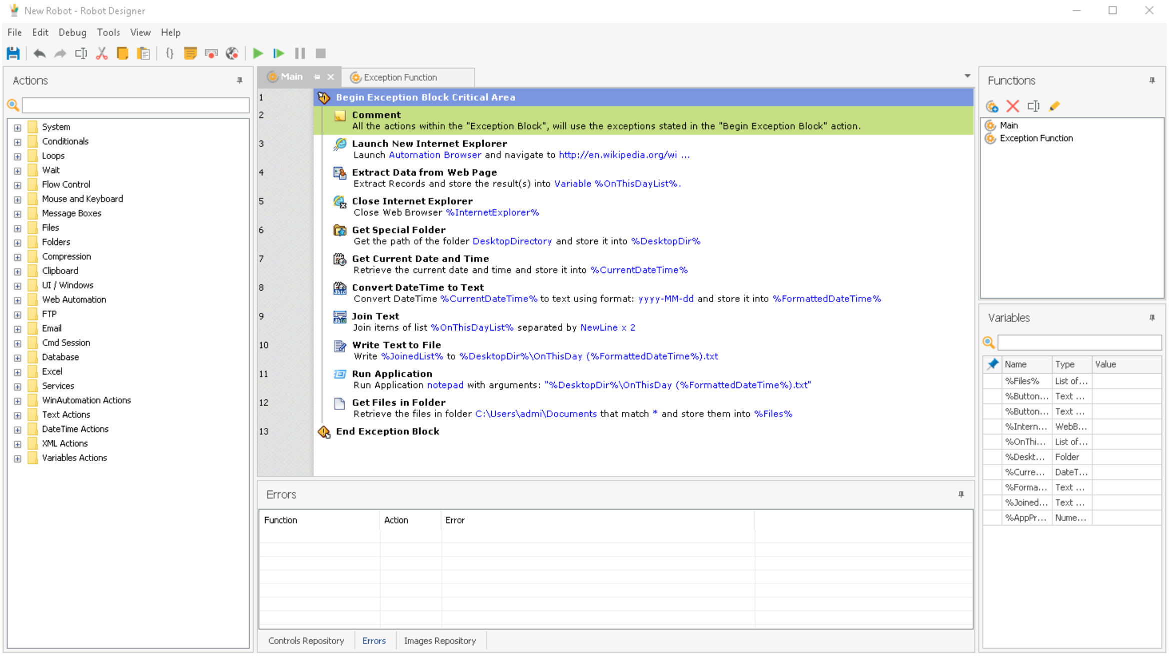
Note that exceptions that have some custom behavior assigned, are displayed in bold (as you can see in the first screen-shot above). Exceptions that simple cause the Process to fail (the default behavior) are displayed in normal text.

Exception Handling is different the Error Handling Tab 132 in the Console as Error Handling is what WinAutomation should do in the event that a Process failed, while Exception Handling is what to do when something unexpected occurs in a specific action so that the Process does not fail.

4.11 Exception Block

As mentioned previously, the Exception Handling 147, is being used when a Process finds itself in an unexpected situation. It is also known as a Run-Time Error. The default response of WinAutomation to Exceptions is to fail that Process. However, WinAutomation also allows for other options. By going into the Exception Handling tab of an Action Properties Box, you can specify how the Action will handle an exception.

The exception handling, can be placed either for an action, or for a group of actions that are contained between the "Begin Exception Block" and "End Exception Block" actions.



```
Begin Exception Block Critical Area
    Comment
    All the actions within the "Exception Block", will use the exceptions stated in the "Begin Exception Block" action.
    Launch New Internet Explorer
    Launch Automation Browser and navigate to http://en.wikipedia.org/wi ...
    Extract Data from Web Page
    Extract Records and store the result(s) into Variable %OnThisDayList%.
    Close Internet Explorer
    Close Web Browser %InternetExplorer%
    Get Special Folder
    Get the path of the folder DesktopDirectory and store it into %DesktopDir%
    Get Current Date and Time
    Retrieve the current date and time and store it into %CurrentDateTime%
    Convert DateTime to Text
    Convert DateTime %CurrentDateTime% to text using format: yyyy-MM-dd and store it into %FormattedDateTime%
    Join Text
    Join items of list %OnThisDayList% separated by NewLine x 2
    Write Text to File
    Write %JoinedList% to %DesktopDir%\OnThisDay (%FormattedDateTime%).txt
    Run Application
    Run Application notepad with arguments: "%DesktopDir%\OnThisDay (%FormattedDateTime%).txt"
    Get Files in Folder
    Retrieve the files in folder C:\Users\admi\Documents that match * and store them into %Files%
End Exception Block
```

Name	Type	Value
%Files%	List of...	
%Button...	Text ...	
%Button...	Text ...	
%Intern...	WebB...	
%OnThi...	List of...	
%Deskt...	Folder	
%Curre...	DateT...	
%Forma...	Text ...	
%Joined...	Text ...	
%AppPr...	Nume...	

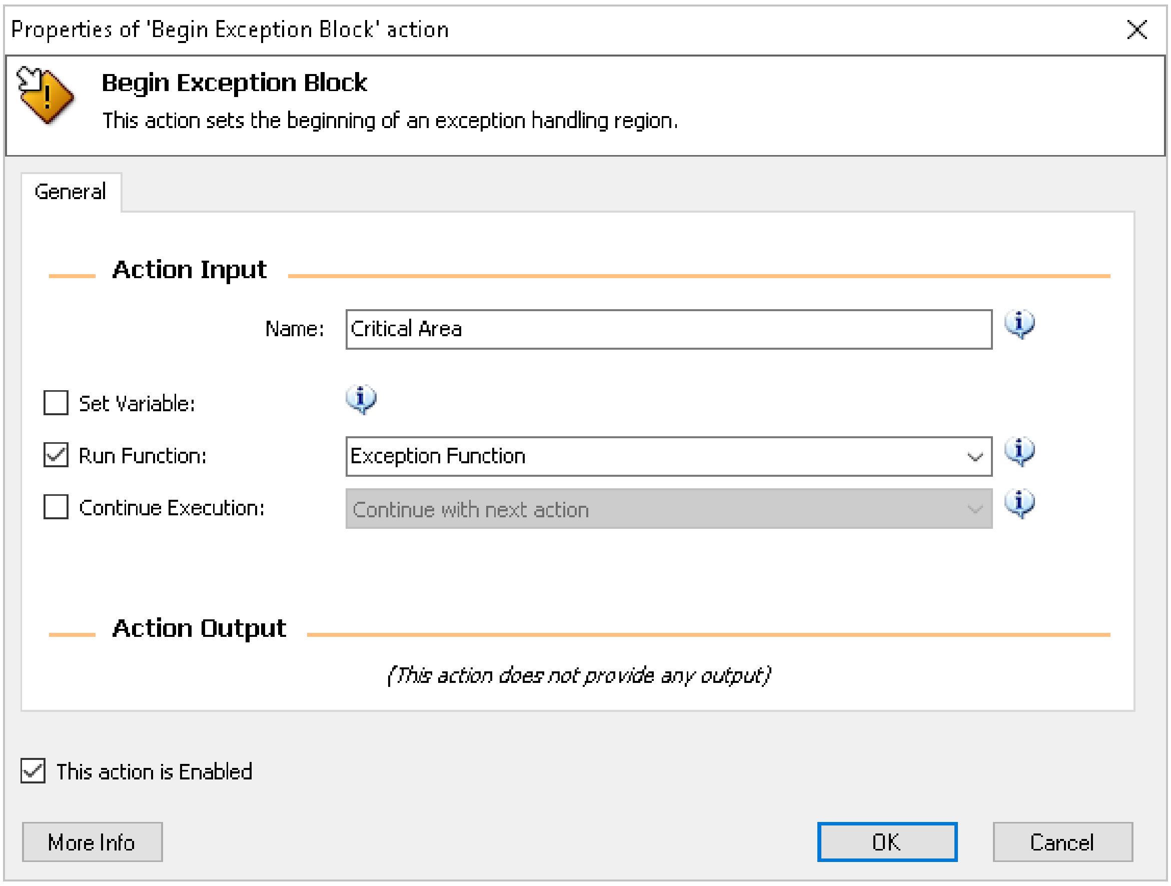
As in the single action's exception handling, the "Exception Block" provide the users with three responses for the process to have upon an exception.

First, upon an exception, the process is able to set a value to a variable. This for example could be prior to sending an email and the variable could state that the execution failed.

Secondly, in case an exception occurs within the block, another function could be triggered.

Last but not least, the "Exception Block" has the option to continue the process execution, either with the next action, the first action after the block, repeating the action, or even repeating the whole block execution.

In the above example, in case of an exception in any of the actions, the "Exception Function" is going to be triggered.



Properties of 'Begin Exception Block' action

Begin Exception Block

This action sets the beginning of an exception handling region.

General

Action Input

Name: Critical Area

□ Set Variable:

☑ Run Function: Exception Function

□ Continue Execution: Continue with next action

Action Output

(This action does not provide any output)

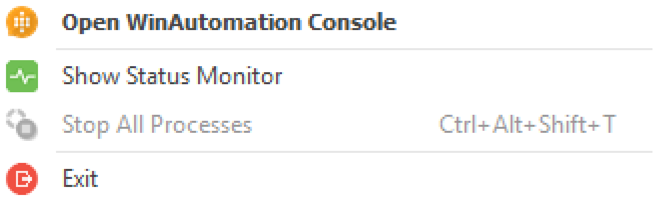
☑ This action is Enabled

Please keep in mind the fact, that in case an action that is contained in an "Exception Block" already has an exception handling rule set and fails, both rules will apply, first the actions' and second the exceptions'.

Exception Handling is different than Error Handling Tab 132 in the Console as Error Handling is what WinAutomation should do in the event that a Process failed, while Exception Handling is what to do when something unexpected occurs in a specific action so that the Process does not fail.

4.12 WinAutomation on the System Tray

By right clicking on the WinAutomation icon in the system tray you will get the following window.



From here you can

1. Open the WinAutomation Console

2. Show the Status Monitor Window 135

3. Stop All running Processes

4. Exit WinAutomation. By Exiting WinAutomation you are closing the WinAutomation Console and Stopping all WinAutomation Services (Triggers and Schedules will not apply if the WinAutomation Services are not running in the background)

4.13 Image Recognition

There are three actions based on Image Recognition: "Wait for Image", "If Image" and Move Mouse to Image. Both of these Actions require the computer to recognize an image on the screen.

How the Image Recongition works?

Image Recognition works by checking one pixel (in your image) to another (starting in the top left corner and working across then down the screen). If that pixel matches, it checks the second. If the first seven match, but the eighth doesn't, it checks the next pixel against the first in its image.

To use Image Recognition, first you take a screenshot of the part of the screen that you want. Once that image is stored, when the Process gets to that Action, it will start working on finding the stored image. Move Mouse to Image is useful if an image (like a button you need to click) could move.

Since Image Recognition works by comparing one pixel to another, if your saved image and most of the screen has a certain color in the upper left corner, it can take some time to find the right image. To make this more efficient, start with a less-common color in the upper left corner. For example, with a white background for most of the screen, this image

will take less time to find than this image.

Both will find the image, but the first will be quicker. The less of a color above and to the left of your image's first pixel color, the faster the Action will work.

NOTE: Image recognition actions are unfortunately not applicable across different screen resolutions. This is why its use, is suggested as a last resort, while at the same time taking under consideration that the script will run on a certain screen analysis. For, example should you wish to compile a Process to a stand alone executable with the Professional Edition, it is suggested that you refrain from using Image recognition actions, unless you are 100% sure that the resolution will be the same across the target machine that will run the application.

4.14 Interactive/Non Interactive Processs

Any time you use the keyboard or mouse, you are creating input for your computer; and any time something shows on the monitor, your computer is showing output. These are called interactive functions because the computer interacts with you.

Non-interactive functions are those that don't require input (keyboard & mouse) or create output on your monitor. For example, if your computer is set up to automatically connect to the Internet on start-up, this is non-interactive as you don't have to do anything, and nothing shows up on the monitor. Likewise, computers will check email, install updates, move files, etc - all without any action or knowledge on your part.

Since WinAutomation can make changes automatically, without input or output, a Process can be interactive (needing keystrokes or mouse events with or without Macros) or non-interactive depending on the actions it contains.

As interactive functions can only work when a user is logged in, only non-interactive

Processes can be run when all users are logged out.

A Process's interaction with the computer status can be set through the Run Policy tab 144 of the Process Properties window.

4.15 Manage Processs Database

Processes are stored collectively in one database file (Processes.dat), which by default is stored in a specific location.

The options that you have with the database are described in detail in the Options > Settings > Processes File tab.

4.16 Controlling WinAutomation from the command line

Another way to access WinAutomation Processes is through the Command Line. This is mostly useful if you write your own scripts or programs and you want to run WinAutomation Processes from your programs.

You can control WinAutomation from the command line using the WinAutomationController.exe that is located in the installation folder of WinAutomation. WinAutomationController.exe has the following three switches:

- **/start** - this will start a specified Process, using the following format:

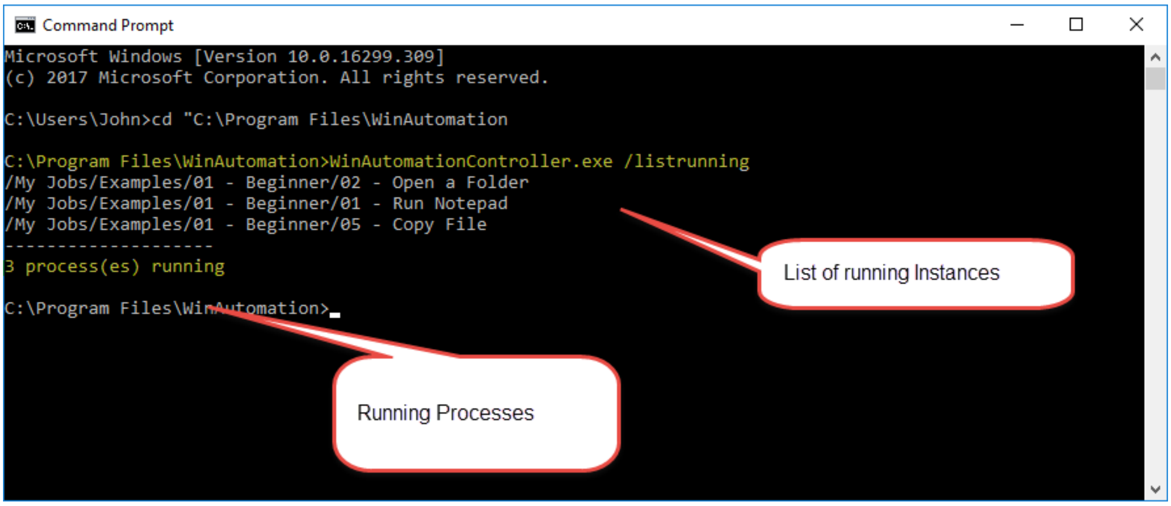
Example: `WinAutomationController /start processPath processCLA1 processCLA2`

- **/stop** - this will stop a specified Process, included as a Command Line Argument

Example: `WinAutomationController /stop processPath`

- **/ListRunning** - this will list all running Processes at the moment. The information that the command line will give back to you, will include the number of Processes that are running and a list with all the running Processes instances.

Example: `WinAutomationController /listrunning`



```
Microsoft Windows [Version 10.0.16299.309]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\John>cd "C:\Program Files\WinAutomation

C:\Program Files\WinAutomation>WinAutomationController.exe /listrunning
/My Jobs/Examples/01 - Beginner/02 - Open a Folder
/My Jobs/Examples/01 - Beginner/01 - Run Notepad
/My Jobs/Examples/01 - Beginner/05 - Copy File
--------------------
3 process(es) running

C:\Program Files\WinAutomation>_
```

WinAutomation Controller /listrunning

'processCLA1' is the first Command Line Argument you include, 'processCLA2' is the second, etc. Command Line Arguments are information you need to send to the Process, such as a file path, URL or other needed information, and can be retrieved by the WinAutomation Process with the "Get Command Line Arguments" Action, under WinAutomation Actions.

The processPath is the path in the WinAutomation Console for the particular Process, from a base directory of My Processes in the Folders Pane on the left side. So if your Process is in the My Processes directory, the name of the Process is sufficient. If you have put the Process in a subfolder, you will need to include that information in the processPath.

Note: if the processPath contains spaces, it should be enclosed in double quotes (e.g. WinAutomationController /start **"My Process"**)

As an example, say you have created a Process that uploads a file that you specify to an FTP site you designate. You want another program to call up this WinAutomation Process, UploadFile, from the Command Line. The Process has not been compiled, and is stored in the subfolder of My Processes called 'FileProcesses'. It will need to be told where the file to be uploaded is located, but the URL to upload the file to was already set in the Process. Your Command Line would look like this:

```
WinAutomationController /start FileProcesses/UploadFile C:
\NewFile\upload.txt
```

You can also import and export a Process to and from WinAutomation from the command line using the following switches:

- **/import** - this will import the specified waj file into the WinAutomation Processes database (within the specified folder)

Example: `WinAutomationController /import "c:\Users\Some User\Documents\MyProcess.waj" "My Processes/Examples"`

- **/export** - this will export the specified Process into a waj file on the disk.

Example: `WinAutomationController /export "My Processes/Examples/MyProcess" "c:\Users\Some User\Documents\MyProcess.waj"`

Furthermore, you can also enable and disable a Process in WinAutomation from the command line using the following switches:

- **/enable** - this will enable the process specified in the process Path.

Example: `WinAutomationController /enable "/My Processes/Path to/Some Folder/MyProcess"`

- **/disable** - this will export the specified Process into a waj file on the disk.

Example: `WinAutomationController /disable "/My Processes/Path to/Some Folder/MyProcess"`

Additionally, you can also get all WinAutomation folders or a specific's folder Processes data under a specified folder in XML format and display the results in the console or via a file:

- **/getallfolders (console|file path)** - this will get all WinAutomation folders in XML format and display the results in the console or via a file

Parameters: `console - print the data to the console`

`file path - print to the file specified by path`

- **/getProcessesoffolderPath (console|file path)** - this will get a specific's folder Processes in XML format and display the results in the console or via a file

Parameters: `folderPath - folder path containing the Processes you want to get. ID can be retrieved by executing the /getallfolders command`

`console - print the data to the console`

`file path - print to the file specified by path`

Last but not least, you can export the data from a server to a specific data path:

- **/exportserverdata fileToExportServerDataPath** - this will export data from the server and store them in fileToExportServerDataPath

Example: `WinAutomationController /exportserverdata textFilePath`

Exit Codes of the WinAutomation Controller

It is a common practice for applications to return a certain code (number) upon termination; this number is called the "Exit Code". The Exit Code is 0 (zero) when the application terminates normally, while a non-zero value usually indicates that an error was encountered during the execution. The WinAutomation Controller returns one of the following non-zero values whenever an error is encountered:

Exit Code(s)	Meaning
1	The syntax of the command is incorrect
2	Process not found
3	Process to be stopped was not found running
6	The file to be imported does not appear to be a Process (.waj) file
7	Cannot read from the file to be imported
8	Cannot find the Process to be exported
9	Cannot write the Process file to the specified path
100	General Exception while performing the requested operation*
101	Could not communicate with the WinAutomation Service / Service Unavailable

* Additional information regarding this error will be produced and stored into WinAutomation's Logs.

The "Run DOS Command 340" is suitable for both running the WinAutomation Controller, as well as storing the returned Exit Code into a variable for later use.

4.17 Valid Key Codes for the Send Keys Action

Consider the following scenario: You need to increase the font-size in a Word document by pressing ***CTRL + SHIFT + '.',*** using the Send Keys Action.

In this case, you would want to simulate the dot key press, which is not the same as sending the dot character. To simulate key-presses inside a Send Keys Action, use the following notation:

{KeyCode}

where KeyCode is the capital form of the letter itself for letters A-Z, OemSemicolon for ';', Oemplus for '+', Oemcomma for ',', OemMinus for '-', OemPeriod for '.', OemQuestion for '?', Oemtilde for '~', OemOpenBrackets for '[', OemPipe for '|', etc. You will find the full list of the valid Key Codes at the bottom of this help topic.

To return back to the Word example, the font-size increase should be written as:

{Control}({Shift}({OemPeriod}))

To produce a colon ':' key press, you may use

{Shift}({OemSemicolon})

The same rule applies for other characters produced by pressing Shift + another key.

Full List of Valid Key Codes

LButton
RButton
Cancel
MButton
XButton1
XButton2
Back
Tab
LineFeed
Clear
Enter

BrowserSearch
BrowserFavorites
BrowserHome
VolumeMute
VolumeDown
VolumeUp
MediaNextTrack
MediaPreviousTrack

D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
A
B
C

Add
Separator
Subtract
Decimal
Divide
F1
F2
F3
F4
F5
F6
F7
F8

Return
ShiftKey
ControlKey
Menu
Pause
CapsLock
Capital
HangulMode
HanguelMode
KanaMode
JunjaMode
FinalMode
KanjiMode
HanjaMode
Escape
IMEConvert
IMENonconvert
IMEAccept
IMEAceept
IMEModeChange

MediaStop
MediaPlayPause
LaunchMail
SelectMedia
LaunchApplication1
LaunchApplication2
OemSemicolon
Oem1
Oemplus
Oemcomma
OemMinus
OemPeriod
Oem2
OemQuestion
Oem3
Oemtilde
Oem4
OemOpenBrackets
OemPipe
Oem5
OemCloseBrackets
Oem6

D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
LWin
RWin
Apps
Sleep
NumPad0
NumPad1
NumPad2

F9
F10
F11
F12
F13
F14
F15
F16
F17
F18
F19
F20
F21
F22
F23
F24
NumLock
Scroll
LShiftKey
RShiftKey
LControlKey
RControlKey
LMenu
RMenu
BrowserBack
BrowserForward
BrowserRefresh
BrowserStop

Space

Prior

PageUp

PageDown

Next

End

Home

Left

Up

Right

Down

Select

Print

Execute

Snapshot

PrintScreen

Insert

Delete

Help

OemQuotes

Oem7

Oem8

Oem102

OemBackslash

ProcessKey

Packet

Attn

Crsel

Exsel

EraseEof

Play

Zoom

NoName

Pa1

OemClear

KeyCode

Shift

Control

Alt

Modifiers

NumPad3

NumPad4

NumPad5

NumPad6

NumPad7

NumPad8

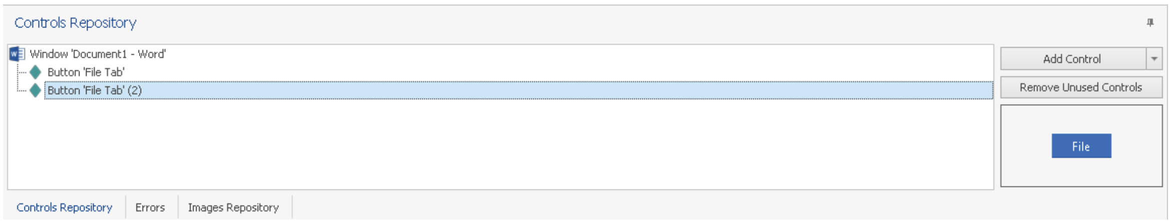
NumPad9

Multiply

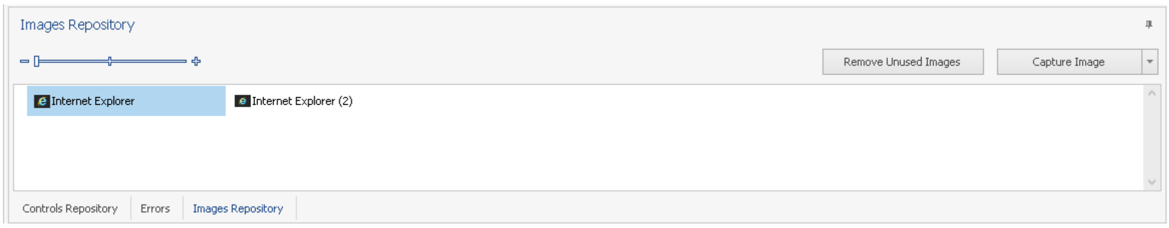
4.18 Copy/Paste Controls

Copying and Pasting an action from one process to another, copies the Controls and the Images that are connected with the selected action.

In case a control or an image exists in the process with the same name, the control is being renamed by getting an index number (n).



Two Controls with the same name



Two Images with the same name

5. Actions Reference

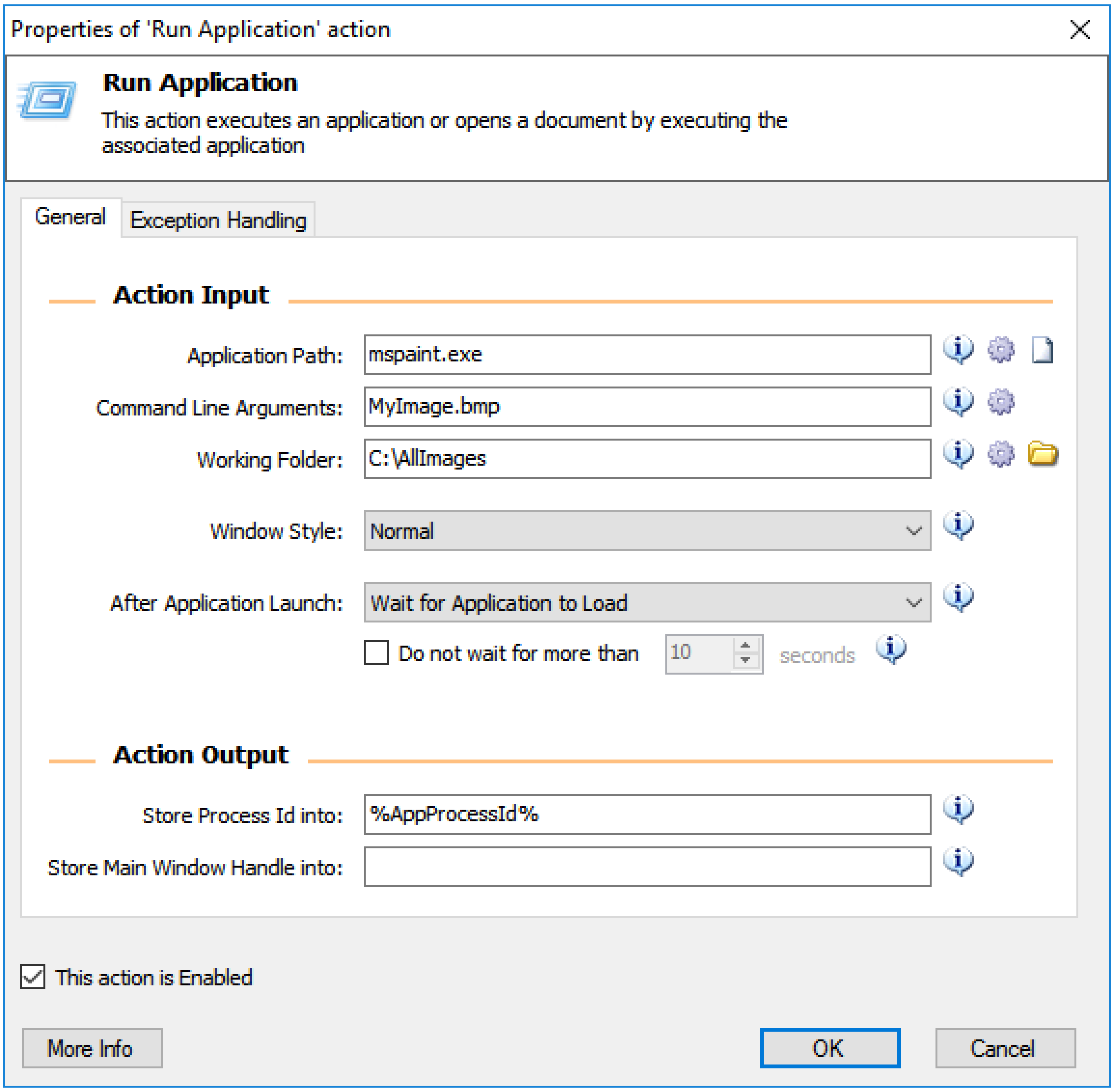
5 Actions Reference

5.1 System

5.1.1 Run Application Action

Description:

This action executes an application or opens a document by executing the associated application



Properties of 'Run Application' action

Run Application

This action executes an application or opens a document by executing the associated application

Action Input

Application Path: mspaint.exe

Command Line Arguments: MyImage.bmp

Working Folder: C:\AllImages

Window Style: Normal

After Application Launch: Wait for Application to Load

□ Do not wait for more than 10 seconds

Action Output

Store Process Id into: %AppProcessId%

Store Main Window Handle into:

☑ This action is Enabled

Properties:

Application Path:

Insert executable file here, as a complete file path.

Command Line Arguments:

Add extra arguments that would go after the executable file name. For example, you could enter notepad.exe in the Application Path, and a specific text file in the Command Line Arguments.

Working Folder:

Enter the full path of the folder to work out of, if applicable.

Window Style:

Choose the appearance and size of your application Window when it opens.

After Application Launch:

Choose whether the next action execute immediately, or wait until the program loads or completes

Do not wait more than:

Determines whether there is a maximum wait time, and how long before forcing a continue.

Store Process Id into:

Enter a name to be the variable that will store the Process ID output. This will be a numeric value.

Store Main Window Handle into:

Enter a name to be the variable that will store the Window Handle. When opening a new Window, this will catch the value of the Window Handle, and store it in this variable. A Window Handle is useful to specifically identify a Window in a later action.

Store Exit Code into:

Enter a name to be the variable that will store the Application Exit Code as a numeric value.

Other uses:

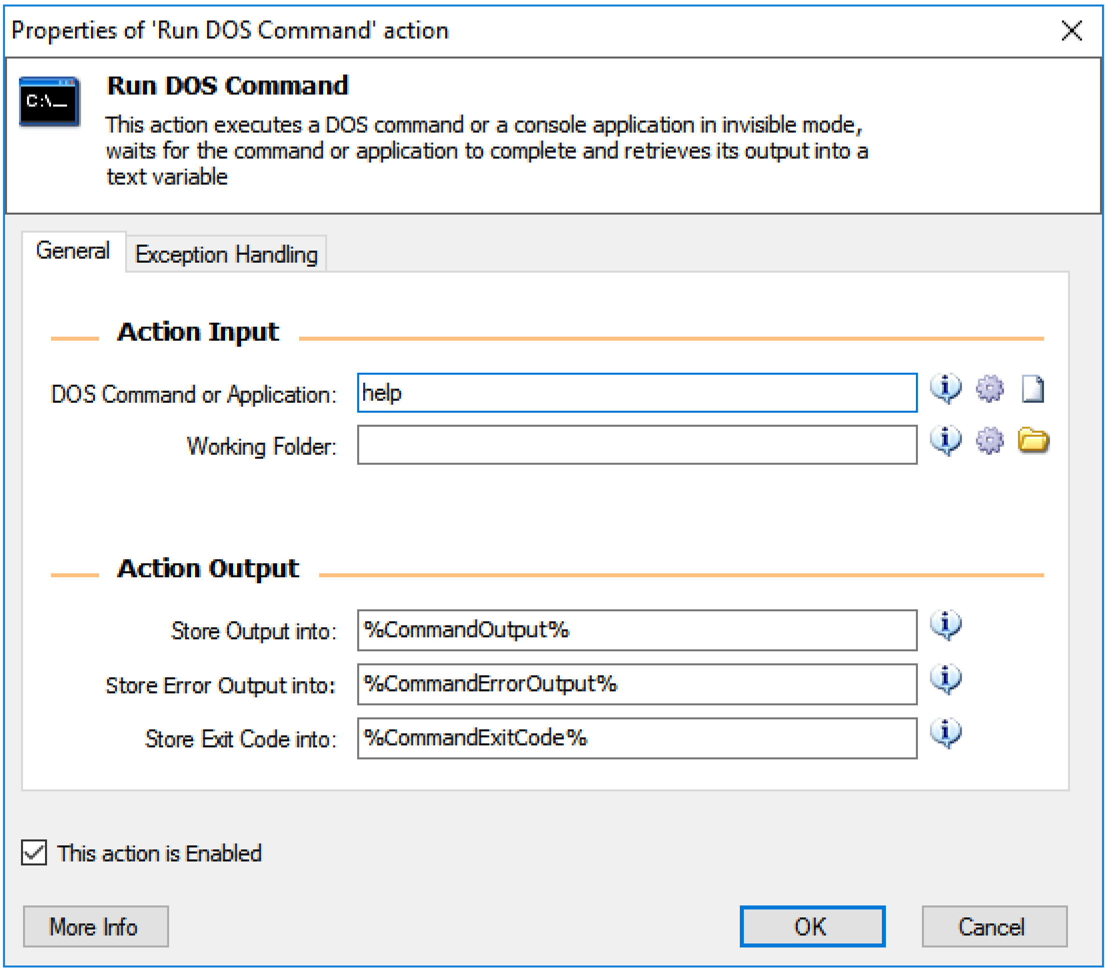
Display the contents of a folder:

You can use this action to display a folder inside Windows Explorer. This can be useful if, for example, the process has just unzipped some files and needs to display them to the user. Simply set "Application path" to "explorer" and "Command Line Arguments" to the folder. (e.g., C:\unzipped).

5.1.2 Run DOS Command Action

Description:

This action executes a DOS command or a console application in invisible mode, waits for the command or application to complete and retrieves its output into a text variable



Properties of 'Run DOS Command' action

Run DOS Command

This action executes a DOS command or a console application in invisible mode, waits for the command or application to complete and retrieves its output into a text variable

Action Input

DOS Command or Application: help

Working Folder:

Action Output

Store Output into: %CommandOutput%

Store Error Output into: %CommandErrorOutput%

Store Exit Code into: %CommandExitCode%

☑ This action is Enabled

Properties:

DOS Command or Application:

Enter the name of DOS command or a console application, with arguments if applicable.

Working Folder:

Enter the full path of the folder to work out of, if applicable.

Store Output into:

Enter a name to be the variable that will store the Command Output. The Command Output will be the text output from the DOS Command or Application.

Store Error Output into:

Enter a name to be the variable that will store the Error Output. The Error Output will be the text describing the errors occurred (if any) during the execution of the DOS Command or Application.

Store Exit Code into:

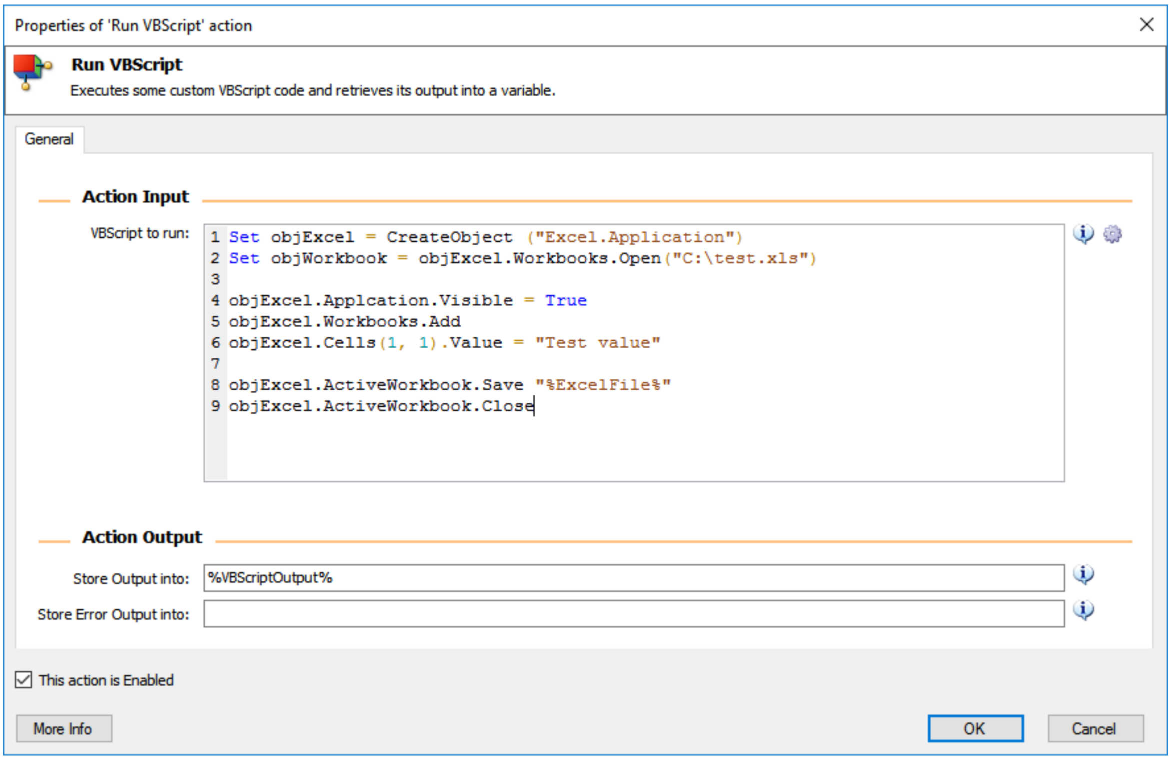
Enter a name to be the variable that will store the Command or Application Exit Code. This will be a numeric value.

5.1.3 Run VBScript Action

Description:

Executes some custom VBScript code and retrieves its output into a variable.

Although WinAutomation offers a vast number of actions that will cover almost all your automating needs there may be times that you want to inject some VBScript code into your Process. Maybe you already have a script in VBScript that you want to use, maybe you need some really advanced features such as manipulating a COM object. Whatever the need may be this is the action you can use to include VBScript code into your Process.


Properties of 'Run VBScript' action
Run VBScript
Executes some custom VBScript code and retrieves its output into a variable.
General
Action Input
VBScript to run:

```
Set objExcel = CreateObject ("Excel.Application")
Set objWorkbook = objExcel.Workbooks.Open("C:\test.xls")

objExcel.Applcation.Visible = True
objExcel.Workbooks.Add
objExcel.Cells(1, 1).Value = "Test value"

objExcel.ActiveWorkbook.Save "%ExcelFile%"
objExcel.ActiveWorkbook.Close
```

Store Output into: %VBScriptOutput%

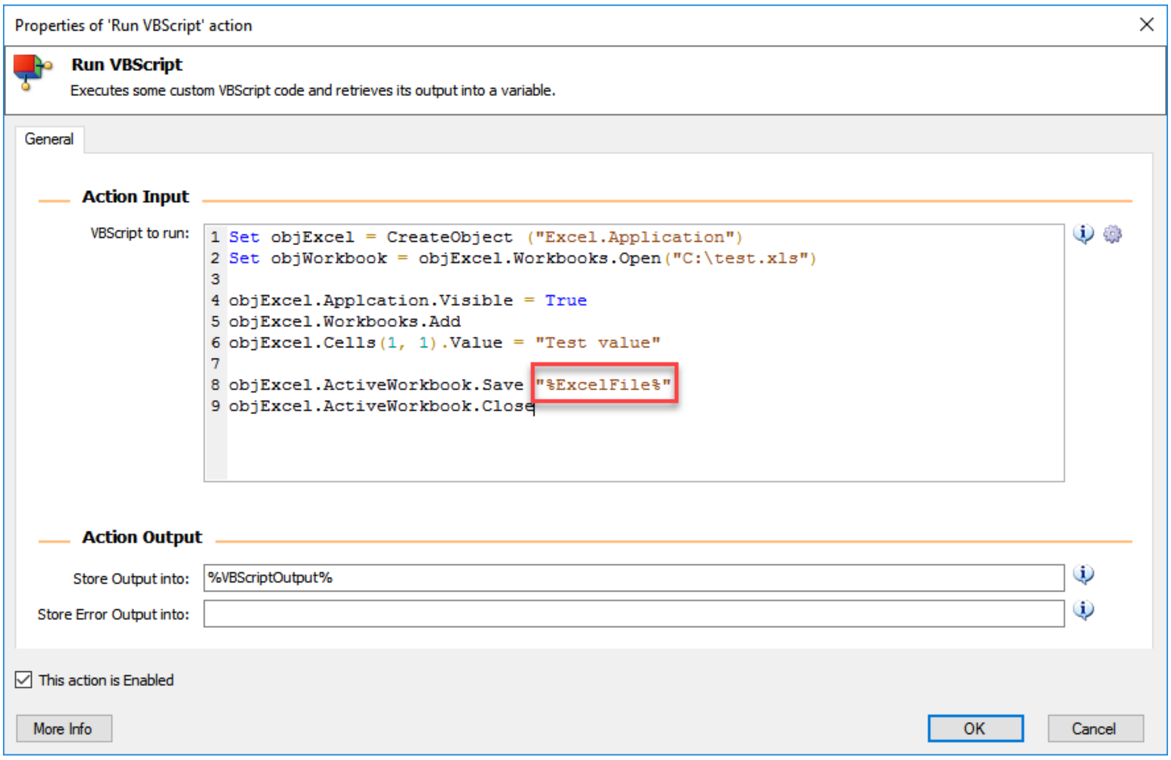
Store Error Output into:

☑ This action is Enabled

Properties:

VBScript to run:

Enter here the VBScript code you want to execute. TIP: Within the script, you may include WinAutomation variables, since they will be evaluated prior to the VBScript code's execution. For example:


Properties of 'Run VBScript' action

Run VBScript

Executes some custom VBScript code and retrieves its output into a variable.

Action Input

VBScript to run:

```
1 Set objExcel = CreateObject ("Excel.Application")
2 Set objWorkbook = objExcel.Workbooks.Open("C:\test.xls")
3
4 objExcel.Applcation.Visible = True
5 objExcel.Workbooks.Add
6 objExcel.Cells(1, 1).Value = "Test value"
7
8 objExcel.ActiveWorkbook.Save "%ExcelFile%"
9 objExcel.ActiveWorkbook.Close
```

Action Output

Store Output into: %VBScriptOutput%

Store Error Output into:

☑ This action is Enabled

If the %ExcelFile% variable holds the value, say, "c:\myexcel.xlsx", the last command in line 8 will equal to

```
objExcel.ActiveWorkBook.Save "%ExcelFile%"
```

Store Output into:

Enter the name for the variable to hold the script's output. A script may write some text to the windows console during its execution. In this case, all the text written by the script is stored into this variable so that it can be processed by later actions.

Store Error Output into:

Enter the name for the variable to hold any errors that may occur during the execution of the VBScript code.

NOTE:

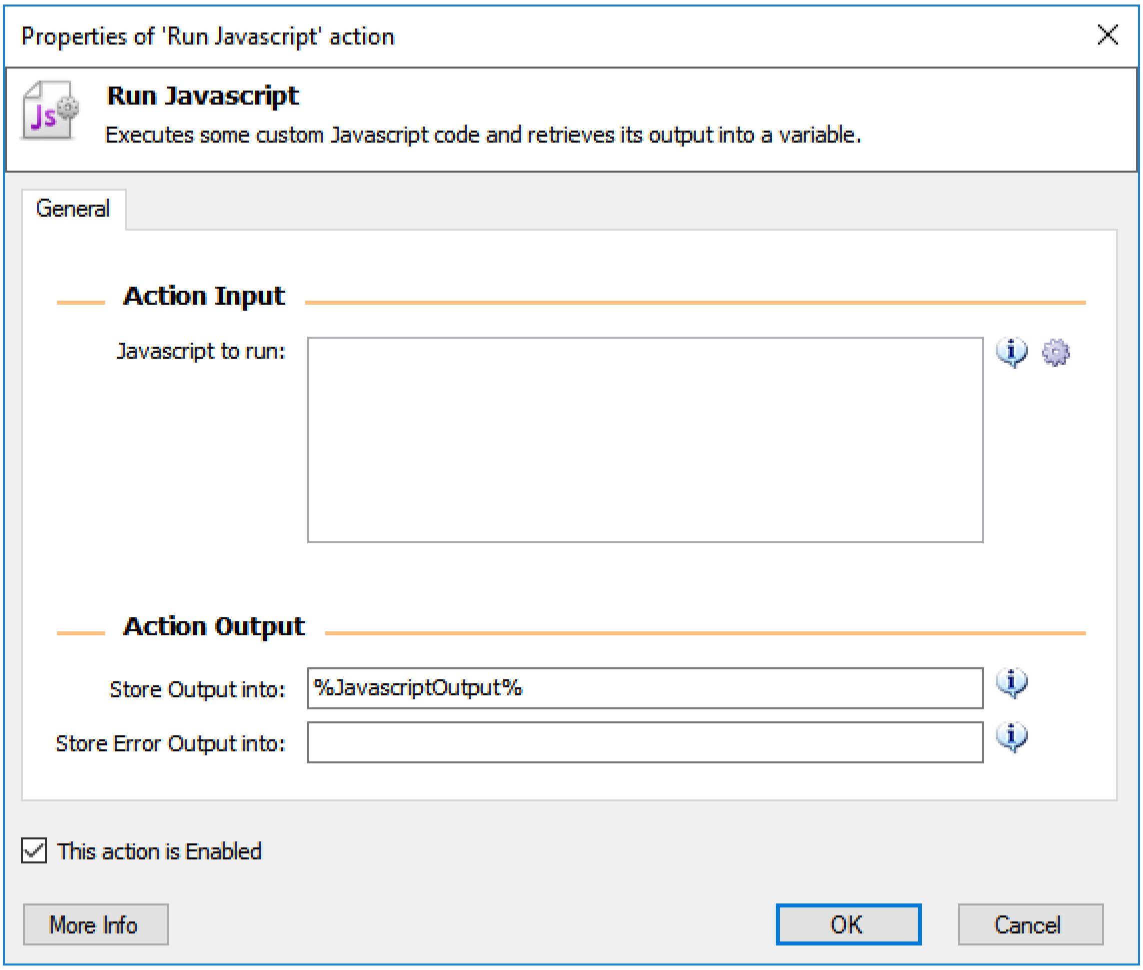
Commands in VbScript will be highlighted accordingly so that you can read your script easily. Also this action's window can be resized.

5.1.4 Run Javascript Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Description:

Executes some custom Javascript code and retrieves its output into a variable.



Properties of 'Run Javascript' action

Run Javascript

Executes some custom Javascript code and retrieves its output into a variable.

General

Action Input

Javascript to run:

Action Output

Store Output into: %JavascriptOutput%

Store Error Output into:

☑ This action is Enabled

Properties:

Javascript to run:

Enter here the Javascript code you want to execute. TIP: Within the script, you may include WinAutomation variables, since they will be evaluated prior to the Javascript code's execution.

Store Output into:

Enter the name for the variable to hold the script's output. A script may write some text to the windows console during its execution. In this case, all the text written by the script is stored into this variable so that it can be processed by later actions.

Store Error Output into:

Enter the name for the variable to hold any errors that may occur during the execution of the Javascript code.

NOTE:

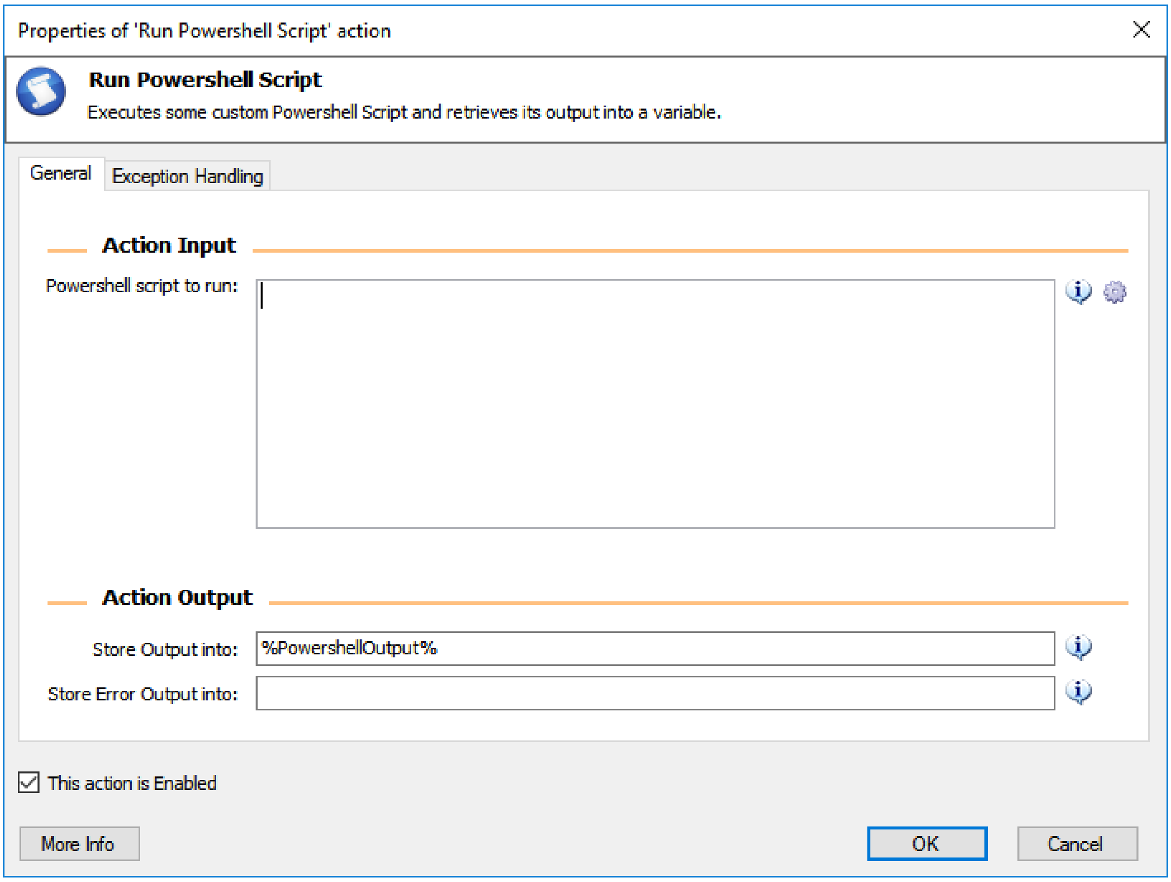
Commands in Javascript will be highlighted accordingly so that you can read your script easily. Also this action's window can be resized.

5.1.5 Run PowerShell Script

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Description:

Executes some custom Powershell Script and retrieves its output into a variable.



Properties of 'Run Powershell Script' action

Run Powershell Script

Executes some custom Powershell Script and retrieves its output into a variable.

Powershell script to run:

Store Output into: %PowershellOutput%

Store Error Output into:

☑ This action is Enabled

Properties:

Powershell Script to run:

Enter here the Powershell code you want to execute. TIP: Within the script, you may include WinAutomation variables, since they will be evaluated prior to the Powershell code's execution. In the example presented above, please remember to escape any backslash inside the path variable (%DataDirectory%):

C:\\Windows\\SysWOW64

Store Output into:

Enter the name for the variable to hold the script's output. A script may write some text to the windows console during its execution. In this case, all the text written by the script is stored into this variable so that it can be processed by later actions.

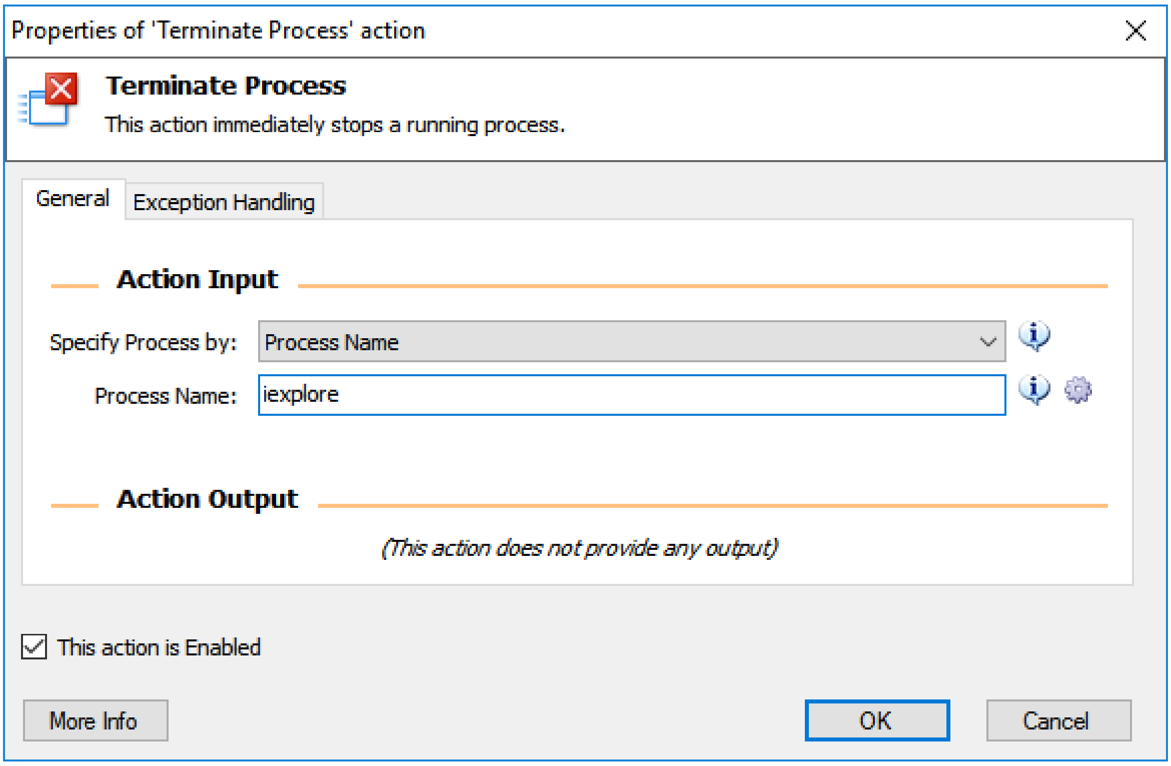
Store Error Output into:

Enter the name for the variable to hold any errors that may occur during the execution of the Powershell code.

5.1.6 Terminate Process Action

Description:

This action immediately stops a running process.



Properties of 'Terminate Process' action

Terminate Process

This action immediately stops a running process.

Specify Process by: Process Name

Process Name: iexplore

(This action does not provide any output)

☑ This action is Enabled

Properties:

Specify Process by:

Choose whether you want to specify the process to terminate by its name, or by its ID.

Process Name:

Enter the name of the process that you want to terminate. If more than one process with the same name are running, all of them will be terminated.

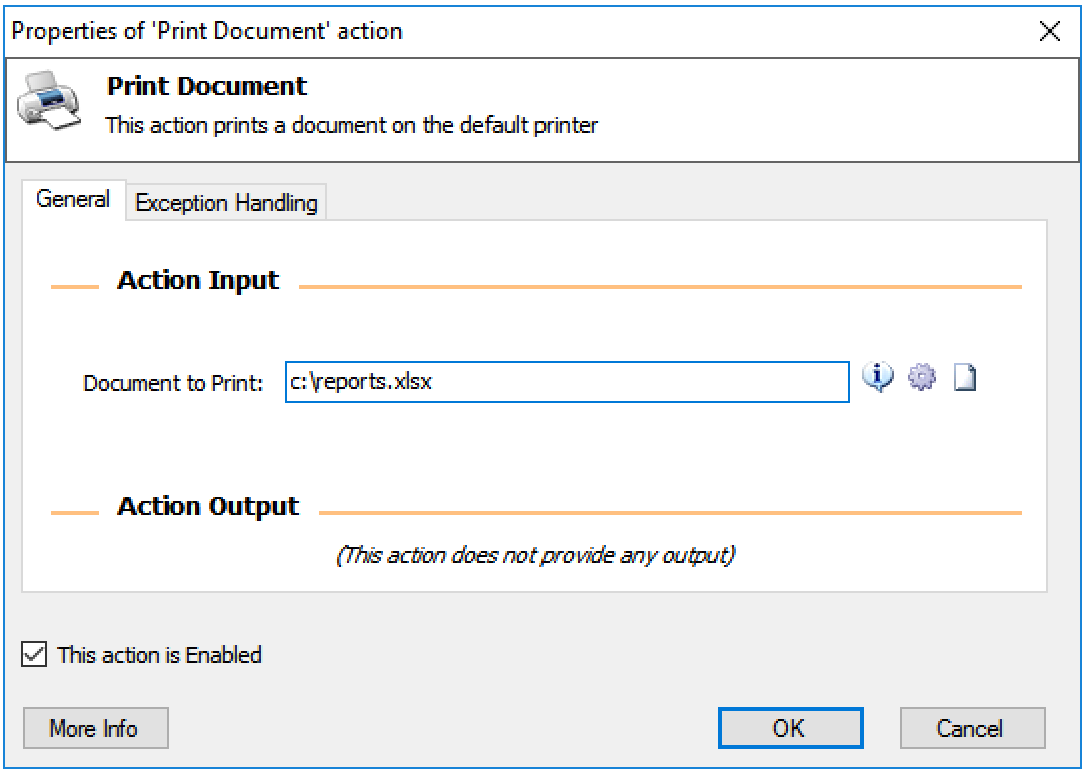
Process ID:

Enter the ID of the process that you want to terminate.

5.1.7 Print Document Action

Description:

This action prints a document on the default printer



Properties of 'Print Document' action

Print Document

This action prints a document on the default printer

Document to Print: c:\reports.xlsx

(This action does not provide any output)

☑ This action is Enabled

Properties:

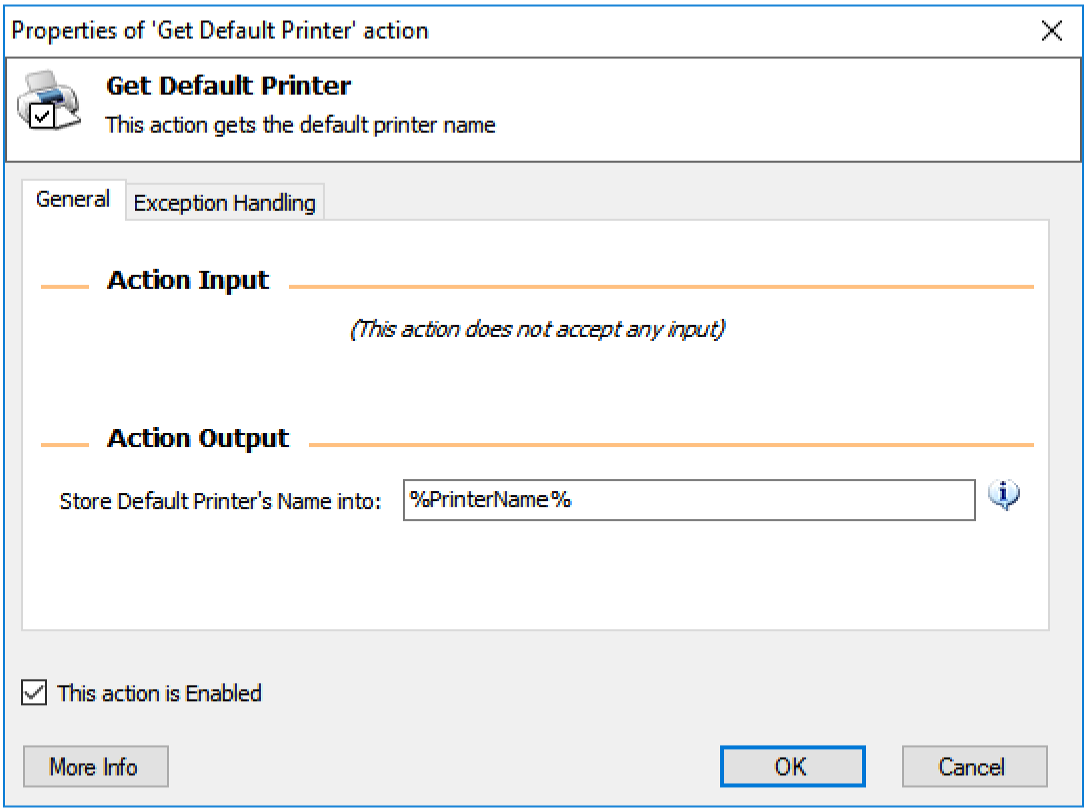
Document to Print:

Insert the file to print here, as File Variable 285 or as a complete file path.

5.1.8 Get Default Printer Action

Description:

This action gets the Default Printer name



Properties of 'Get Default Printer' action

Get Default Printer

This action gets the default printer name

(This action does not accept any input)

Store Default Printer's Name into: %PrinterName%

☑ This action is Enabled

Properties:

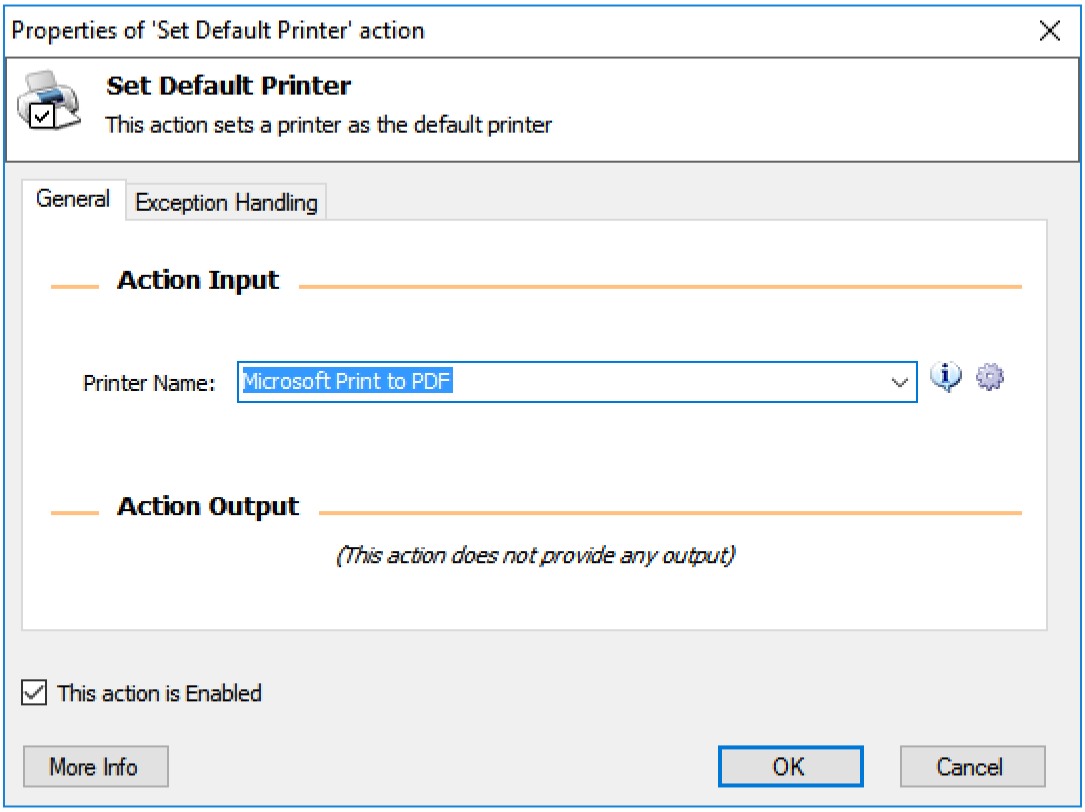
Store Default Printer's Name into:

Choose the variable to hold the acquired default printer's name.

5.1.9 Set Default Printer Action

Description:

This action sets a printer as the default printer



Properties of 'Set Default Printer' action

Set Default Printer

This action sets a printer as the default printer

Action Input

Printer Name: Microsoft Print to PDF

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

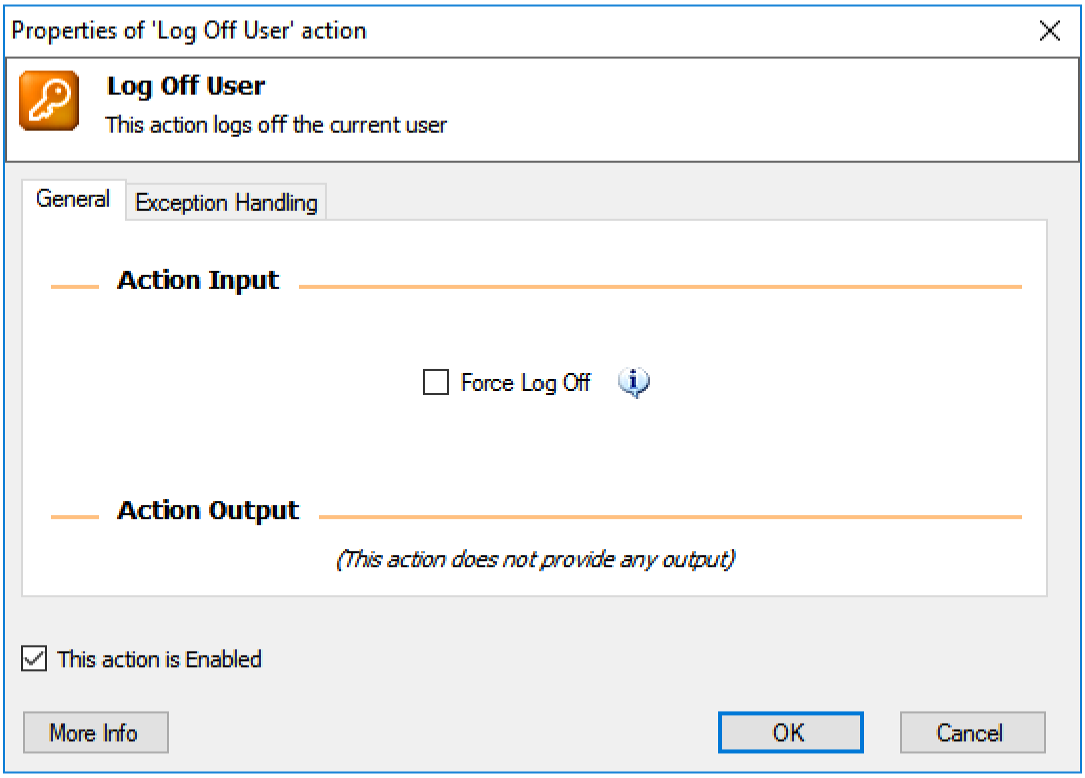
Printer Name:

Choose a printer to be used as default. This will continue to be the default printer until another default printer is chosen.

5.1.10 Log Off User Action

Description:

This action logs off the current user



Log Off User

This action logs off the current user

Action Input

□ Force Log Off

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

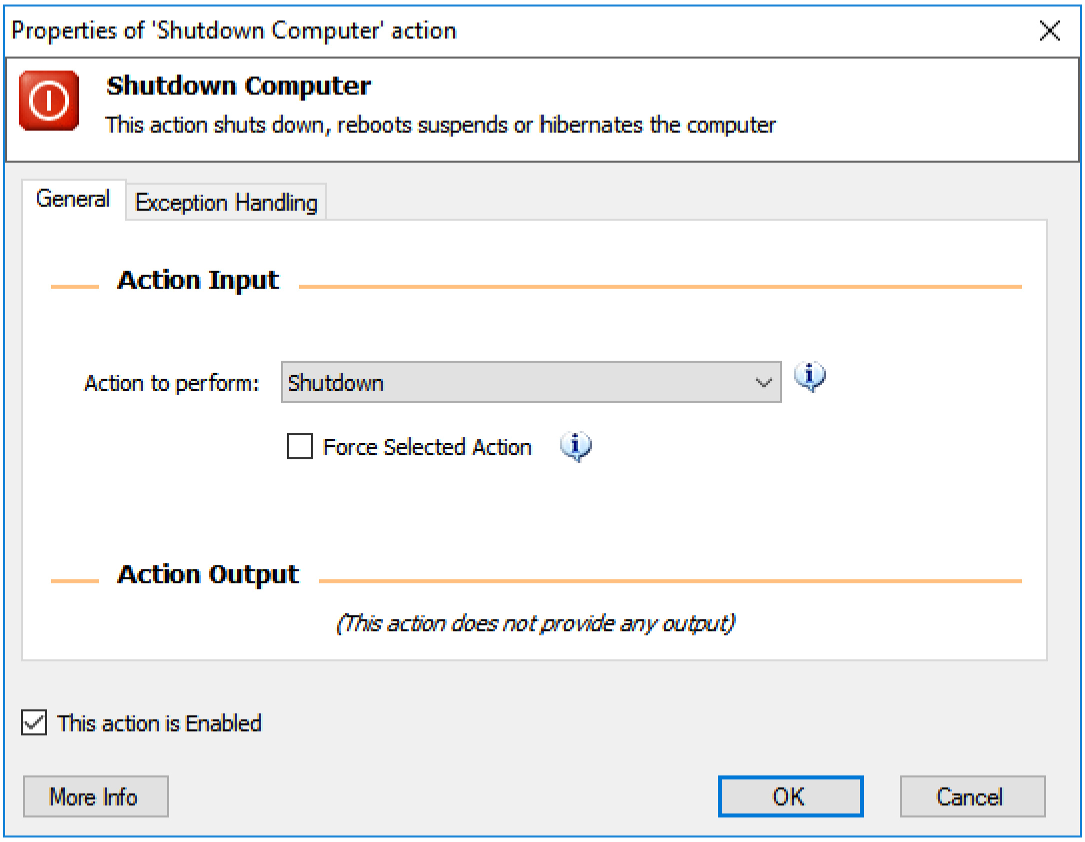
Force Log Off:

Force Log Off, regardless of unsaved files or programs that won't close.

5.1.11 Shutdown Computer Action

Description:

This action shuts down, reboots, suspends or hibernates the computer



Properties of 'Shutdown Computer' action

Shutdown Computer

This action shuts down, reboots suspends or hibernates the computer

Action Input

Action to perform: Shutdown

□ Force Selected Action

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Action to Perform:

Choose which Shutdown action to perform.

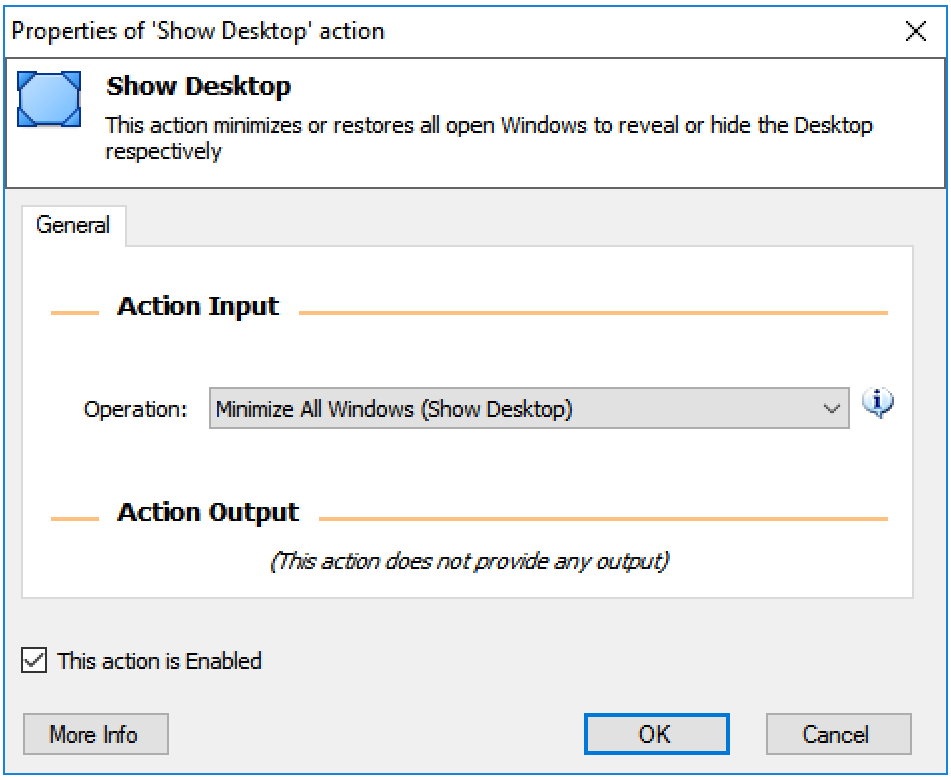
Force Selected Action:

Force selected action, regardless of unsaved files or programs that won't close.

5.1.12 Show Desktop Action

Description:

This action minimizes or restores all open Windows to reveal or hide the Desktop respectively.



Properties of 'Show Desktop' action

Show Desktop

This action minimizes or restores all open Windows to reveal or hide the Desktop respectively

Action Input

Operation: Minimize All Windows (Show Desktop)

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Action to Perform:

Choose whether to minimize all Windows to reveal the Desktop or restore all Windows to their original respective states.

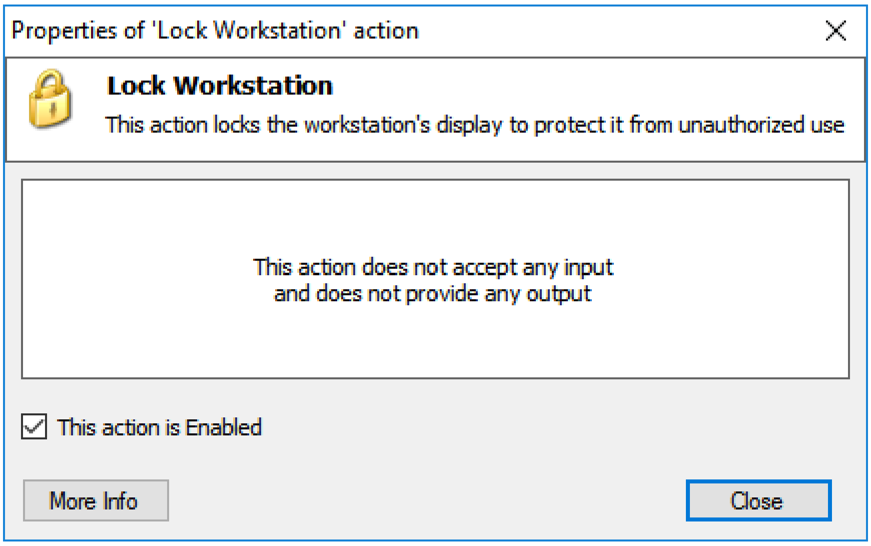
Cautions:

Avoid minimizing any Window you are currently interacting with.

5.1.13 Lock Workstation Action

Description:

This action locks the workstation's display to protect it from unauthorized use


Properties of 'Lock Workstation' action

Lock Workstation

This action locks the workstation's display to protect it from unauthorized use

This action does not accept any input
and does not provide any output

☑ This action is Enabled

Properties:

This action does not have any configurable properties.

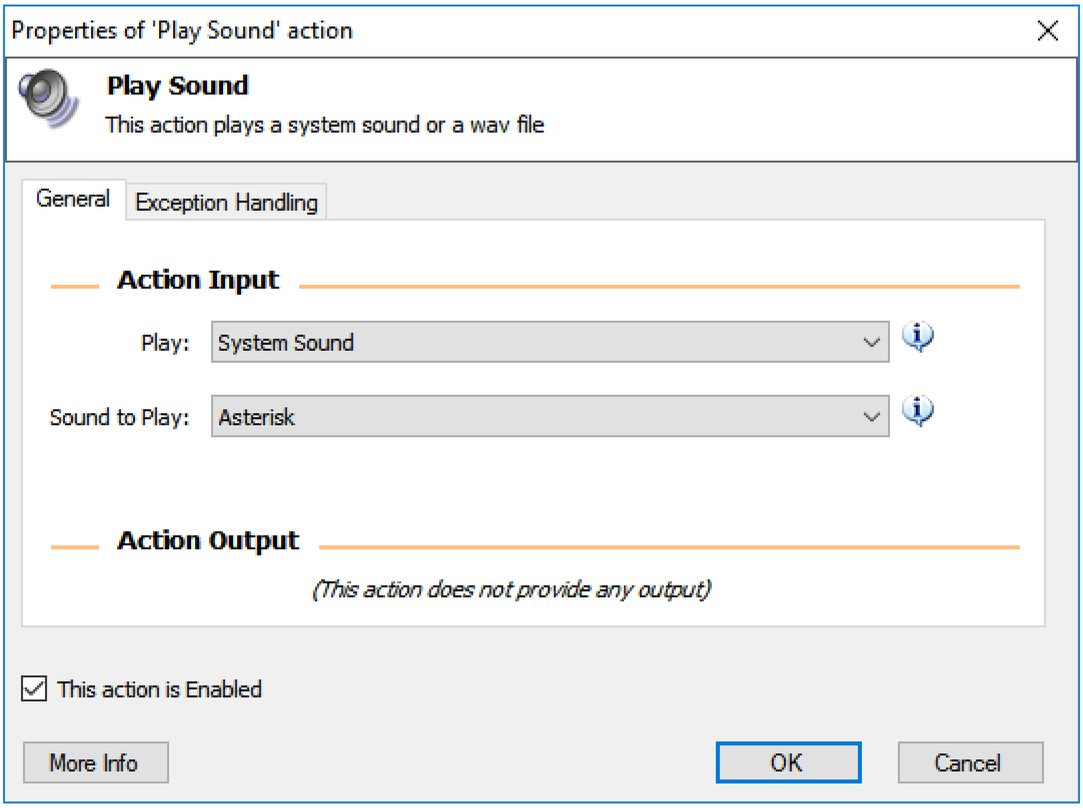
Cautions:

This action will prevent your process from interacting with the Desktop. Make sure to use this command only when you're sure the process won't need to use the mouse, keyboard or request user input after the action has been executed.

5.1.14 Play Sound Action

Description:

This action plays a system sound or a wav file



Properties of 'Play Sound' action

Play Sound

This action plays a system sound or a wav file

Action Input

Play: System Sound

Sound to Play: Asterisk

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Play:

Choose a type of sound to play.

Sound to Play:

Choose the specific sound to play.

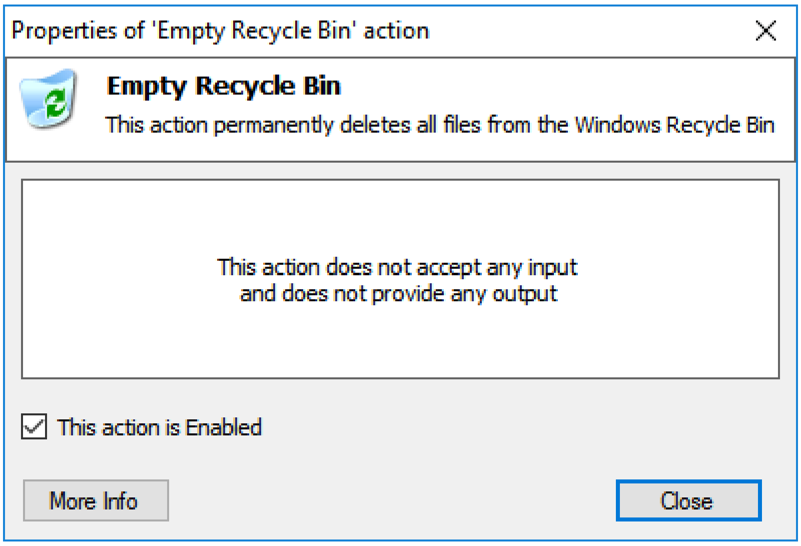
File to Play:

Set the full path of the specific .wav file to play.

5.1.15 Empty Recycle Bin Action

Description:

This action permanently deletes all files from the Windows Recycle Bin



Properties of 'Empty Recycle Bin' action

Empty Recycle Bin

This action permanently deletes all files from the Windows Recycle Bin

This action does not accept any input and does not provide any output

☑ This action is Enabled

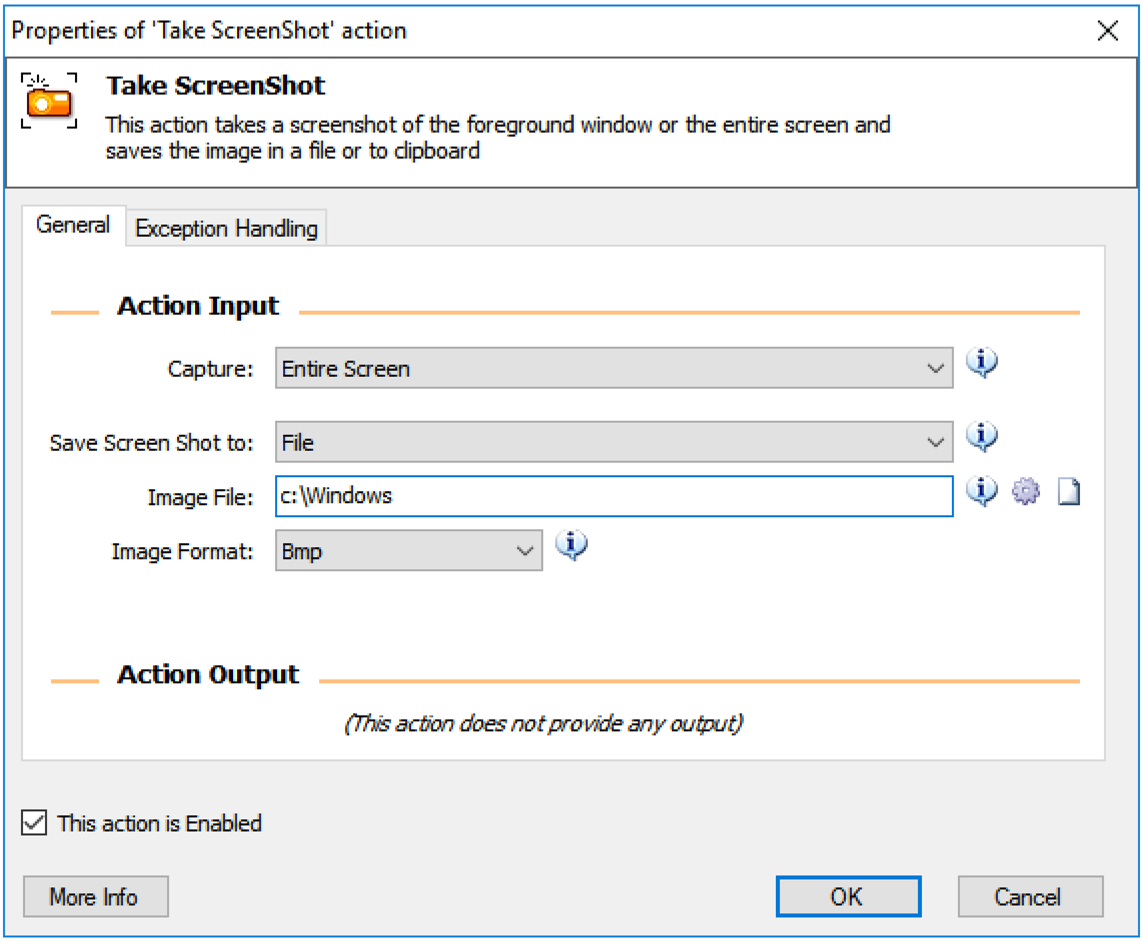
Properties:

This action does not have any configurable properties.

5.1.16 Take ScreenShot Action

Description:

This action takes a screenshot of the foreground window or the entire screen and saves the image in a file or to clipboard



Properties of 'Take ScreenShot' action

Take ScreenShot

This action takes a screenshot of the foreground window or the entire screen and saves the image in a file or to clipboard

Action Input

Capture: Entire Screen

Save Screen Shot to: File

Image File: c:\Windows

Image Format: Bmp

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Capture:

Choose an area to capture.

Save Screen Shot to:

Choose the location to save Screen Shot to.

Image File:

Set the full path of the file name where image capture will be saved.

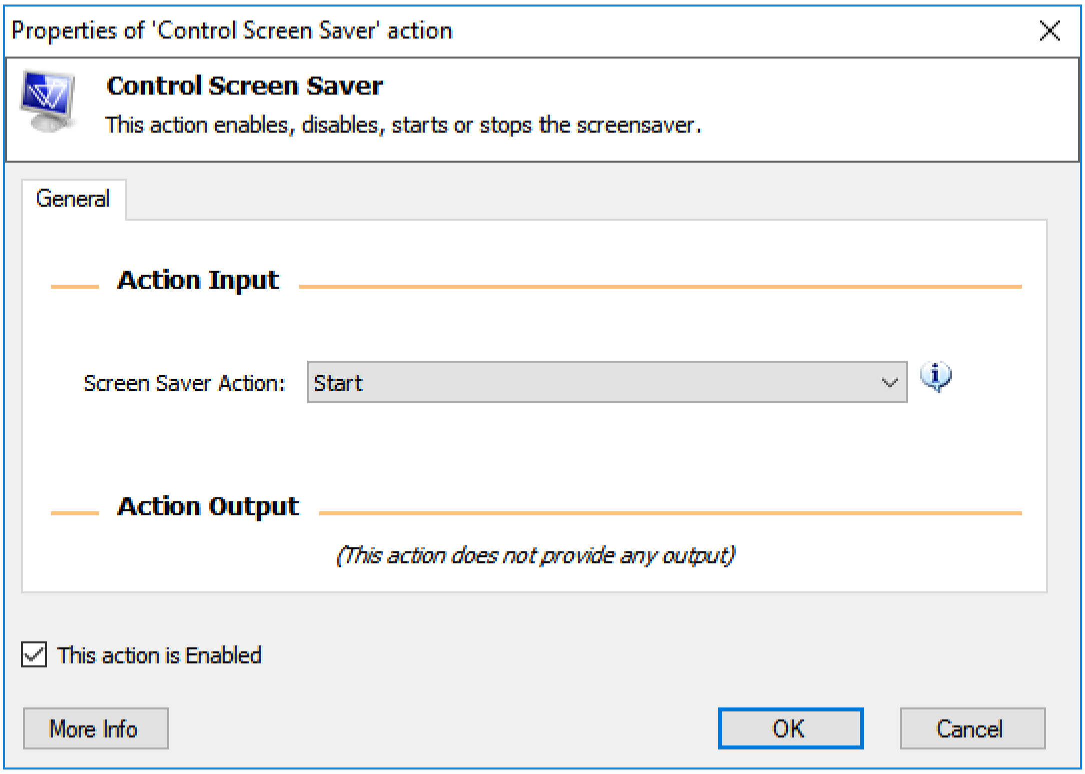
Image Format:

Set the format for the image file to be saved.

5.1.17 Control Screen Saver Action

Description:

This action enables, disables, starts or stops the screensaver.



Properties of 'Control Screen Saver' action

Control Screen Saver

This action enables, disables, starts or stops the screensaver.

General

Action Input

Screen Saver Action: Start

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

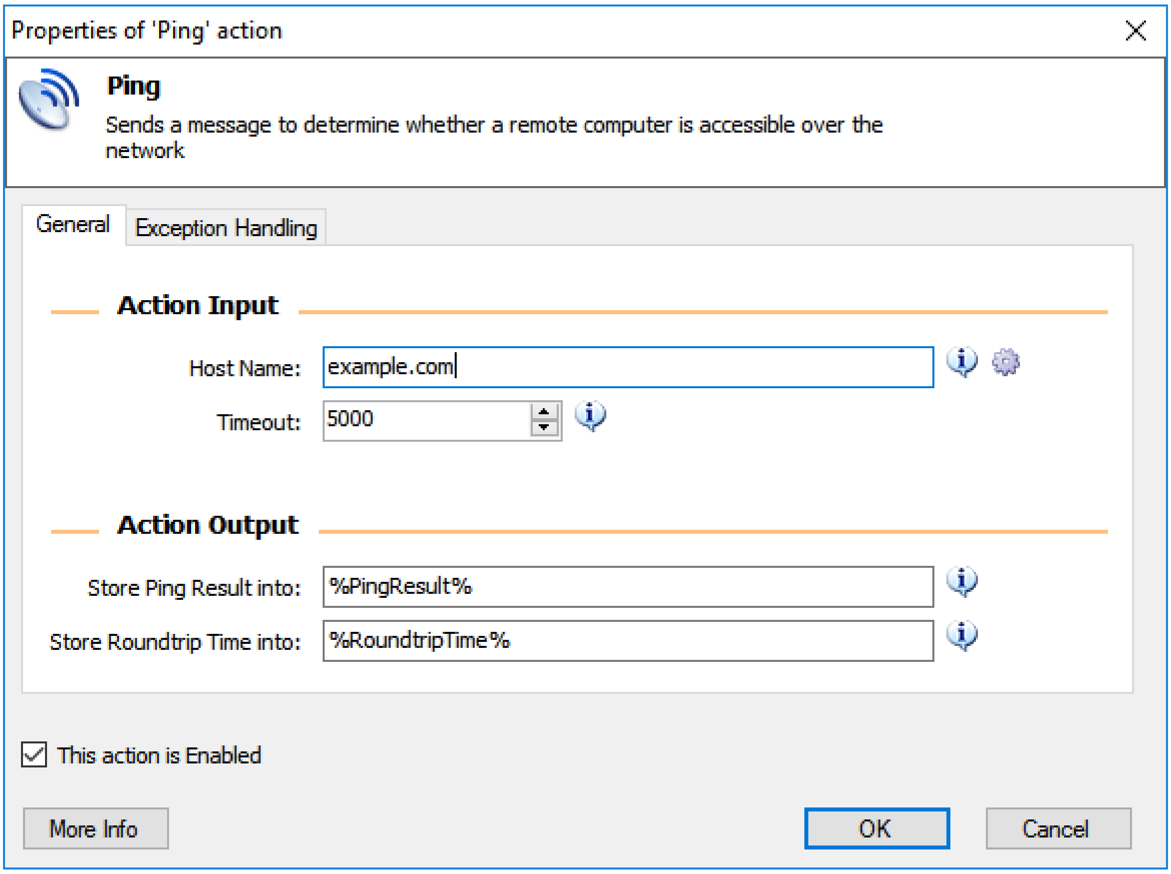
Screen Saver Action:

Sets the function of the screensaver.

5.1.18 Ping Action

Description:

Sends a message to determine whether a remote computer is accessible over the network.



Properties of 'Ping' action

Ping

Sends a message to determine whether a remote computer is accessible over the network

Action Input

Host Name: example.com

Timeout: 5000

Action Output

Store Ping Result into: %PingResult%

Store Roundtrip Time into: %RoundtripTime%

☑ This action is Enabled

Properties:

Host Name:

Enter the name of the remote computer or an IP address.

Timeout:

Enter the maximum number of milliseconds (after sending the echo message) to wait for the Ping reply message.

Store Ping Result into:

Enter the name of the variable that will hold the status of the Ping message. The value can be either "Success" or "Failure".

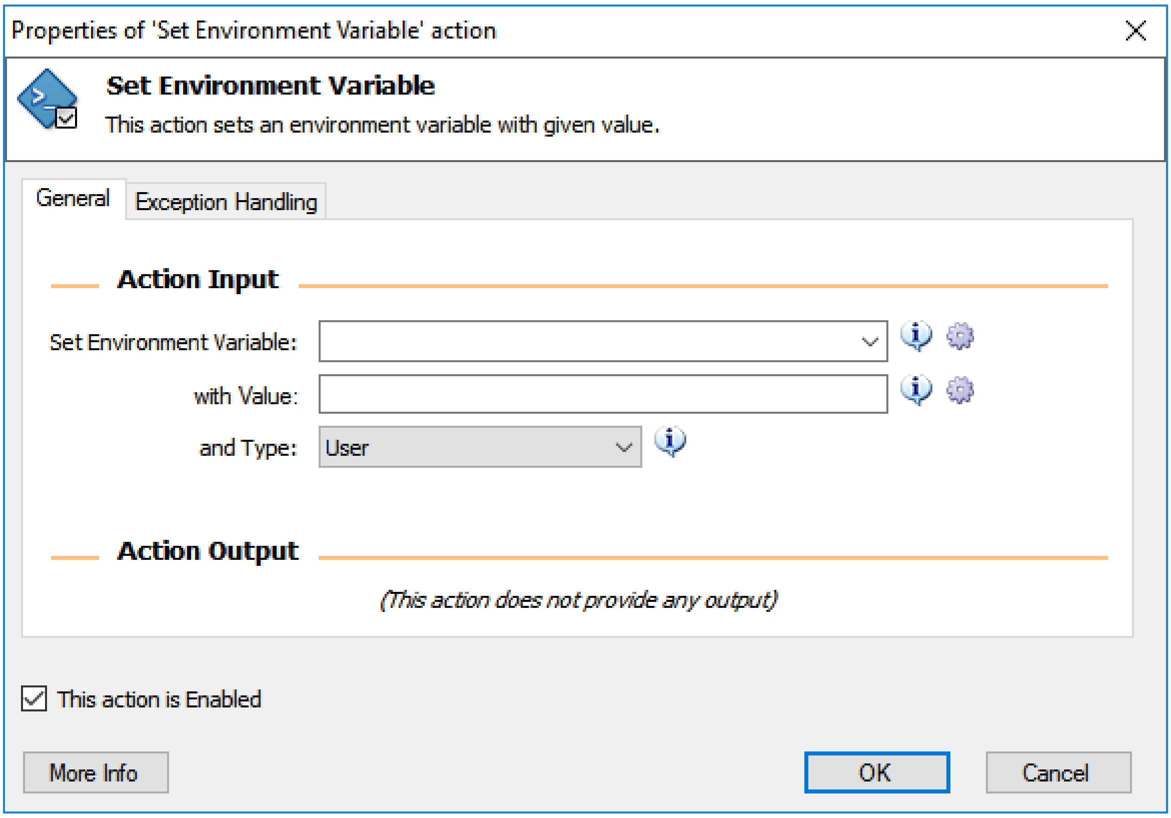
Store Roundtrip Time into:

Enter the name of the variable that will hold the number of milliseconds taken for the Ping to complete.

5.1.19 Set Environmental Variable Action

Description:

This action sets an environment variable with a given value.



Properties of 'Set Environment Variable' action

Set Environment Variable

This action sets an environment variable with given value.

Set Environment Variable:

with Value:

and Type: User

(This action does not provide any output)

☑ This action is Enabled

Properties:

Set Environmental Variable:

Enter the name of the Environmental Variable that you want to set. Variable cannot be greater than or equal to 255 characters

With value:

Enter the value that will be stored in the Environmental Variable

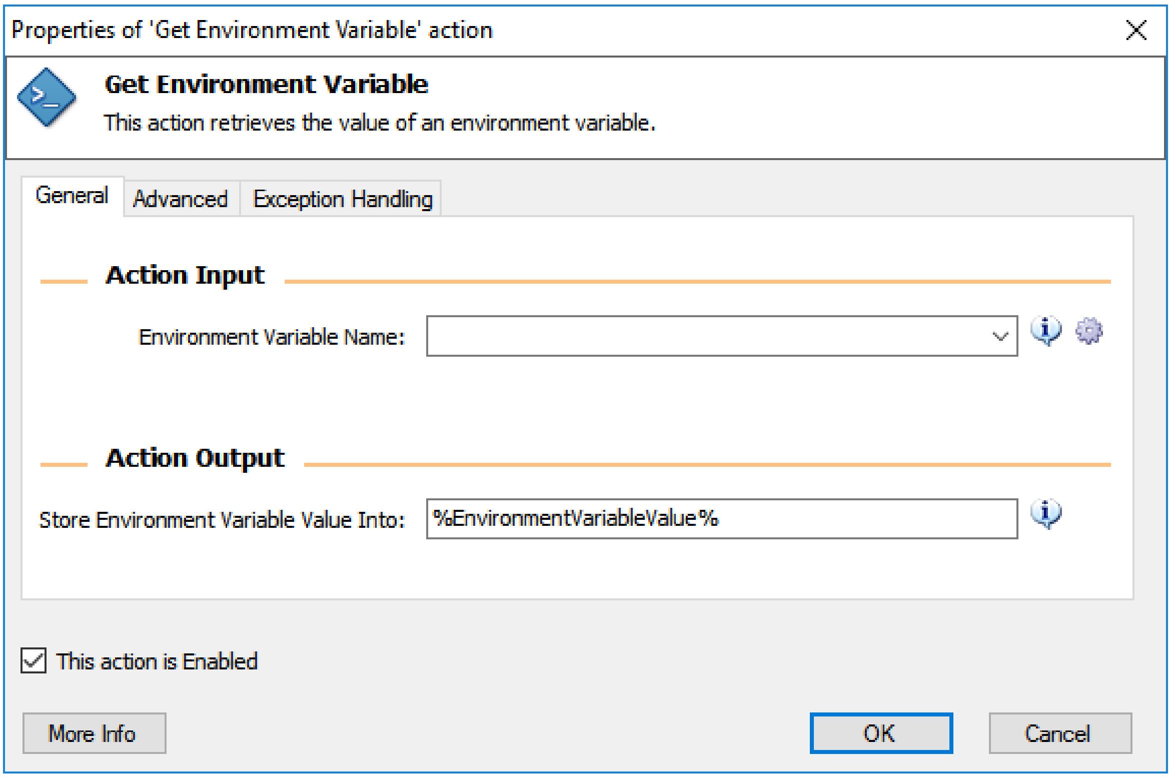
and Type:

Select the type of the Environmental Variable that will be saved in.

5.1.20 Get Environmental Variable Action

Description:

This action retrieves the value of an environmental variable



Properties of 'Get Environment Variable' action

Get Environment Variable

This action retrieves the value of an environment variable.

Action Input

Environment Variable Name:

Action Output

Store Environment Variable Value Into: %EnvironmentVariableValue%

☑ This action is Enabled

Properties:

Environmental Variable Name:

Enter the name of the Environmental Variable that you wish to retrieve its value

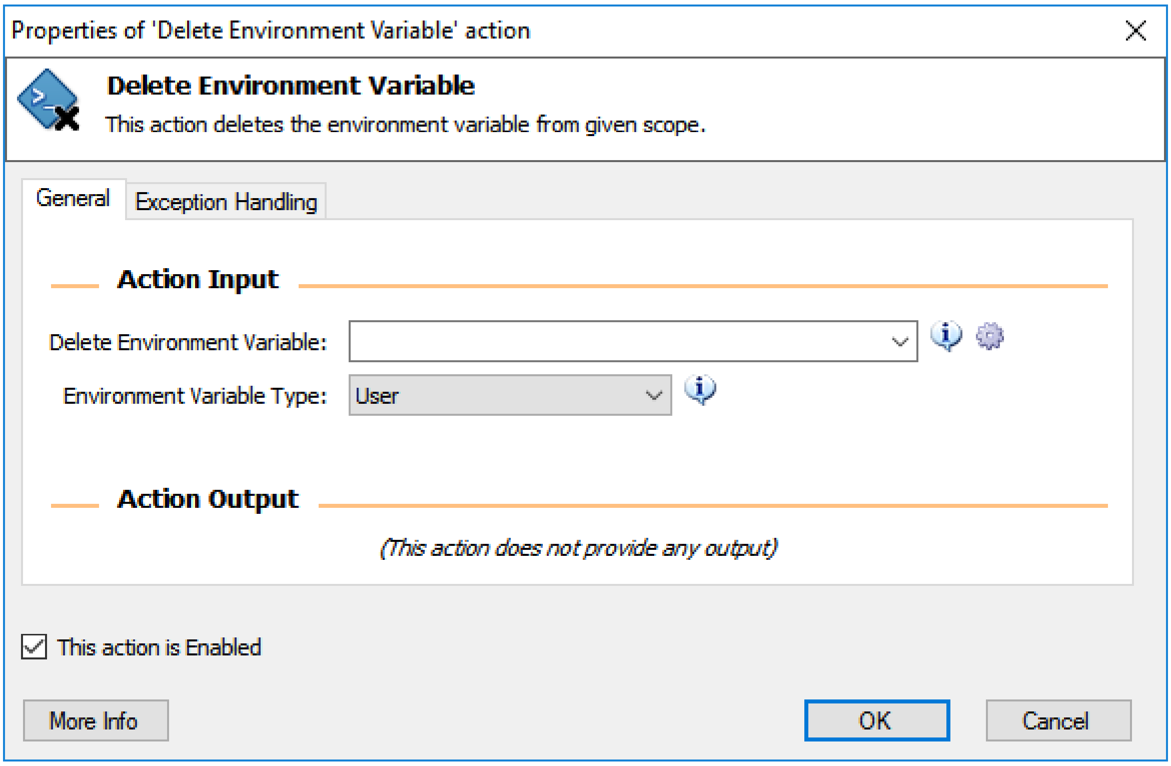
Store Environmental Variable Value Into:

Enter a name to be the variable that will hold the environmental variable's value

5.1.21 Delete Environmental Variable Action

Description:

This action deletes the environment variable from a given scope.



Properties of 'Delete Environment Variable' action

Delete Environment Variable

This action deletes the environment variable from given scope.

Delete Environment Variable:

Environment Variable Type: User

(This action does not provide any output)

☑ This action is Enabled

Properties:

Delete Environmental Variable:

Enter the name of the Environmental Variable that you want to delete. Variable cannot be greater than or equal to 255 characters.

Environmental Variable Type:

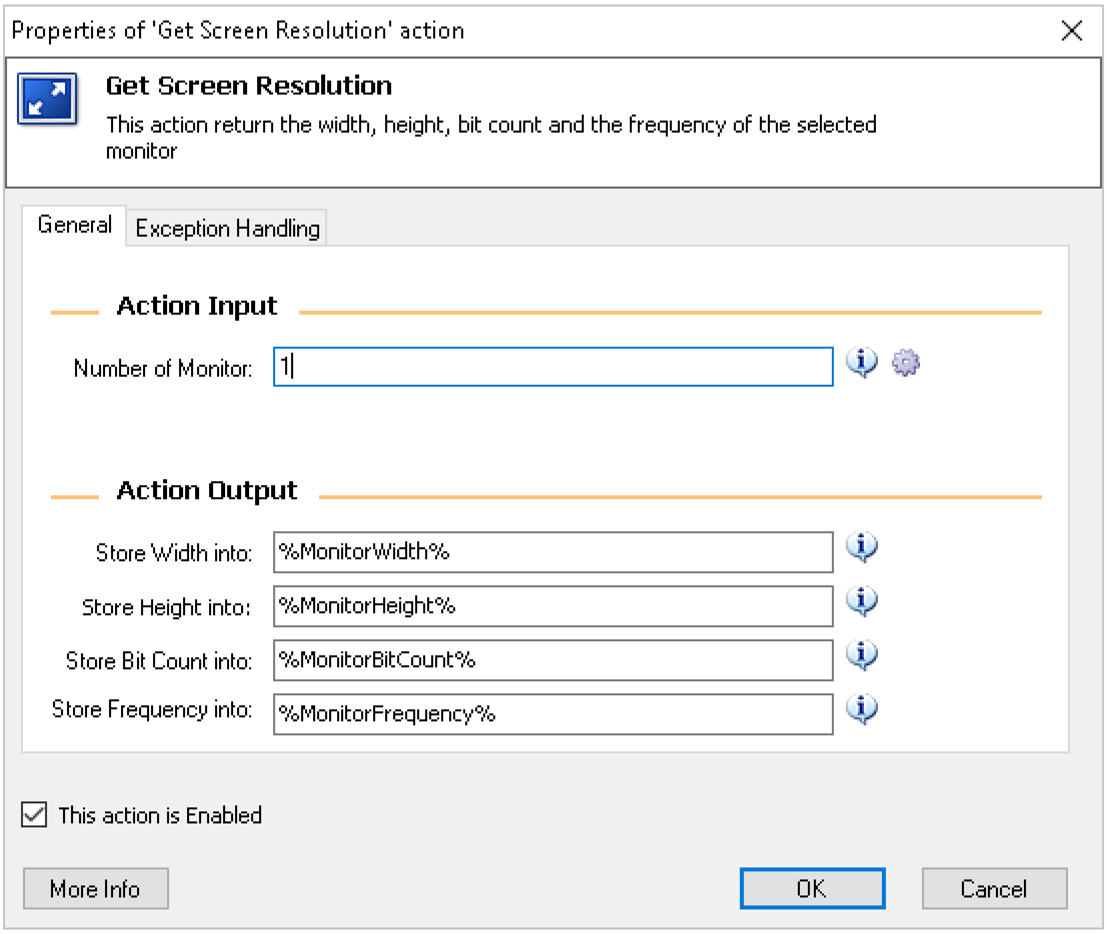
Select the type of the Environmental Variable that will be deleted.

5.1.22 Get Screen Resolution Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Description:

This action returns the width, height, bit count and the frequency of the selected monitor



Properties of 'Get Screen Resolution' action

Get Screen Resolution

This action return the width, height, bit count and the frequency of the selected monitor

Action Input

Number of Monitor: 1

Action Output

Store Width into: %MonitorWidth%

Store Height into: %MonitorHeight%

Store Bit Count into: %MonitorBitCount%

Store Frequency into: %MonitorFrequency%

☑ This action is Enabled

Properties:

Number of Monitor:

Enter the identification number of the monitor you want to get the resolution of.

Store Width into:

Enter the name of the variable that will hold the Width of the monitor value.

Store Height into:

Enter the name of the variable that will hold the Height of the monitor value.

Store Bit Count into:

Enter the name of the variable that will hold the Bit Count of the monitor value.

Store Frequency into:

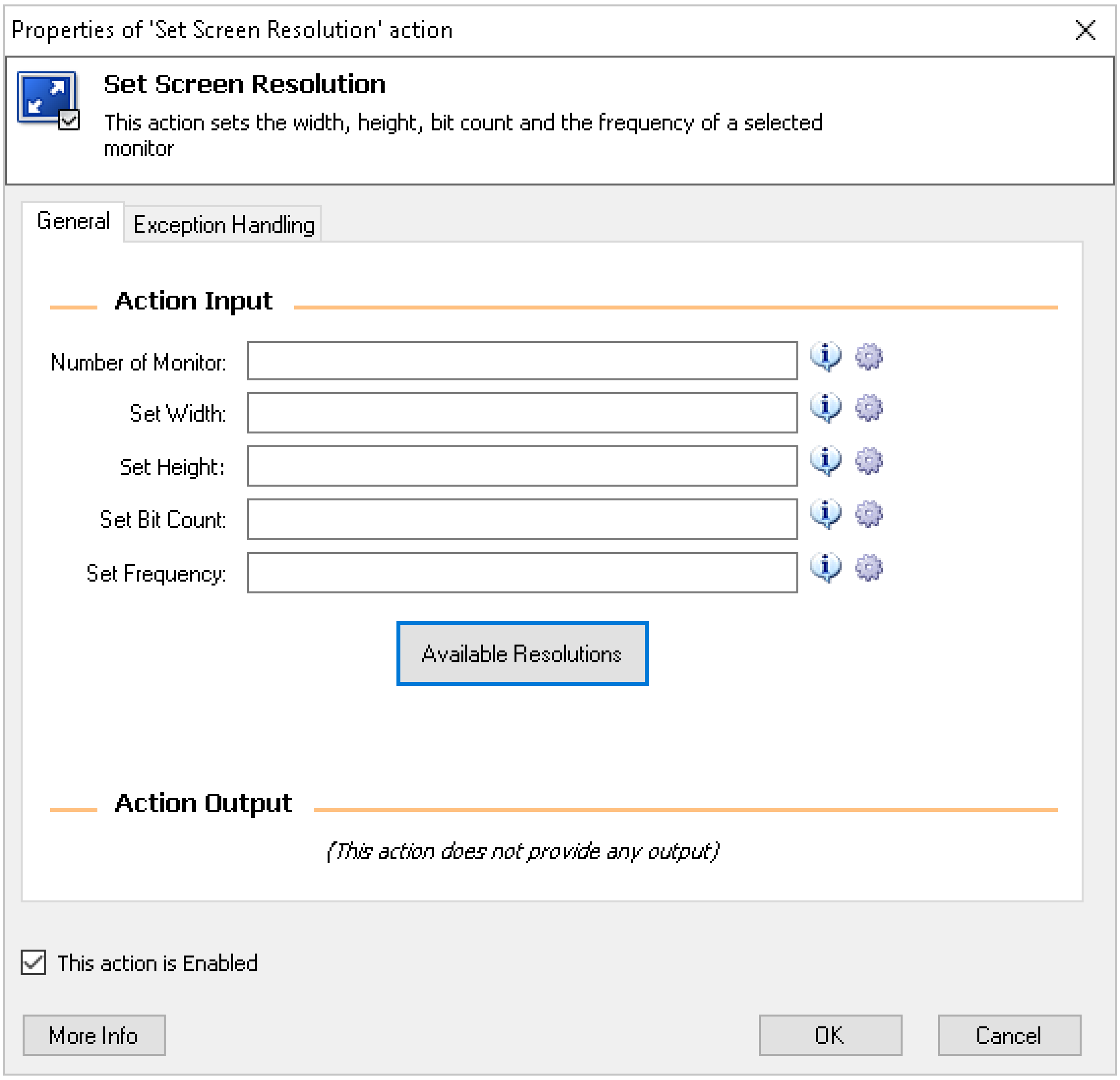
Enter the name of the variable that will hold the Frequency of the monitor value.

5.1.23 Set Screen Resolution Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Description:

This action returns the width, height, bit count and the frequency of the selected monitor



Properties of 'Set Screen Resolution' action

Set Screen Resolution

This action sets the width, height, bit count and the frequency of a selected monitor

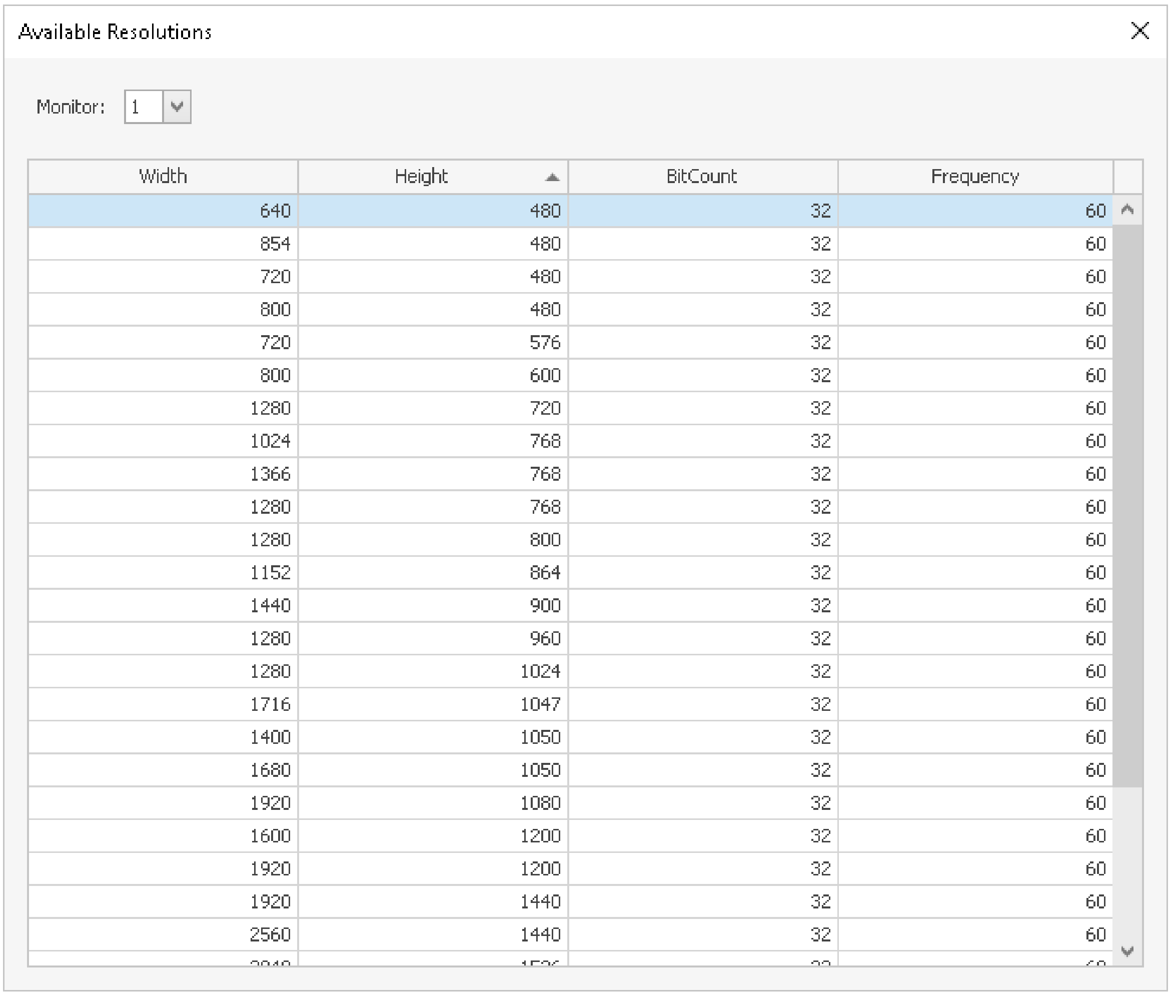
Action Input

Number of Monitor:	
Set Width:	
Set Height:	
Set Bit Count:	
Set Frequency:	

Action Output

(This action does not provide any output)

☑ This action is Enabled



Available Resolutions

Monitor: 1

Width	Height	BitCount	Frequency
640	480	32	60
854	480	32	60
720	480	32	60
800	480	32	60
720	576	32	60
800	600	32	60
1280	720	32	60
1024	768	32	60
1366	768	32	60
1280	768	32	60
1280	800	32	60
1152	864	32	60
1440	900	32	60
1280	960	32	60
1280	1024	32	60
1716	1047	32	60
1400	1050	32	60
1680	1050	32	60
1920	1080	32	60
1600	1200	32	60
1920	1200	32	60
1920	1440	32	60
2560	1440	32	60

Properties:

Number of Monitor:

Enter the identification number of the monitor you want to set the resolution to.

Set Width:

Enter the Width value to be set to the monitor.

Set Height:

Enter the Height value to be set to the monitor.

Set Bit Count:

Enter the Bit Count value to be set to the monitor.

Set Frequency:

Enter the Frequency value to be set to the monitor.

"Available Resolutions" button:

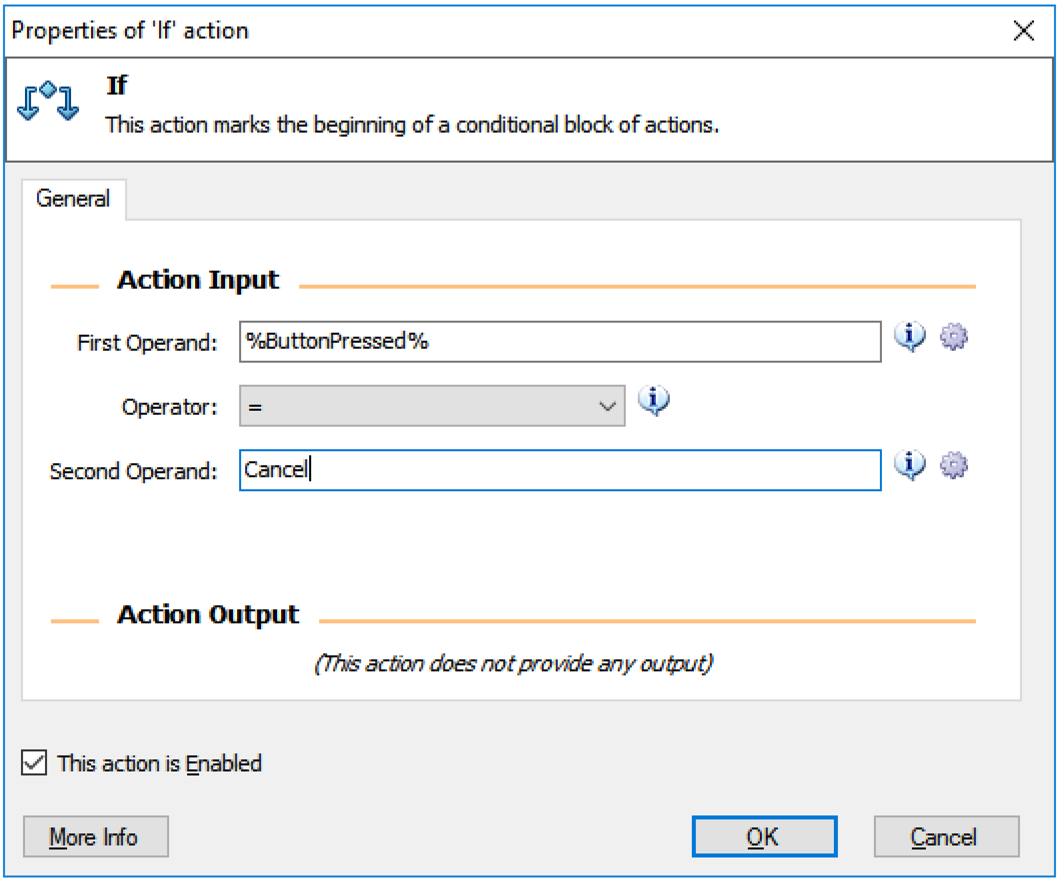
To select one of the predefined available resolutions please click on the "Available Resolutions" Button.

5.2 Conditionals

5.2.1 If Action

Description:

This action marks the beginning of a conditional block of actions.



Properties of 'If' action

If

This action marks the beginning of a conditional block of actions.

Action Input

First Operand: %ButtonPressed%

Operator: =

Second Operand: Cancel

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

First Operand:

Enter a variable output defined by a previous action, or a literal value such as a text or a number to compare with the second Operand.

Operator:

Choose the relationship of first Operand to second Operand.

Ignore Case:

If the comparison is between two text values or variables, this option will specify whether any difference in case between the two operands will be taken into account. This property is available only if the selected operator is any of the following: "Starts with", "Does not start with", "Contains", "Does not contain", "Ends with" or "Does not end with".

Second Operand:

Enter a variable output defined by a previous action, or a literal value such as a text or a number to compare with the first Operand.

Remarks:

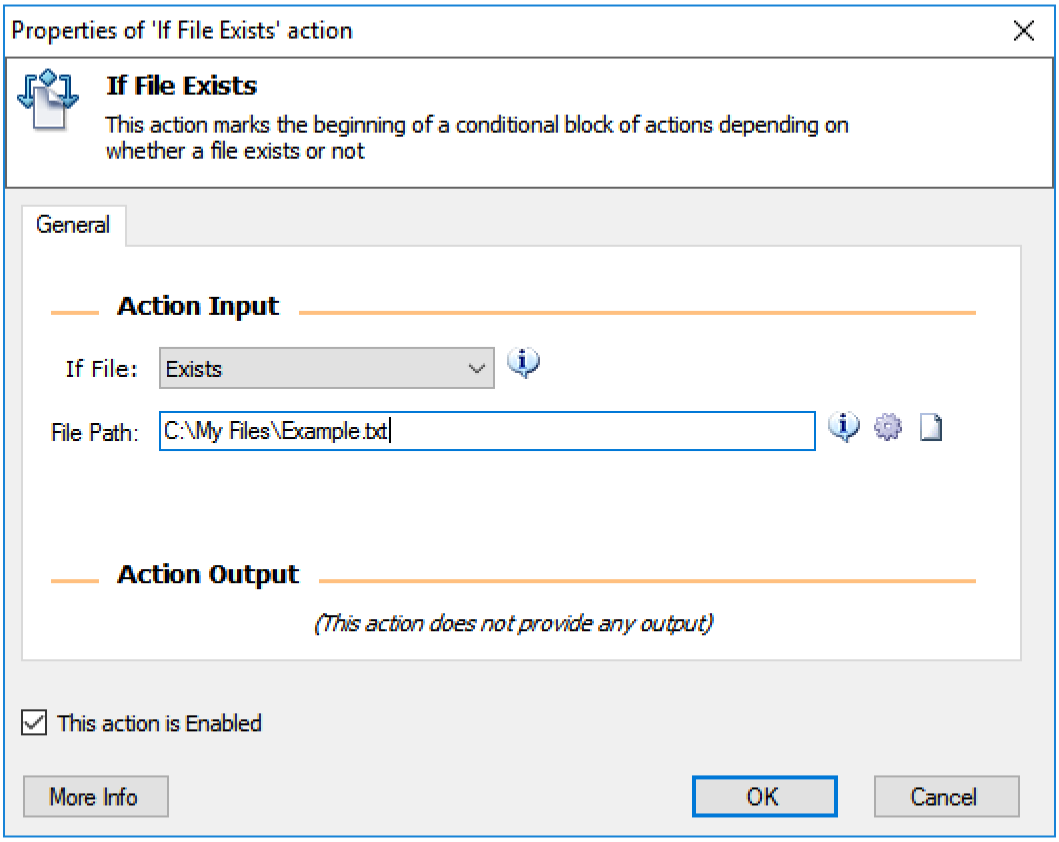
The operators "Is Empty" and "Is not Empty" have a special meaning depending on the data type of the first operand. For example, if the first operand is a variable that holds a text value, "Is Empty" is true if the text value is equal to the empty string. If the operand is a variable that holds a list then "Is Empty" is true if the list contains no items.

If the first operand is a value that holds a file (e.g. could be a variable populated by a "Get Files in Folder" action) then "Is Empty" is true only if the file is an empty file (its size equals to 0 bytes). Accordingly, if instead of a file is a folder variable "Is Empty" will be true if the folder does not contain any files or subfolders.

5.2.2 If File Exists Action

Description:

This action marks the beginning of a conditional block of actions depending on whether a file exists or not


Properties of 'If File Exists' action

If File Exists

This action marks the beginning of a conditional block of actions depending on whether a file exists or not

Action Input

If File: Exists

File Path: C:\My Files\Example.txt

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

If File:

Choose state of file to be checked.

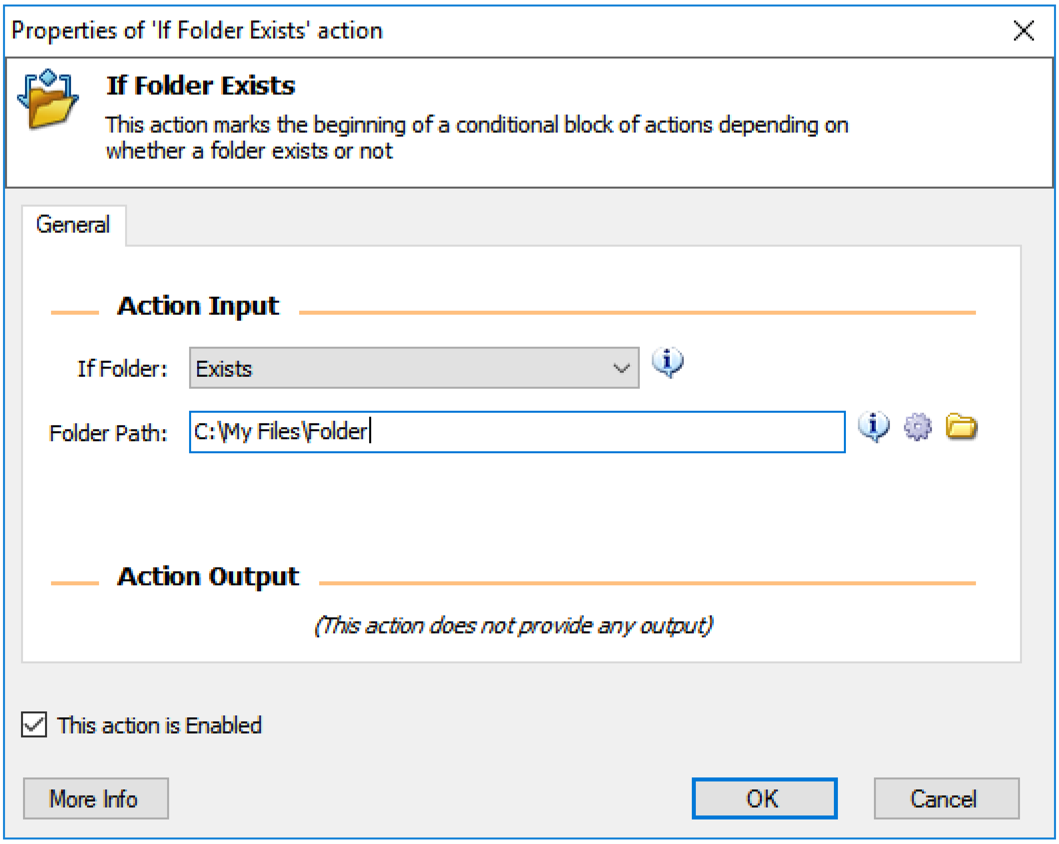
File Path:

Set the full path where action will look for the file to be checked.

5.2.3 If Folder Exists Action

Description:

This action marks the beginning of a conditional block of actions depending on whether a folder exists or not



Properties of 'If Folder Exists' action

If Folder Exists

This action marks the beginning of a conditional block of actions depending on whether a folder exists or not

Action Input

If Folder: Exists

Folder Path: C:\My Files\Folder

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

If Folder:

Choose state of folder to be checked.

Folder Path:

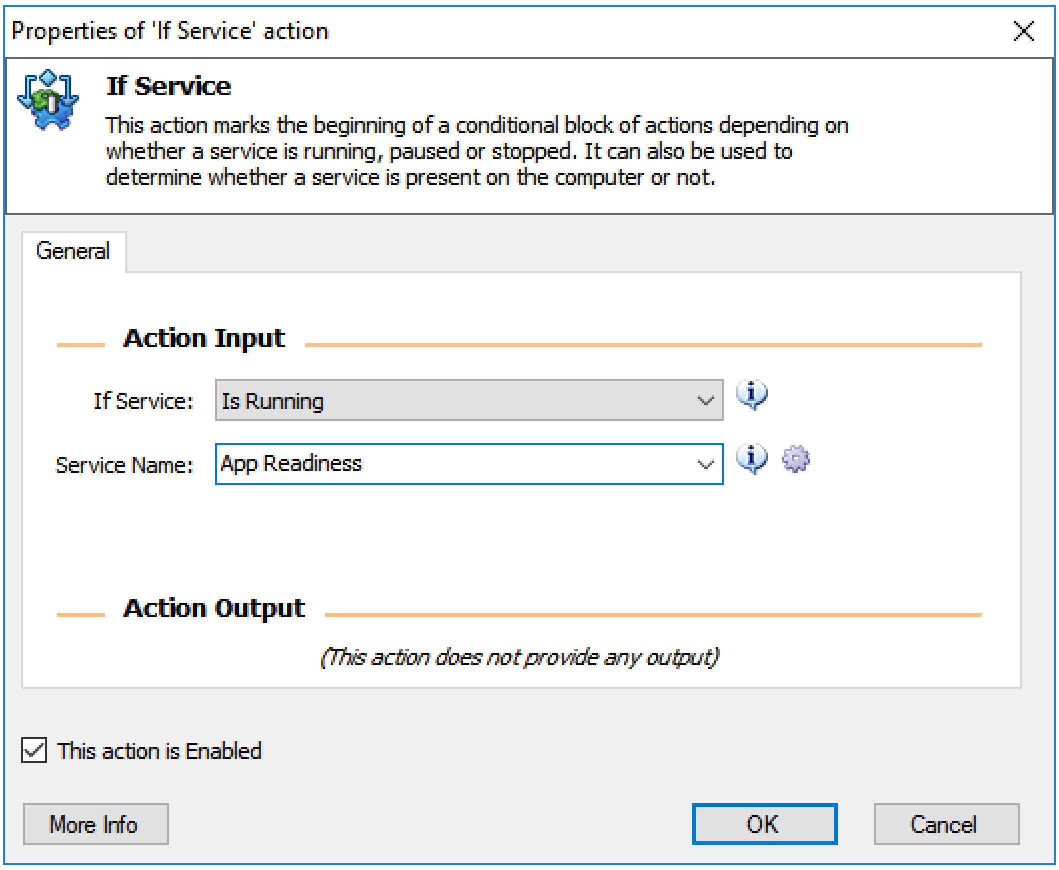
Set the full path where action will look for the folder to be checked.

5.2.4 If Service Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Description:

This action marks the beginning of a conditional block of actions depending on whether a service is running, paused or stopped. It can also be used to determine whether a service is present on the computer or not.



Properties of 'If Service' action

If Service

This action marks the beginning of a conditional block of actions depending on whether a service is running, paused or stopped. It can also be used to determine whether a service is present on the computer or not.

General

Action Input

If Service: Is Running

Service Name: App Readiness

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

If Service:

Choose state of service to be checked. You can check whether the specified service is running, paused or stopped as well as whether it is installed or not.

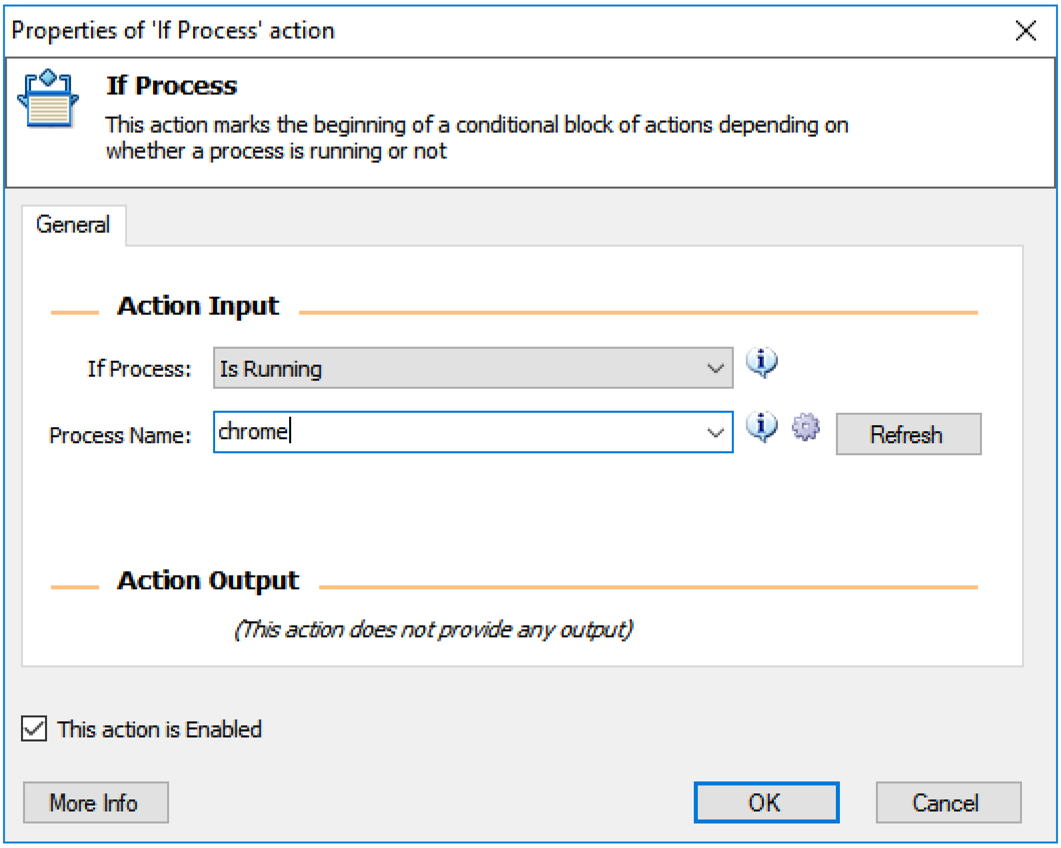
Service Name:

Choose a specific service installed on your computer to be checked.

5.2.5 If Process Action

Description:

This action marks the beginning of a conditional block of actions depending on whether a process is running or not



Properties of 'If Process' action

If Process

This action marks the beginning of a conditional block of actions depending on whether a process is running or not

General

Action Input

If Process: Is Running

Process Name: chrome

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

If Process:

Choose state of process to be checked.

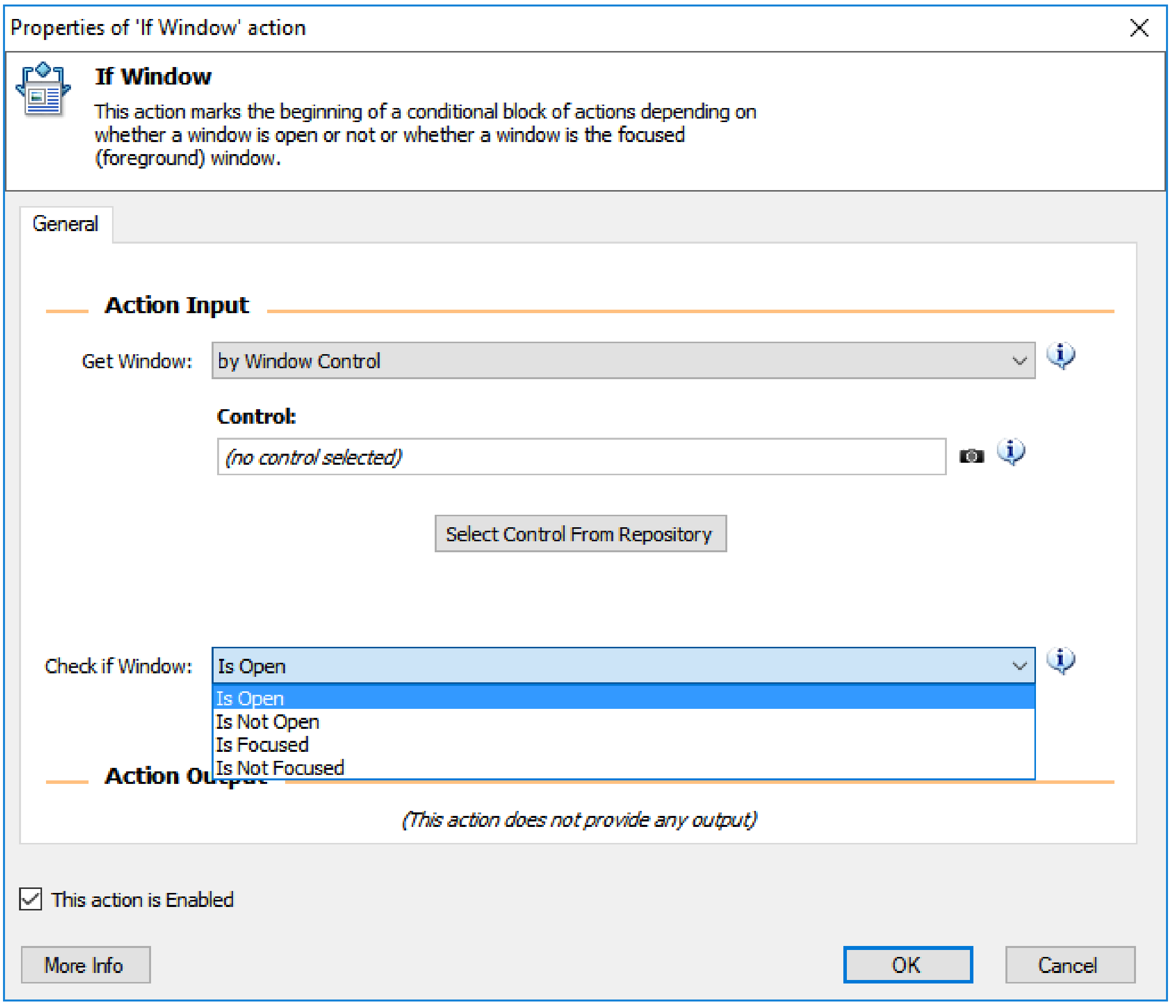
Process Name:

Choose a specific process to be checked.

5.2.6 If Window Action

Description:

This action marks the beginning of a conditional block of actions depending on whether a window is open or not or whether a window is the focused (foreground) window.



Properties of 'If Window' action

If Window

This action marks the beginning of a conditional block of actions depending on whether a window is open or not or whether a window is the focused (foreground) window.

General

Action Input

Get Window: by Window Control

Control: *(no control selected)*

Select Control From Repository

Check if Window: Is Open

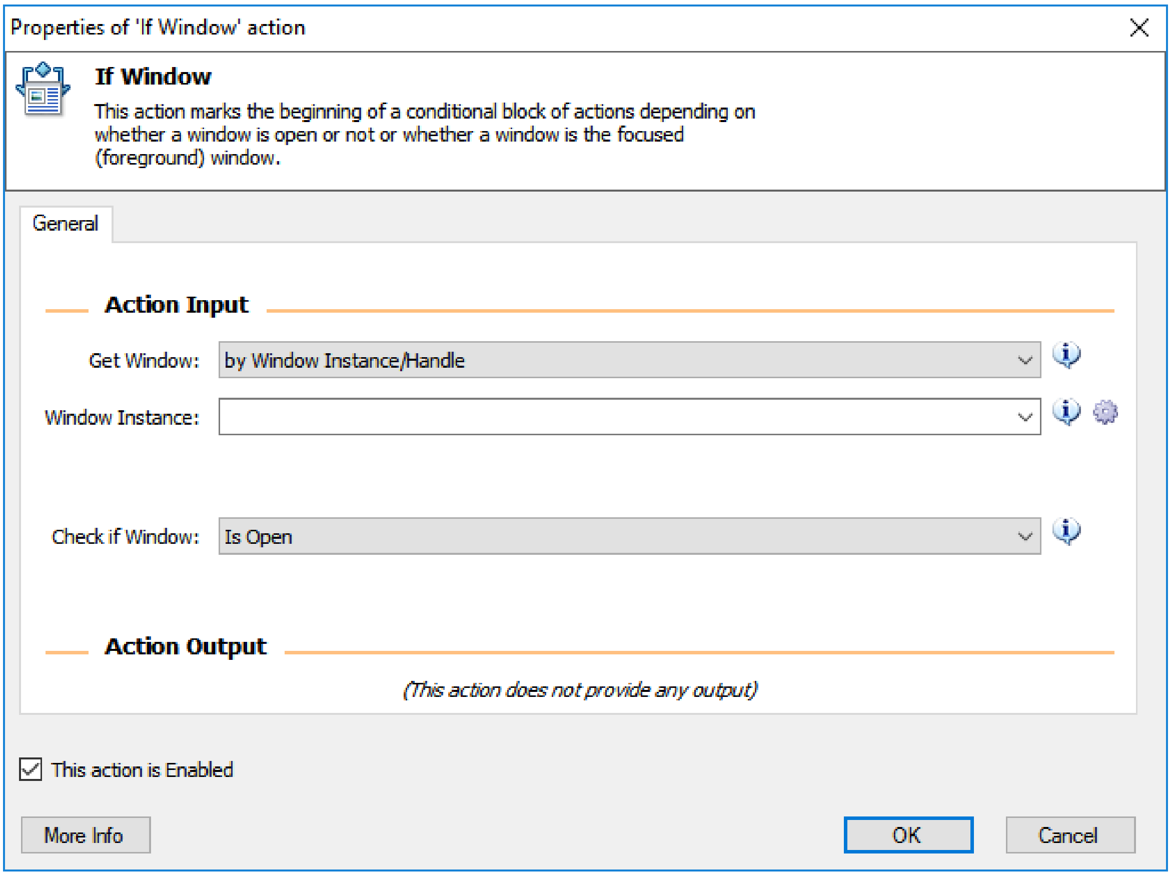
- Is Open
- Is Not Open
- Is Focused
- Is Not Focused

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Control



Properties of 'If Window' action

If Window

This action marks the beginning of a conditional block of actions depending on whether a window is open or not or whether a window is the focused (foreground) window.

Action Input

Get Window: by Window Instance/Handle

Window Instance:

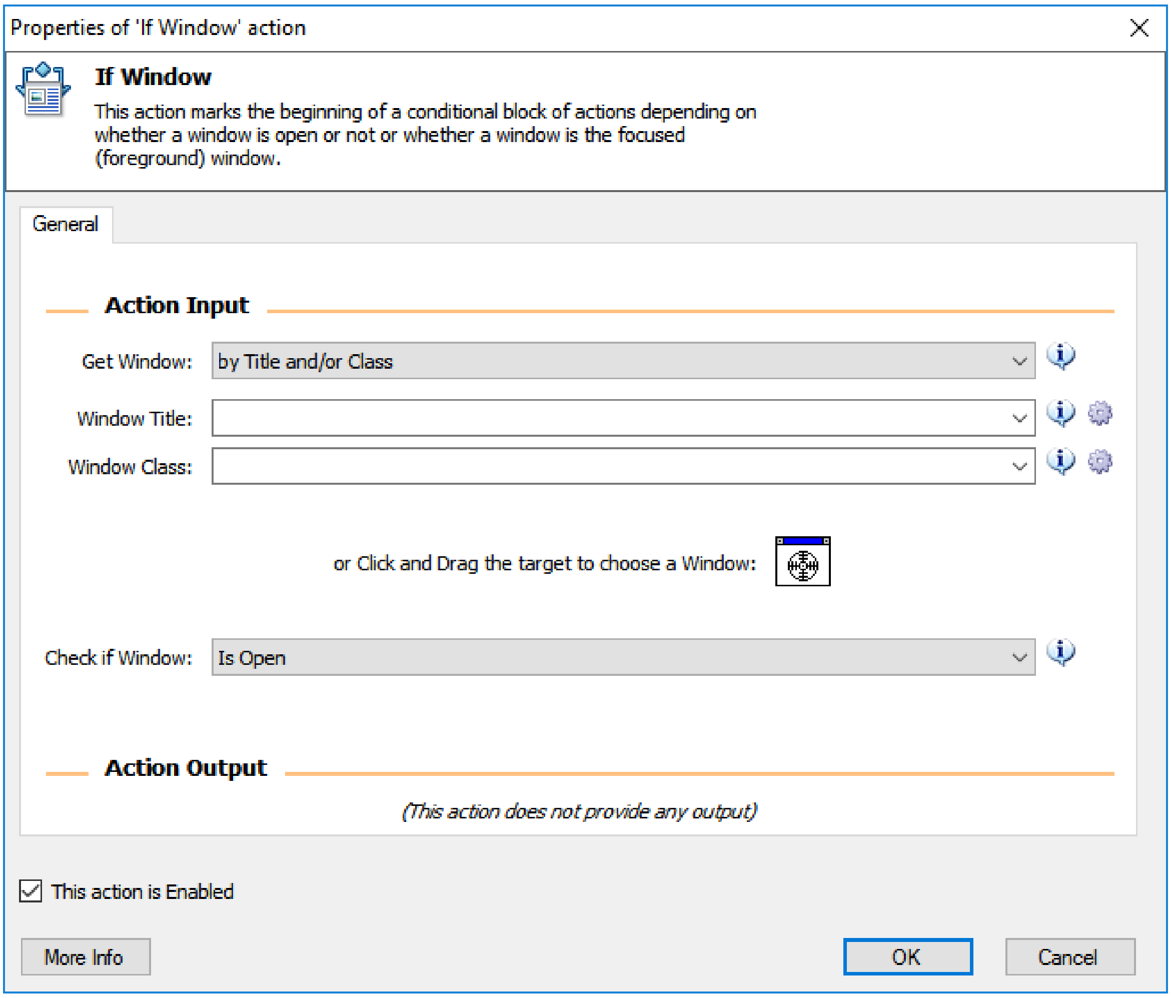
Check if Window: Is Open

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Instance/Handle



Properties of 'If Window' action

If Window

This action marks the beginning of a conditional block of actions depending on whether a window is open or not or whether a window is the focused (foreground) window.

Action Input

Get Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

Check if Window: Is Open

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Title and/or Class

Properties:

Get Window:

Choose whether the action gets the target window from a "Window Instance" variable, or searches for it by Title and/or Class.

Window Instance:

Enter the variable that contains the Window Instance which you want to bring to front. This must be a variable defined by a preceding "Get Window 517" action or a valid Window Handle.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

Window Class:

Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank.

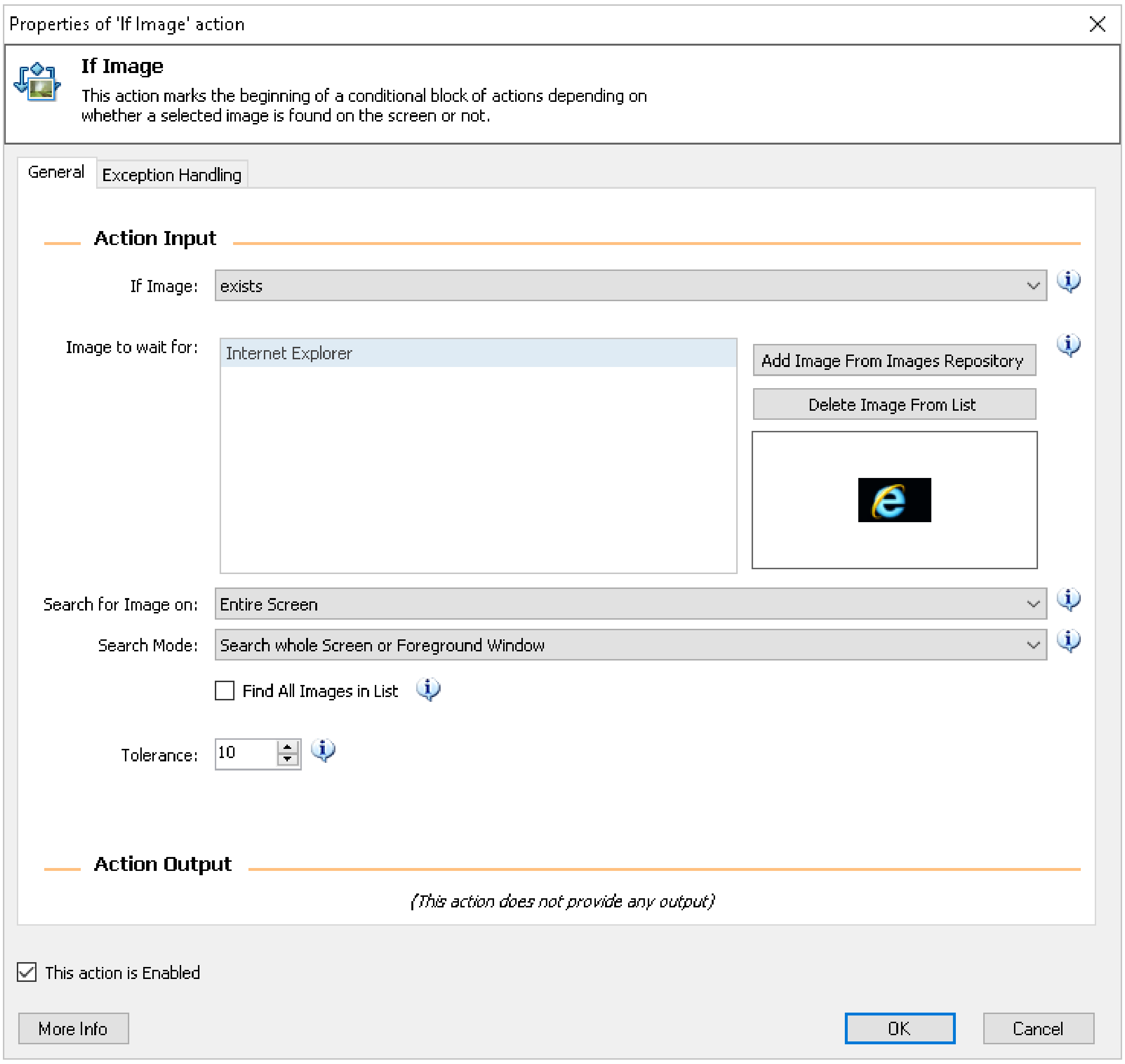
Check if Window:

The state of window to be checked. Choose between: Open, Not Open, Focused, Not Focused.

5.2.7 If Image Action

Description:

This action marks the beginning of a conditional block of actions depending on whether a selected image is found on the screen or not.



Properties of 'If Image' action

If Image

This action marks the beginning of a conditional block of actions depending on whether a selected image is found on the screen or not.

If Image: exists

Image to wait for: Internet Explorer

Search for Image on: Entire Screen

Search Mode: Search whole Screen or Foreground Window

□ Find All Images in List

Tolerance: 10

(This action does not provide any output)

☑ This action is Enabled

Properties:

If Image:

Choose whether you want to check for the existence or absence of the selected image.

Image to wait for:

Select the Image(s) that the action check if it exists or not by clicking Add Image from Repository. Click Delete Image to remove an image from the list.

Search for Image on:

Choose whether you want to search for the specified Image in the foreground Window only, or the entire visible screen. Neither choice will find the Image if it is not clearly visible on the screen.

Find All Images in List:

Choose whether you want to search if all image(s) on the list exist or does/do not exist, or just one of them.

Search Mode:

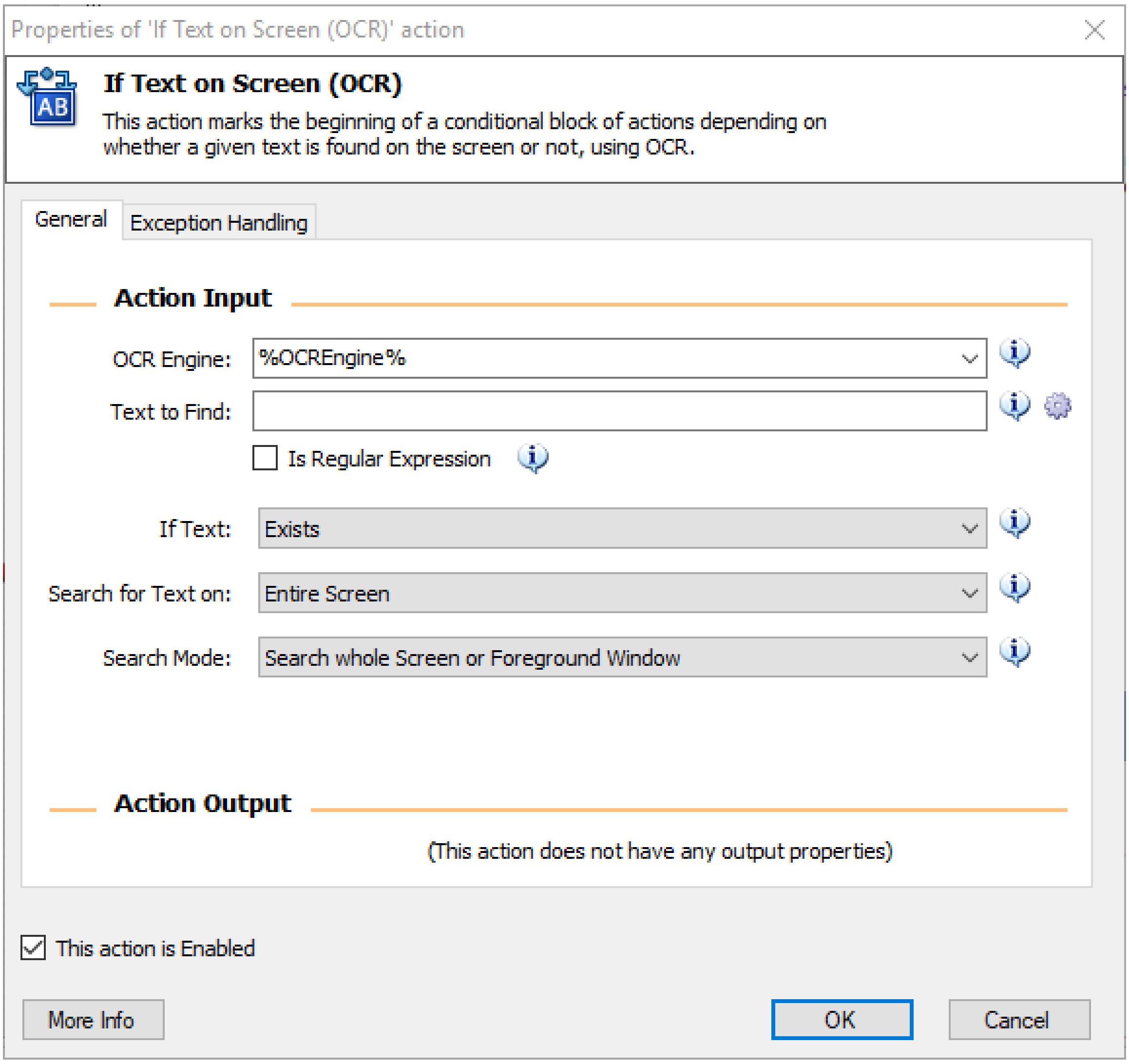
Specify whether you want to scan the entire screen (or window) to find the supplied image or only a narrowed down subregion of it.

Tolerance:

Specify a value for how much the Image searched for can differ from the originally chosen Image.

5.2.8 If Text on Screen (OCR)

This action marks the beginning of a conditional block of actions depending on whether a given text is found on the screen or not, using an OCR Engine of your choice. The action allows you to search for text on the Entire Screen or the Foreground Window as also to limit your search on a subregion of your working area.



Properties of 'If Text on Screen (OCR)' action

If Text on Screen (OCR)

This action marks the beginning of a conditional block of actions depending on whether a given text is found on the screen or not, using OCR.

Action Input

OCR Engine: %OCREngine%

Text to Find:

□ Is Regular Expression

If Text: Exists

Search for Text on: Entire Screen

Search Mode: Search whole Screen or Foreground Window

Action Output

(This action does not have any output properties)

☑ This action is Enabled

OCR Engine:

This text field with drop down menu options invites you to enter *or choose* the instance of the OCR Engine 737 you want to work with.

Text to Find:

This text field allows you to enter the text you want the OCR Engine to search for as text or as a Variable.

Is Regular Expression:

Check this check box if you want to use a Regular Expression to find the text on screen. A Regular Expression creates a range of possibilities and can return a number of results that match your search. The order that the Engine is adding these matches is from top to bottom, left to right as it finds them on the given source to analyze!

If Text:

Select if you want the action to check if the text exists or not on the given source to analyze.

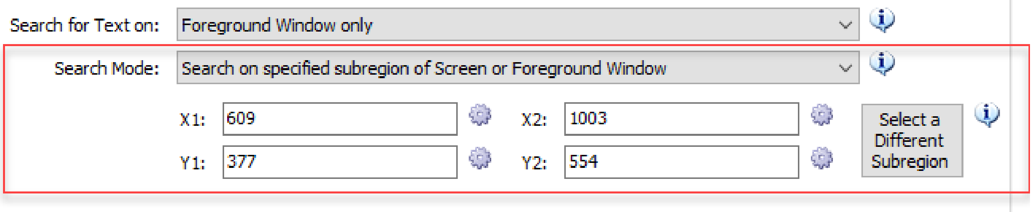
Search for Text on:

Two options on this drop down menu, *Entire Screen* or *Foreground Window only*.

Search Mode:

While the first option of this drop down menu is pretty straightforward (Search Whole Screen or Foreground Window) the other two options that allow you to target a specific subregion of your window or screen produce a whole different set of additional Properties which will see in detail here:

-Search on specified subregion of Screen or Foreground window:



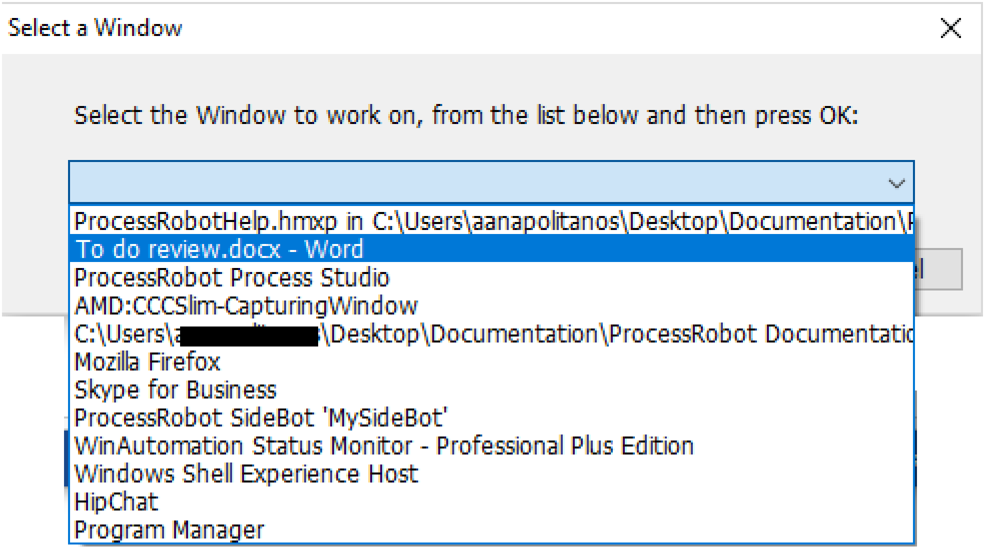
Search for Text on: Foreground Window only

Search Mode: Search on specified subregion of Screen or Foreground Window

X1: 609 X2: 1003

Y1: 377 Y2: 554

By clicking the "Select a Different Subregion" button on the right of the red box, you will be prompted to select firstly the window you want to work:



Select a Window

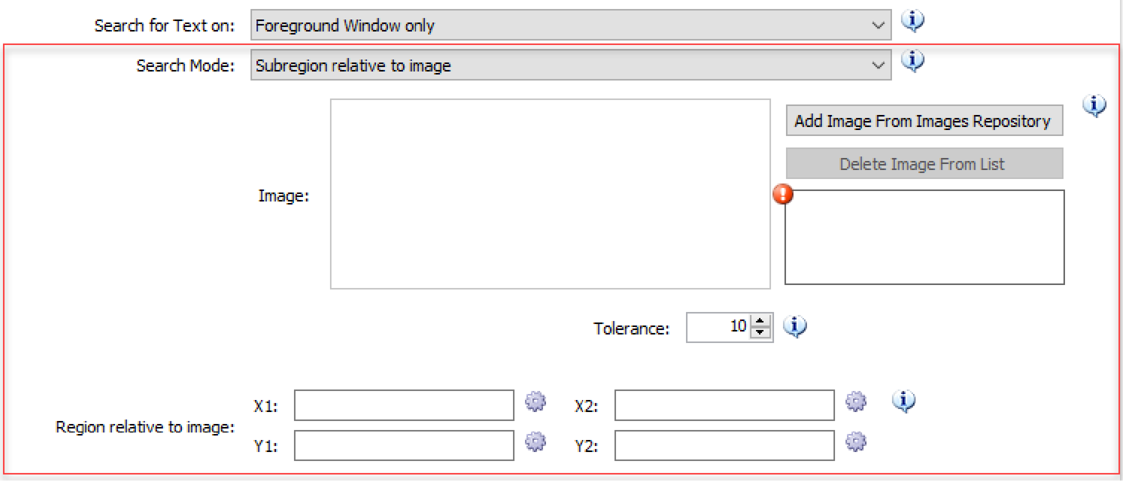
Select the Window to work on, from the list below and then press OK:

ProcessRobotHelp.hmxp in C:\Users\aanapolitanos\Desktop\Documentation\
To do review.docx - Word
ProcessRobot Process Studio
AMD:CCCSlim-CapturingWindow
C:\Users\[redacted]\Desktop\Documentation\ProcessRobot Documentati
Mozilla Firefox
Skype for Business
ProcessRobot SideBot 'MySideBot'
WinAutomation Status Monitor - Professional Plus Edition
Windows Shell Experience Host
HipChat
Program Manager

and then you will be given the opportunity through an amazing interactive feature to actually select the area you want to narrow down your scan (drag your mouse to select the area). The X1 X2 Y1 Y2 co-ordinates are denoting the start and finish of your dragging manoeuvre.

However, using the "Select a Different Subregion" button is not compulsory. You can enter the values of the co-ordinates by hand or as a Variable (notice the Gear Icon next to the text fields).

-Subregion relative to image:



Search for Text on: Foreground Window only

Search Mode: Subregion relative to image

Tolerance: 10

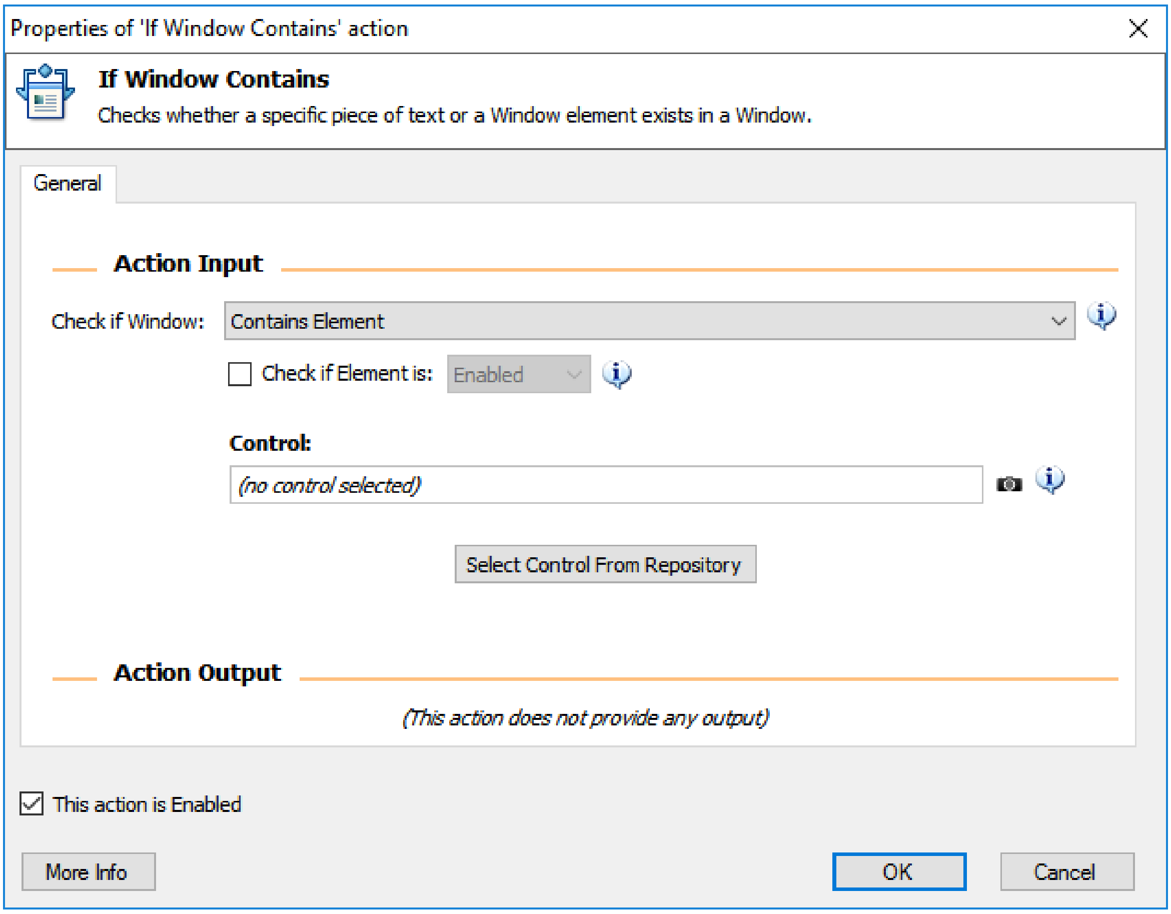
This search mode enables you to narrow down your scan through a region that is defined relative to the top-left corner of an image from the Image Repository.

5.2.9 If Window Contains Action

Description:

Checks whether a specific piece of text or a Window element exists inside a Window.

Option 1: Check for Window Element (Exists/Does not Exist)



Properties of 'If Window Contains' action

If Window Contains

Checks whether a specific piece of text or a Window element exists in a Window.

General

Action Input

Check if Window: Contains Element

☐ Check if Element is: Enabled

Control:

(no control selected)

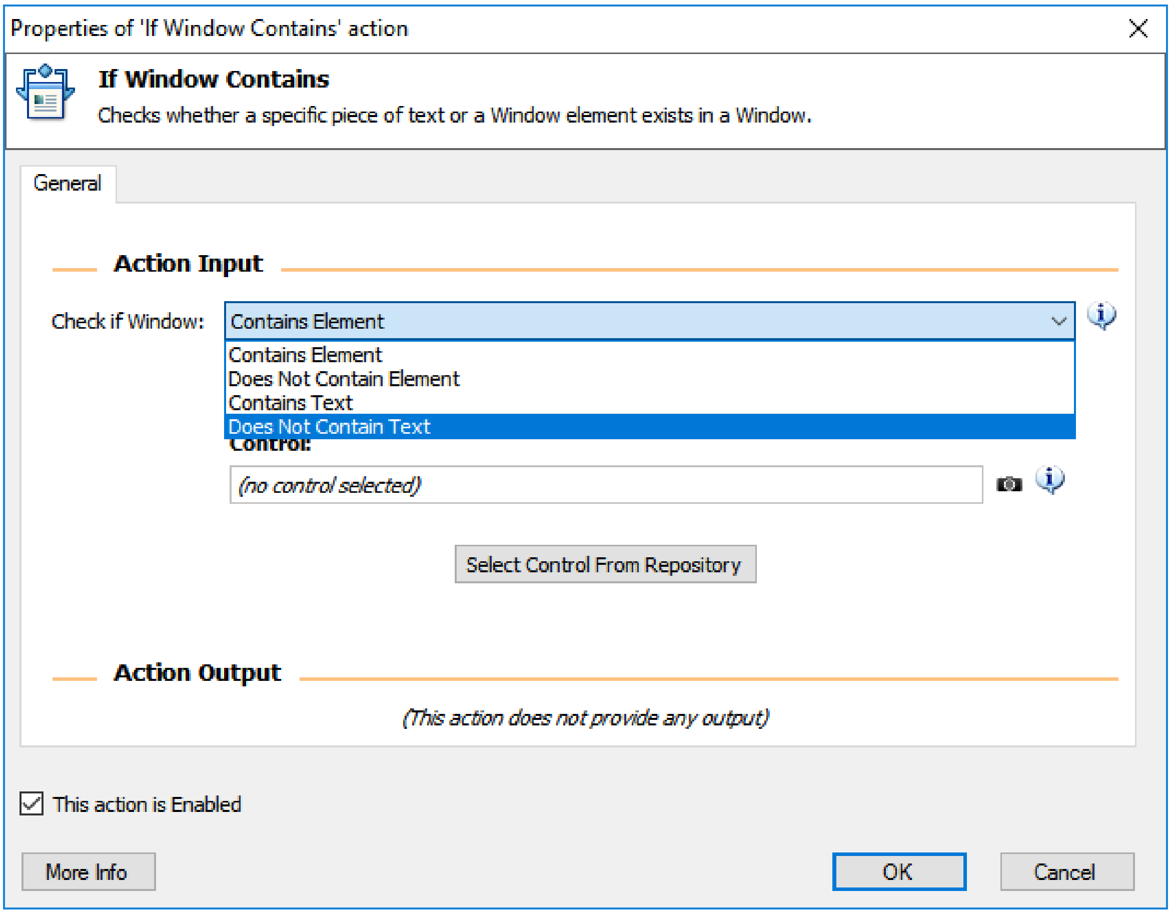
Action Output

(This action does not provide any output)

☑ This action is Enabled

You can select the window from your Control Repository or Add it in the Repository.

Option 2: Check for Text (Exists/Does not Exist)



Properties of 'If Window Contains' action

If Window Contains

Checks whether a specific piece of text or a Window element exists in a Window.

Action Input

Check if Window: Contains Element

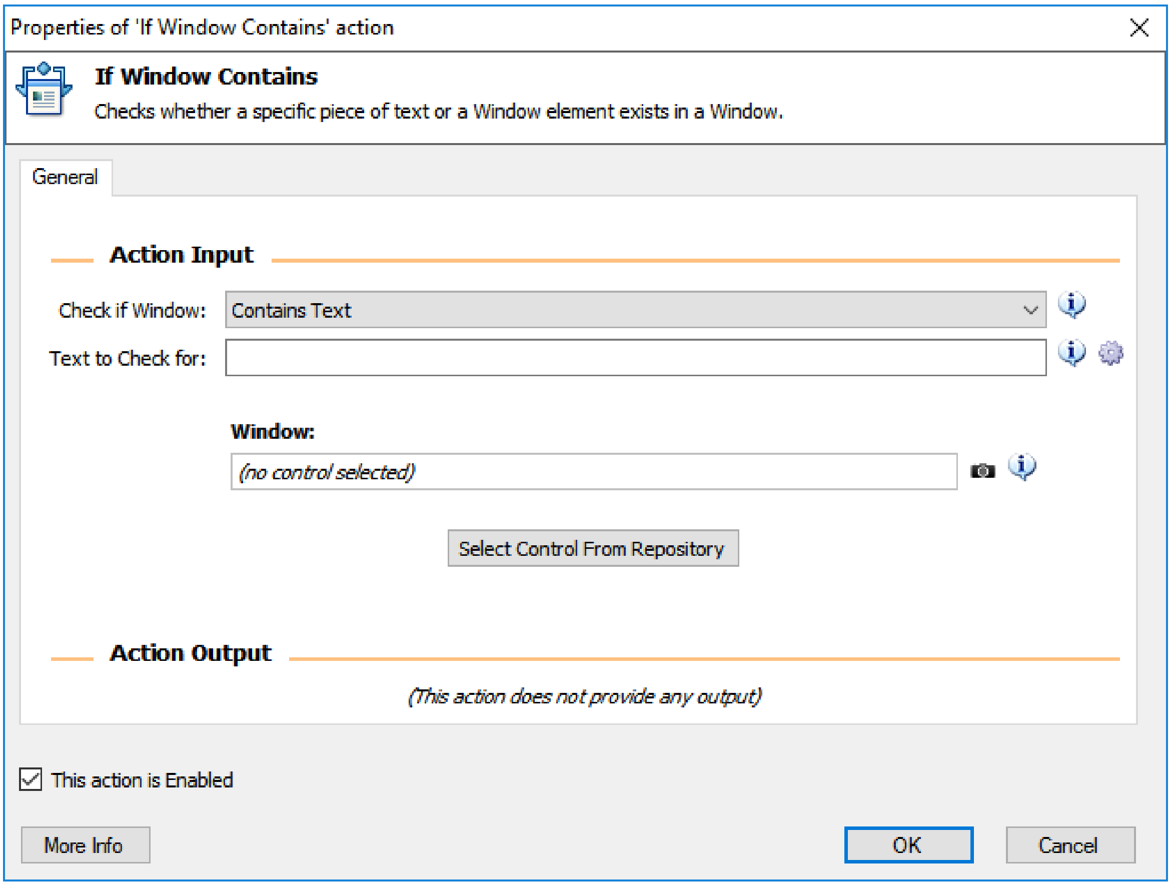
(no control selected)

Action Output

(This action does not provide any output)

☑ This action is Enabled

This option checks the text inside the Window to determine whether a specified subtext exists or not.



Properties of 'If Window Contains' action

If Window Contains

Checks whether a specific piece of text or a Window element exists in a Window.

General

Action Input

Check if Window: Contains Text

Text to Check for:

Window:

(no control selected)

Select Control From Repository

Action Output

(This action does not provide any output)

☑ This action is Enabled

More Info OK Cancel

Properties:

Text to Check for:

Enter the text you want check for.

Check if Element is ("Contains Element"/"Does not Contain Element" should be selected):

Sometimes the target element may be present, but disabled. This property allows you to check whether the target element, if found, is also in a specific state (Enabled or Disabled). The If statement will execute its actions only when the target element is both present and in the required state when this property is checked.

Control:

Choose the Control for the element from your Repository or Add it if it is not already there.

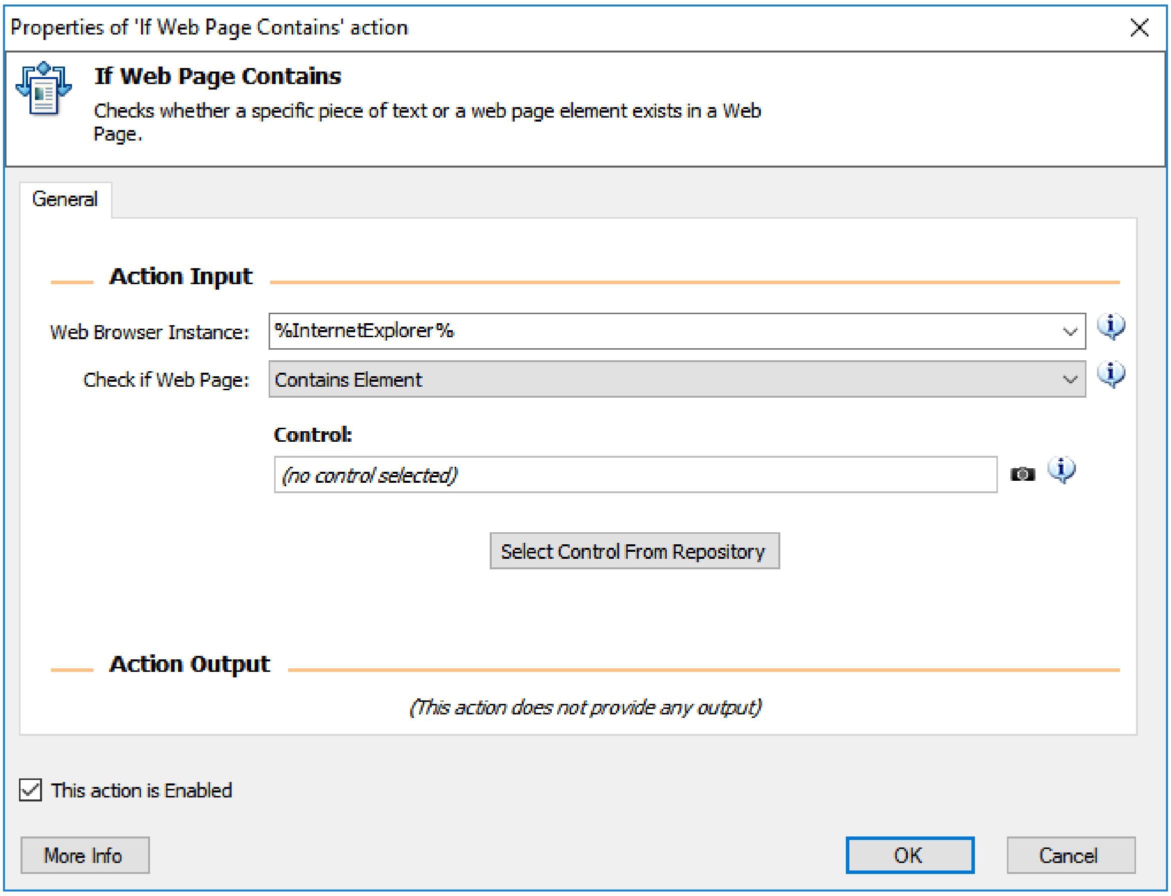
5.2.10 If Web Page Contains Action

Description:

Checks whether a specific piece of text or a web page element exists in a Web Page.

This action operates on a Web Page that has been previously opened by a "Launch New Internet Explorer 562" action. The latter stores the Web browser instance into a variable. This action accepts this variable and checks whatever page is currently displayed in that Web Browser Instance.

Option 1: Check for Web Element (Exists/Does not Exist)



Properties of 'If Web Page Contains' action

If Web Page Contains

Checks whether a specific piece of text or a web page element exists in a Web Page.

General

Action Input

Web Browser Instance: %InternetExplorer%

Check if Web Page: Contains Element

Control: *(no control selected)*

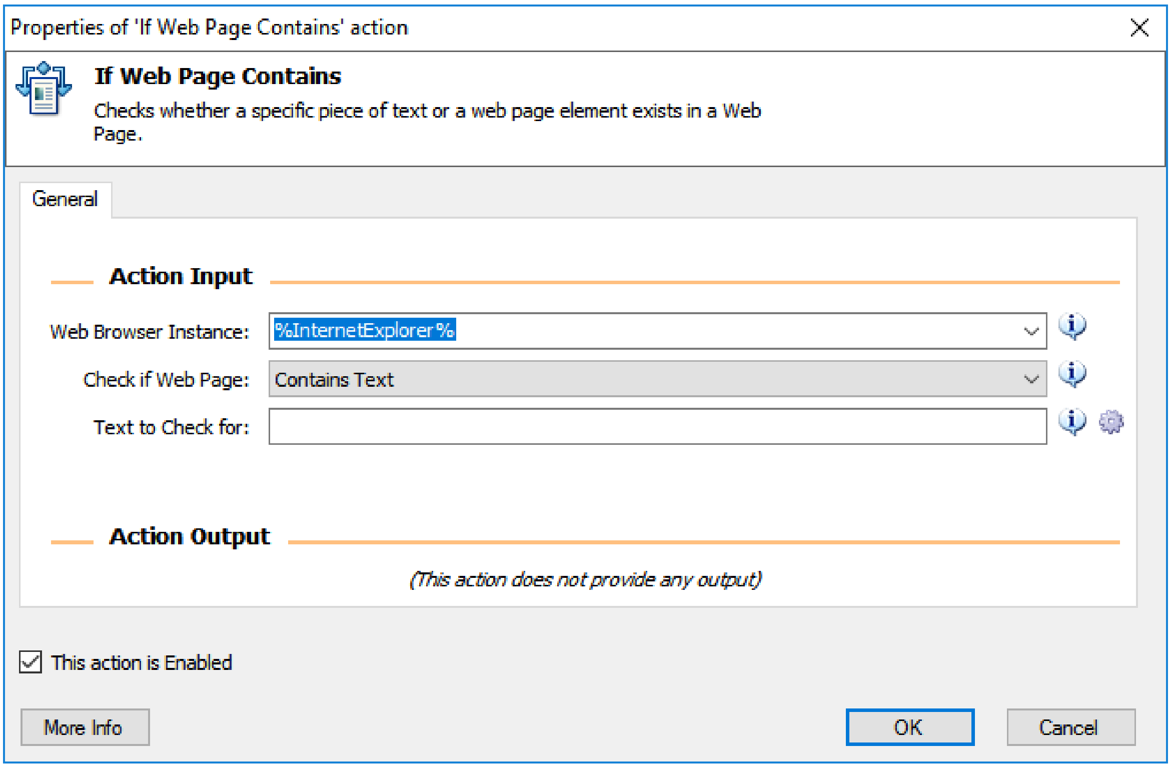
Action Output

(This action does not provide any output)

☑ This action is Enabled

Choose the Control for the element from your Repository or Add it if it is not already there.

Option 2: Check for Text (Exists/Does not Exist)



Properties of 'If Web Page Contains' action

If Web Page Contains

Checks whether a specific piece of text or a web page element exists in a Web Page.

Action Input

Web Browser Instance: %InternetExplorer%

Check if Web Page: Contains Text

Text to Check for:

Action Output

(This action does not provide any output)

☑ This action is Enabled

This option checks the text of the Web page to determine whether a specified subtext exists or not.

Properties

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Check if Web Page:

Specify whether you want to check for the existence of some text or of an HTML element.

Text to Check for:

Enter the text that you want to check for.

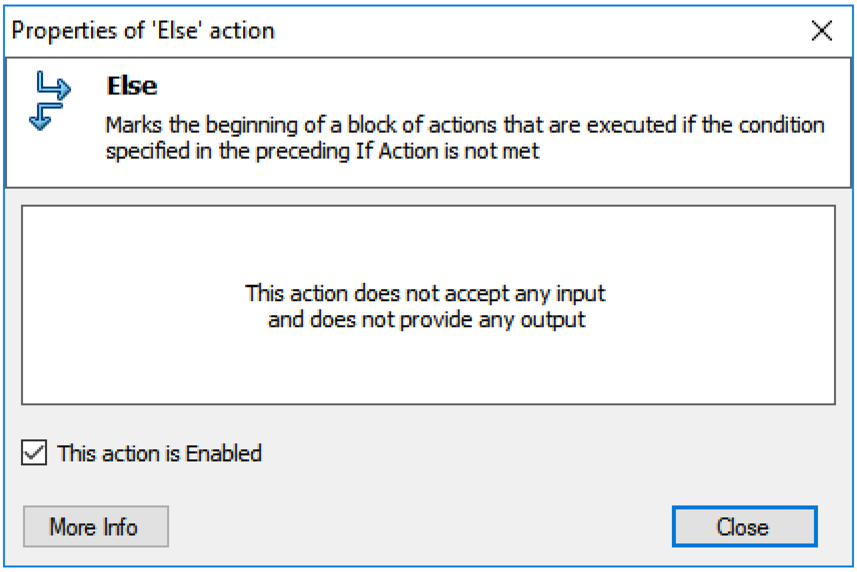
Control:

Choose the Control for the element from your Repository or Add it if it is not already there.

5.2.11 Else Action

Description:

Marks the beginning of a block of actions that are executed if the condition specified in the preceding If Action is not met



Properties of 'Else' action

Else

Marks the beginning of a block of actions that are executed if the condition specified in the preceding If Action is not met

This action does not accept any input
and does not provide any output

☑ This action is Enabled

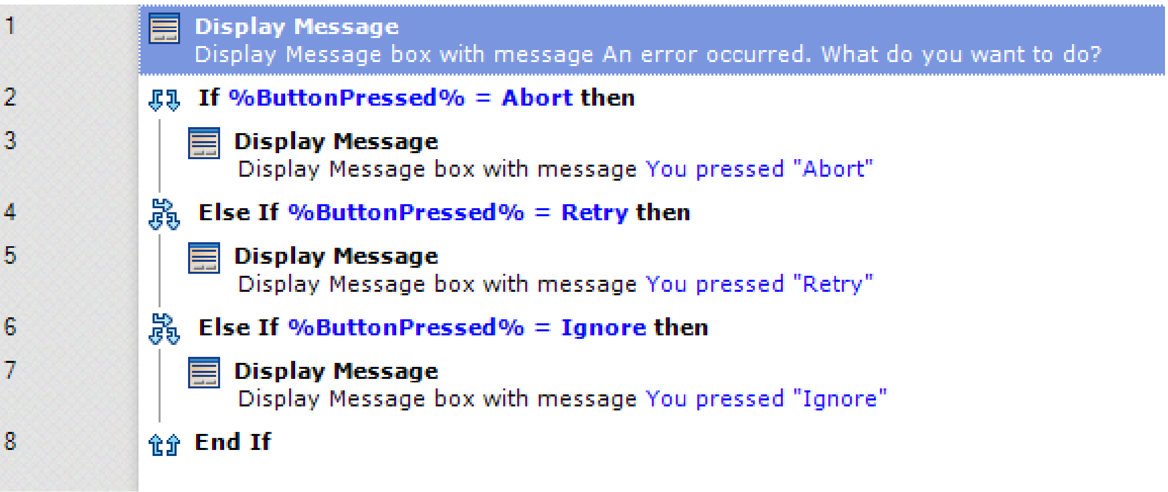
Properties:

This action does not have any configurable properties.

5.2.12 Else If Action

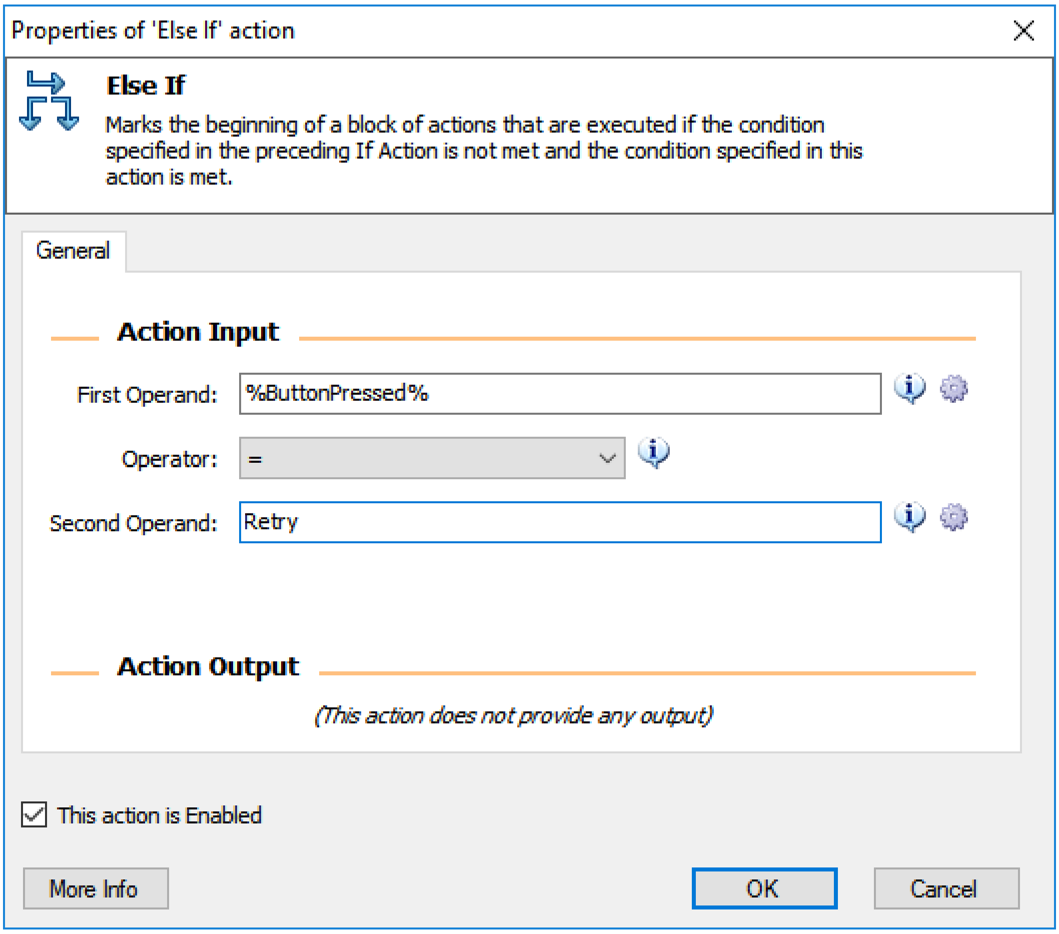
Description:

Marks the beginning of a block of actions that are executed if the condition specified in the preceding If Action is not met and the condition specified in this action is met.



```
Display Message
Display Message box with message An error occurred. What do you want to do?
If %ButtonPressed% = Abort then
    Display Message
    Display Message box with message You pressed "Abort"
Else If %ButtonPressed% = Retry then
    Display Message
    Display Message box with message You pressed "Retry"
Else If %ButtonPressed% = Ignore then
    Display Message
    Display Message box with message You pressed "Ignore"
End If
```

This action can only be inserted within an If/End If block and always before the "Else" action, if any. In all other aspects is similar to the "If" action 368.



Properties of 'Else If' action

Else If

Marks the beginning of a block of actions that are executed if the condition specified in the preceding If Action is not met and the condition specified in this action is met.

Action Input

First Operand: %ButtonPressed%

Operator: =

Second Operand: Retry

Action Output

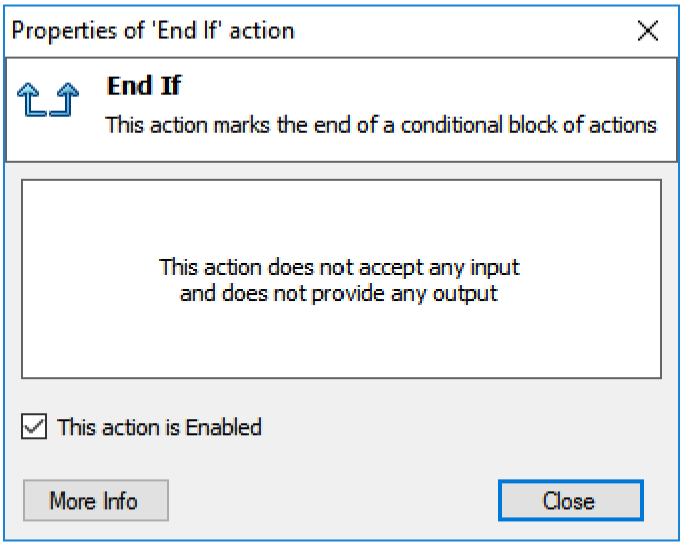
(This action does not provide any output)

☑ This action is Enabled

5.2.13 End If Action

Description:

This action marks the end of a conditional block of actions



Properties of 'End If' action

End If

This action marks the end of a conditional block of actions

This action does not accept any input
and does not provide any output

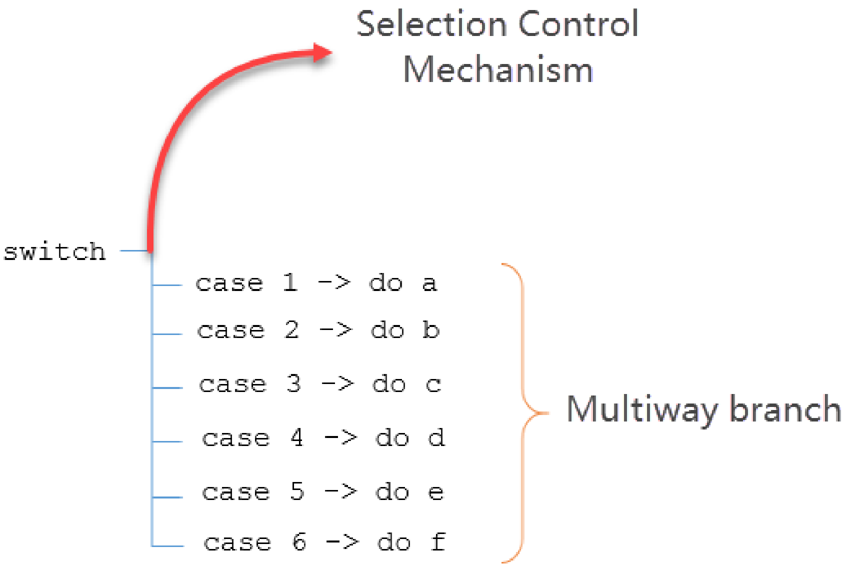
☑ This action is Enabled

Properties:

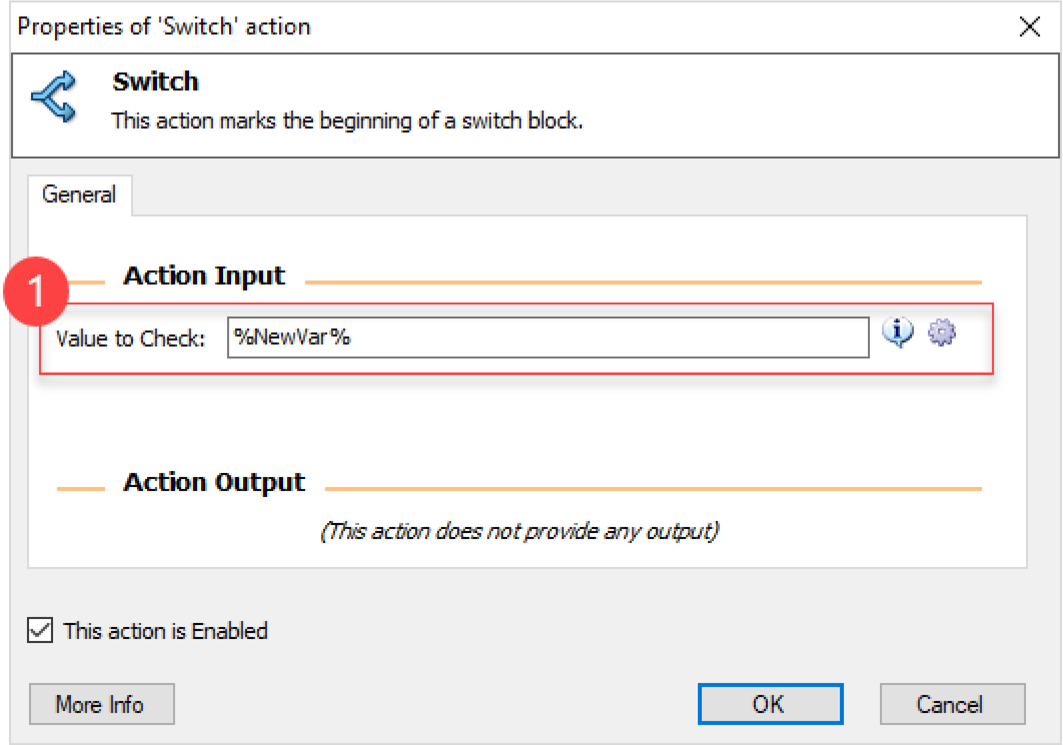
This action does not have any configurable properties.

5.2.14 Switch

Switch marks the beginning of a switch block. Unlike if-else or else-if conditional statements, a switch block can address a number of possible execution paths. A switch statement is a type of selection control mechanism used to allow the value of a variable or expression to change the control flow of your scripts via a multiway branch:



This action allows you to set a value [1] that will form the basis of any subsequent comparisons with other values using the Case 394 /End Case 398 actions:



Properties of 'Switch' action

Switch

This action marks the beginning of a switch block.

Value to Check: %NewVar%

(This action does not provide any output)

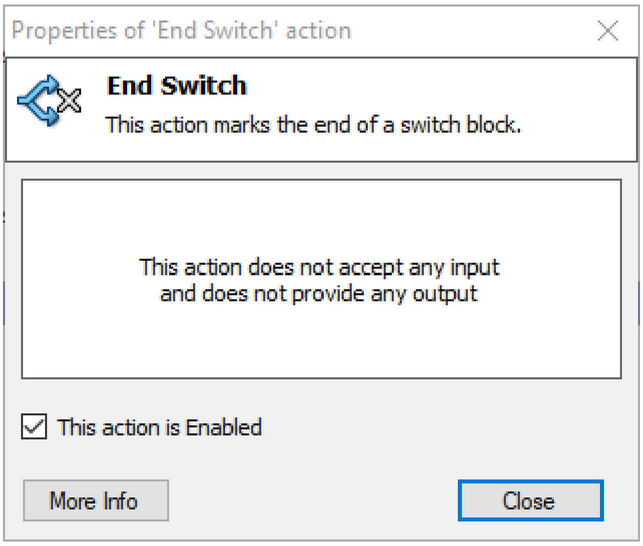
☑ This action is Enabled

1. Value to Check:

This should be a variable that we expect its value to be derived out of a set of predefined options.

5.2.15 End Switch

This action simply marks the end of a Switch 392 block.



Properties of 'End Switch' action

End Switch

This action marks the end of a switch block.

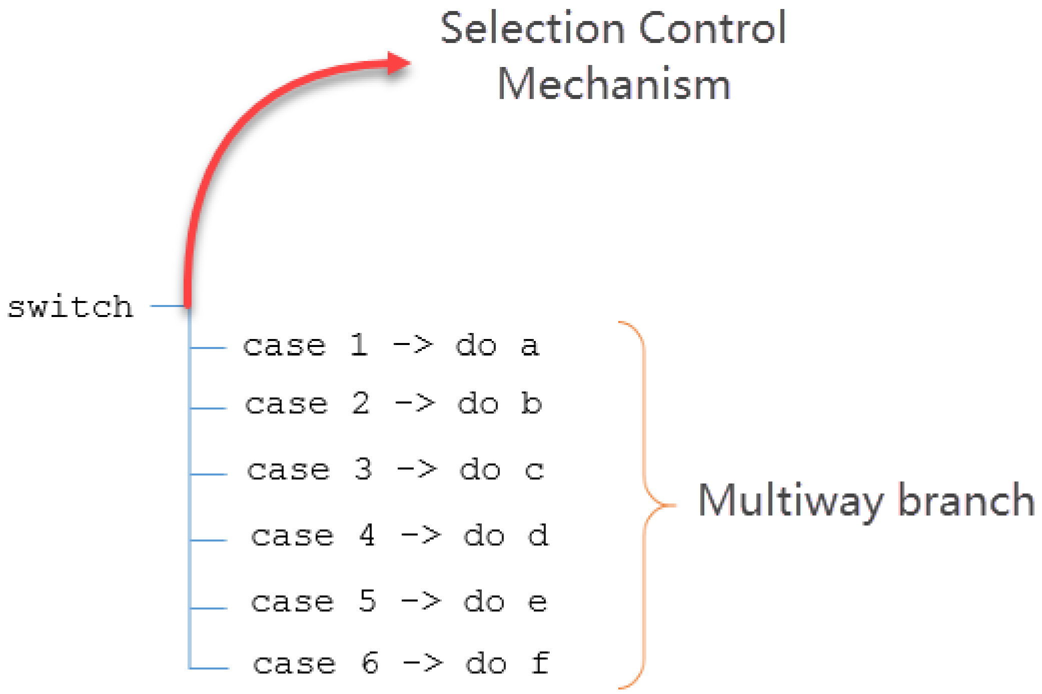
This action does not accept any input
and does not provide any output

☑ This action is Enabled

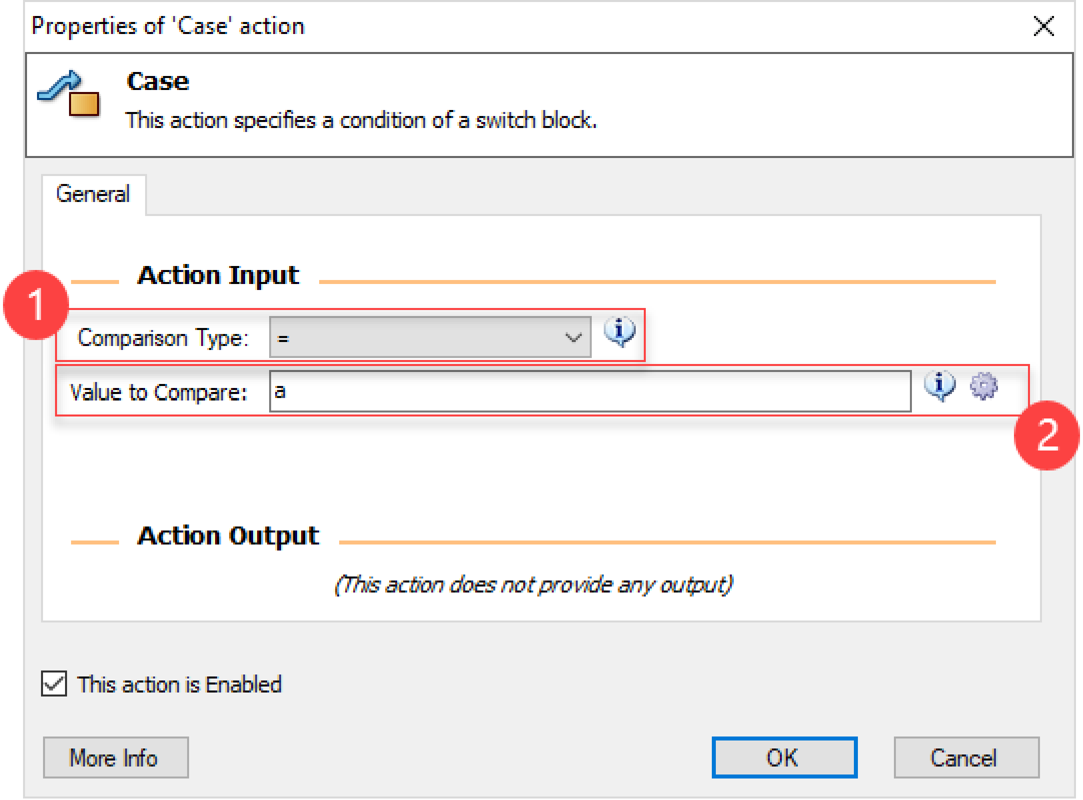
5.2.16 Case

This action specifies a condition on an existing Switch[392] block and marks the beginning of a sequence of actions that will be executed if the conditional evaluates to true.

The end of this sequence of actions is marked by the complimentary End Case[398] action.



The action allows you to choose from a variety of Comparison Types [1] in order to compare the value provided here [2] with that given in the Switch 392 statement.



Properties of 'Case' action

Case

This action specifies a condition of a switch block.

General

Action Input

Comparison Type: =

Value to Compare: a

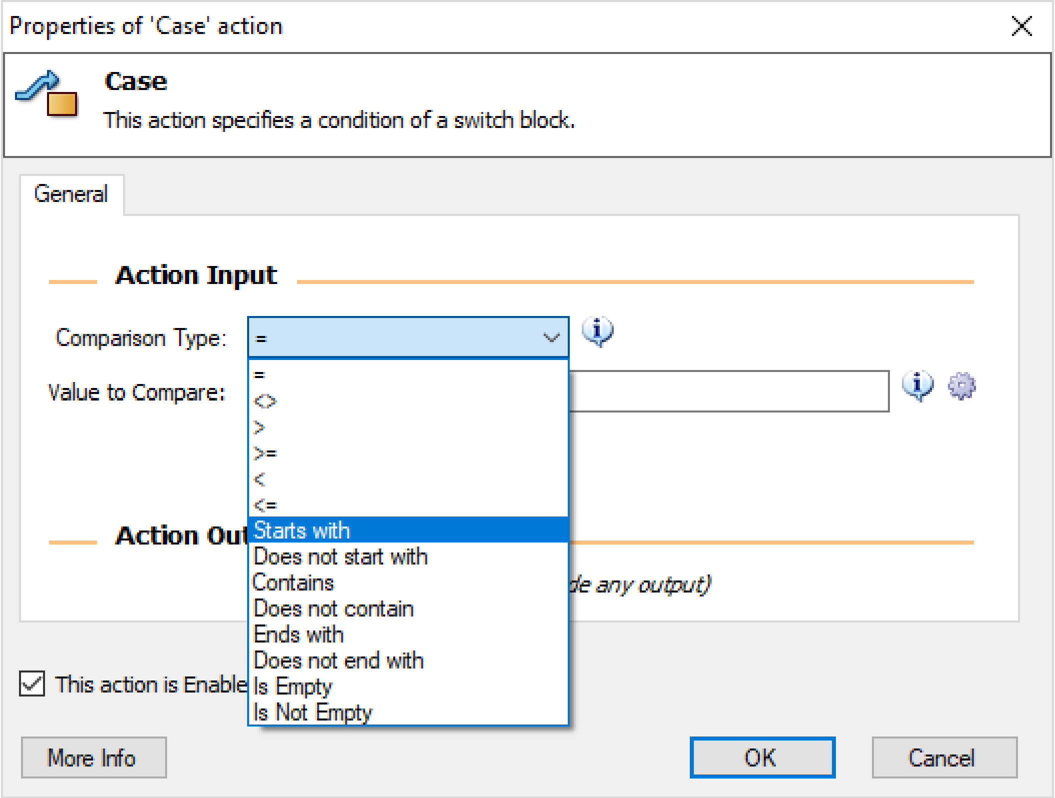
Action Output

(This action does not provide any output)

☑ This action is Enabled

1. Comparison Type:

This property can have a wide variety of predefined values, designed to fulfill your most sophisticated needs:



Properties of 'Case' action

Case

This action specifies a condition of a switch block.

Action Input

Comparison Type: =

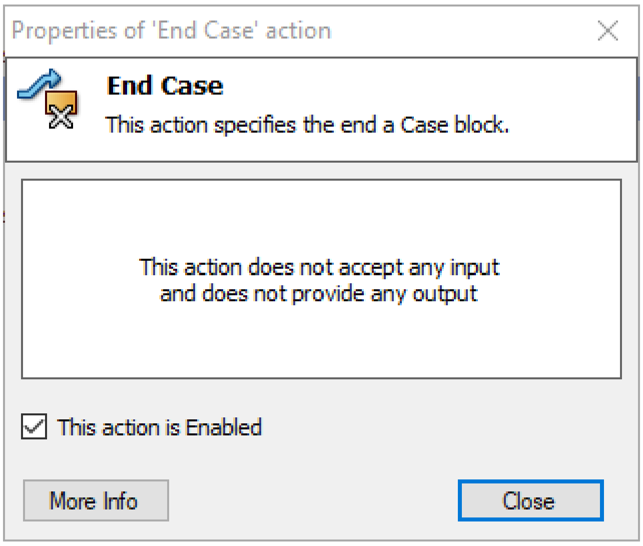
Value to Compare:

2. Value to Compare:

The Value that you will enter here will be compared after the Comparison Type defined in [1] with the value defined in the Switch 392 action. If this criterion is met, then the sequence of actions within the <Case><sequence of actions><End Case> block will be executed. If not, the flow will move to the next case condition.

5.2.17 End Case

This action simply specifies the end of a Case[394] block.



Properties of 'End Case' action

End Case

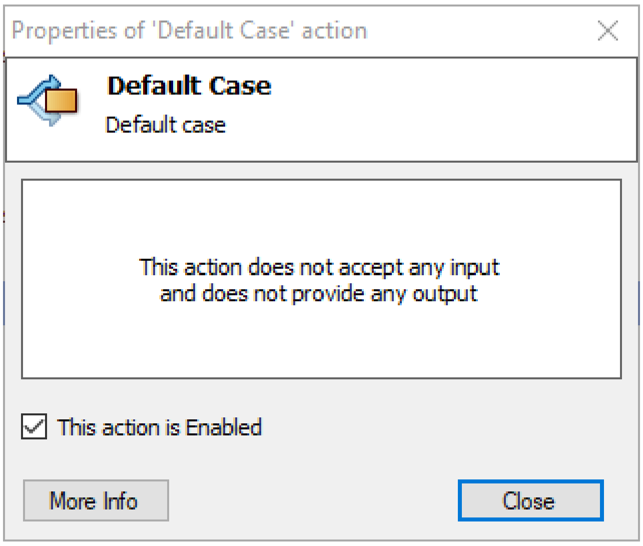
This action specifies the end a Case block.

This action does not accept any input
and does not provide any output

☑ This action is Enabled

5.2.18 Default Case

Use this block in order to execute a sequence of actions if none of your Case [394] conditionals are to be met:



Properties of 'Default Case' action

Default Case

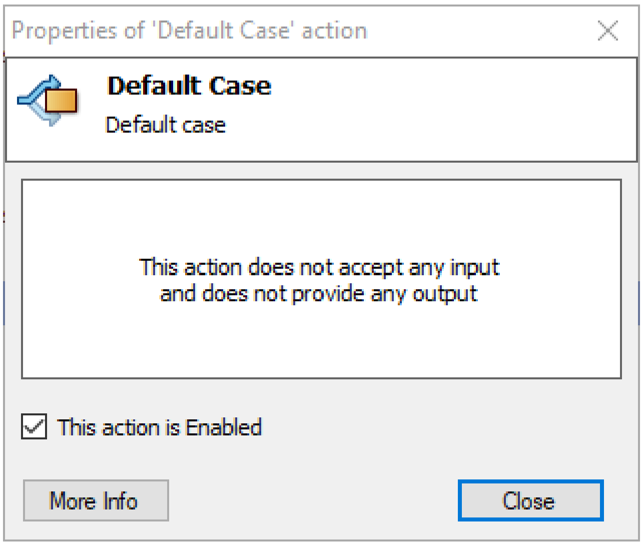
Default case

This action does not accept any input
and does not provide any output

☑ This action is Enabled

5.2.19 End Default Case

The complimentary other half of the Default Case 398 action simply marks the end of a Default Case block:



Properties of 'Default Case' action

Default Case

Default case

This action does not accept any input and does not provide any output

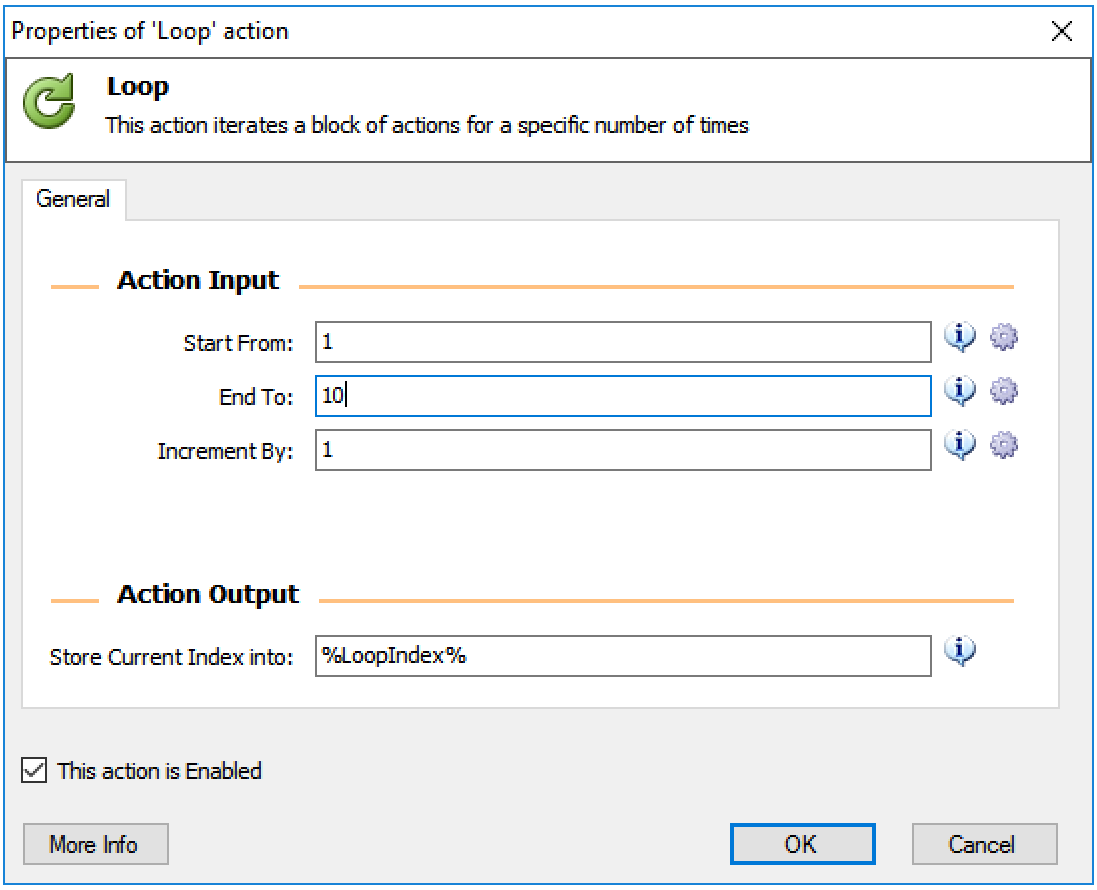
☑ This action is Enabled

5.3 Loops

5.3.1 Loop Action

Description:

This action iterates a block of actions for a specific number of times


Properties of 'Loop' action

Loop

This action iterates a block of actions for a specific number of times

General

Action Input

Start From: 1

End To: 10

Increment By: 1

Action Output

Store Current Index into: %LoopIndex%

☑ This action is Enabled

Properties:

Start From:

Sets the starting point for your Loop counter

End To:

Sets the ending point for your Loop counter

Increment By:

Sets the increments your Loop counter increases by

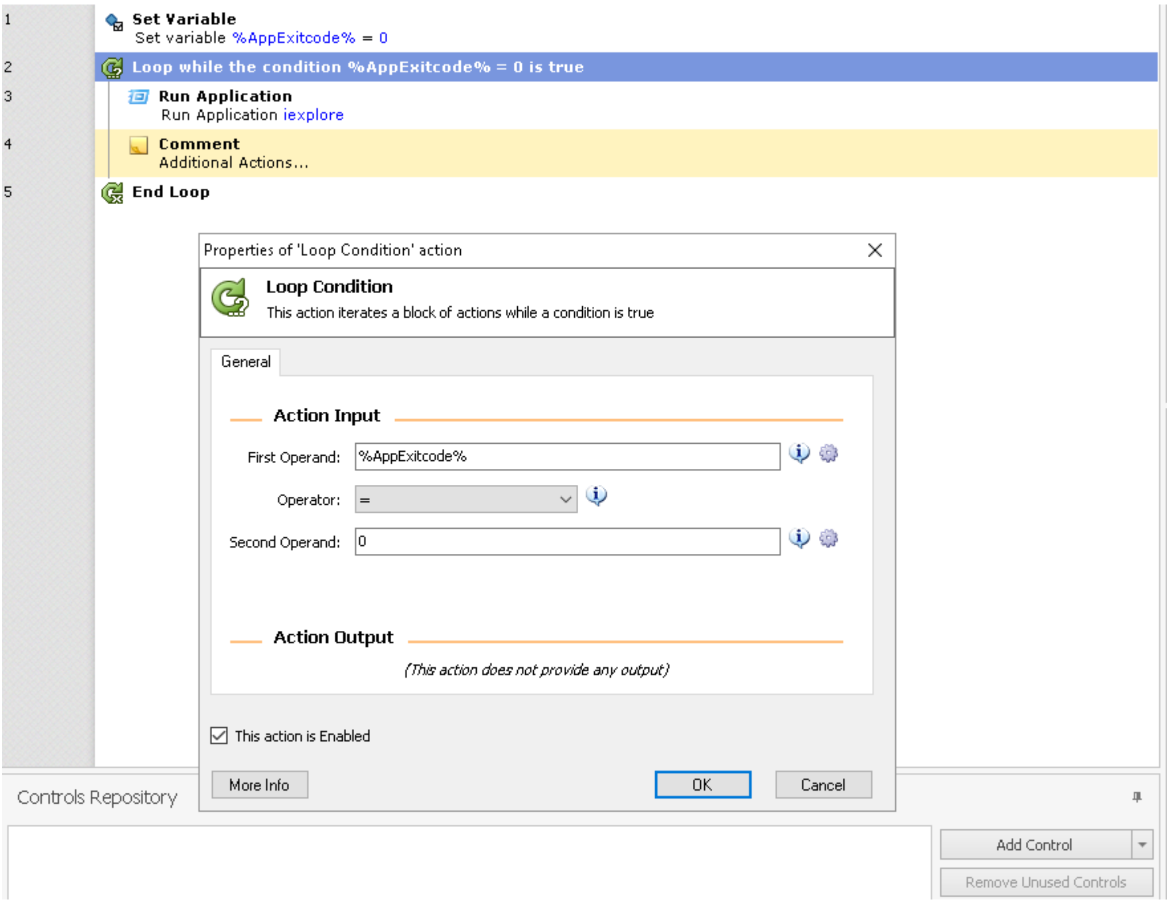
Store Current Index into:

Enter a name to be the variable that will store the Current Index, starting at the Start From value. The value of this variable will change by the increment with each iteration.

5.3.2 Loop Condition Action

Description:

This action iterates a block of actions while a condition is true



1 **Set Variable**
Set variable %AppExitcode% = 0

2 **Loop while the condition %AppExitcode% = 0 is true**

3 **Run Application**
Run Application iexplore

4 **Comment**
Additional Actions...

5 **End Loop**

Properties of 'Loop Condition' action

Loop Condition
This action iterates a block of actions while a condition is true

General

Action Input

First Operand: %AppExitcode%

Operator: =

Second Operand: 0

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

First Operand:

Enter a variable output defined by a previous action, or a literal value such as a text or a number to compare with the second Operand.

Operator:

Choose the relationship of first Operand to second Operand.

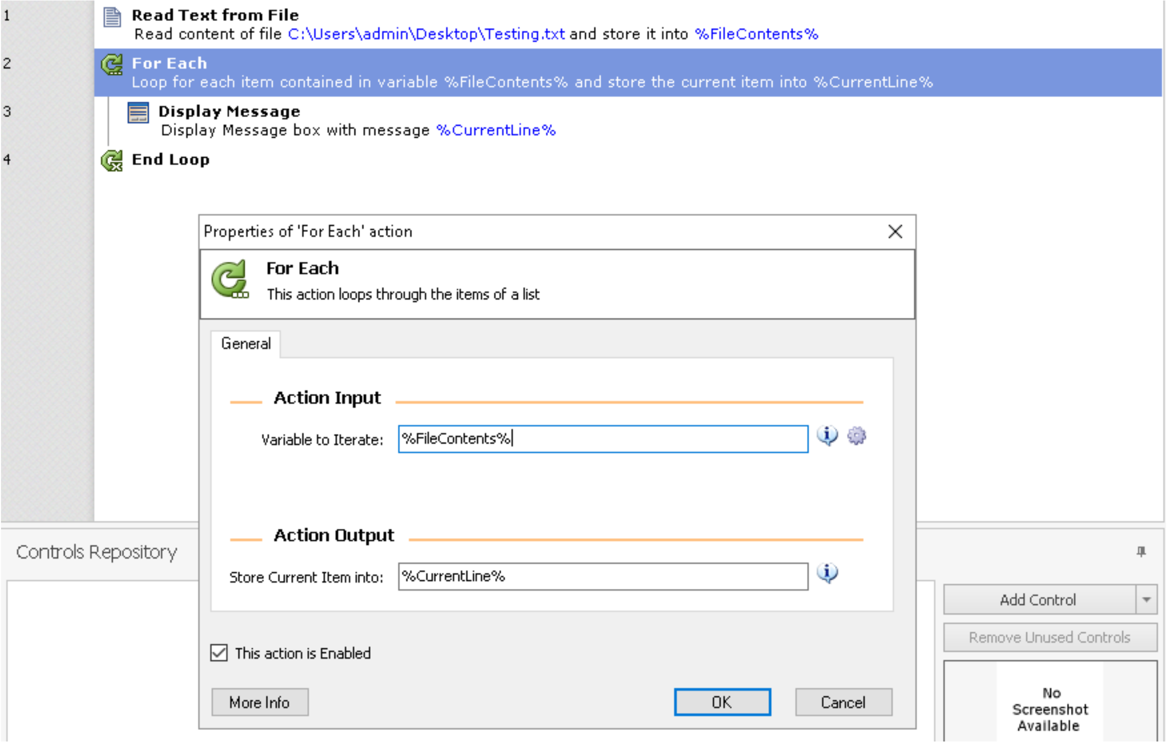
Second Operand:

Enter a variable output defined by a previous action, or a literal value such as a text or a number to compare with the first Operand.

5.3.3 For Each Action

Description:

This action loops through the items of a list



1 **Read Text from File**
Read content of file C:\Users\admin\Desktop\Testing.txt and store it into %FileContents%

2 **For Each**
Loop for each item contained in variable %FileContents% and store the current item into %CurrentLine%

3 **Display Message**
Display Message box with message %CurrentLine%

4 **End Loop**

Properties of 'For Each' action

For Each
This action loops through the items of a list

General

Action Input

Variable to Iterate: %FileContents%

Action Output

Store Current Item into: %CurrentLine%

☑ This action is Enabled

Properties:

Variable to Iterate:

Enter a previously created variable that contains a list, data table, or data row. The actions in the loop will be executed once for each item in the list, each row of the table, or each column (cell) of the data row.

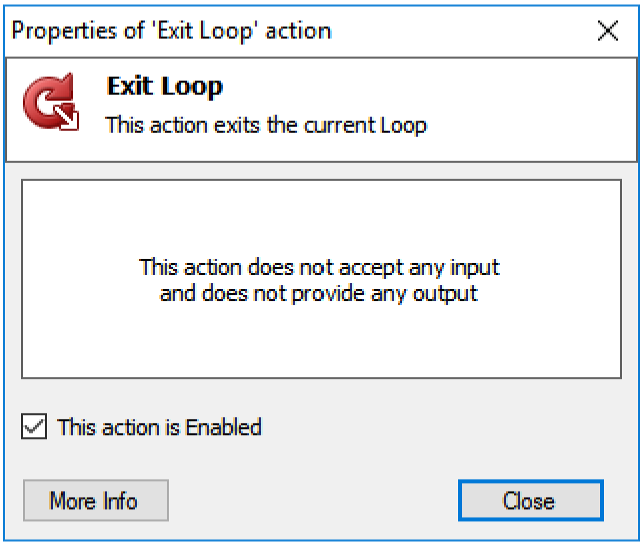
Store Current Item into:

Enter a name to be the variable that will store the Current Item (item, row, or cell), if you wish to access it during later actions in the loop.

5.3.4 Exit Loop Action

Description:

This action exits the current Loop



Properties of 'Exit Loop' action

Exit Loop

This action exits the current Loop

This action does not accept any input and does not provide any output

☑ This action is Enabled

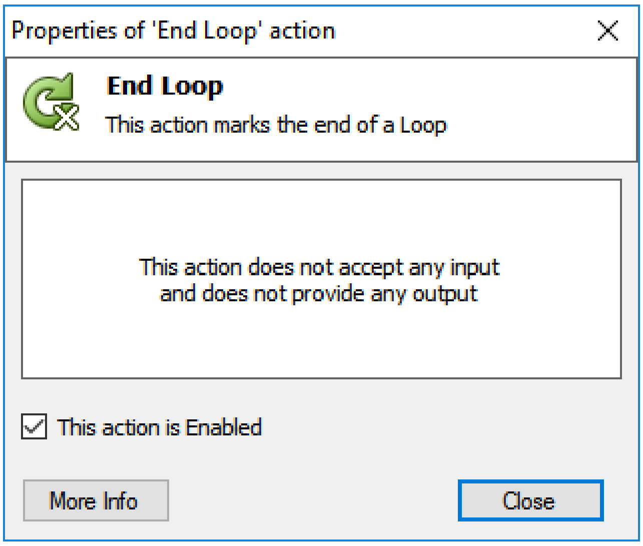
Properties:

This action does not have any configurable properties.

5.3.5 End Loop Action

Description:

This action marks the end of a Loop


Properties of 'End Loop' action

End Loop

This action marks the end of a Loop

This action does not accept any input
and does not provide any output

☑ This action is Enabled

Properties:

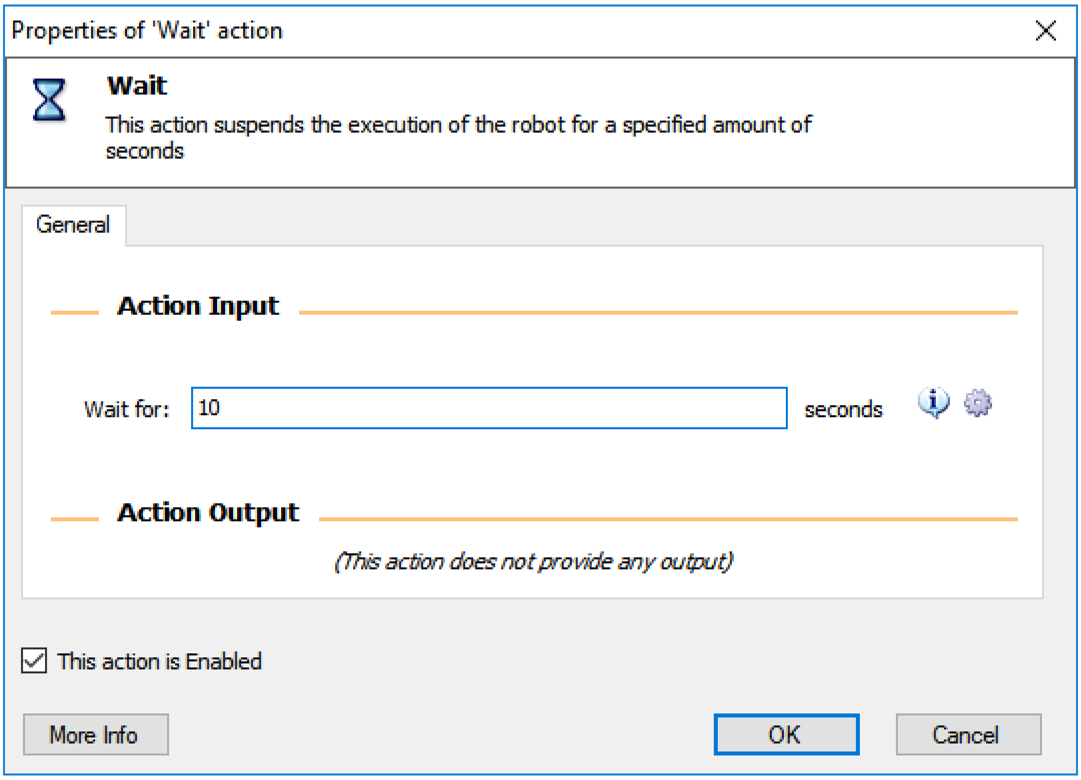
This action does not have any configurable properties.

5.4 Wait

5.4.1 Wait Action

Description:

This action suspends the execution of the process for a specified amount of seconds



Properties of 'Wait' action

Wait

This action suspends the execution of the robot for a specified amount of seconds

General

Action Input

Wait for: 10 seconds

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

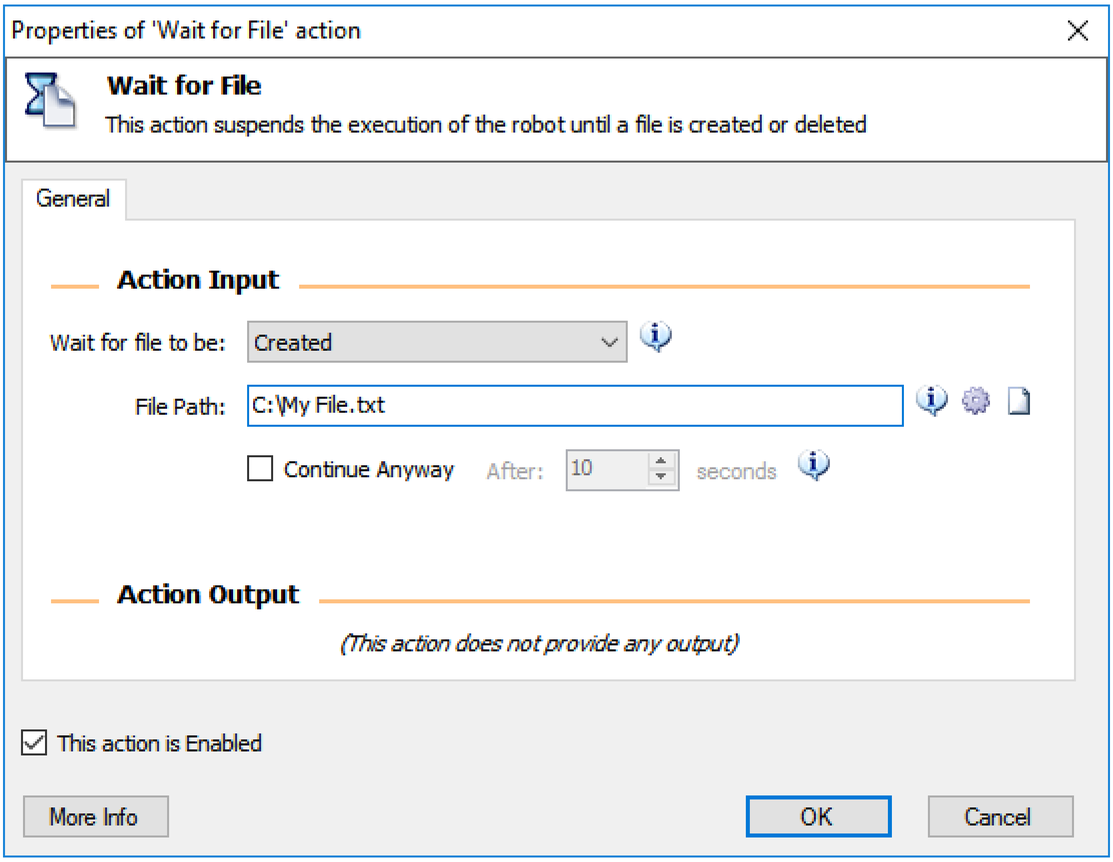
Wait for:

Enter the number of seconds that you want the process to pause.

5.4.2 Wait for File Action

Description:

This action suspends the execution of the process until a file is created or deleted



Properties of 'Wait for File' action

Wait for File

This action suspends the execution of the robot until a file is created or deleted

General

Action Input

Wait for file to be: Created

File Path: C:\My File.txt

□ Continue Anyway After: 10 seconds

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Wait for file to be:

Choose whether the process pauses until a certain file is created or deleted.

File Path:

Set the full path of file to be checked.

Continue Anyway:

Choose whether the process continues after a set number of seconds, regardless of whether the file has been created/deleted.

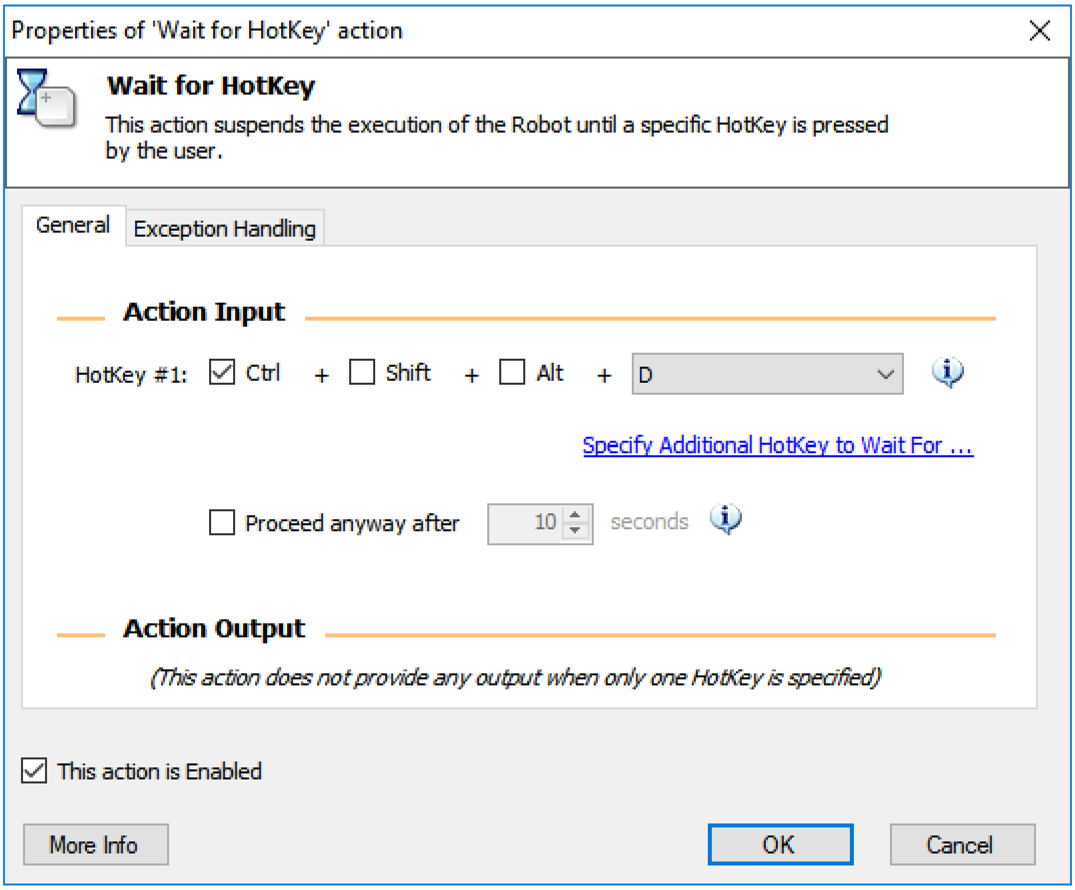
5.4.3 Wait for HotKey Action

Description:

This action suspends the execution of the Process until a specific HotKey is pressed by the user.

There are cases where you want the Process to pause and continue only when the user says so. For example, a Process may open a number of documents for the user to review and needs to know when the user has completely reviewed each document to open the next one.

This is where the "Wait for HotKey" action can be used. You can specify a HotKey and the Process will continue only when this Hotkey is pressed.



Properties of 'Wait for HotKey' action

Wait for HotKey

This action suspends the execution of the Robot until a specific HotKey is pressed by the user.

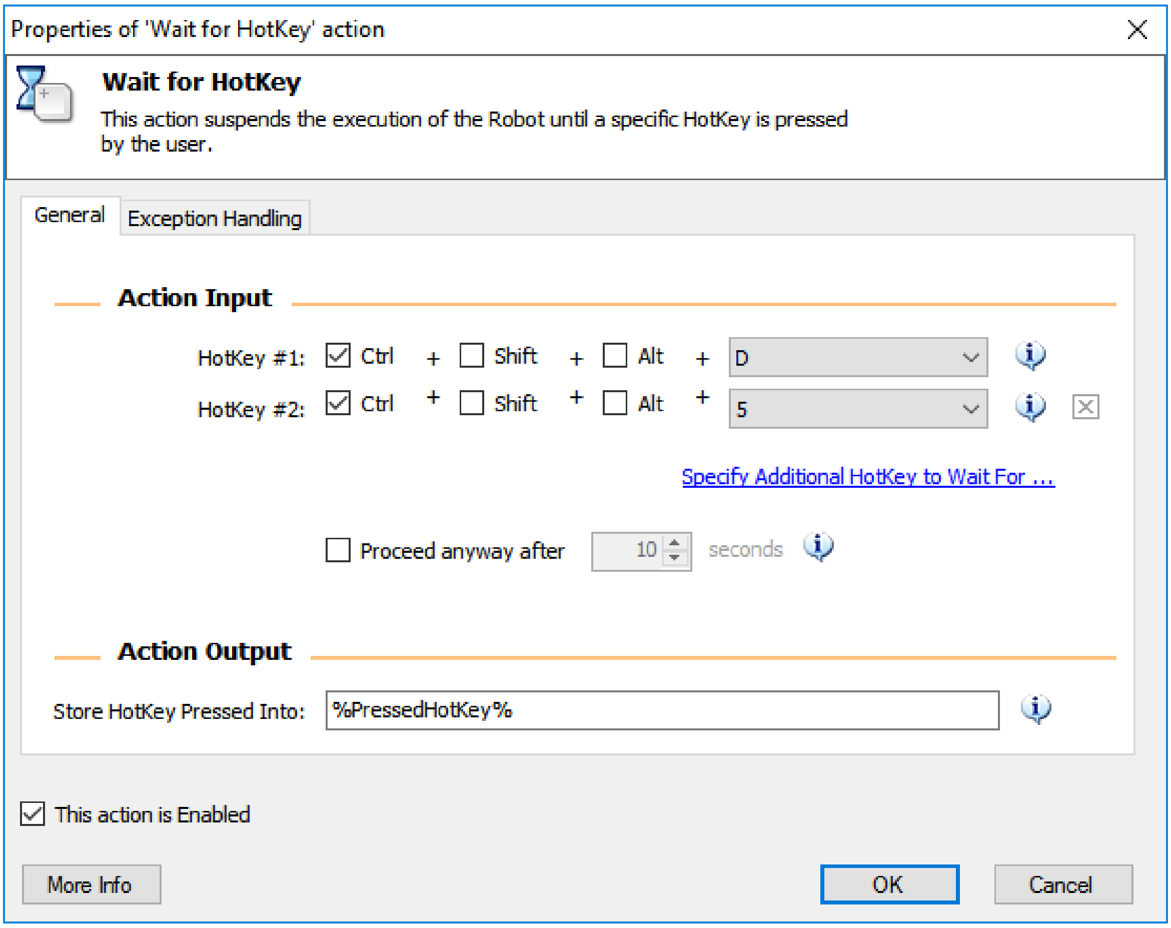
HotKey #1: ☑ Ctrl + □ Shift + □ Alt + D

□ Proceed anyway after 10 seconds

(This action does not provide any output when only one HotKey is specified)

☑ This action is Enabled

To further elaborate our previous example, let's assume that the user, after reviewing each document, has the choice to either archive it or delete it. In this case it would be convenient for the user to be able to press different hotkeys, and the Process to keep track of the hotkey pressed to interpret the user's intention.



Properties of 'Wait for HotKey' action

Wait for HotKey

This action suspends the execution of the Robot until a specific HotKey is pressed by the user.

Action Input

HotKey #1: ☑ Ctrl + □ Shift + □ Alt + D

HotKey #2: ☑ Ctrl + □ Shift + □ Alt + 5

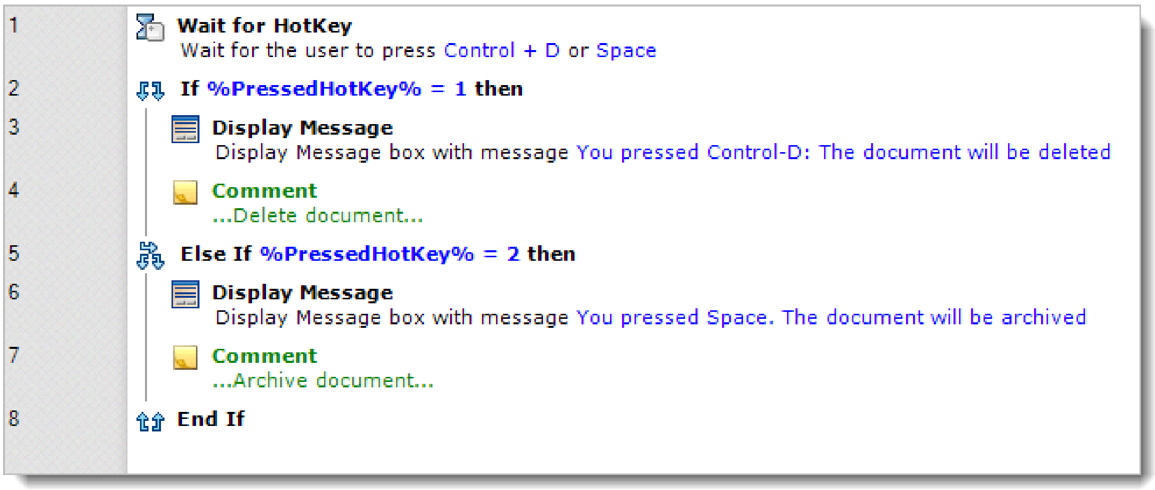
□ Proceed anyway after 10 seconds

Action Output

Store HotKey Pressed Into: %PressedHotKey%

☑ This action is Enabled

If you specify more than one hotkeys to wait for, the action populates a variable (%PressedHotKey% in the example above) with the ordinal number of the pressed hotkey. In the example above, if the user pressed Control-D the %PressedHotKey% would hold the value 1 while if the user pressed space the %PressedHotKey% variable would hold the value 2. Then you can check for the hotkey pressed by the user as shown below:



```
Wait for HotKey
 Wait for the user to press Control + D or Space
If %PressedHotKey% = 1 then
    Display Message
     Display Message box with message You pressed Control-D: The document will be deleted
    Comment
    ...Delete document...
Else If %PressedHotKey% = 2 then
    Display Message
     Display Message box with message You pressed Space. The document will be archived
    Comment
    ...Archive document...
End If
```

Proceed anyway after:

Choose whether the action will proceed anyway whether the period of time, waiting for a hotkey, expires.

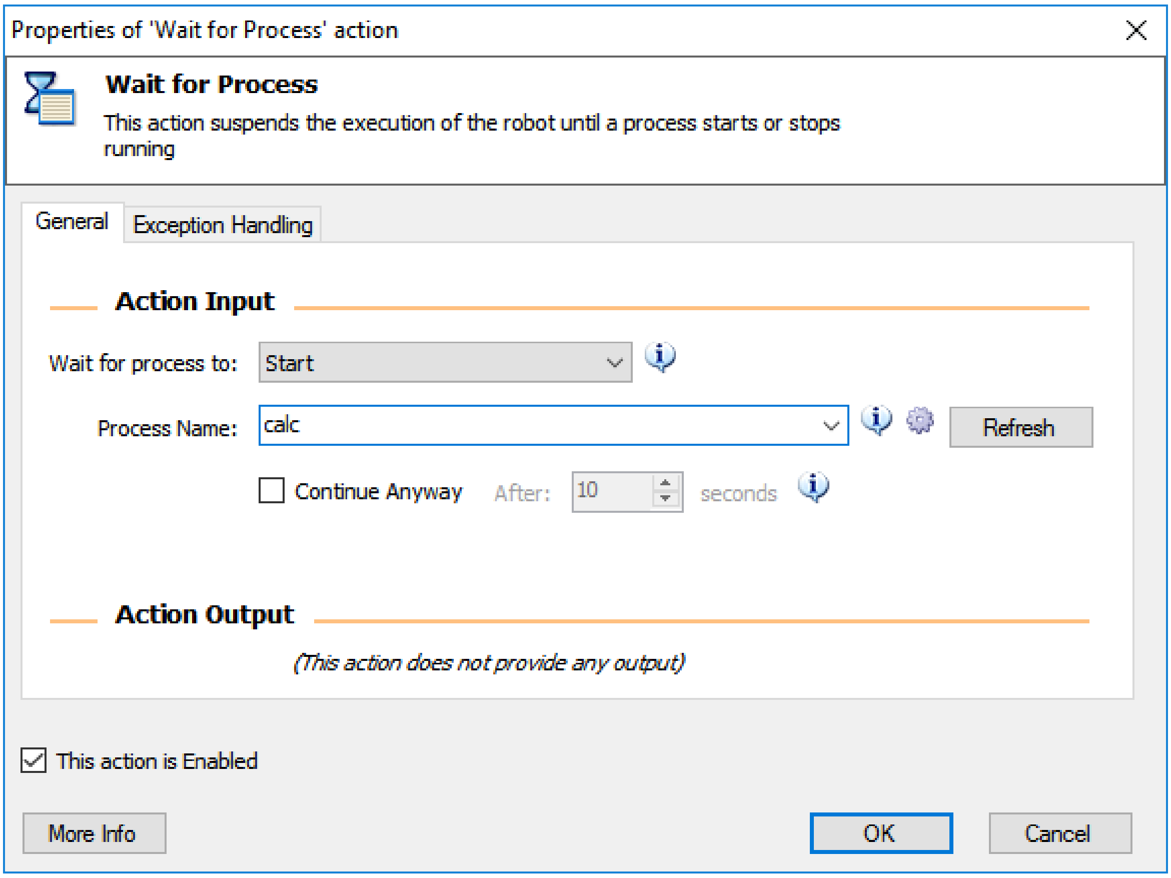
Store HotKey Pressed into:

Enter the name of the variable that will hold the ordinal position of the HotKey pressed by the user. If the user presses the second HotKey the variable will hold the value two.

5.4.4 Wait for Process Action

Description:

This action suspends the execution of the process until a process starts or stops running



Properties of 'Wait for Process' action

Wait for Process

This action suspends the execution of the robot until a process starts or stops running

Action Input

Wait for process to: Start

Process Name: calc

□ Continue Anyway After: 10 seconds

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Wait for process to:

Choose whether the process pauses until a certain process starts or stops.

Process Name:

Choose or enter the process name to be checked.

Continue Anyway:

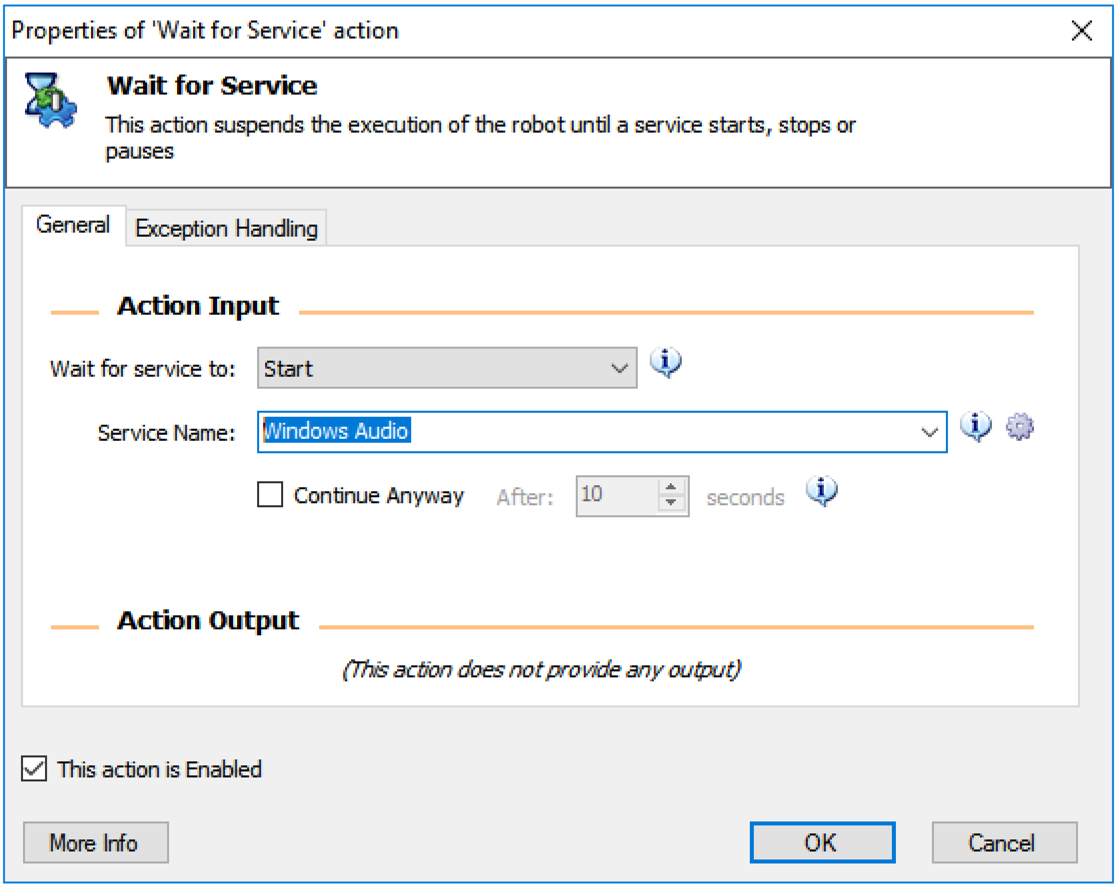
Choose whether the process continues after a set number of seconds, regardless of whether the process has started or stopped.

5.4.5 Wait for Service Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)

Description:

This action suspends the execution of the process until a service starts, stops or pauses



Properties of 'Wait for Service' action

Wait for Service

This action suspends the execution of the robot until a service starts, stops or pauses

Wait for service to: Start

Service Name: Windows Audio

□ Continue Anyway After: 10 seconds

(This action does not provide any output)

☑ This action is Enabled

Properties:

Wait for service to:

Choose whether the process pauses until a certain service starts, stops, or pauses.

Service Name:

Choose or enter the name of a service to be checked.

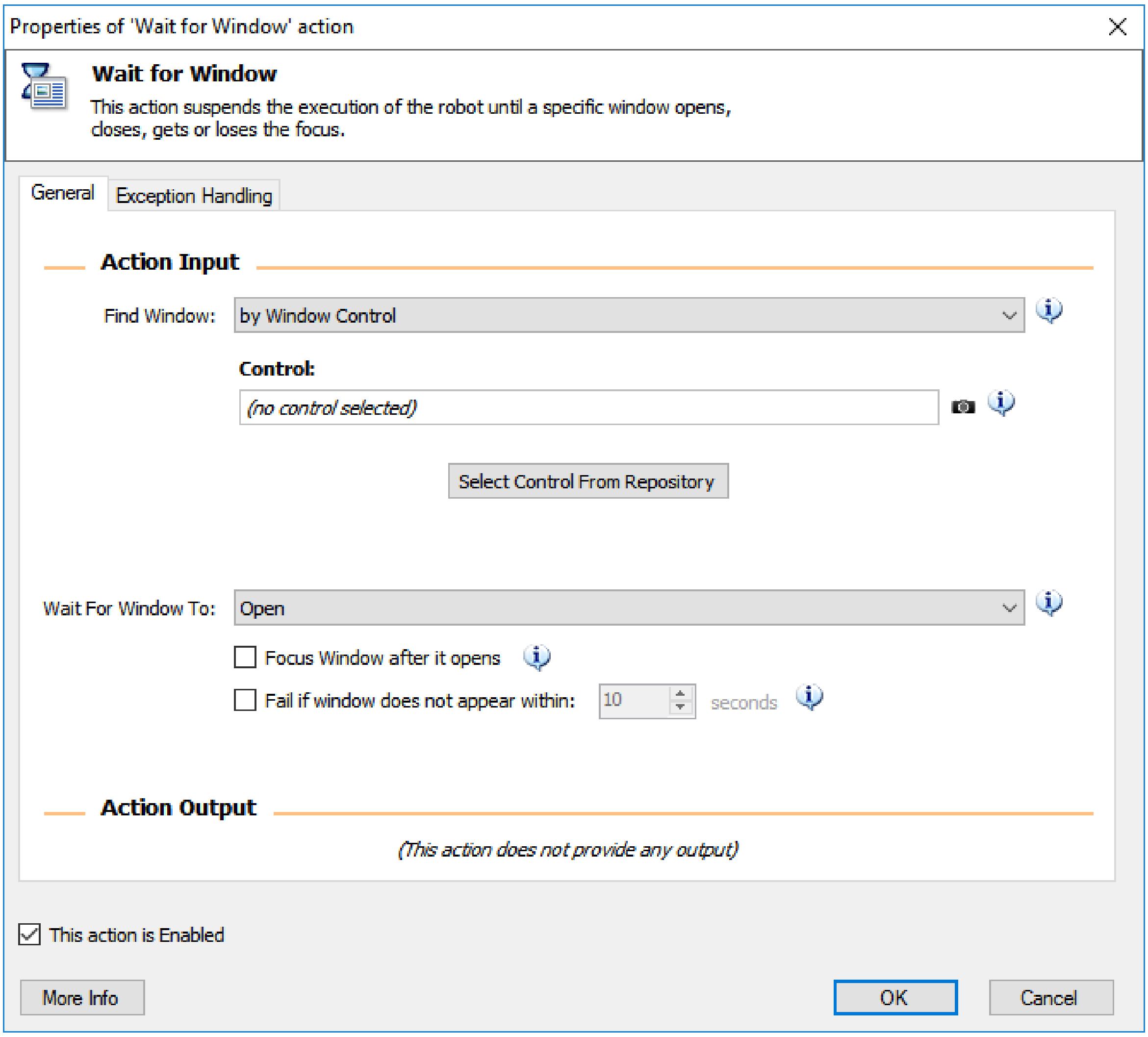
Continue Anyway:

Choose whether the process continues after a set number of seconds, regardless of whether the service has started, stopped, or paused.

5.4.6 Wait for Window Action

Description:

This action suspends the execution of the process until a specific window opens, closes, gets or loses the focus.



Properties of 'Wait for Window' action

Wait for Window

This action suspends the execution of the robot until a specific window opens, closes, gets or loses the focus.

Action Input

Find Window: by Window Control

Control:

(no control selected)

Wait For Window To: Open

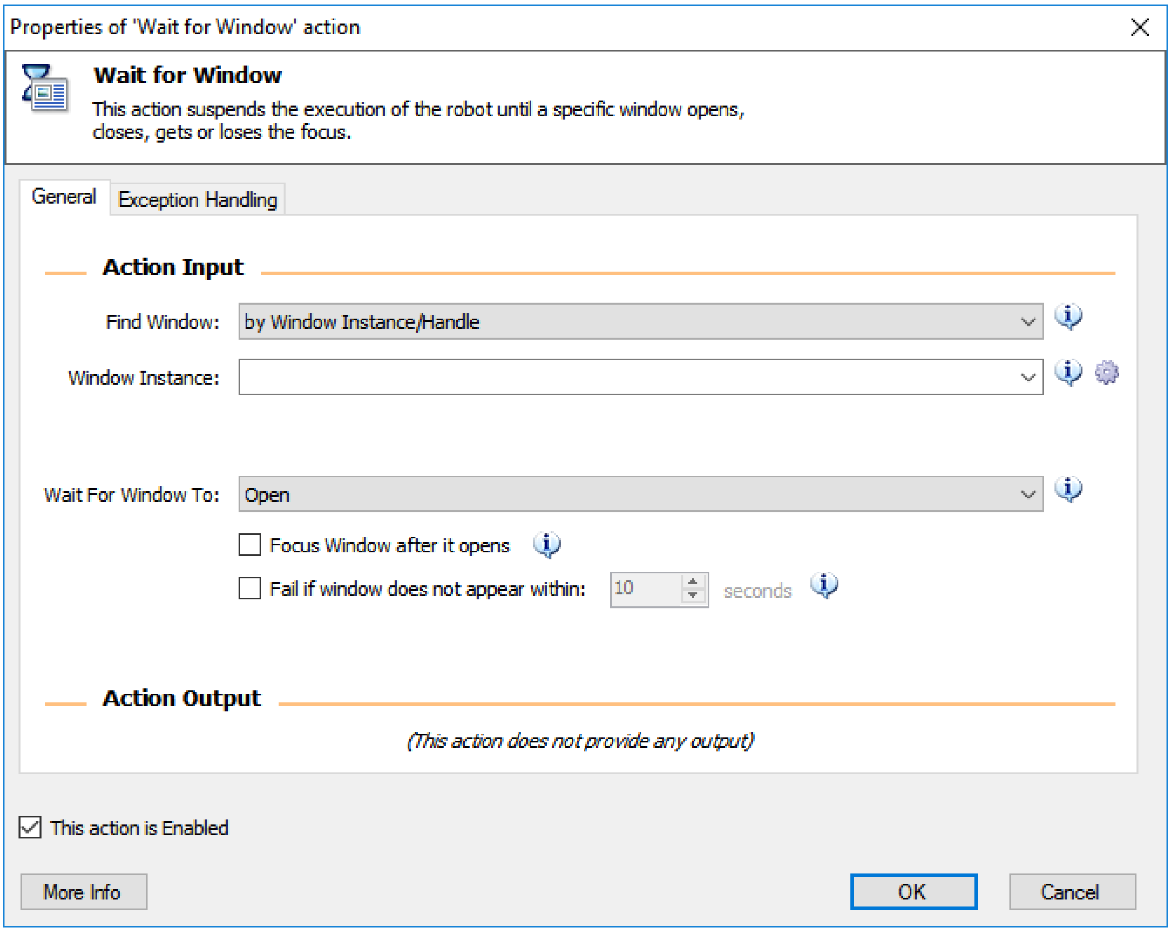
□ Focus Window after it opens

□ Fail if window does not appear within: 10 seconds

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Wait for Window' action

Wait for Window

This action suspends the execution of the robot until a specific window opens, closes, gets or loses the focus.

Action Input

Find Window: by Window Instance/Handle

Window Instance:

Wait For Window To: Open

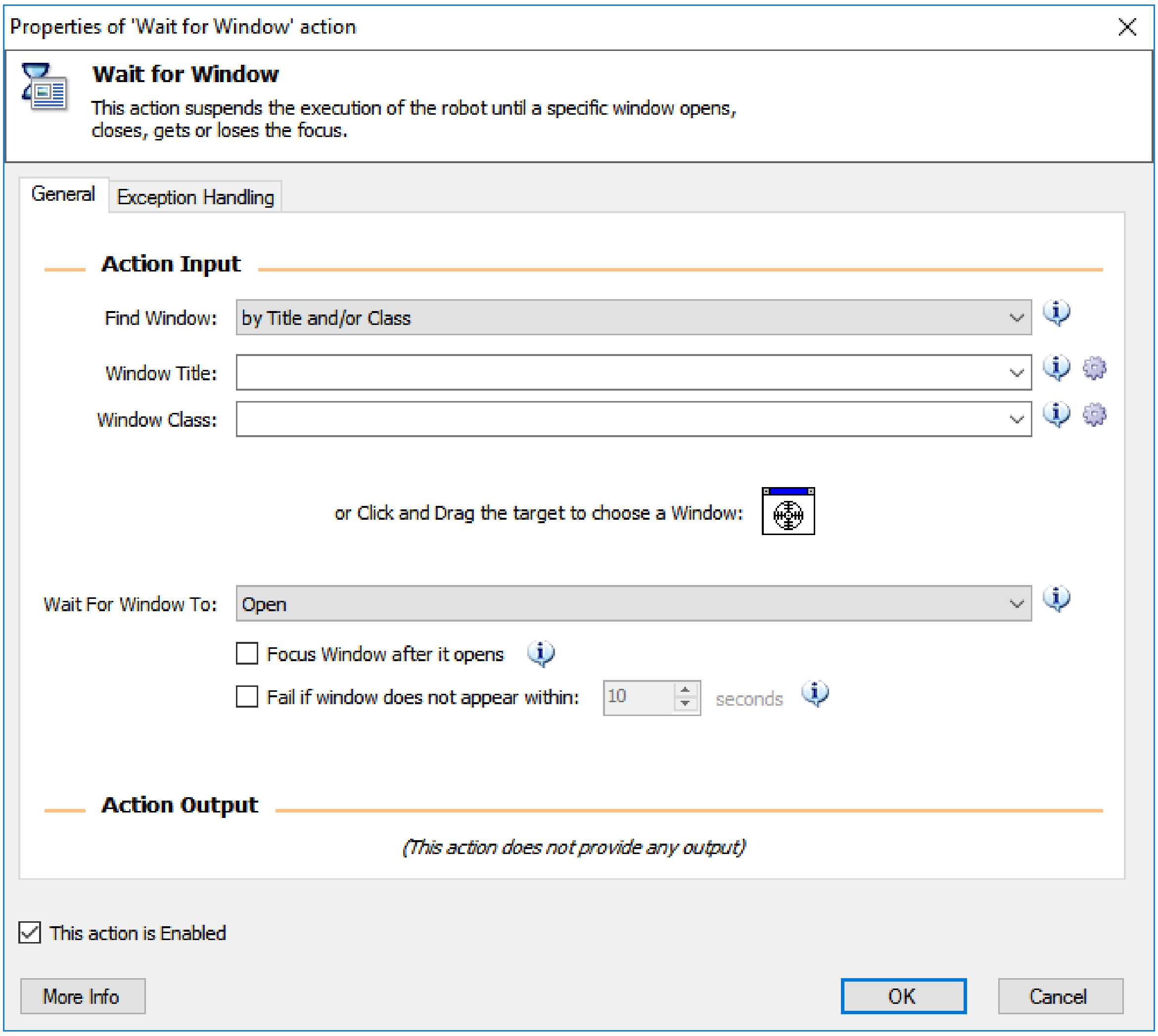
□ Focus Window after it opens

□ Fail if window does not appear within: 10 seconds

Action Output

(This action does not provide any output)

☑ This action is Enabled



Wait for Window

This action suspends the execution of the robot until a specific window opens, closes, gets or loses the focus.

Action Input

Find Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

Wait For Window To: Open

□ Focus Window after it opens

□ Fail if window does not appear within: 10 seconds

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Get Window:

Choose whether the action gets the target window from a "Window Instance 286" variable, or searches for it by Title and/or Class.

Window Instance:

Enter the variable that contains the Window Instance which you want to bring to front. This must be a variable defined by a preceding "Get Window 517" action or a valid Window Handle.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

Window Class:

Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank.

Wait for Window to:

Choose the event that this action will wait for: you can choose to wait for a specific window to open, close, become focused (i.e. become the foreground window), or lose focus (stop being the foreground window).

Focus Window after it opens:

Bring the Window to the front after it opens, so later actions are directed at this Window.

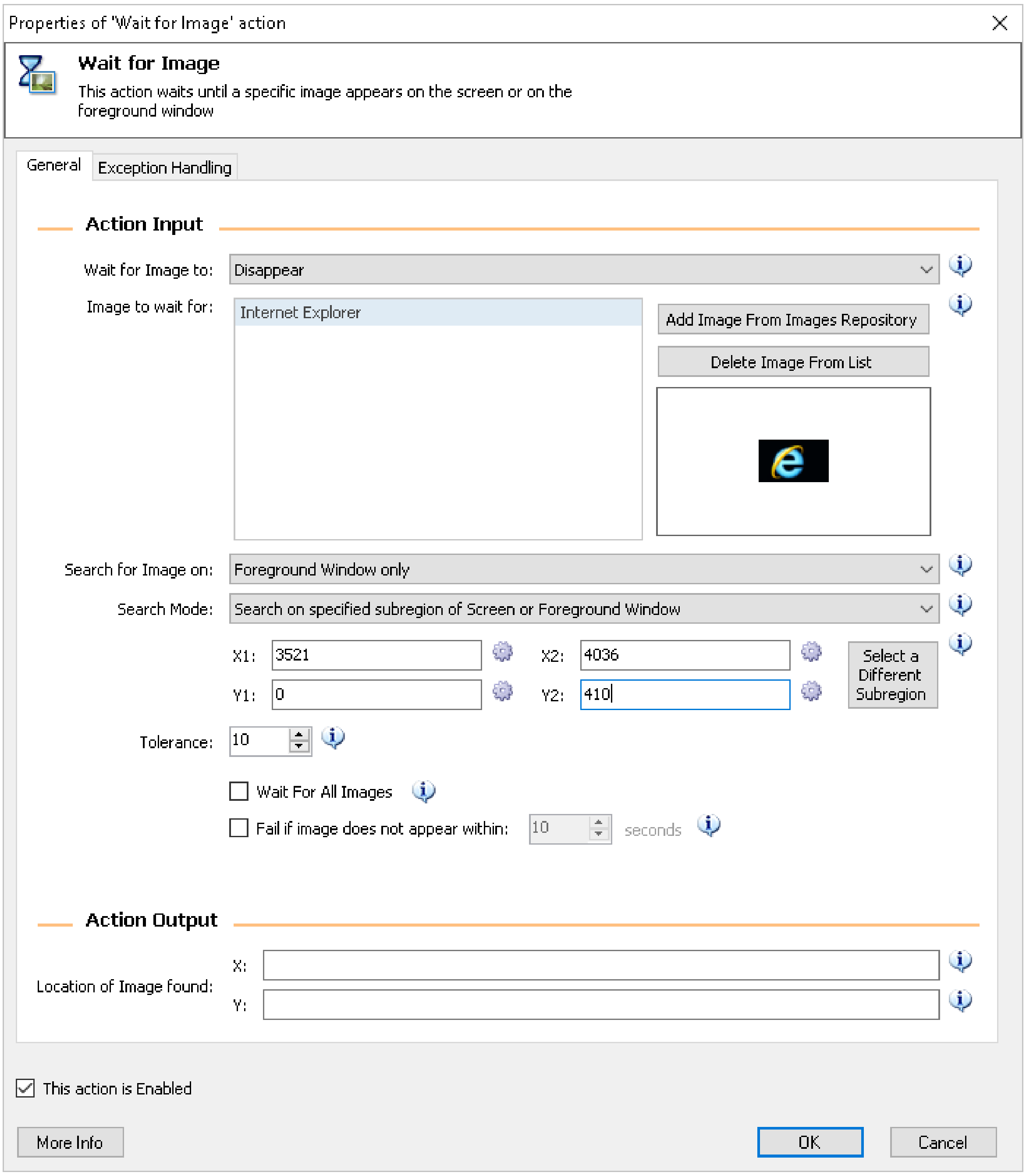
Fail if window does not appear/close within:

Choose whether the action will throw an exception after a set number of seconds if the specified Window has not opened/closed/became focused/lost focus. Then go to the Exception Handling tab at top to specify how the Exception will be handled. Otherwise, the Process will stop and issue an error message.

5.4.7 Wait for Image Action

Description:

This action waits until a specific image appears on the screen or on the foreground window. This action uses the Image Recognition 327 feature.



Properties of 'Wait for Image' action

Wait for Image

This action waits until a specific image appears on the screen or on the foreground window

General
Exception Handling

Action Input

Wait for Image to: Disappear

Image to wait for: Internet Explorer

Add Image From Images Repository
Delete Image From List

Search for Image on: Foreground Window only

Search Mode: Search on specified subregion of Screen or Foreground Window

X1: 3521 X2: 4036

Y1: 0 Y2: 410

Select a Different Subregion

Tolerance: 10

□ Wait For All Images

□ Fail if image does not appear within: 10 seconds

Action Output

Location of Image found: X: Y:

☑ This action is Enabled

Properties:

Wait for Image to:

Select if you want the action to wait for the image(s) to appear or disappear.

Image to wait for:

Select the Image(s) that the action waits to appear or dissapear by clicking Add Image from Repository. Click Delete Image to remove an image from the list.

Search for Image on:

Choose whether you want to search for the specified Image in the foreground Window only, or the entire visible screen. Neither choice will find the Image if it is not clearly visible on the screen.

Search Mode:

Specify whether you want to scan the entire screen (or window) to find the supplied image or only a narrowed down subregion of it.

X1, Y1, X2, Y2:

Specify the subregion of the screen or window to narrow down the scan for the supplied image to. You can visually select a subregion of the screen or window by pressing the "Select a Different Subregion" button.

Tolerance:

Specify a value for how much the Image searched for can differ from the originally chosen Image.

Fail if image does not appear:

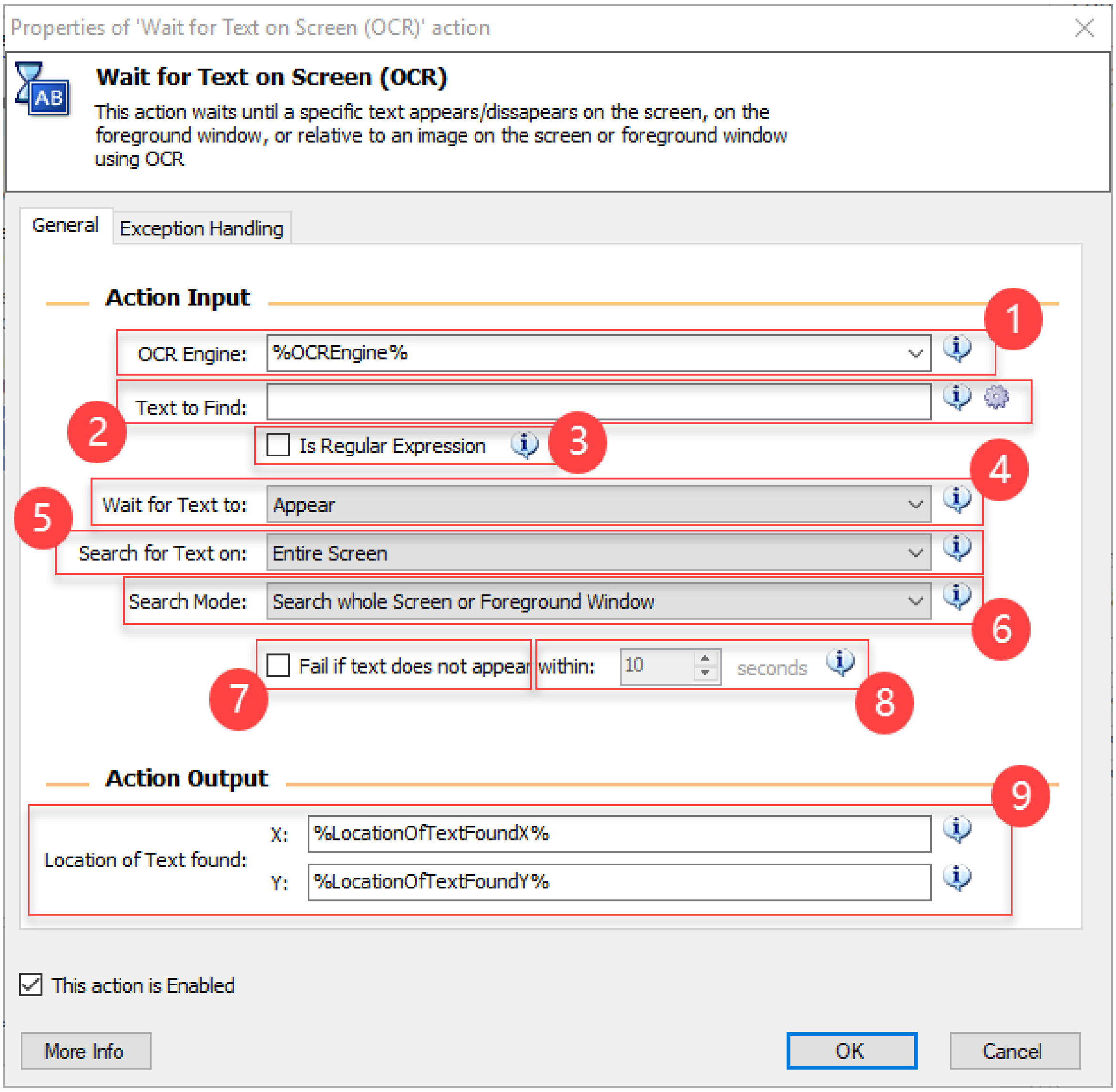
Choose whether the action will throw an exception after a set number of seconds if the specified Image has not been found. Then go to the Exception Handling tab at top to specify how the Exception will be handled. Otherwise, the process will stop and issue an error message.

Location of Image Found:

Enter the names to be the variables that will hold the X and Y coordinates of the point where the image is found on the screen. If the image is being searched for on the foreground window, the coordinates returned are relative to the top left corner of the window.

5.4.8 Wait for Text on Screen (OCR)

This action waits (pauses the execution of your script) until a specific text [2] appears/disappears [4] on the entire screen or foreground window [5] allowing you to analyze either the whole of that image or a specific subregion of it [6]. You can also specify whether you want the action to fail [7] if the text does not appear within a custom set of seconds [8]. The action returns the location [9] (coordinates) of the specified text's first occurence (or match if a regular expression [3] is used) from left to right, top to bottom.



Properties of 'Wait for Text on Screen (OCR)' action

Wait for Text on Screen (OCR)

This action waits until a specific text appears/dissapears on the screen, on the foreground window, or relative to an image on the screen or foreground window using OCR

OCR Engine: %OCREngine%

Text to Find:

□ Is Regular Expression

Wait for Text to: Appear

Search for Text on: Entire Screen

Search Mode: Search whole Screen or Foreground Window

□ Fail if text does not appear within: 10 seconds

Location of Text found: X: %LocationOfTextFoundX% Y: %LocationOfTextFoundY%

☑ This action is Enabled

1. OCR Engine:

This text field with drop down menu options invites you to enter *or choose* the instance of the OCR Engine 737 you want to work with.

2. Text to Find:

This text field allows you to enter the text you want the OCR Engine to search for as text or as a Variable (please be mindful of the fact that OCR is case sensitive).

3. Is Regular Expression:

Check this check box if you want to use a Regular Expression to determine the text you are looking for. A Regular Expression creates a range of possibilities and can return a number of results that may match your search. The order that the Engine is adding these matches is from top to bottom, left to right as it scans the given source to analyze.

4. Wait for Text to:

This drop down menu allows you to specify whether you want to wait for the Text on

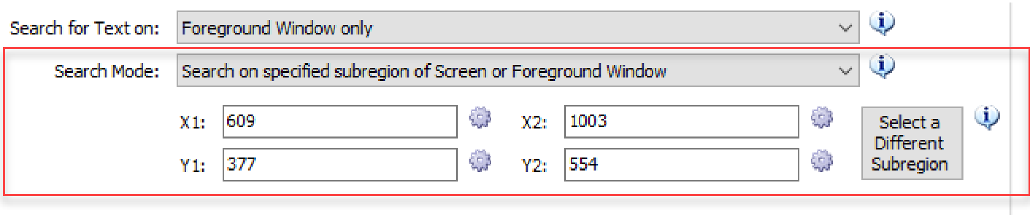
5. Search for Text on:

Two options on this drop down menu, *Entire Screen* or *Foreground Window only*.

6. Search Mode:

While the first option of this drop down menu is pretty straightforward (Search Whole Screen or Foreground Window) the other two options that allow you to target a specific subregion of your window or screen produce a whole different set of additional Properties which will see in detail here:

-Search on specified subregion of Screen or Foreground window:



Search for Text on: Foreground Window only

Search Mode: Search on specified subregion of Screen or Foreground Window

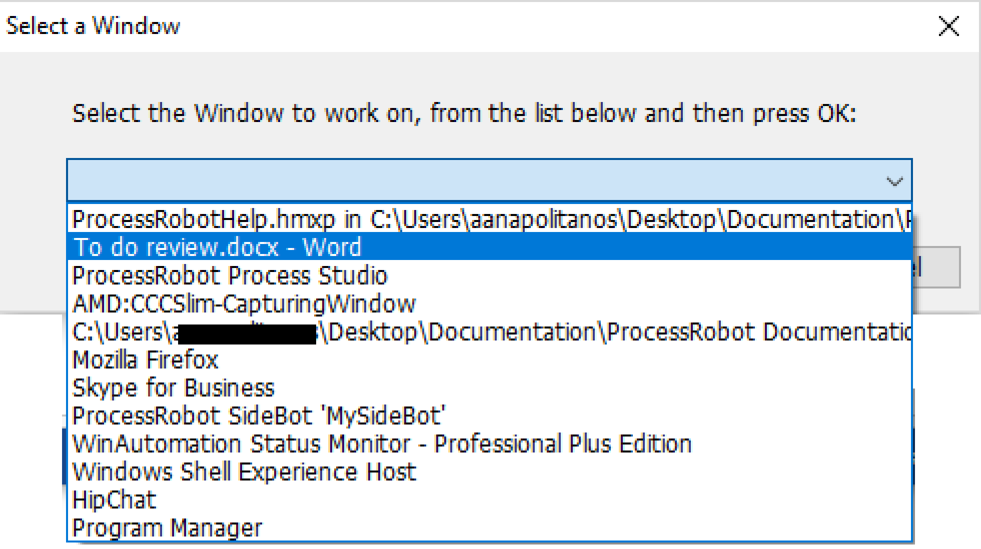
X1: 609

X2: 1003

Y1: 377

Y2: 554

By clicking the "Select a Different Subregion" button on the right of the red box, you will be prompted to select firstly the window you want to work:



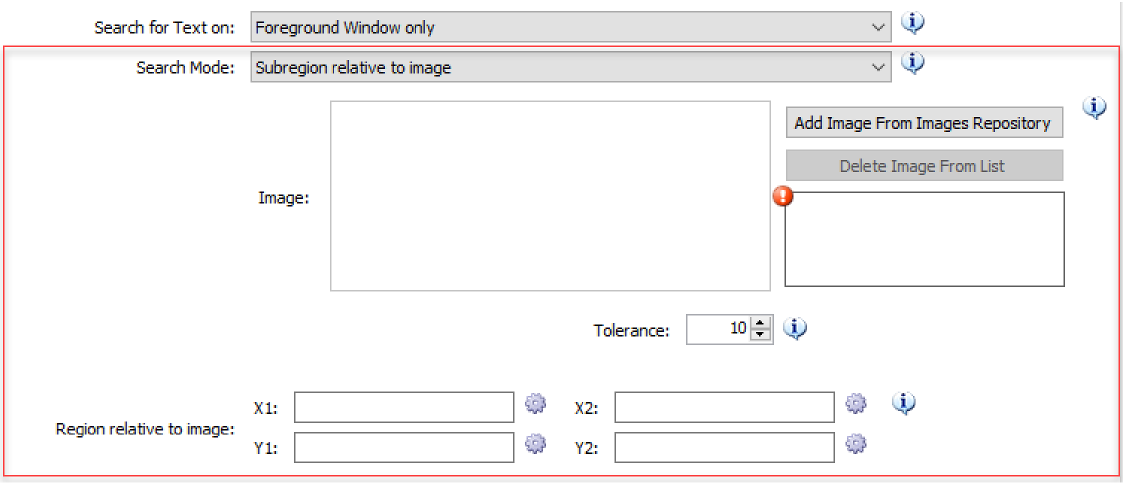
Select the Window to work on, from the list below and then press OK:

ProcessRobotHelp.hmxp in C:\Users\aanapolitanos\Desktop\Documentation\P
To do review.docx - Word
ProcessRobot Process Studio
AMD:CCCSlim-CapturingWindow
C:\Users\a[redacted]\Desktop\Documentation\ProcessRobot Documentatio
Mozilla Firefox
Skype for Business
ProcessRobot SideBot 'MySideBot'
WinAutomation Status Monitor - Professional Plus Edition
Windows Shell Experience Host
HipChat
Program Manager

and then you will be given the opportunity through an amazing interactive feature to actually select the area you want to narrow down your scan (drag your mouse to select the area). The X1 X2 Y1 Y2 co-ordinates are denoting the start and finish of your dragging manoeuvre.

However, using the "Select a Different Subregion" button is not compulsory. You can enter the values of the co-ordinates by hand or as a Variable (notice the Gear Icon next to the text fields).

-Subregion relative to image:


Search for Text on: Foreground Window only

Search Mode: Subregion relative to image

Image:

Tolerance: 10

Region relative to image: X1: X2: Y1: Y2:

This search mode enables you to narrow down your scan through a region that is defined relative to the top-left corner of an image from the Image Repository.

7. Fail if Text does not appear within:

This checkbox allows you to produce an exception (which you can in turn handle through the state of the art of exception handling mechanisms[322] PR is providing you with) in case the specified Text appear or does not appear within a custom set of seconds to be defined on [8].

8. Fail if Text does not appear within specified number of seconds:

The maximum number of seconds you can set in this box is *600*.

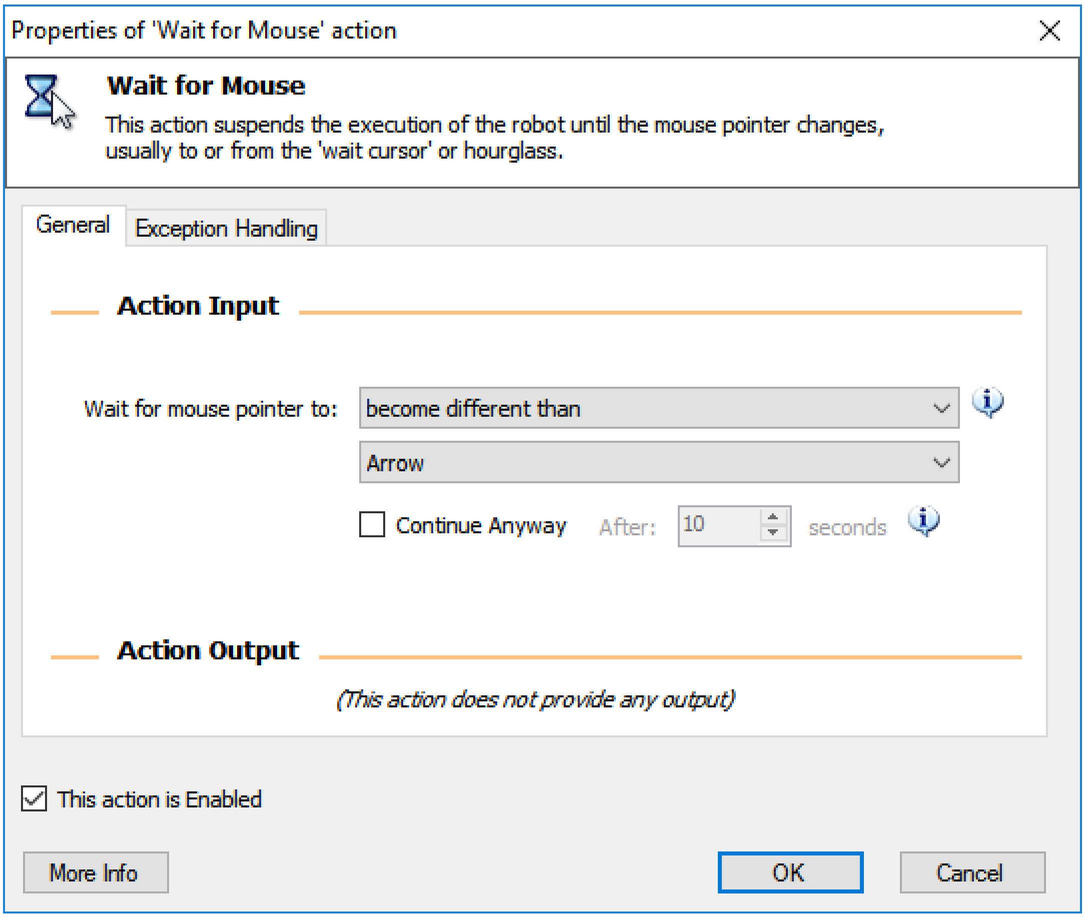
9. Location of Text found:

This action returns the coordinates of the top-left corner of the text found on screen or a specified window, stored in a couple of variables for later use.

5.4.9 Wait for Mouse Action

Description:

This action suspends the execution of the process until the mouse pointer changes, usually to or from the 'wait cursor' or hourglass.



Properties of 'Wait for Mouse' action

Wait for Mouse

This action suspends the execution of the robot until the mouse pointer changes, usually to or from the 'wait cursor' or hourglass.

Wait for mouse pointer to: become different than

Arrow

□ Continue Anyway After: 10 seconds

(This action does not provide any output)

☑ This action is Enabled

Properties:

Wait for mouse pointer to:

Choose what action of the mouse cursor you will wait for.

Continue Anyway:

Choose whether the process continues after a set number of seconds, regardless of whether the mouse pointer has changed or not.

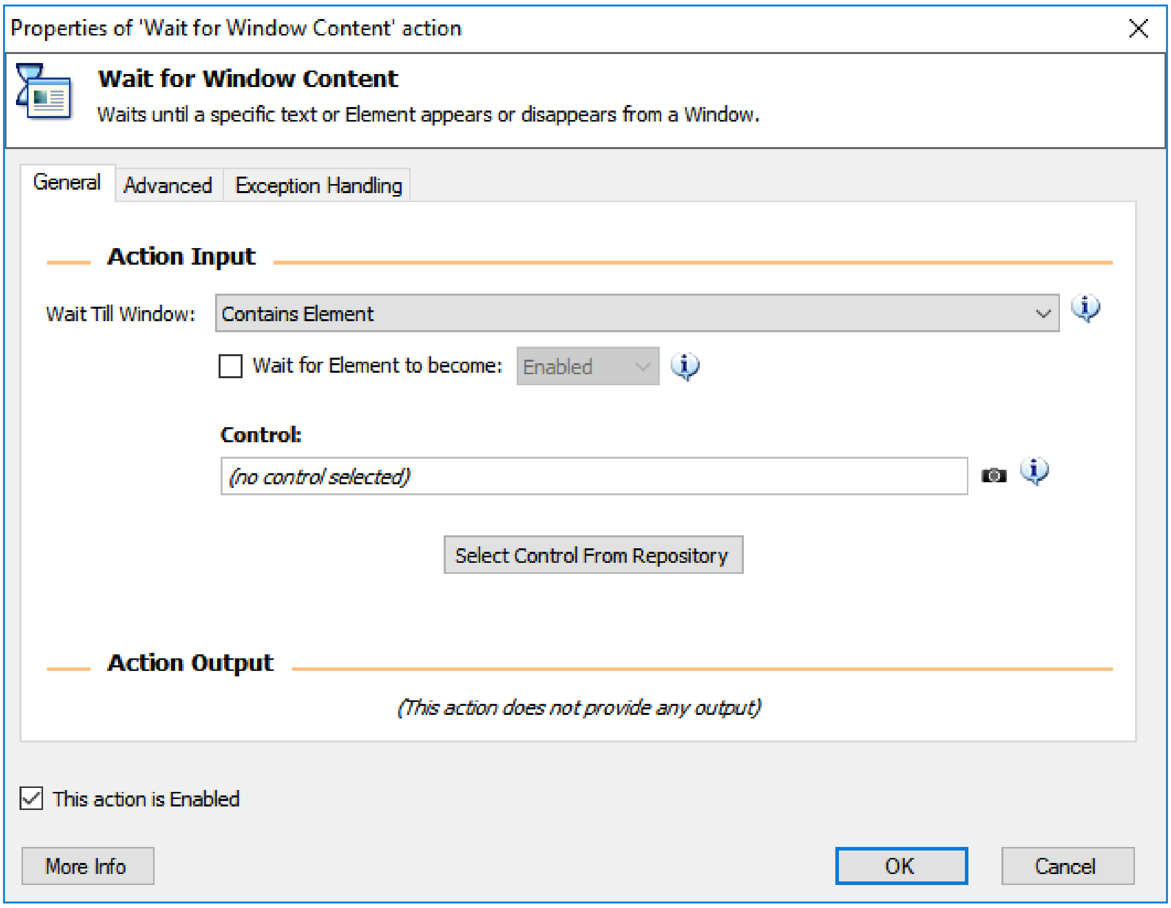
5.4.10 Wait for Window Content Action

Description:

Waits until a specific text or Element appears or disappears from a Window.

This action operates on a UI Automation Window Instance that has been previously acquired by a "Get Window 517" action. The latter stores the Window instance into a variable. This action accepts this variable and waits until the supplied Window Instance contains or does not contain a specific text or Element.

Option 1: Wait for UI Element (Contained/Not Contained in Window)



Properties of 'Wait for Window Content' action

Wait for Window Content

Waits until a specific text or Element appears or disappears from a Window.

Action Input

Wait Till Window: Contains Element

□ Wait for Element to become: Enabled

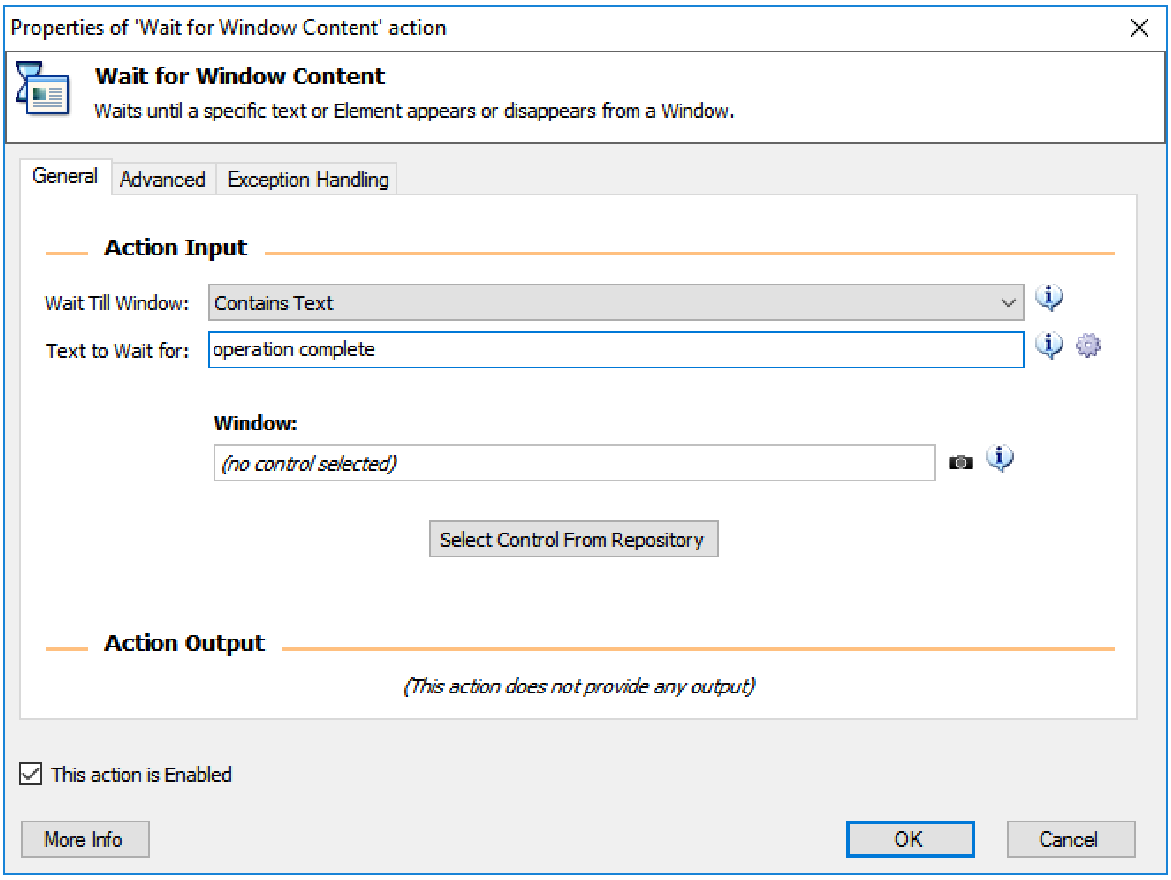
Control: *(no control selected)*

Action Output

(This action does not provide any output)

☑ This action is Enabled

Option 2: Wait for Text (Exists/Does not Exist)



Properties of 'Wait for Window Content' action

Wait for Window Content

Waits until a specific text or Element appears or disappears from a Window.

Action Input

Wait Till Window: Contains Text

Text to Wait for: operation complete

Window: *(no control selected)*

Action Output

(This action does not provide any output)

☑ This action is Enabled

This option waits until the specifies text appears or disappears from the Window Contents.

Properties:

Window Instance:

Enter the variable that contains the parent Window Instance of the Element or text you are waiting for. This must be a variable defined by a preceding "Get Window 517" action or a valid Window Handle.

Wait Till Window:

Specify whether you want to wait for a UI element or a specific text.

Wait for Element to Become:

This property allows you to wait until the target element is present and in a specific state (Enabled or Disabled). The Wait statement will only stop waiting when the target element is both present and in the required state, if this property is checked.

Text to Wait for:

Enter text you want to wait for.

Description for Element:

Enter a short description for the Window Element you want to wait for. This is optional, meant for documentation purposes and when possible it is auto-populated along with the "UI Selector" property, during the UI Element Live Selection 223.

UI Selector of Element:

Enter the UI Selector of the Window Element you want to check for. You do not need to manually enter a value here; this field will be populated automatically when you select an element on any Window, by right-clicking on it while having the action's properties dialog open.

Fail On Timeout:

Choose whether the action will throw an exception after a set timeout of waiting. Then go to the Exception Handling tab to specify how the Exception will be handled, otherwise the process will stop and issue an error message.

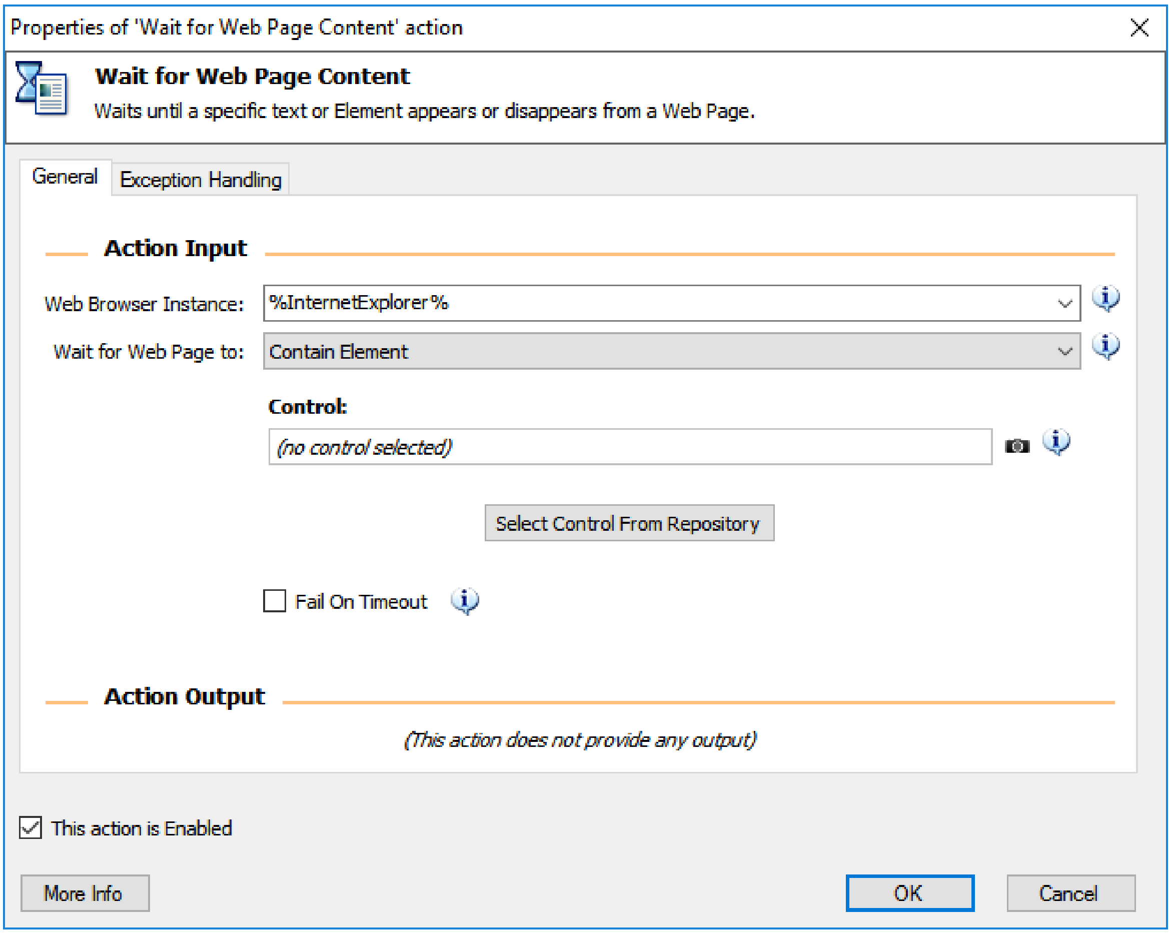
5.4.11 Wait for Web Page Content Action

Description:

Waits until a specific text or Element appears or disappears from a Web Page.

This action operates on a Web Page that has been previously opened by a "Launch New Internet Explorer 562" action. The latter stores the Web browser instance into a variable. This action accepts this variable and waits until the page is currently displayed in that Web Browser Instance contains or does not contain a specific element or text.

Option 1: Wait for Web Element (Contained/Not Contained in Page)



Properties of 'Wait for Web Page Content' action

Wait for Web Page Content

Waits until a specific text or Element appears or disappears from a Web Page.

Action Input

Web Browser Instance: %InternetExplorer%

Wait for Web Page to: Contain Element

Control: *(no control selected)*

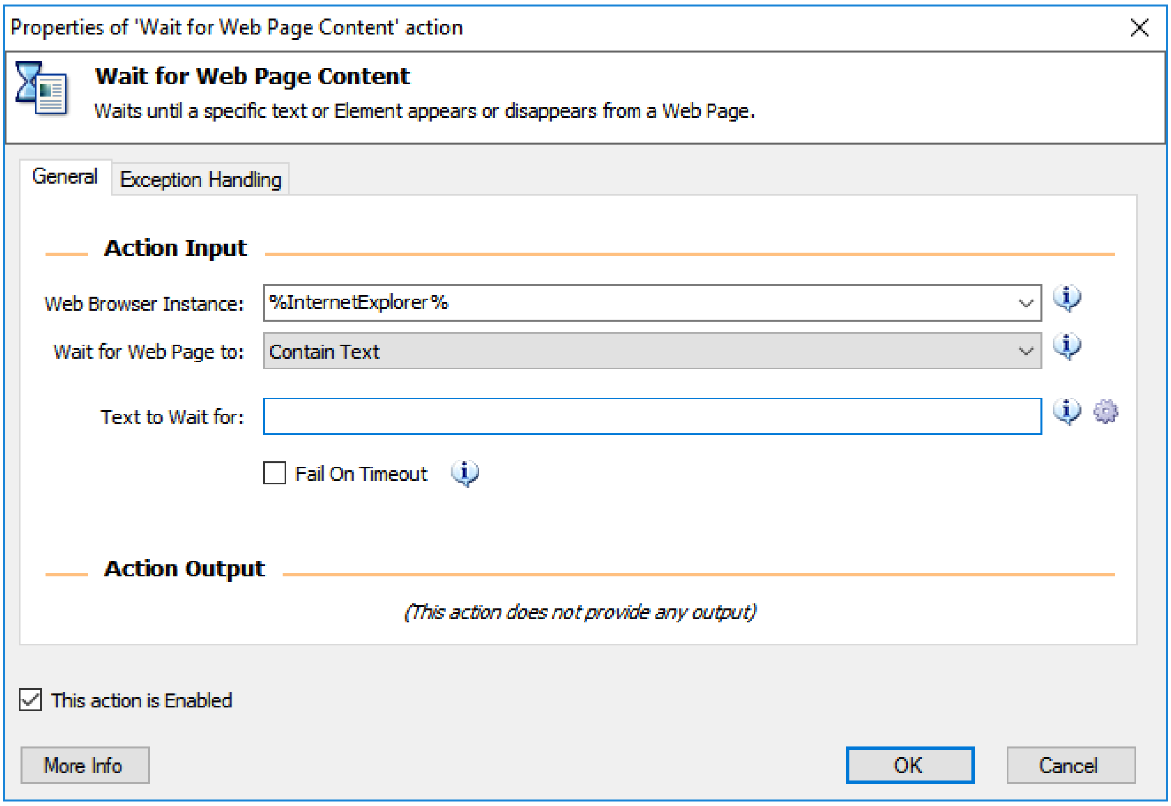
□ Fail On Timeout

Action Output

(This action does not provide any output)

☑ This action is Enabled

Option 2: Wait for Text (Exists/Does not Exist)



Properties of 'Wait for Web Page Content' action

Wait for Web Page Content

Waits until a specific text or Element appears or disappears from a Web Page.

Web Browser Instance: %InternetExplorer%

Wait for Web Page to: Contain Text

Text to Wait for:

□ Fail On Timeout

(This action does not provide any output)

☑ This action is Enabled

This option waits until the specifies text appears or disappears from the Web page.

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Wait for Web Page to:

Specify whether you want to wait for an HTML element or a specific text.

Text to Wait for:

Enter text you want to wait for.

Fail On Timeout:

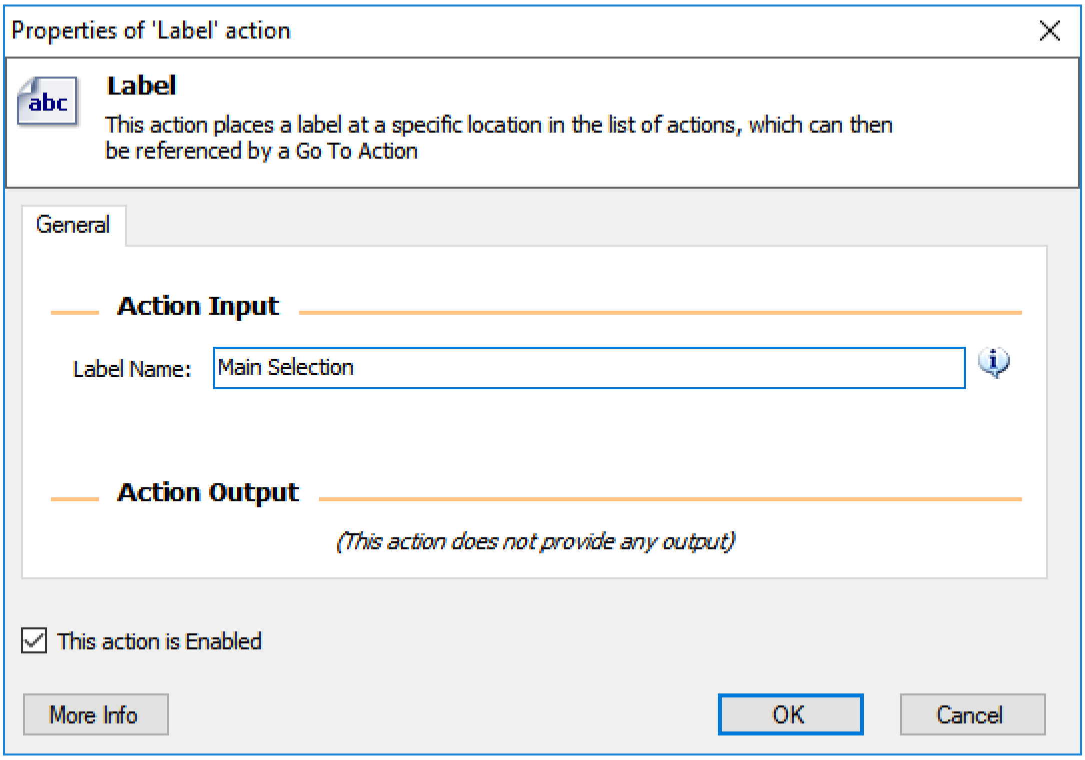
Choose whether the action will throw an exception after a set timeout of waiting. Then go to the Exception Handling tab to specify how the Exception will be handled, otherwise the process will stop and issue an error message.

5.5 Flow Control

5.5.1 Label Action

Description:

This action places a label at a specific process location that can be referenced by a Go To Action



Properties of 'Label' action

Label

This action places a label at a specific location in the list of actions, which can then be referenced by a Go To Action

Action Input

Label Name: Main Selection

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

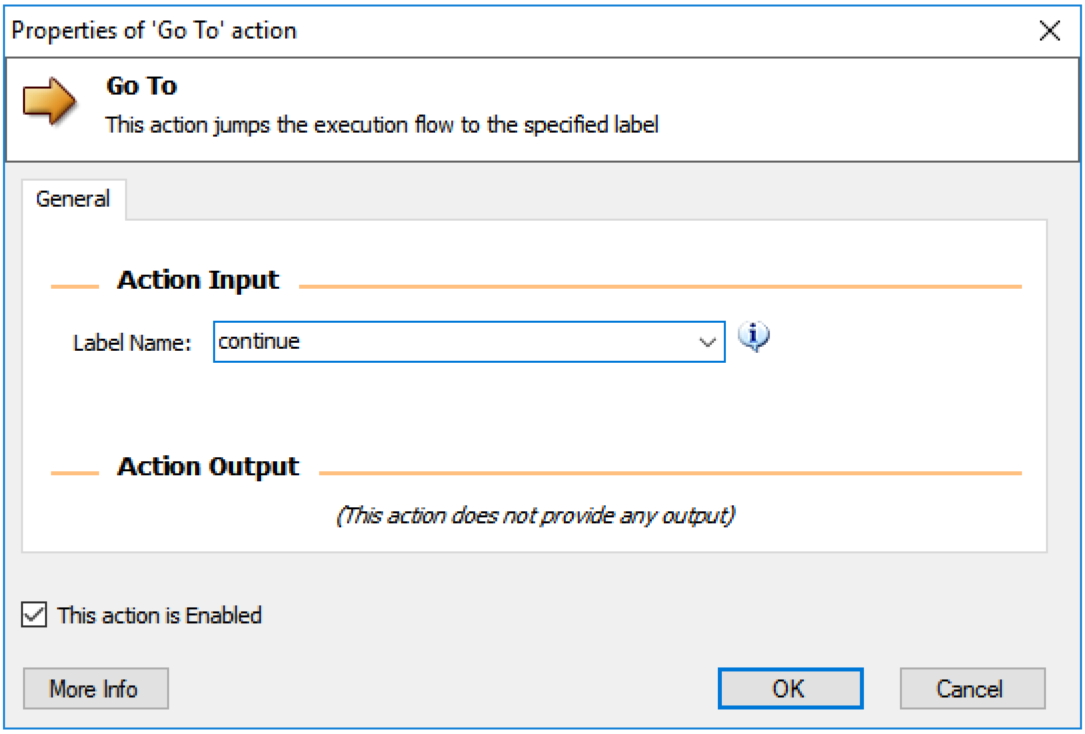
Label Name:

Enter a Label, to be used by a Go To action, to find at a later point in the process.

5.5.2 Go To Action

Description:

This action jumps the execution flow to the specified label



Properties of 'Go To' action

Go To

This action jumps the execution flow to the specified label

General

Action Input

Label Name: continue

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

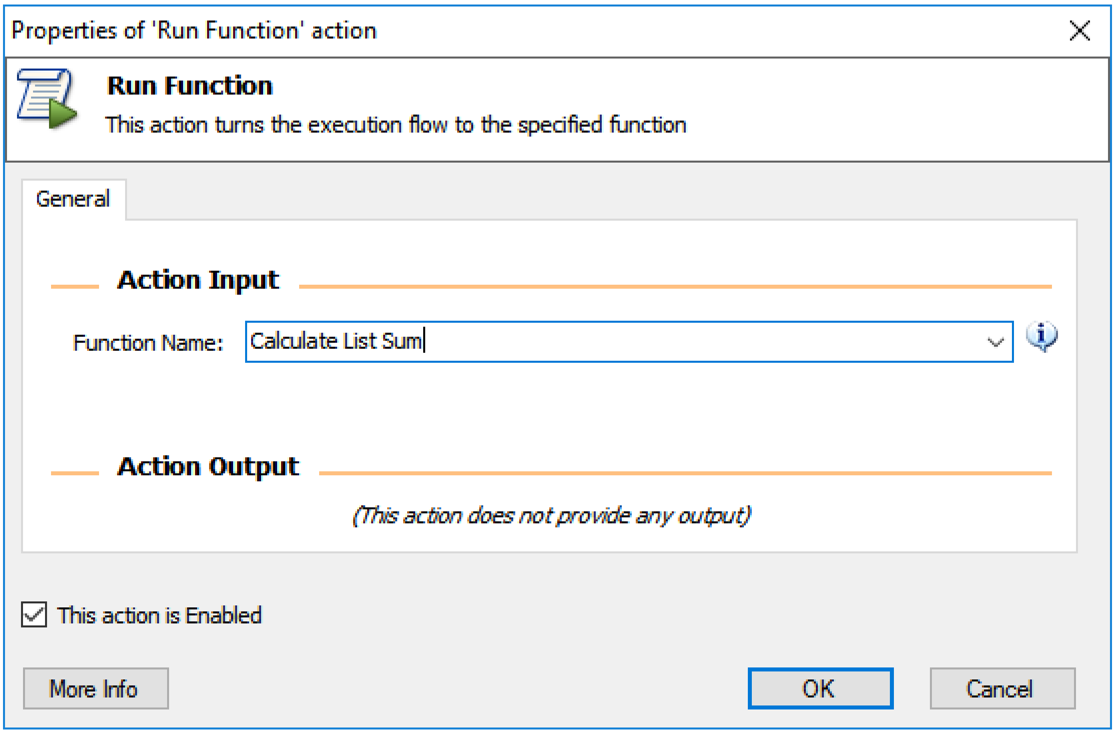
Label Name:

Enter an existing Label Name that this action will find and jump to.

5.5.3 Run Function Action

Description:

This action turns the execution flow to the specified function.



Properties of 'Run Function' action

Run Function

This action turns the execution flow to the specified function

Action Input

Function Name: Calculate List Sum

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

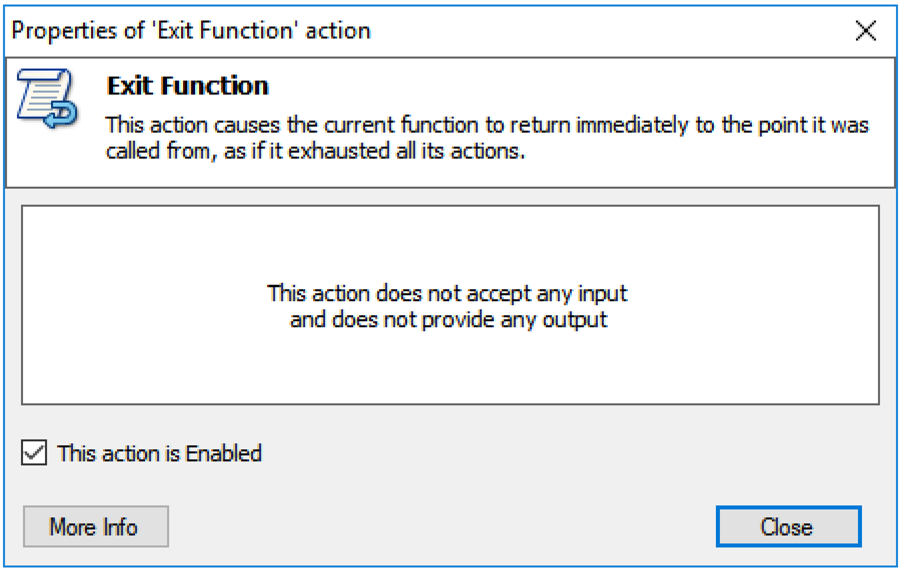
Function Name:

Enter the Name of the function to run.

5.5.4 Exit Function Action

Description:

This action causes the current function to return immediately to the point it was called from, as if it exhausted all its actions.



Properties of 'Exit Function' action

Exit Function

This action causes the current function to return immediately to the point it was called from, as if it exhausted all its actions.

This action does not accept any input and does not provide any output

☑ This action is Enabled

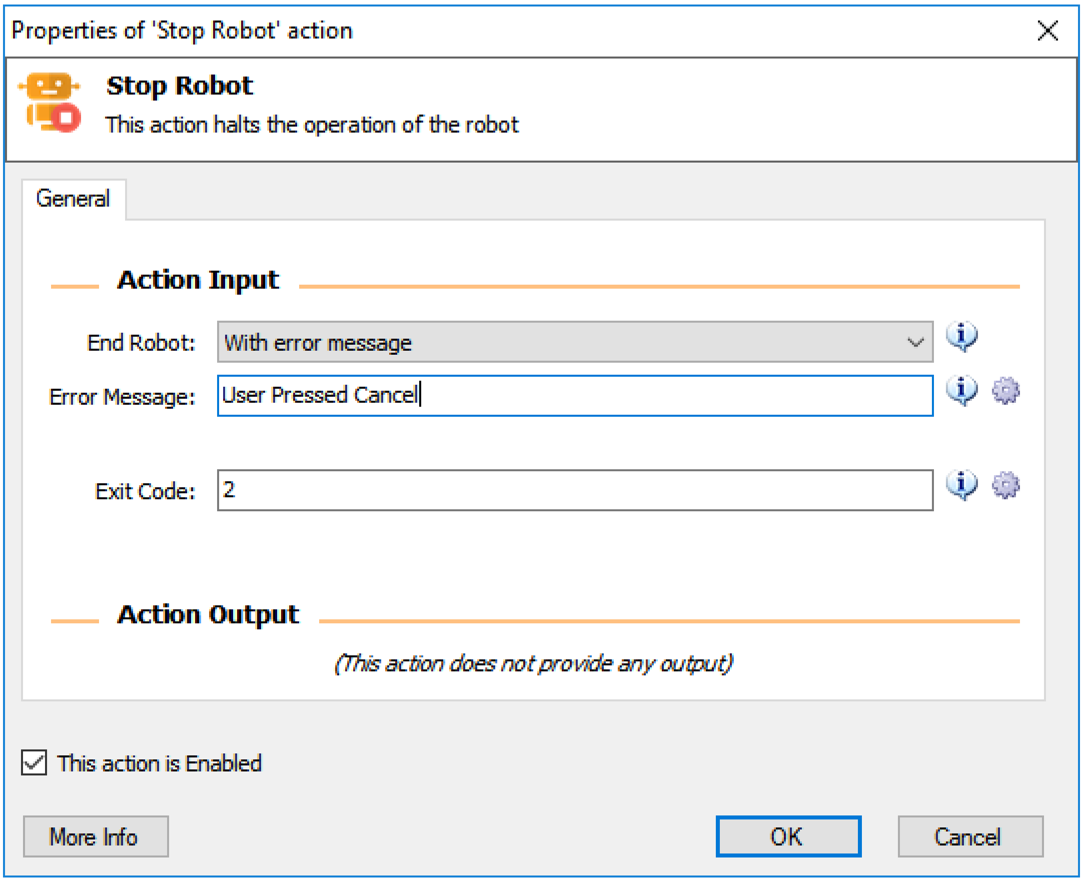
Properties:

This action does not have any configurable properties.

5.5.5 Stop Process Action

Description:

This action stops the execution of the process



Properties of 'Stop Robot' action

Stop Robot

This action halts the operation of the robot

Action Input

End Robot: With error message

Error Message: User Pressed Cancel

Exit Code: 2

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

End Process:

Choose whether this action ends the process with an error message or not.

Error Message:

Enter text to be a descriptive error message explaining why the process was ended.

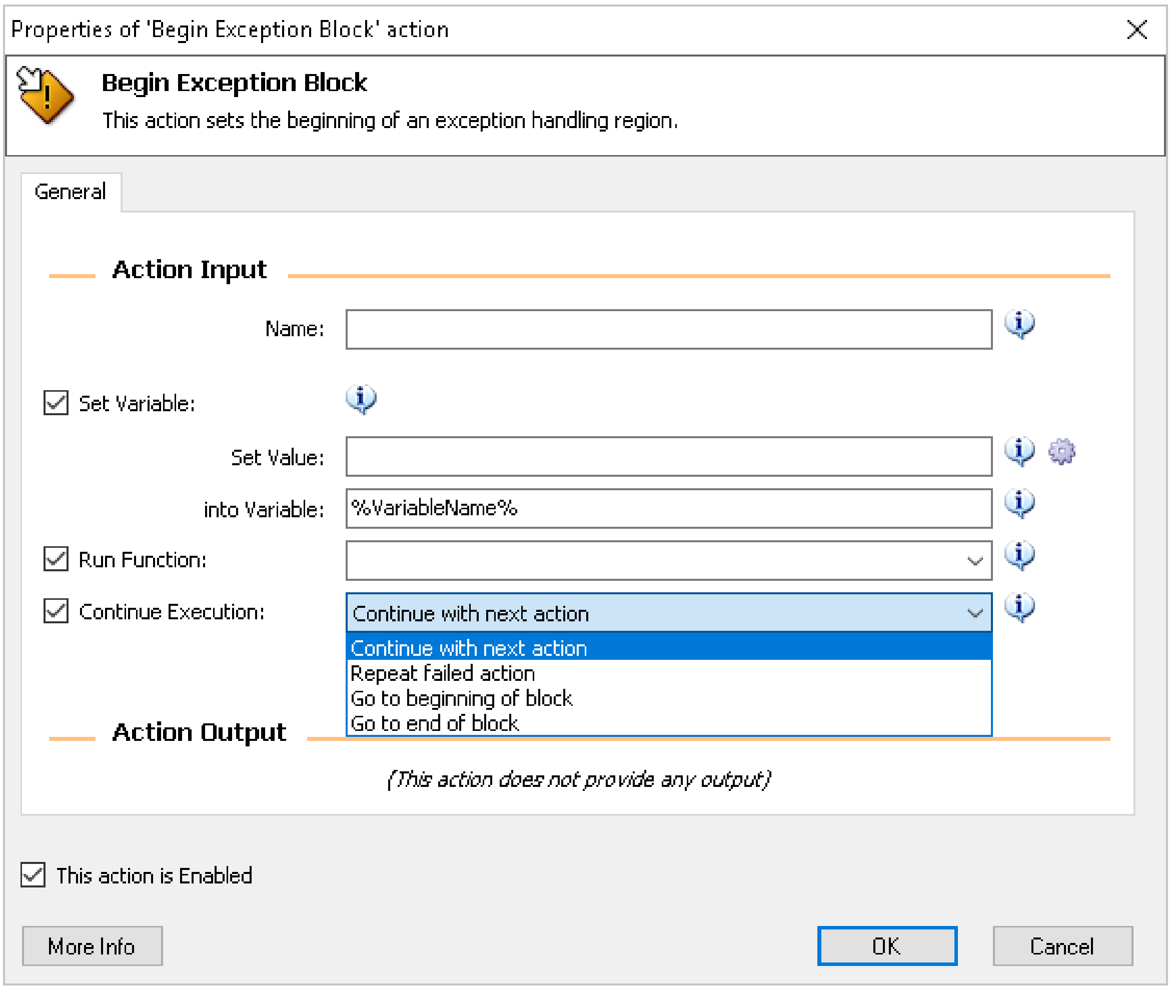
Exit Code:

Enter a number to be the exit code of the Process. This applies only to Processes that are compiled to exe; for Processes that run within WinAutomation this setting will have not effect.

5.5.6 Begin Exception Block Action

Description:

This action sets the beginning of an exception handling region



Properties of 'Begin Exception Block' action

Begin Exception Block

This action sets the beginning of an exception handling region.

Name:

☑ Set Variable:

Set Value:

into Variable: %VariableName%

☑ Run Function:

☑ Continue Execution: Continue with next action

(This action does not provide any output)

☑ This action is Enabled

Properties:

Name:

Enter the name of the Exception Block for virtual purposes only.

Set Variable - Set Value:

Enter the value to be set into the variable when exception in any action occurs.

Set Variable - into Variable:

Enter the variable into which the value should be set when exception in any action occurs.

Run Function:

Set a function to run when exception in any action occurs.

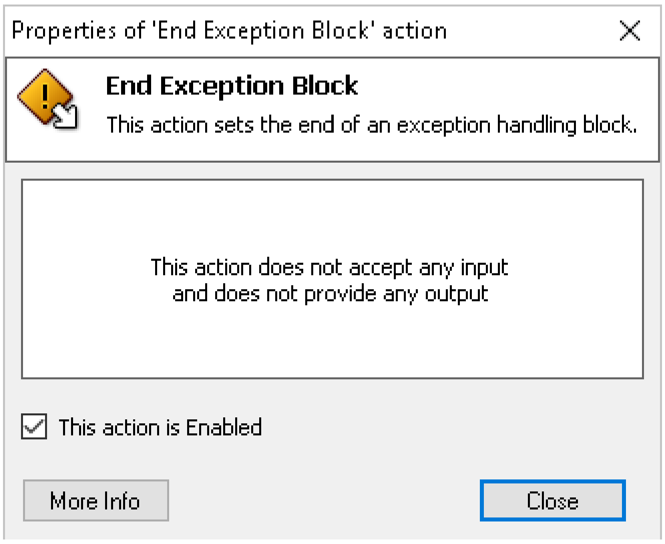
Continue Execution:

Set to continue the process execution with a selected command when exception in any action occurs.

5.5.7 End Exception Block Action

Description:

This action sets the end of an exception handling block



Properties of 'End Exception Block' action

End Exception Block

This action sets the end of an exception handling block.

This action does not accept any input and does not provide any output

☑ This action is Enabled

Properties:

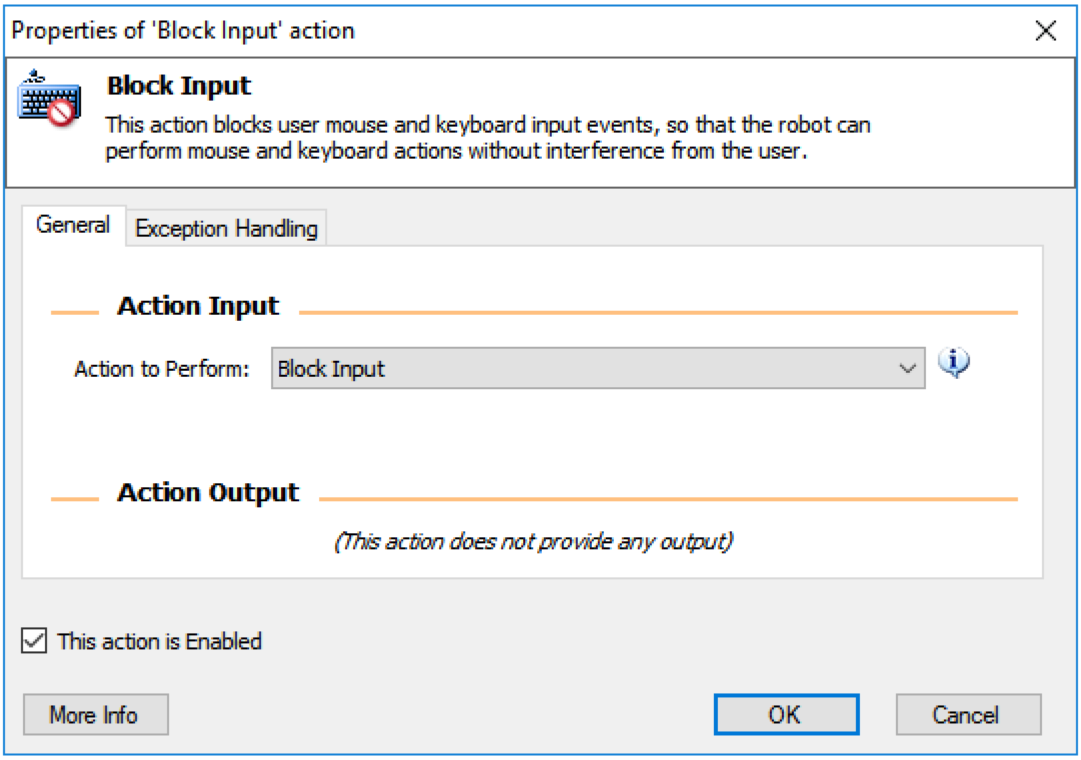
This action does not have any configurable properties.

5.6 Mouse and Keyboard

5.6.1 Block Input Action

Description:

This action blocks user mouse and keyboard input events, so the process can perform mouse and keyboard actions without interference from the user.



Properties of 'Block Input' action

Block Input

This action blocks user mouse and keyboard input events, so that the robot can perform mouse and keyboard actions without interference from the user.

General | Exception Handling

Action Input

Action to Perform: Block Input

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Action to Perform:

Choose whether this action will block or unblock Mouse and Keyboard input.

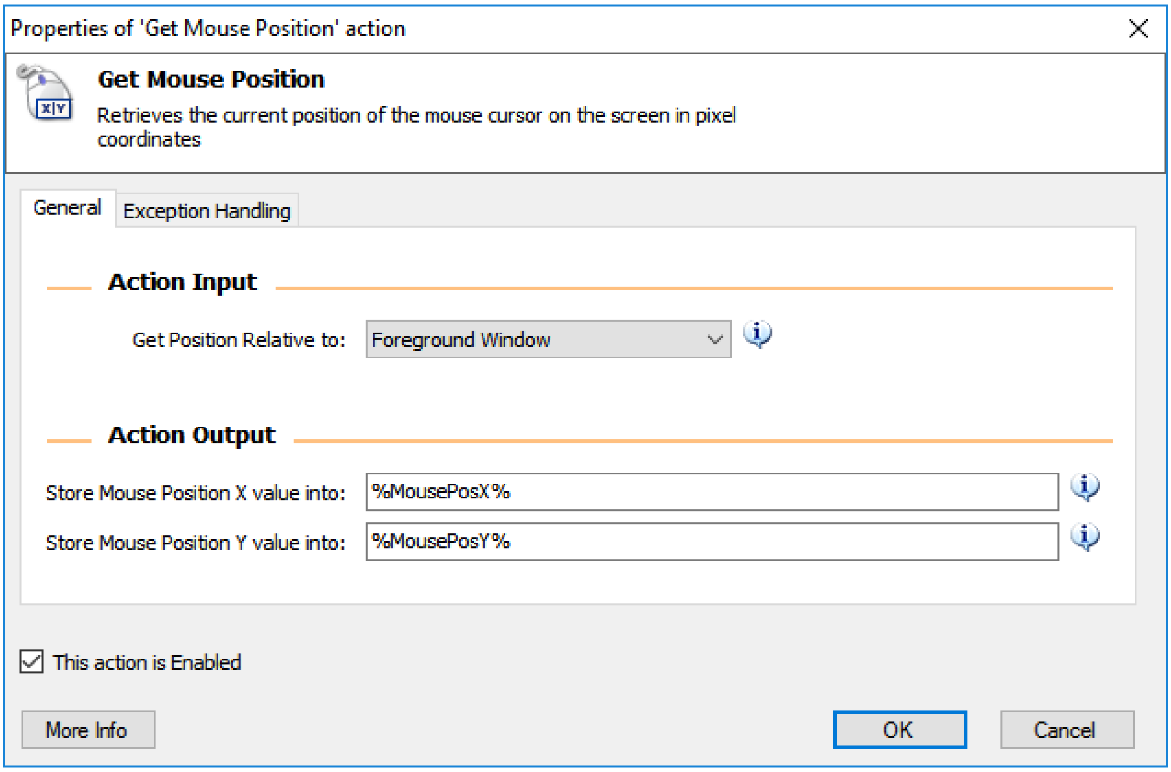
Cautions:

If your process fails while your mouse and keyboard input is locked, your control will not be unlocked. To regain control, press ctrl + alt + delete on your keyboard. This works even if the process has not failed.

5.6.2 Get Mouse Position Action

Description:

Retrieves the current position of the mouse cursor on the screen in pixel coordinates.



Properties of 'Get Mouse Position' action

Get Mouse Position

Retrieves the current position of the mouse cursor on the screen in pixel coordinates

Action Input

Get Position Relative to: Foreground Window

Action Output

Store Mouse Position X value into: %MousePosX%

Store Mouse Position Y value into: %MousePosY%

☑ This action is Enabled

Properties:

Get Position Relative to:

Specify whether to retrieve the mouse position in screen coordinates or you want the mouse position relative to the top left corner of the active window.

Store Mouse Position X value into:

Enter a name to be the variable that will store the horizontal (X) value of the mouse position.

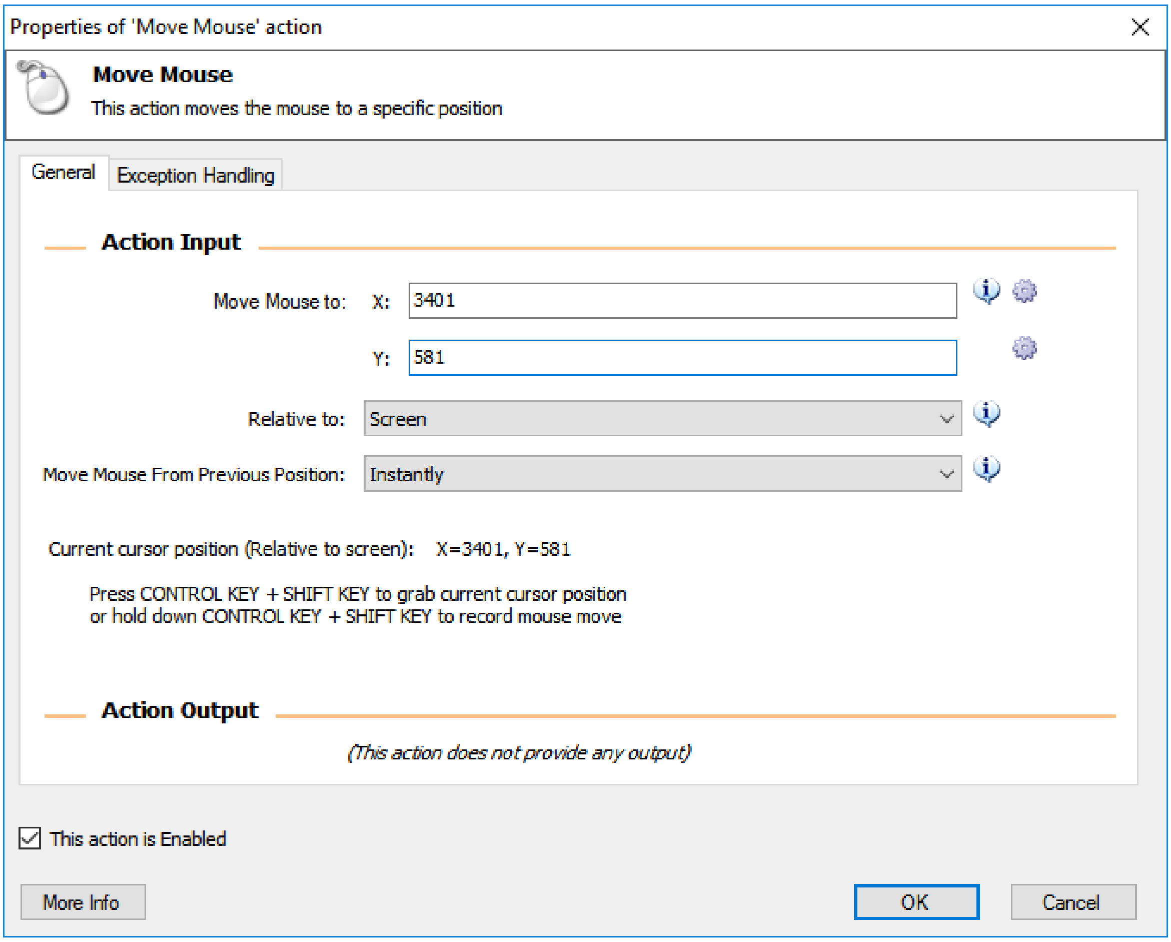
Store Mouse Position Y value into:

Enter a name to be the variable that will store the vertical (Y) value of the mouse position.

5.6.3 Move Mouse Action

Description:

This action moves the mouse to a specific position



Properties of 'Move Mouse' action

Move Mouse

This action moves the mouse to a specific position

Move Mouse to: X: 3401

Y: 581

Relative to: Screen

Move Mouse From Previous Position: Instantly

Current cursor position (Relative to screen): X=3401, Y=581

Press CONTROL KEY + SHIFT KEY to grab current cursor position
or hold down CONTROL KEY + SHIFT KEY to record mouse move

(This action does not provide any output)

☑ This action is Enabled

Properties:

Move Mouse to:

Set the position of the mouse in X and Y pixel coordinates. Press CONTROL + SHIFT keys if you wish to grab the current cursor position, or hold them both down to record a mouse movement.

Relative to:

Choose whether the new Mouse position will be relative to the top left corner of the screen, or of the foremost Window, or relative to the current mouse position.

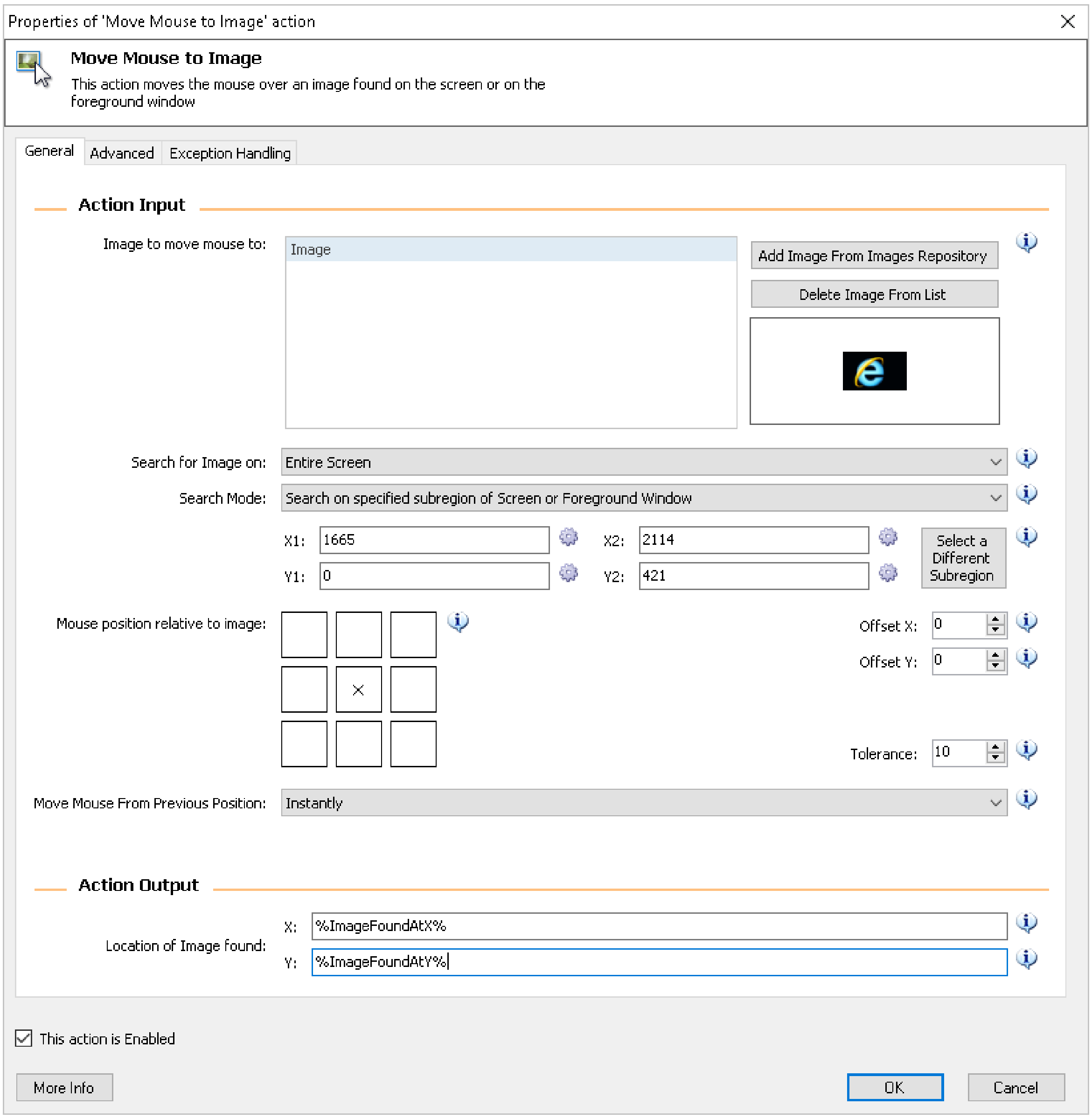
Move Mouse From Previous Position:

Choose the style of movement in which the mouse will move from it's previous position to the beginning of the recorded route (or to it's final position). The mouse can move instantly (jump) to the new position or navigate smoothly at three different speeds (slow/normal/fast).

5.6.4 Move Mouse to Image Action

Description:

This action moves the mouse over an image found on the screen or on the foreground window. This action uses the Image Recognition 327 feature.



Properties of 'Move Mouse to Image' action

Move Mouse to Image

This action moves the mouse over an image found on the screen or on the foreground window

General
Advanced
Exception Handling

Action Input

Image to move mouse to: Image

Add Image From Images Repository
Delete Image From List

Search for Image on: Entire Screen

Search Mode: Search on specified subregion of Screen or Foreground Window

X1: 1665 X2: 2114

Y1: 0 Y2: 421

Select a Different Subregion

Mouse position relative to image: ×

Offset X: 0

Offset Y: 0

Tolerance: 10

Move Mouse From Previous Position: Instantly

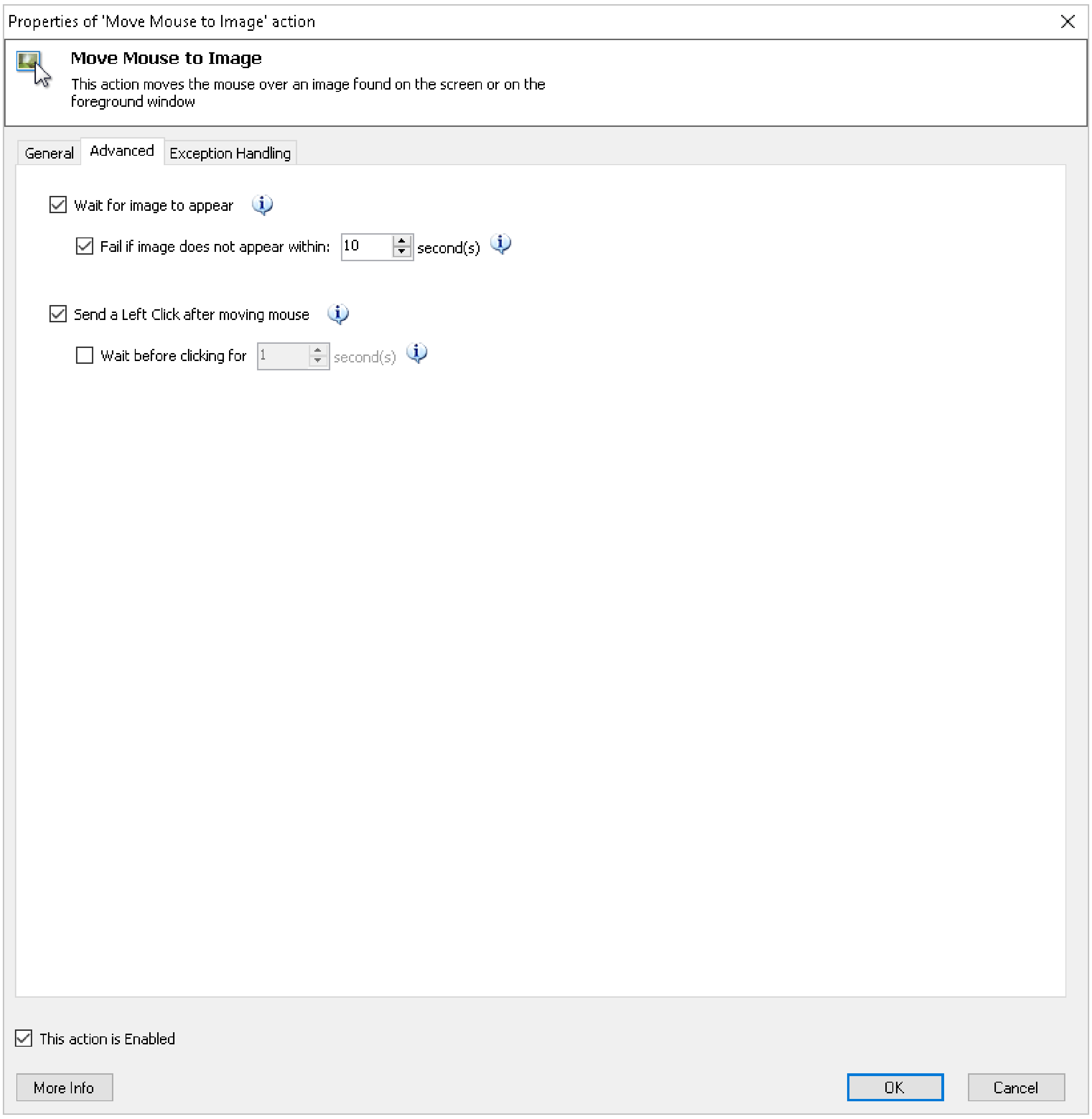
Action Output

Location of Image found:

X: %ImageFoundAtX%

Y: %ImageFoundAtY%

☑ This action is Enabled



Properties of 'Move Mouse to Image' action

Move Mouse to Image

This action moves the mouse over an image found on the screen or on the foreground window

☑ Wait for image to appear

☑ Fail if image does not appear within: 10 second(s)

☑ Send a Left Click after moving mouse

□ Wait before clicking for 1 second(s)

☑ This action is Enabled

Properties:

Image to move mouse on:

This is the list of Image(s) that the action will move the mouse to. Press 'Add Image From Repository' to select the image(s) from the images repository.

Search for Image on:

Choose whether you want to search for the specified Image in the foremost Window only, or the entire visible screen. Neither choice will find the Image if it is not clearly visible on the screen.

Search Mode:

Specify whether you want to scan the entire screen (or window) to find the supplied image or only a narrowed down subregion of it.

X1, Y1, X2, Y2:

Specify the subregion of the screen or window to narrow down the scan for the supplied image to. You can visually select a subregion of the screen or window by pressing the "Select a Different Subregion" button.

Mouse position relative to image:

Choose which section of the image the mouse will be moved to.

Offset X:

Offset the mouse from the Position by this many pixels to the right.

Offset Y:

Offset the mouse from the Position by this many pixels down.

Tolerance:

Specify a value for how much the Image searched for can differ from the originally chosen Image.

Move Mouse From Previous Position:

Choose the style of movement in which the mouse will move from it's current position to the position of the image found. The mouse can move instantly (jump) to the new position or navigate smoothly at three different speeds (slow/normal/fast).

Location of Image Found:

Enter the names to be the variables that will hold the X and Y coordinate of the point where the image is found on the screen. If the image is being searched for on the foreground window, the coordinates returned are relative to the top left corner of the window.

Wait for image to appear:

Choose whether you want the action to wait if the image is not found on the screen or foreground window. If this property is not checked and the image is not found the action will through an exception, otherwise the action will wait until the image appears. In the next property you can specify the maximum number of seconds (timeout) to wait.

Fail if image does not appear within x seconds:

Choose whether the action wait indefinitely for the image to appear or it will throw an exception after a set number of seconds if the specified Image has not been found. You can then go to the Exception Handling tab at top to specify how the Exception will be handled, otherwise, if the image is not found within the timeout, the process will stop and issue an error message.

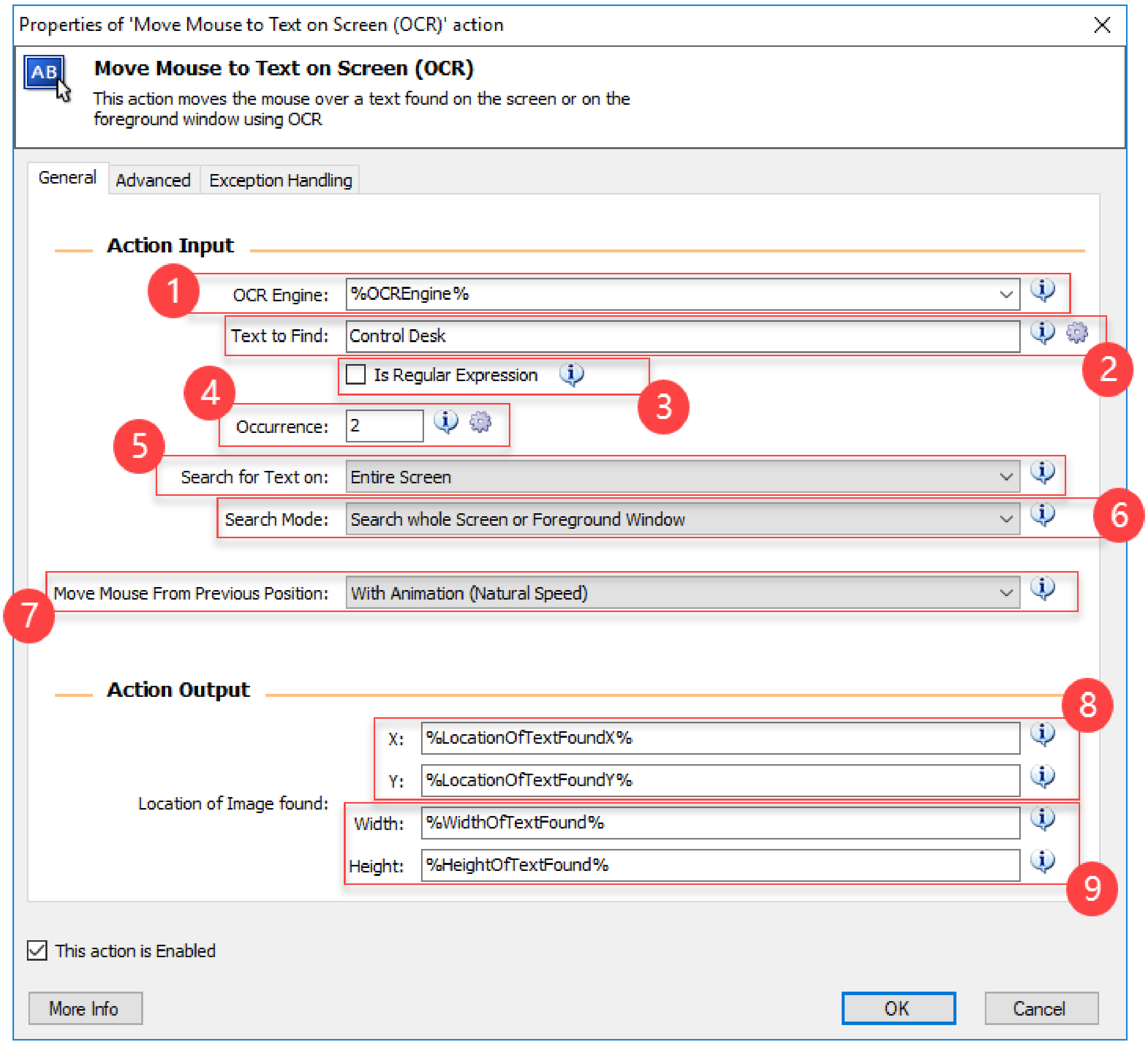
Send a Left Click after moving mouse:

Choose whether you want the action to send a left click after the mouse is positioned over the image.

5.6.5 Move Mouse to Text on Screen (OCR)

This action allows you to move the mouse over a specific image some specific text [2] found on screen or a foreground window [5] using an OCR Engine of your choice [1]. If this text is found more than once on that surface, you can target a specific occurence [4] (2nd, 3rd etc.) given the fact that the OCR is adding these matches first to last, top to bottom, left to right. Just like in other actions that use OCR, you can work with a variety of options that allow you to search on very specific subregions of your screen [6], but the action is also giving you option to select the speed with which the mouse [7] will be moved on the spot.

The action returns co-ordinates [8] of where the text is found relative to the top left of your screen or the top left corner of the window you are working with. Along the position of the text it returns the width and height of that image in two [9] corresponding Variables.



Properties of 'Move Mouse to Text on Screen (OCR)' action

Move Mouse to Text on Screen (OCR)

This action moves the mouse over a text found on the screen or on the foreground window using OCR

OCR Engine: %OCREngine%

Text to Find: Control Desk

☐ Is Regular Expression

Occurrence: 2

Search for Text on: Entire Screen

Search Mode: Search whole Screen or Foreground Window

Move Mouse From Previous Position: With Animation (Natural Speed)

Location of Image found:

X: %LocationOfTextFoundX%

Y: %LocationOfTextFoundY%

Width: %WidthOfTextFound%

Height: %HeightOfTextFound%

☑ This action is Enabled

General Tab

1. OCR Engine:

This text field with drop down menu options invites you to enter *or choose* the instance of the OCR Engine 737 you want to work with.

2. Text to Find:

This text field allows you to enter the text you want the OCR Engine to search for as text or as a Variable.

3. Is Regular Expression:

Check this check box if you want to use a Regular Expression to find the text on screen. A Regular Expression creates a range of possibilities and can return a number of results that match your search. The order that the Engine is adding these matches is from top to bottom, left to right as it finds them on target!

4. Occurrence:

This positive integer should point to the match that interests you, if your search returns more than one occurences or a collection of values (through a regular expression for example).

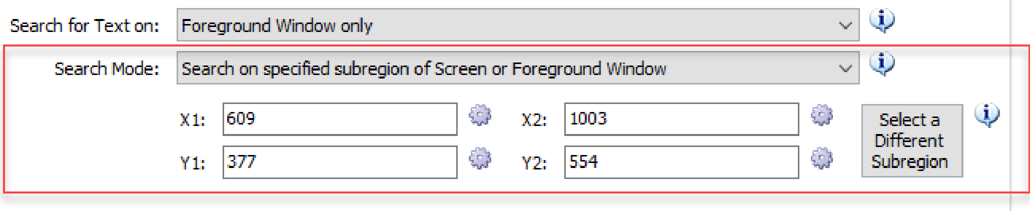
5. Search for Text on:

Two options on this drop down menu, *Entire Screen* or *Foreground Window only*.

6. Search Mode:

While the first option of this drop down menu is pretty straightforward (Search Whole Screen or Foreground Window) the other two options that allow you to target a specific subregion of your window or screen produce a whole different set of additional Properties which will see in detail here:

-Search on specified subregion of Screen or Foreground window:



Search for Text on: Foreground Window only

Search Mode: Search on specified subregion of Screen or Foreground Window

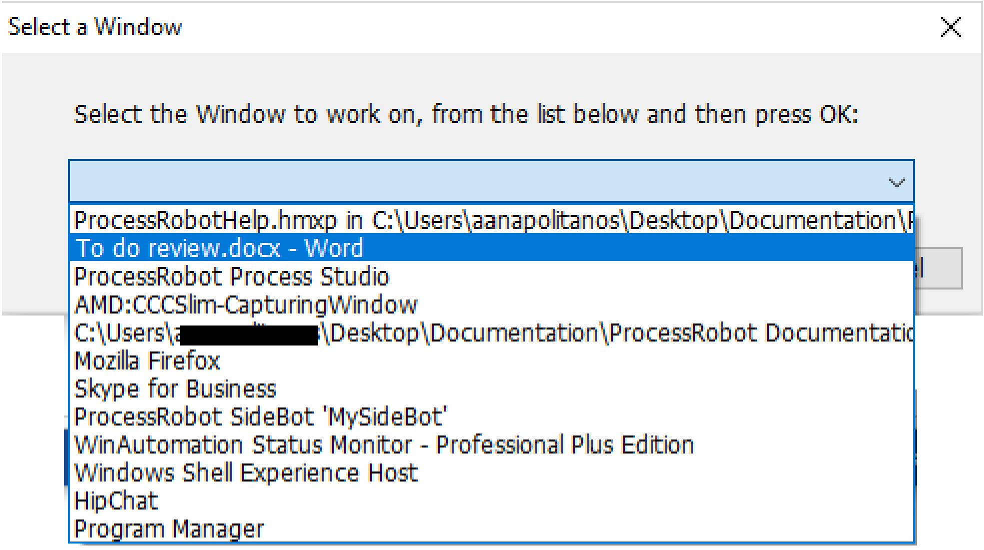
X1: 609

X2: 1003

Y1: 377

Y2: 554

By clicking the "Select a Different Subregion" button on the right of the red box, you will be prompted to select firstly the window you want to work:


Select a Window

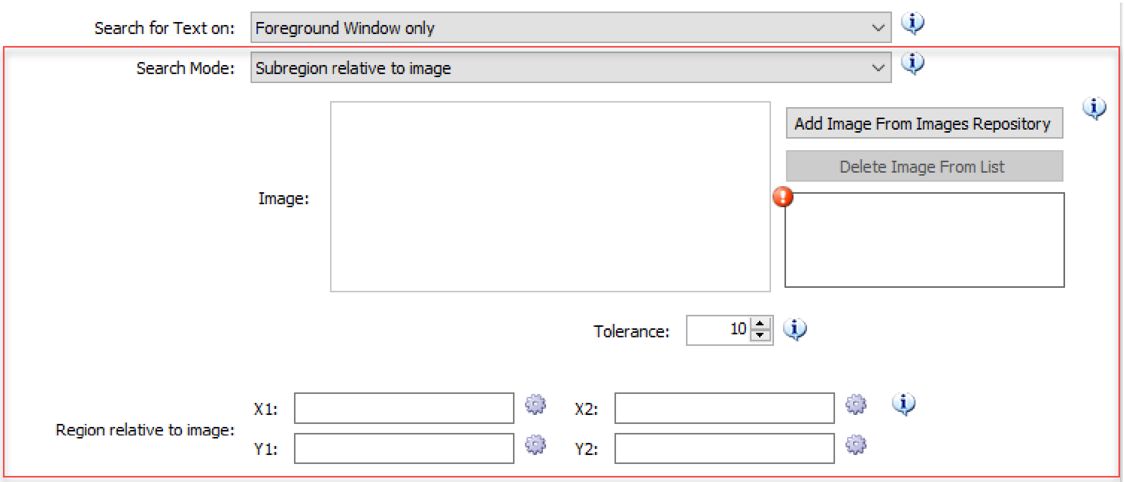
Select the Window to work on, from the list below and then press OK:

ProcessRobotHelp.hmxp in C:\Users\aanapolitanos\Desktop\Documentation\P
To do review.docx - Word
ProcessRobot Process Studio
AMD:CCCSlim-CapturingWindow
C:\Users\a[redacted]\Desktop\Documentation\ProcessRobot Documentatio
Mozilla Firefox
Skype for Business
ProcessRobot SideBot 'MySideBot'
WinAutomation Status Monitor - Professional Plus Edition
Windows Shell Experience Host
HipChat
Program Manager

and then you will be given the opportunity through an amazing interactive feature to actually select the area you want to narrow down your scan (drag your mouse to select the area). The X1 X2 Y1 Y2 co-ordinates are denoting the start and finish of your dragging manoeuvre.

However, using the "Select a Different Subregion" button is not compulsory. You can enter the values of the co-ordinates by hand or as a Variable (notice the Gear Icon next to the text fields).

-Subregion relative to image:


Search for Text on: Foreground Window only

Search Mode: Subregion relative to image

Image:

Tolerance: 10

Region relative to image: X1: X2: Y1: Y2:

This search mode enables you to narrow down your scan through a region that is defined relative to the top-left corner of an image from the Image Repository.

7. Move Mouse From Previous Position:

This drop down menu gives you a number of options in case the speed with which the mouse will move is critical to your process.

8. Location of Text Found (co-ordinates):

It is important that you understand that OCR understands text as an Image. These co-ordinates pin point the position of that image on the surface (screen or foreground window) you are currently work with.

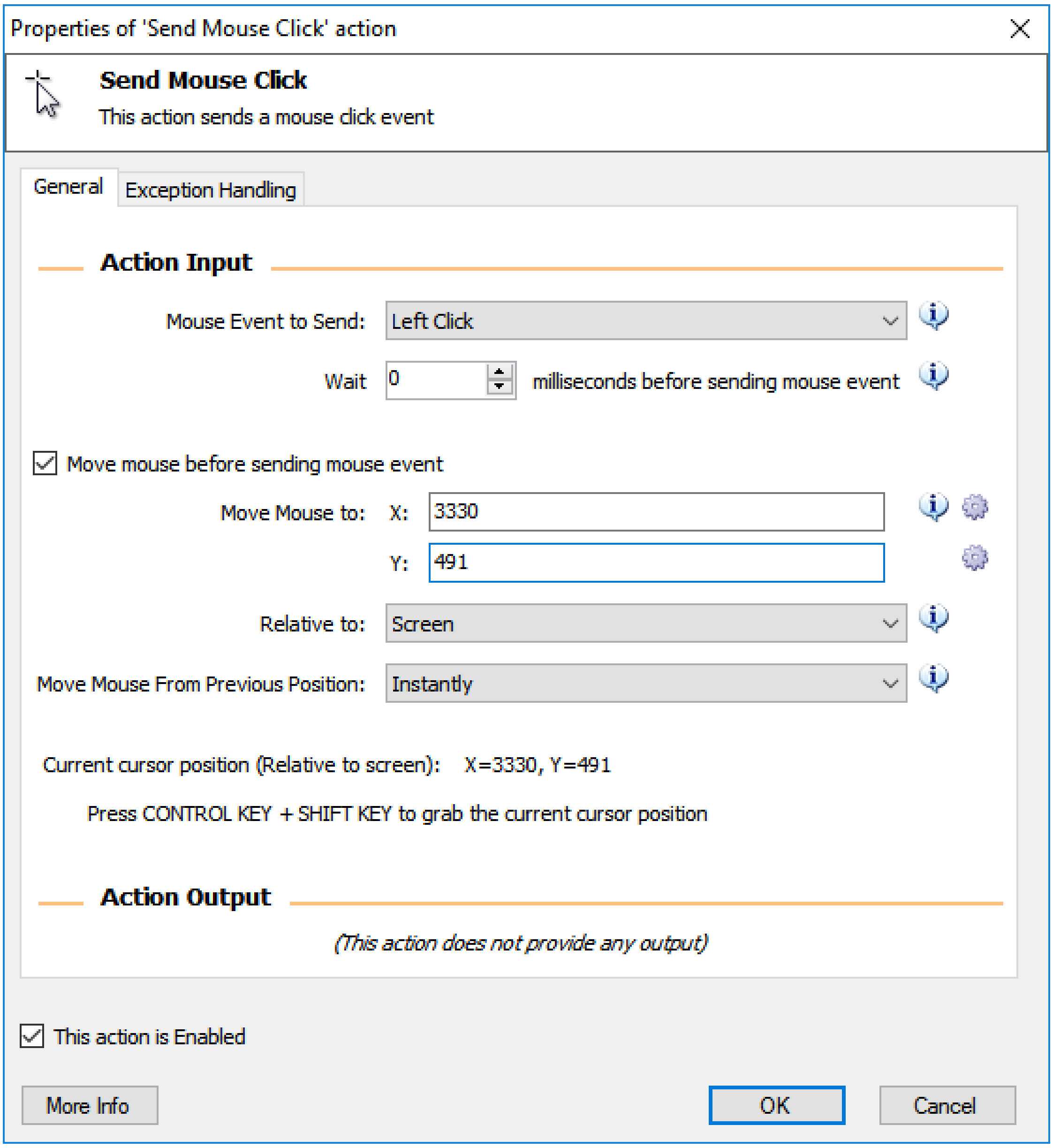
9. Location of Text Found (dimensions):

Enter the names to be the variables that will hold the X and Y coordinates of the point where the image is found on the screen. If the image is being searched for on the foreground window, the coordinates returned are relative to the top left corner of the window.

5.6.6 Send Mouse Click Action

Description:

This action sends a mouse click event



Properties of 'Send Mouse Click' action

Send Mouse Click

This action sends a mouse click event

Action Input

Mouse Event to Send: Left Click

Wait 0 milliseconds before sending mouse event

☑ Move mouse before sending mouse event

Move Mouse to: X: 3330

Y: 491

Relative to: Screen

Move Mouse From Previous Position: Instantly

Current cursor position (Relative to screen): X=3330, Y=491

Press CONTROL KEY + SHIFT KEY to grab the current cursor position

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Move Event to Send:

Choose what form of mouse event to send.

Wait:

Set a time for the action to delay before sending the mouse event, in 1/1000 of a second. In other words, 1000 means one second, 1500 means one and a half seconds, 2250 means two and a quarter seconds and so on.

Move Mouse to:

Set the position of the mouse in X and Y pixel coordinates. Press CONTROL + SHIFT keys if you wish to grab the current cursor position.

Relative to:

Choose whether the new Mouse position will be relative to the top left corner of the screen, or to the foremost Window, or to the current mouse position.

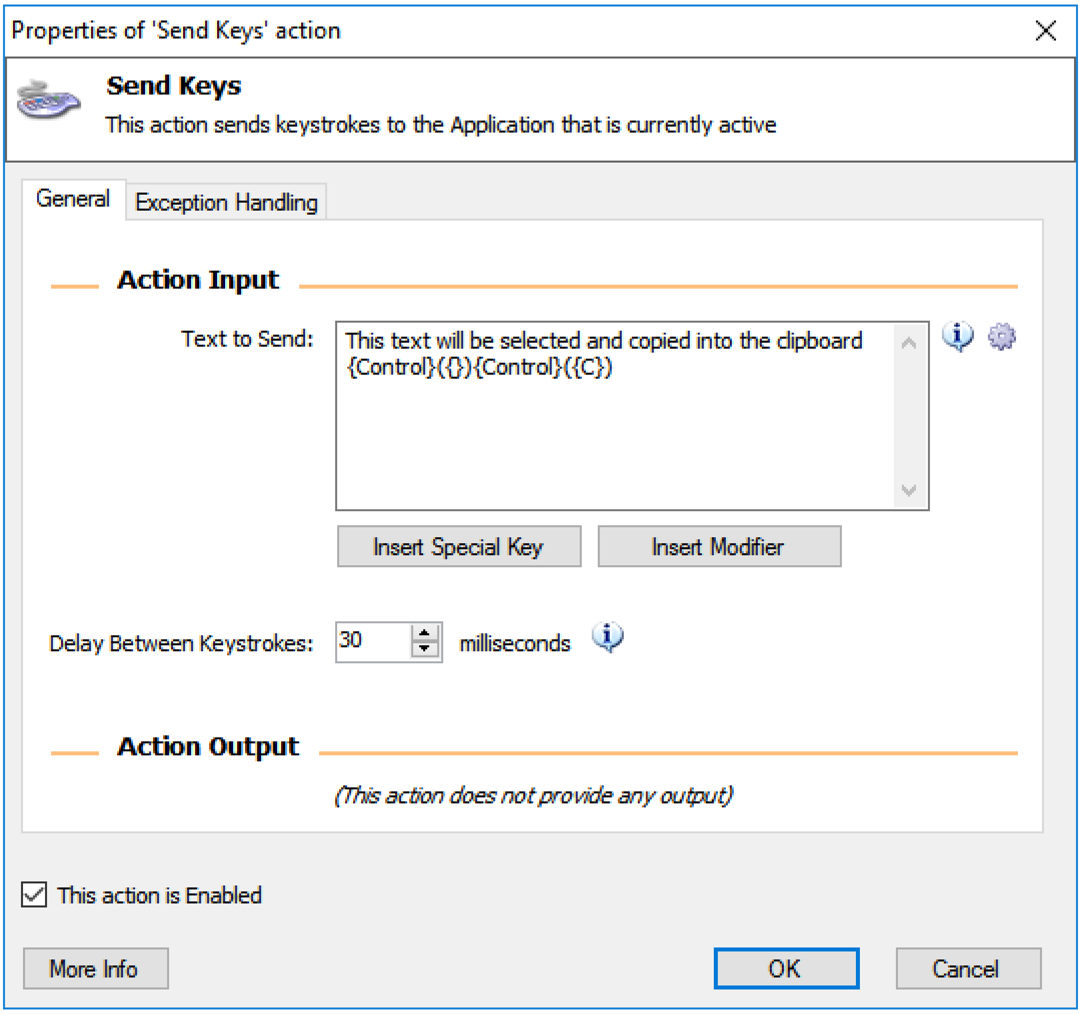
Move mouse from previous position:

Choose the style of movement in which the mouse will move from its previous position to the beginning of the recorded route (or to its final position)

5.6.7 Send Keys Action

Description:

This action sends keystrokes to the Application that is currently active



Text to Send: This text will be selected and copied into the clipboard {Control}({}){Control}({C})

Delay Between Keystrokes: 30 milliseconds

(This action does not provide any output)

☑ This action is Enabled

Properties:

Text to Send:

Insert keystrokes to send as text. Special key and modifiers can be accessed below the box. Control is under Insert Modifier, and Control-a, for example, needs to appear in the form {Control}({A}). Any Key, as compared to a character, must be written here in braces and capitalized, such as {A}. Within Modifiers, Keys must be used, not characters like 'a' or '$'. For a complete list of the Key Codes corresponding to the keyboard keys, please consult the topic "Valid Key Codes for the Send Keys Action 333".

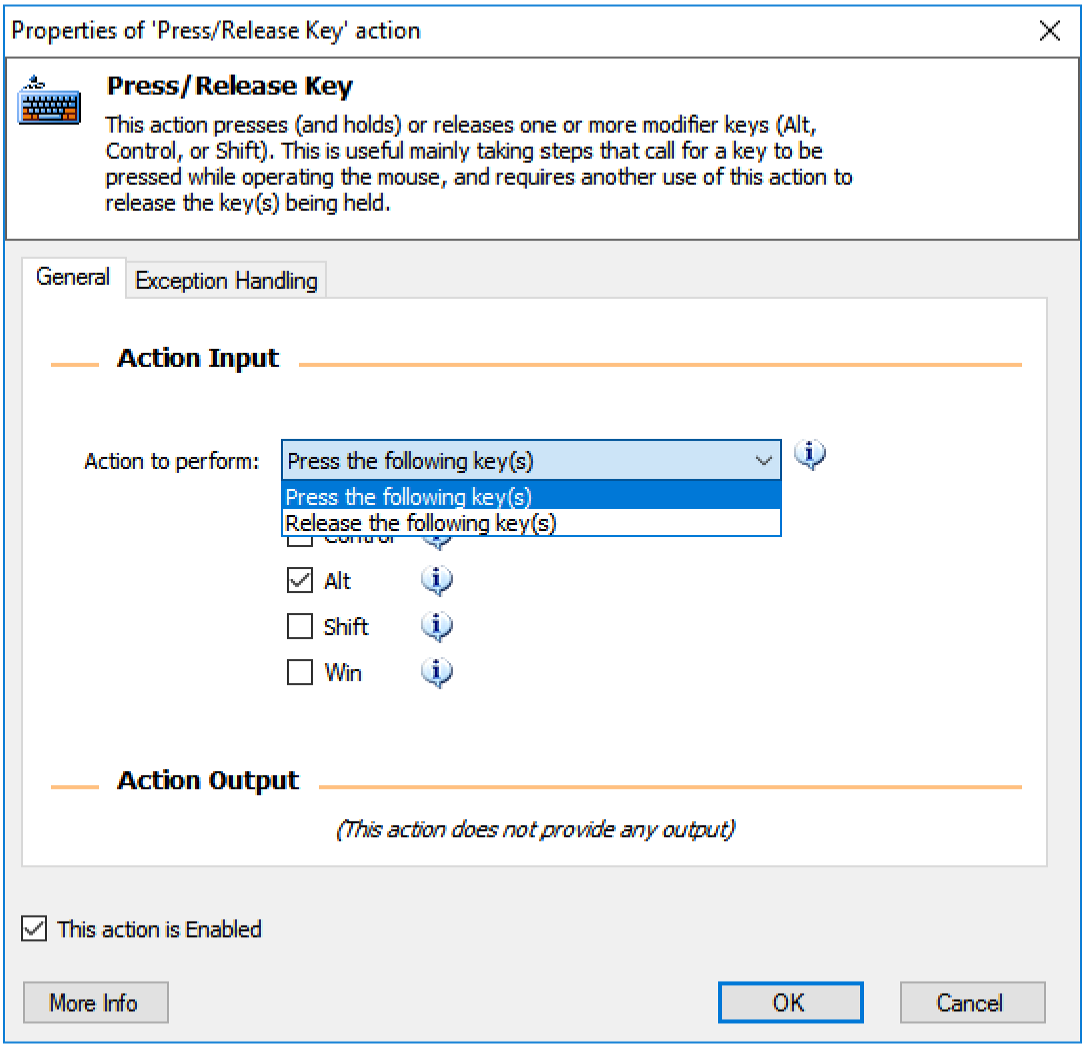
Delay Between Keystrokes:

Choose a time to delay between keystrokes to avoid input errors.

5.6.8 Press/Release Key Action

Description:

This action presses (and holds) or releases one or more modifier keys (Alt, Control, or Shift). This is useful mainly taking steps that call for a key to be pressed while operating the mouse, and requires another use of this action to release the key(s) being held.



Properties of 'Press/Release Key' action

Press/Release Key

This action presses (and holds) or releases one or more modifier keys (Alt, Control, or Shift). This is useful mainly taking steps that call for a key to be pressed while operating the mouse, and requires another use of this action to release the key(s) being held.

Action to perform: Press the following key(s)

☑ Alt

□ Shift

□ Win

(This action does not provide any output)

☑ This action is Enabled

Properties:

Action to Perform:

Choose whether to Press or Release keys with this action.

Control:

Choose whether the CTRL key is pressed/released or not.

Alt:

Choose whether the Alt key is pressed/released or not.

Shift:

Choose whether the Shift key is pressed/released or not.

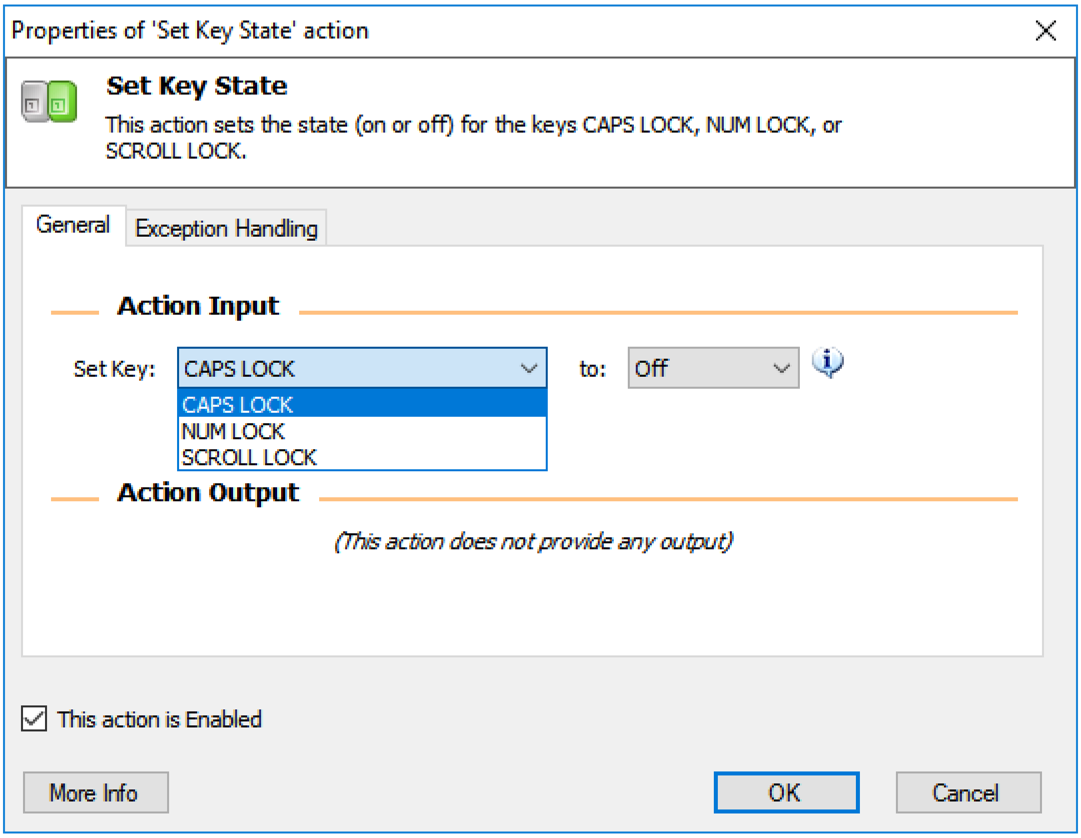
Win:

Choose whether the Windows key is pressed/released or not.

5.6.9 Set Key State Action

Description:

This action sets the state (on or off) for the keys CAPS LOCK, NUM LOCK or SCROLL LOCK.



Properties of 'Set Key State' action

Set Key State

This action sets the state (on or off) for the keys CAPS LOCK, NUM LOCK, or SCROLL LOCK.

Set Key: CAPS LOCK

to: Off

(This action does not provide any output)

☑ This action is Enabled

Properties:

Set Key to:

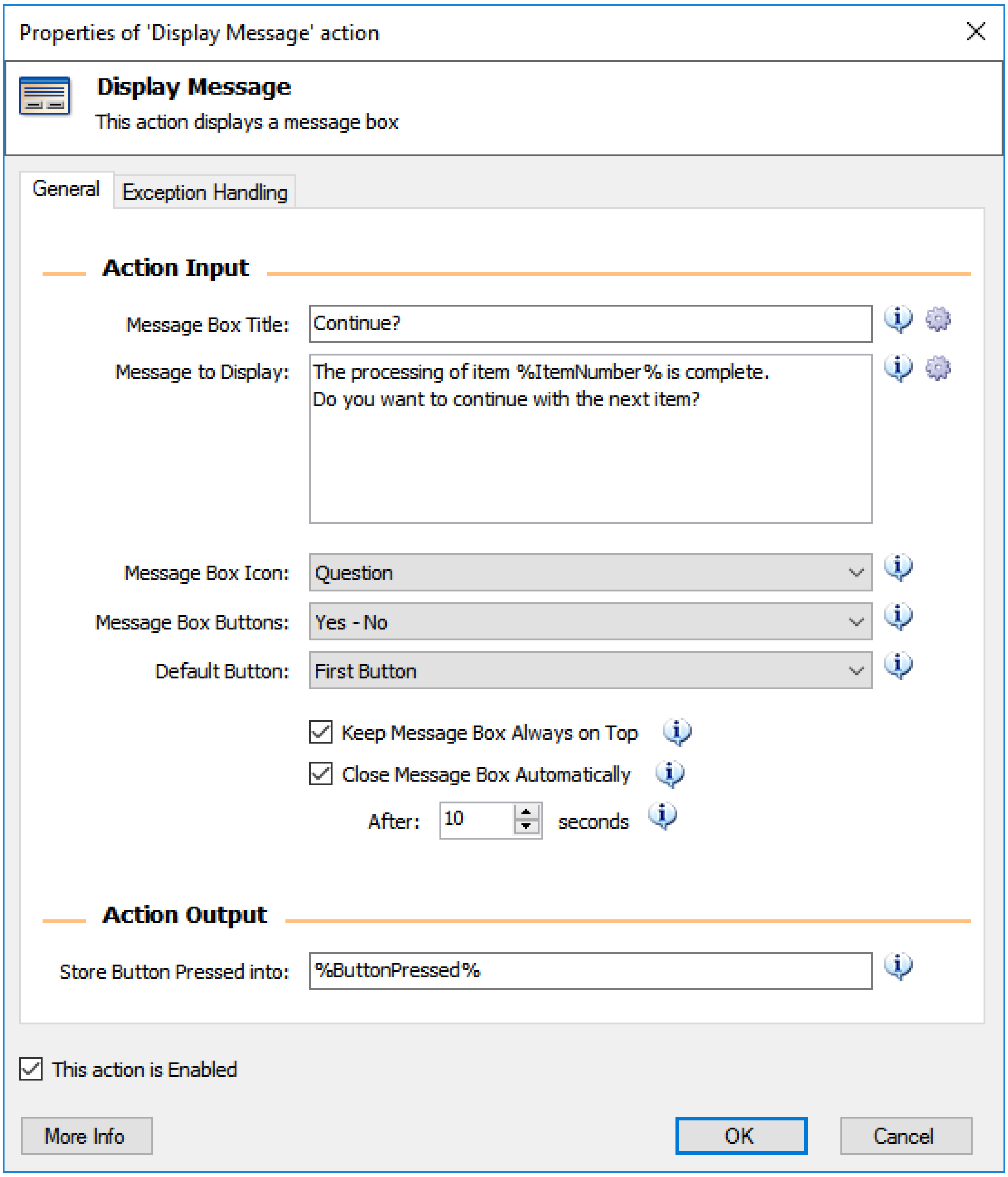
Choose the key you wish to set, and select 'On' or 'Off'.

5.7 Message Boxes

5.7.1 Display Message Action

Description:

This action displays a message box



Properties of 'Display Message' action

Display Message

This action displays a message box

General | Exception Handling

Action Input

Message Box Title: Continue?

Message to Display: The processing of item %ItemNumber% is complete.
Do you want to continue with the next item?

Message Box Icon: Question

Message Box Buttons: Yes - No

Default Button: First Button

☑ Keep Message Box Always on Top

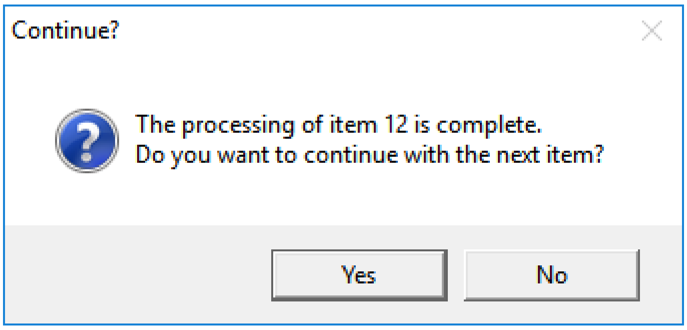
☑ Close Message Box Automatically

After: 10 seconds

Action Output

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled



Continue?

The processing of item 12 is complete.
Do you want to continue with the next item?

The Message Dialog in action

Properties:

Message Box Title:

Enter the text, or a previously defined variable, to be used as the Message Box title.

Message To Display:

Enter the text, or a previously defined variable, to be displayed as the actual message.

Message Box Icon:

Choose which Icon to display with the Message Box.

Message Box Buttons:

Choose which buttons to display on the Message Box.

Default Button:

Choose which button is highlighted by default. If the user presses {Enter}, this button will be pressed.

Keep Message Box Always on Top:

Choose whether the Message Box should always remain on top of all other windows.

Close Message Box Automatically:

Choose whether Message Box closes automatically after a preset time, as if the default button was pressed. Otherwise, the process will wait until a button is pressed by the user.

Timeout:

Choose how many seconds to pause the process while waiting for input, until continuing automatically.

Store Button Pressed into:

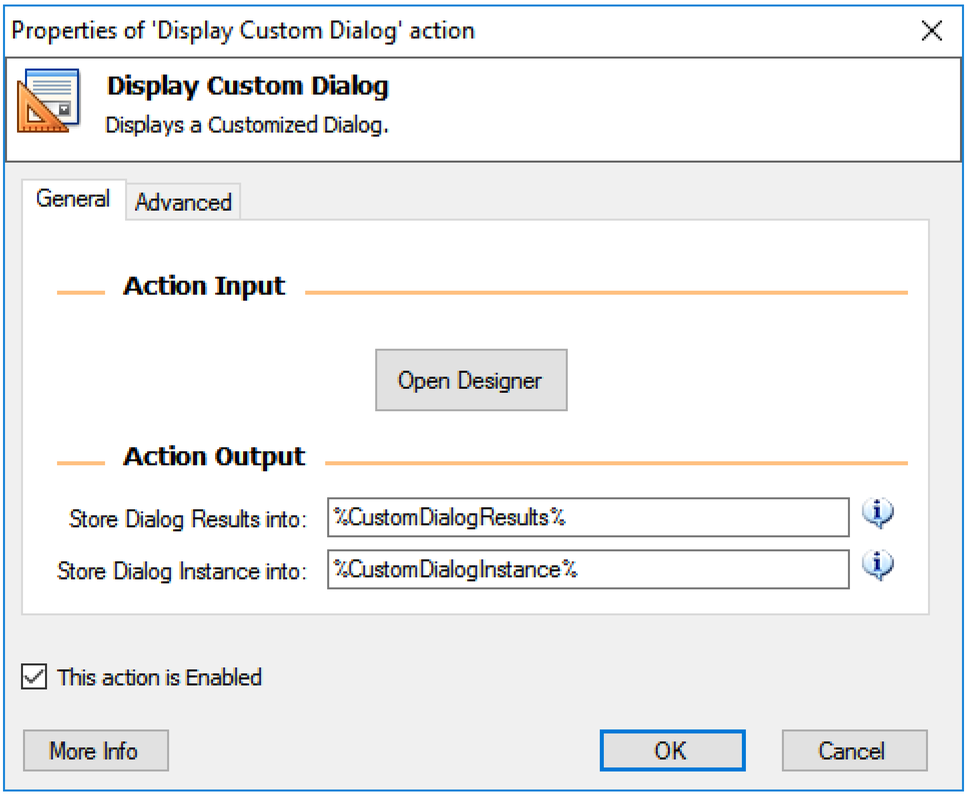
Enter a name to be the variable that will store the text of the button pressed.

5.7.2 Display Custom Dialog Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action displays a Customized Dialog.



Properties of 'Display Custom Dialog' action

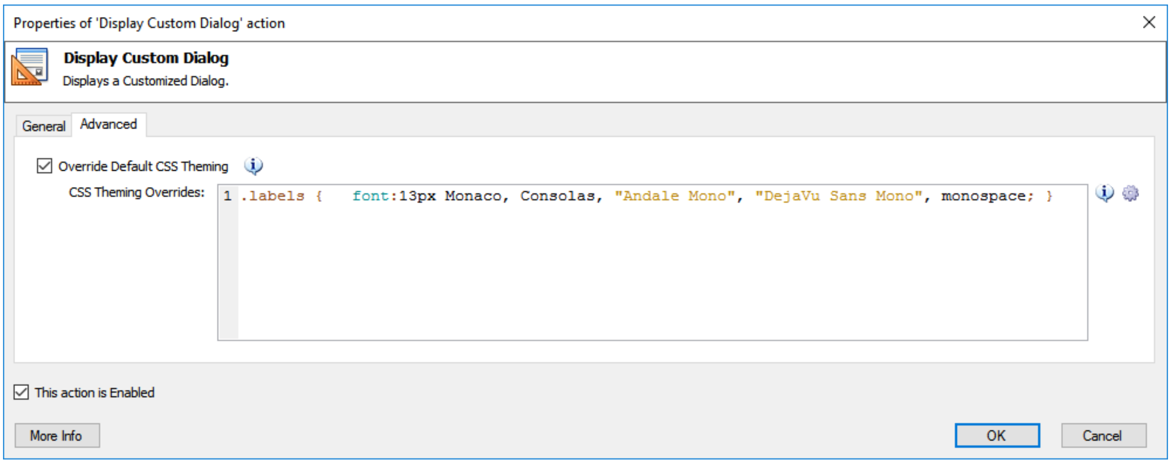
Display Custom Dialog

Displays a Customized Dialog.

Store Dialog Results into: %CustomDialogResults%

Store Dialog Instance into: %CustomDialogInstance%

☑ This action is Enabled



Properties of 'Display Custom Dialog' action

Display Custom Dialog
Displays a Customized Dialog.

☑ Override Default CSS Theming

CSS Theming Overrides:

```
.labels {   font:13px Monaco, Consolas, "Andale Mono", "DejaVu Sans Mono", monospace; }
```

☑ This action is Enabled

Properties:

"Open Designer" Button:

Pressing this button will open up the Custom Dialog Designer window. You will find more details regarding the Custom Dialog Designer in the section "Designing a Custom Dialog 212".

Store Dialog Results into:

Enter a name to be the variable that will store the values populated in the Custom Dialog.

Store Dialog Instance into:

Enter a name to be the variable that will store the specific Custom Dialog instance for use with later UI Automation actions.

Advanced Properties Tab - Override Default CSS Theming:

Specify whether you would like to override the default theming of this Custom Dialog with your own CSS rules.

Advanced Properties Tab - CSS Theming Overrides:

Enter the CSS rules you desire to be applied over the default theming of this Custom Dialog.

Control Specific Tips:

Date Control:

Be forewarned that the formatting flags used by the Date Control inside the Custom Dialog are different from the flags used for converting text-to-datetime by means of the 'Convert Text to DateTime' action. Having said this, the date-format field in the properties of the Date Control, supports the following flags:

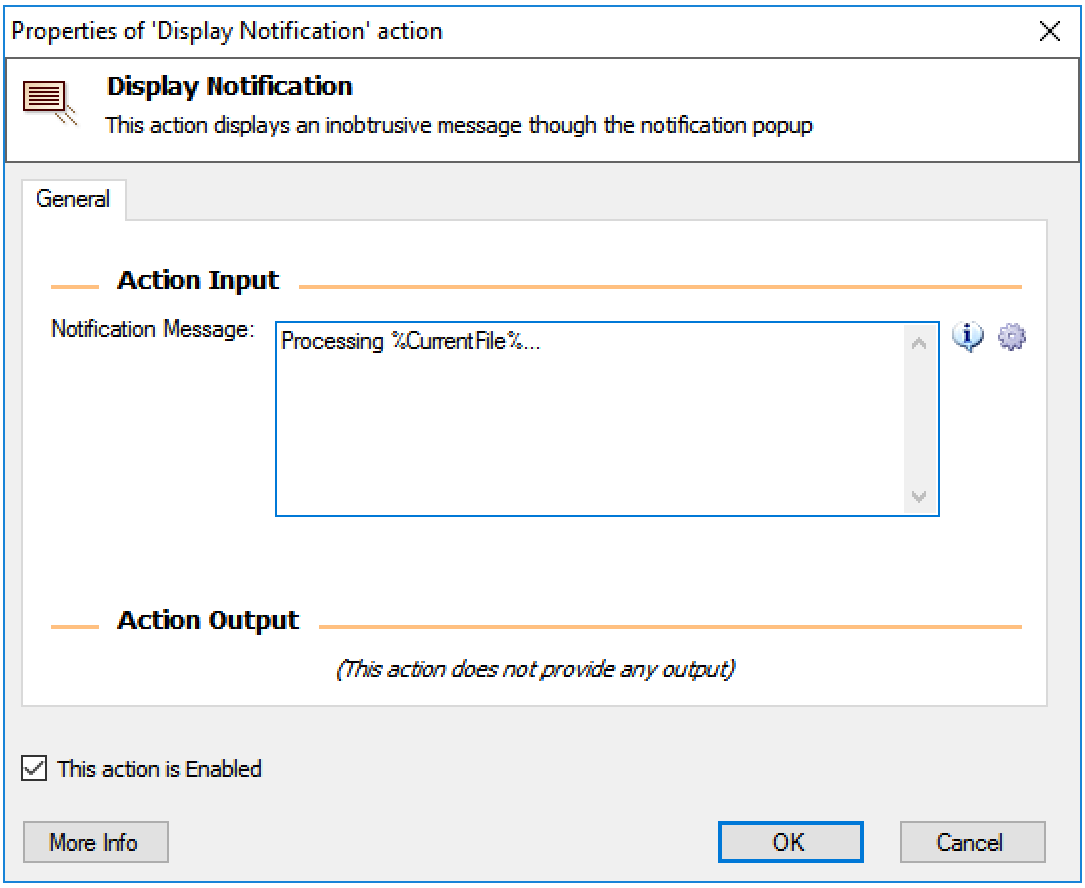
- d - day of month (no leading zero)
- dd - day of month (two digit)
- o - day of year (no leading zeros)
- oo - day of year (three digit)
- D - day name short
- DD - day name long
- m - month of year (no leading zero)
- mm - month of year (two digit)
- M - month name short
- MM - month name long
- y - year (two digit)
- yy - year (four digit)
- @ - Unix timestamp (ms since 01/01/1970)
- ! - Windows ticks (100ns since 01/01/0001)
- '...' - literal text
- '' - single quote
- anything else - literal text

For example in order to parse a date in ISO format like "2007-01-26" one would have to set the date-format field of the Date Control to the pattern "yy-mm-dd".

5.7.3 Display Notification Action

Description:

This action displays an inobtrusive message though the notification popup 90



Properties of 'Display Notification' action

Display Notification

This action displays an inobtrusive message though the notification popup

Action Input

Notification Message: Processing %CurrentFile%...

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

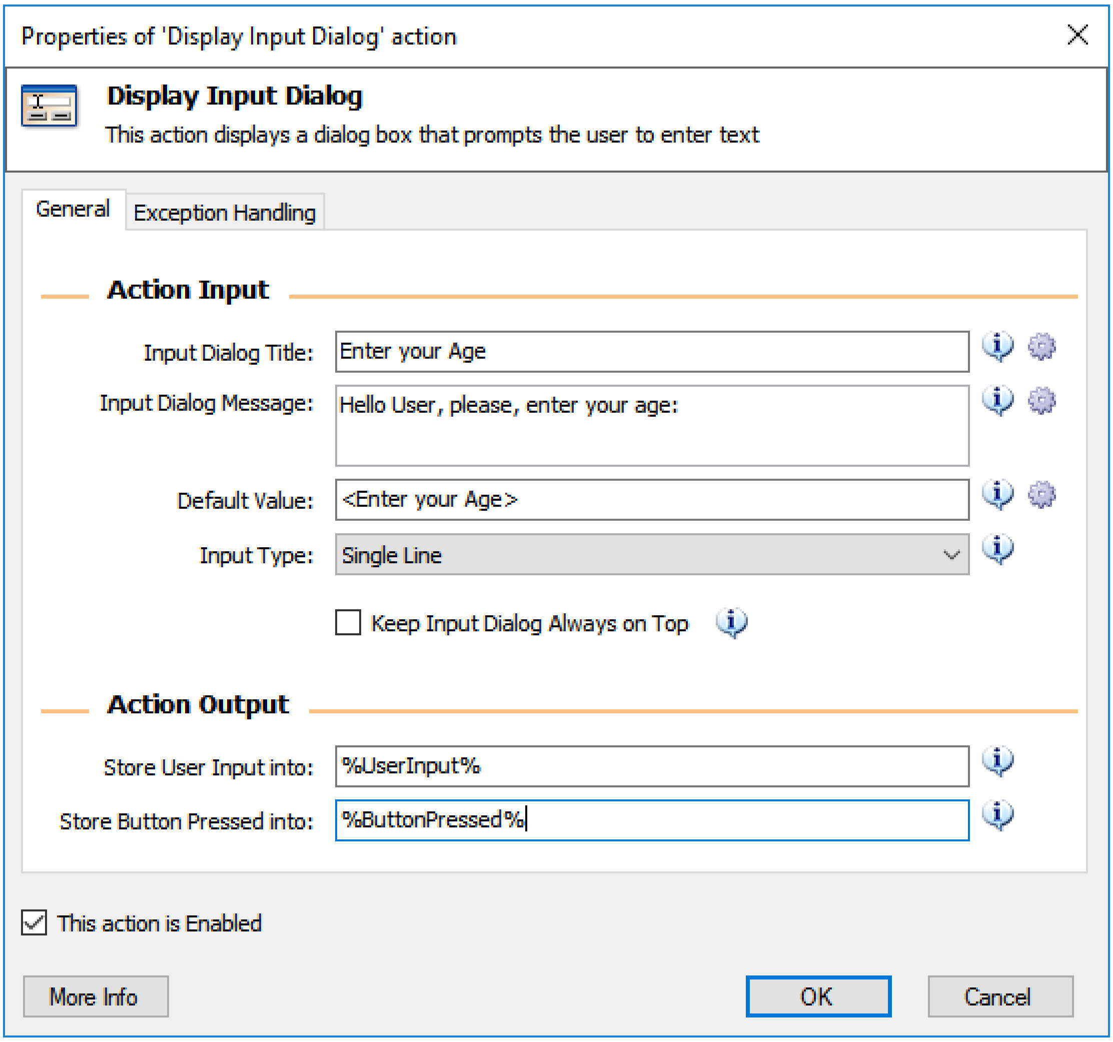
Notification Message:

Enter the text, or a previously defined text variable, to be displayed in the Notification Popup while the process is being run from the WinAutomation Console Window (not Process Designer) or as a Console Application if the process has been converted to .exe.

5.7.4 Display Input Dialog Action

Description:

This action displays a dialog box that prompts the user to enter text



Properties of 'Display Input Dialog' action

Display Input Dialog

This action displays a dialog box that prompts the user to enter text

Action Input

Input Dialog Title: Enter your Age

Input Dialog Message: Hello User, please, enter your age:

Default Value: <Enter your Age>

Input Type: Single Line

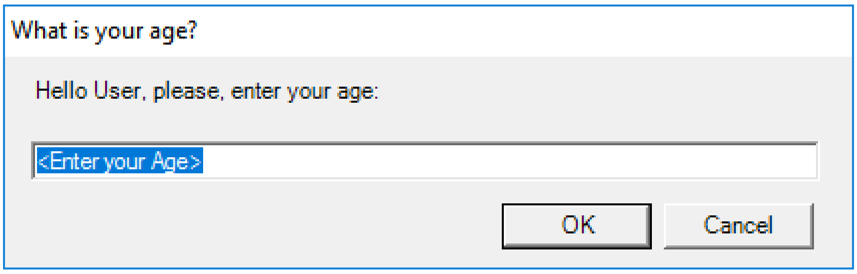
□ Keep Input Dialog Always on Top

Action Output

Store User Input into: %UserInput%

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled



What is your age?

Hello User, please, enter your age:

<Enter your Age>

The Input Dialog in action

Properties:

Input Dialog Title:

Enter the text, or a previously defined text variable, to be used as the Dialog title.

Input Dialog Message:

Enter the text, or a previously defined variable, to be displayed as the actual message.

Default Value:

Enter the text to be displayed by default. If the user wishes to change this, they can type over it. Otherwise, the default text will be used.

Input Type:

Choose the format for the input text. Choose Single Line - Password if you wish to hide the text, or Multi Line if you want a larger display box to make visible more than one line of text. Otherwise choose Single Line.

Keep Input Dialog Always on Top:

Choose whether the Input Dialog should always remain on top of all other windows.

Store User Input into:

Enter a name to be the variable that will store the text entered by the user, or the default text.

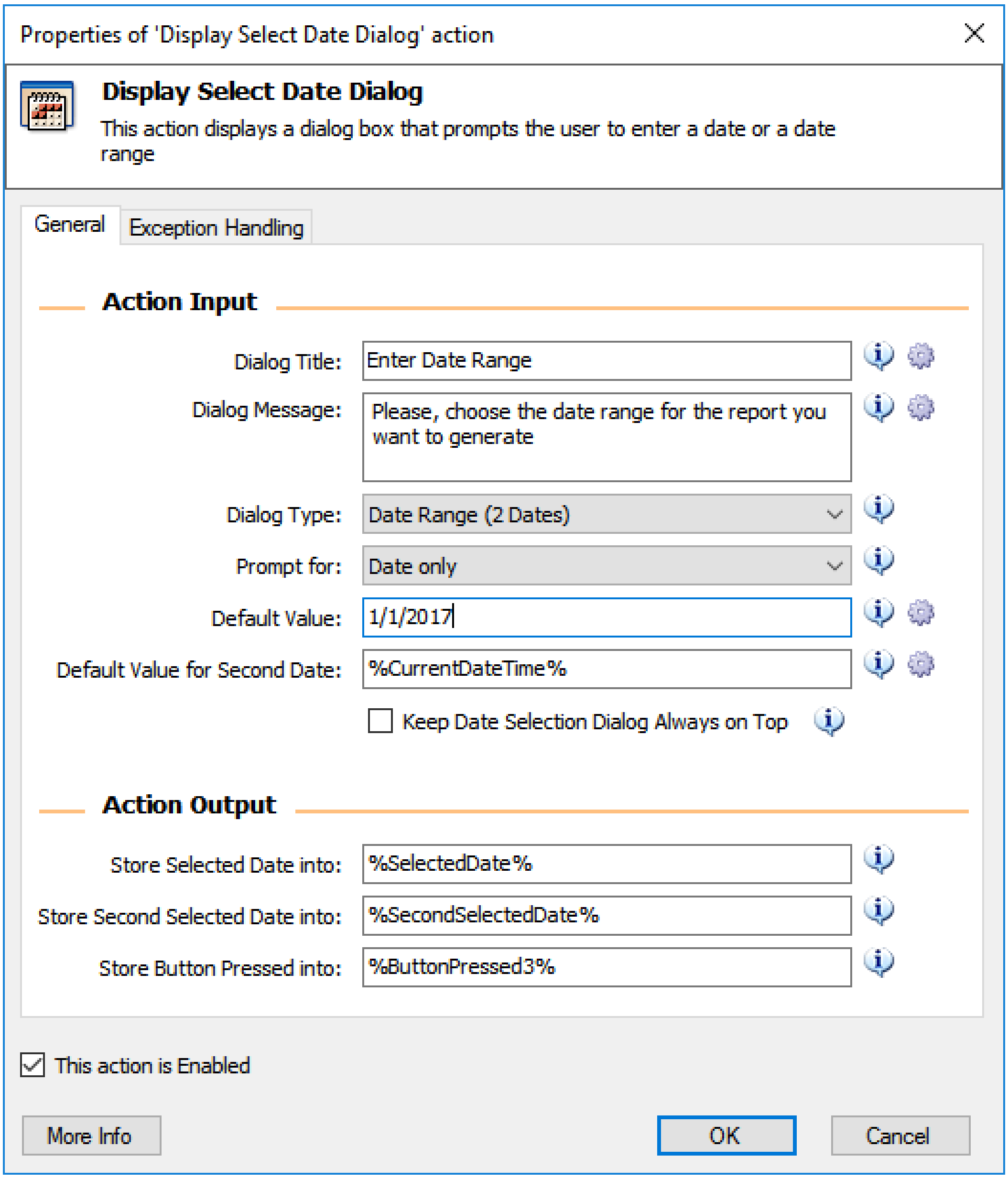
Store Button Pressed into:

The user will automatically be given the choice of OK or Cancel. Enter a name to be the variable that will store the text of the button pressed.

5.7.5 Display Select Date Dialog

Description:

This action displays a dialog box that prompts the user to enter a date or a date range



Properties of 'Display Select Date Dialog' action

Display Select Date Dialog

This action displays a dialog box that prompts the user to enter a date or a date range

Action Input

Dialog Title: Enter Date Range

Dialog Message: Please, choose the date range for the report you want to generate

Dialog Type: Date Range (2 Dates)

Prompt for: Date only

Default Value: 1/1/2017

Default Value for Second Date: %CurrentDateTime%

☐ Keep Date Selection Dialog Always on Top

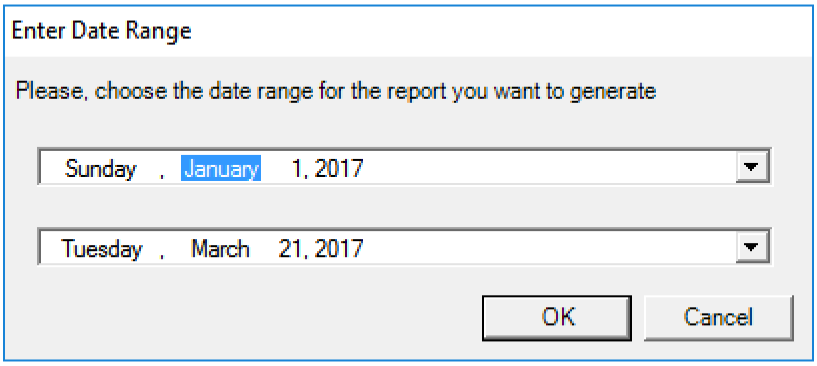
Action Output

Store Selected Date into: %SelectedDate%

Store Second Selected Date into: %SecondSelectedDate%

Store Button Pressed into: %ButtonPressed3%

☑ This action is Enabled



Enter Date Range

Please, choose the date range for the report you want to generate

Sunday , January 1, 2017

Tuesday , March 21, 2017

The Select Date Dialog in action

Properties:

Dialog Title:

Enter the text, or a previously defined text variable, to be used as the Dialog title.

Dialog Message:

Enter the text, or a previously defined variable, to be displayed as the actual message.

Dialog Type:

Choose whether the user will enter a single date or two dates to be the endpoints of a range of dates.

Prompt for:

Choose whether the user will enter the date only or the date and time.

Default Value:

Enter a DateTime value, or a previously defined DateTime variable, to be used as the default value.

Keep Date Selection Dialog Always on Top:

Choose whether the Date Selection Dialog should always remain on top of all other windows.

Default Value for Second Date:

Enter a DateTime value, or a previously defined DateTime variable, to be used as the default value for the end date in a range.

Store Selected Date into:

Enter a name to be the variable that will store the date entered by the user or the default date.

Store Second Selected Date into:

Enter a name to be the variable that will store the second date entered by the user or that default date.

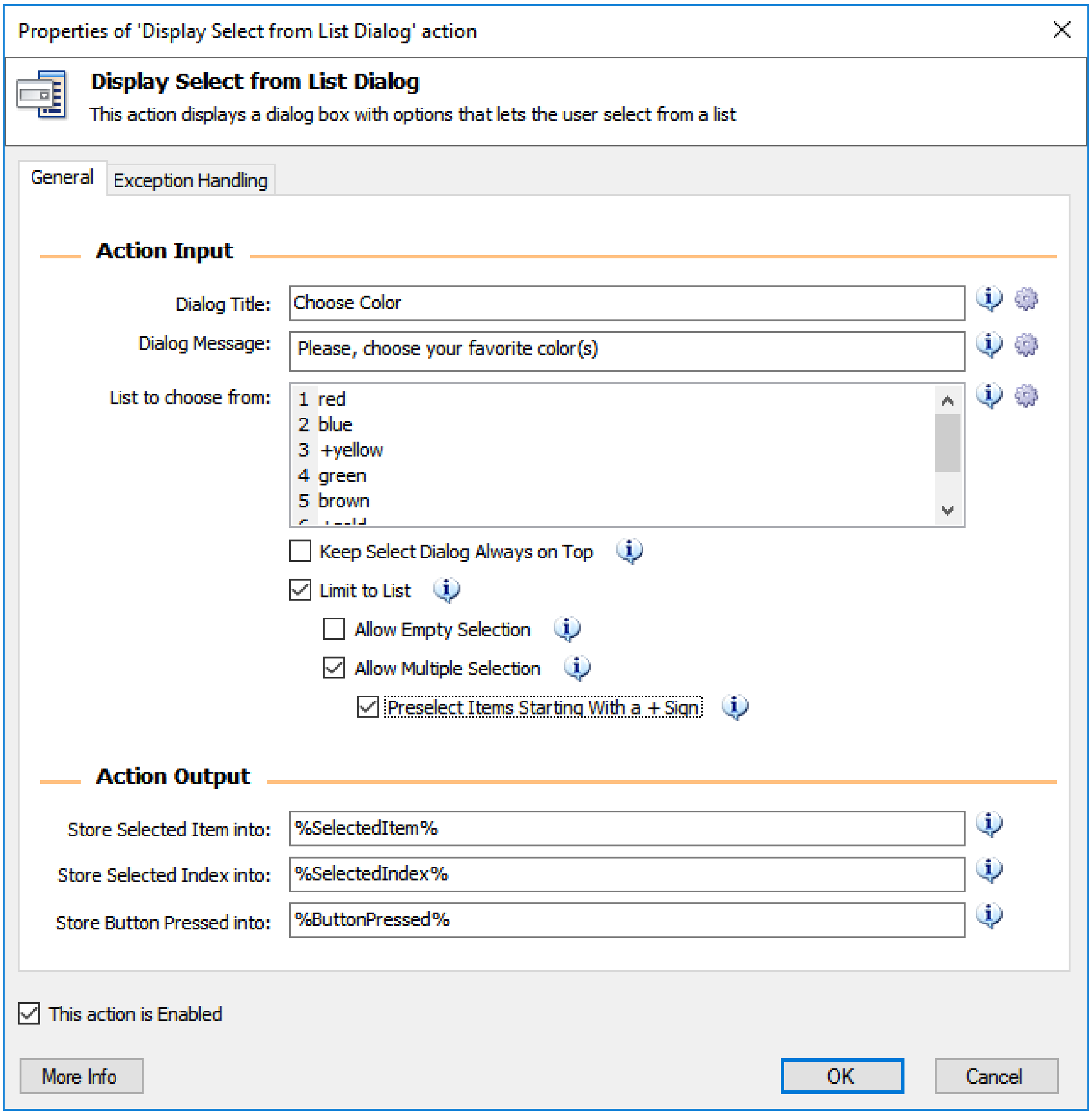
Store Button Pressed into:

The user will automatically be given the choice of OK or Cancel. Enter a name to be the variable that will store the text of the button pressed by the user.

5.7.6 Display Select From List Dialog Action

Description:

This action displays a dialog box with options that lets the user select from a list



Properties of 'Display Select from List Dialog' action

Display Select from List Dialog

This action displays a dialog box with options that lets the user select from a list

Action Input

Dialog Title: Choose Color

Dialog Message: Please, choose your favorite color(s)

List to choose from:

```
1 red
2 blue
3 +yellow
4 green
5 brown
```

☐ Keep Select Dialog Always on Top

☑ Limit to List

☐ Allow Empty Selection

☑ Allow Multiple Selection

☑ Preselect Items Starting With a + Sign

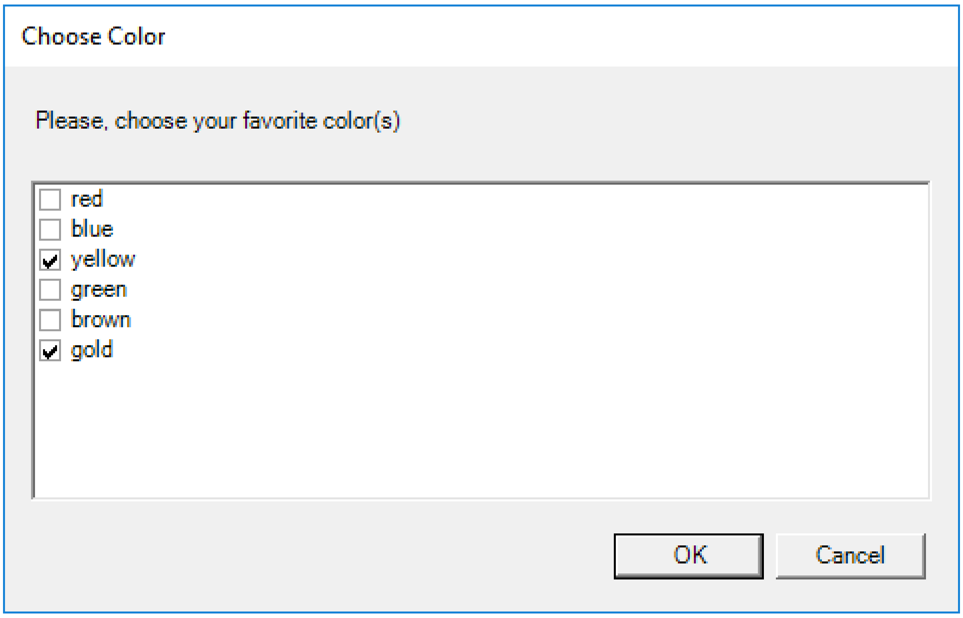
Action Output

Store Selected Item into: %SelectedItem%

Store Selected Index into: %SelectedIndex%

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled

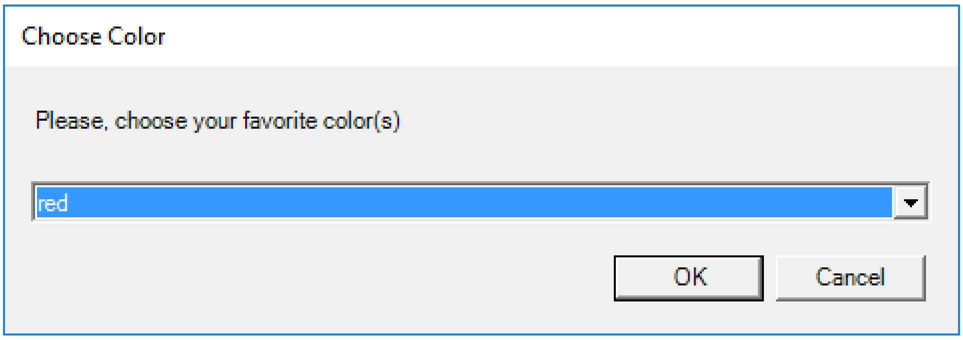


Choose Color

Please, choose your favorite color(s)

- □ red
- □ blue
- ☑ yellow
- □ green
- □ brown
- ☑ gold

The Select From List Dialog in action with "Allow Multiple Selection" unchecked



Choose Color

Please, choose your favorite color(s)

red

The Select From List Dialog with "Allow Multiple Selection" checked

Properties:

Dialog Title:

Enter the text, or a previously defined text variable, to be used as the Dialog title.

Dialog Message:

Enter the text, or a previously defined text variable, to be displayed as a Prompt Message for the user.

List to choose from:

Enter a list of choices - one per line, or a previously defined variable that contains a list. This will be displayed as a drop-down menu for the user to choose from.

Keep Select Dialog Always on Top:

Choose whether the Selection Dialog should always remain on top of all other windows.

Limit to List:

Deselect this box if you wish to allow the user to enter their own answer outside of the list being displayed. This means the action will act more like the "Display Input Dialog" action.

Allow Empty Selection:

Allow the user to not select anything, creating an empty Selected Item output.

Allow Multiple Selection:

Allow the user to select more than one choice. This means that the Selected Item and Selected Index variables will hold a list of items.

Preselect Items Starting with a + Sign:

This option is available only when the previous one (Allow Multiple Selection) is checked. By selecting this option all items with a '+' sign prepended on their name will appear automatically preselected (and the '+' sign will be removed from the item's text).

Store Selected Item into:

Enter a name to be the variable that will store the item selected from the list as text (or a list of text values if 'Allow Multiple Selection' is checked).

Store Selected Index into:

Enter a name to be the variable that will store the index number of the item(s) selected from the list. This allows you to use the item number instead of the full text of the user's choice. The variable that will store the index of the selected item as number (or a list of numeric values if 'Allow Multiple Selection' is checked). If the 'Limit to List' box is not checked and the user enters a new value, the index value will be '-1'.

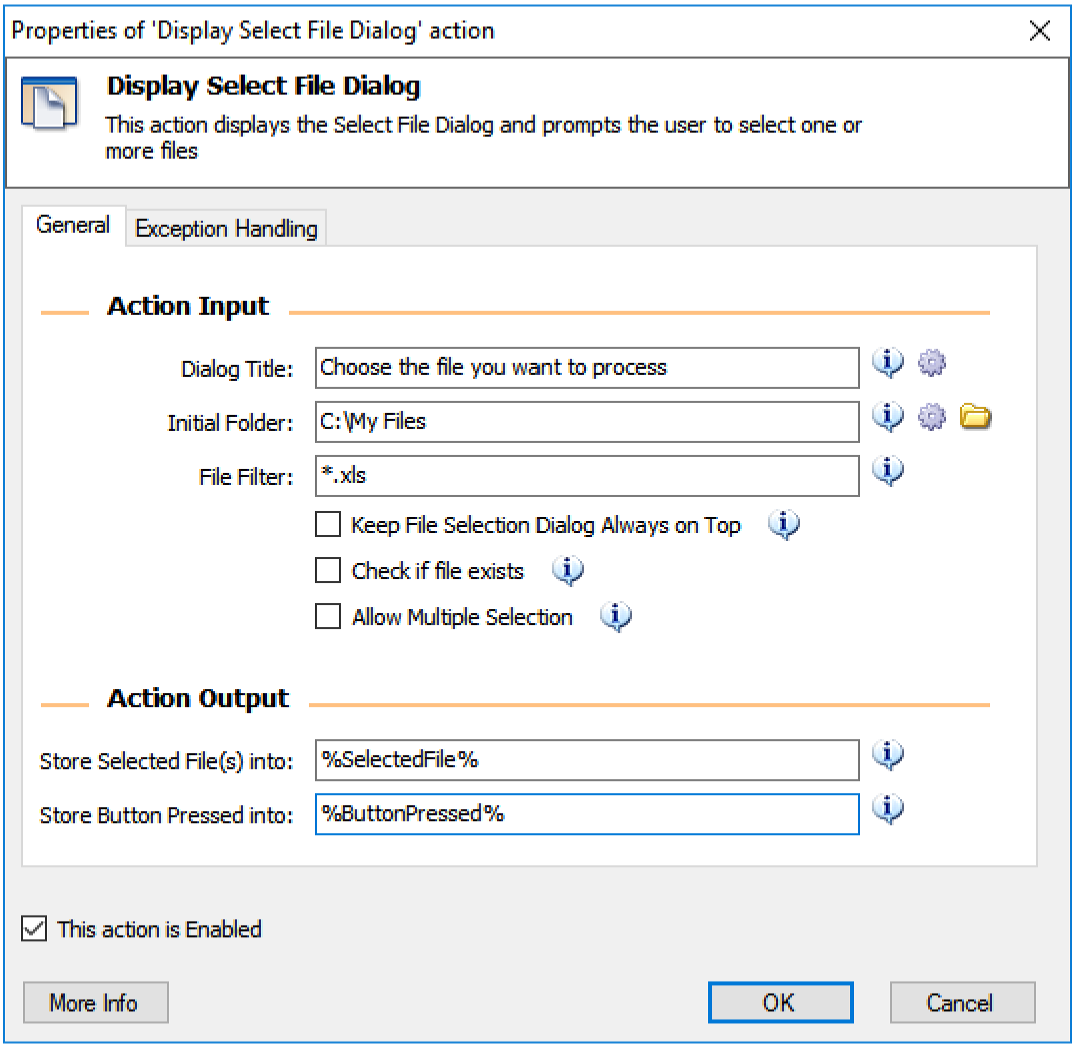
Store Button Pressed into:

Enter a name to be the variable that will store the name of the button pressed by the user (OK or Cancel).

5.7.7 Display Select File Dialog Action

Description:

This action displays the Select File Dialog and prompts the user to select one or more files



Properties of 'Display Select File Dialog' action

Display Select File Dialog

This action displays the Select File Dialog and prompts the user to select one or more files

Action Input

Dialog Title: Choose the file you want to process

Initial Folder: C:\My Files

File Filter: *.xls

□ Keep File Selection Dialog Always on Top

□ Check if file exists

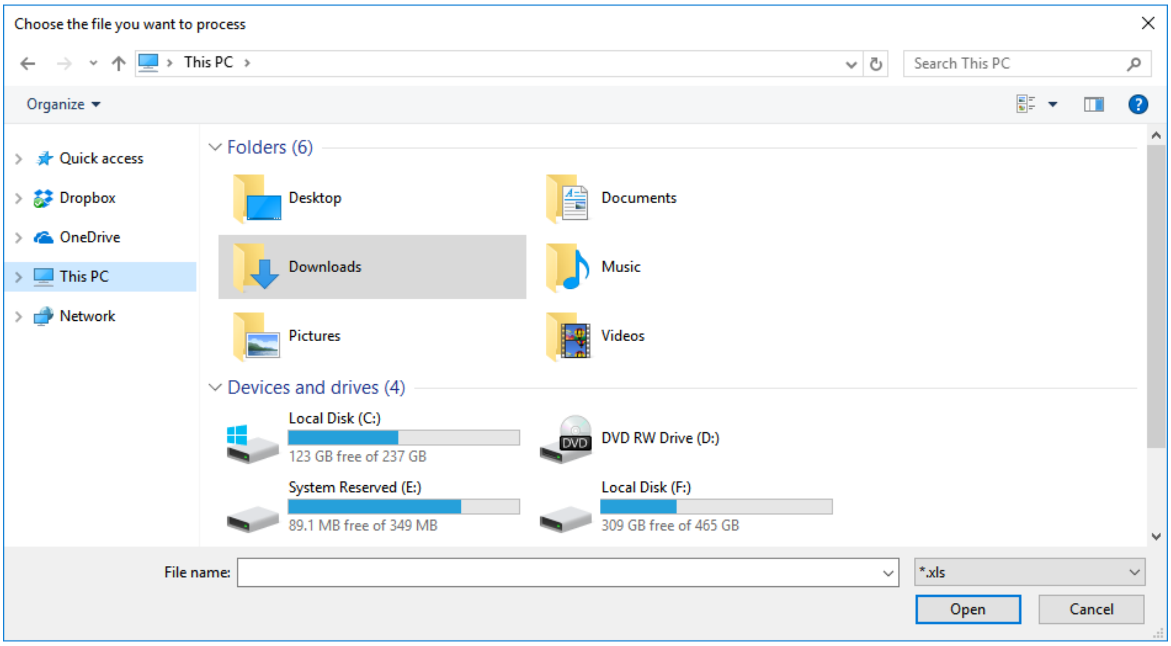
□ Allow Multiple Selection

Action Output

Store Selected File(s) into: %SelectedFile%

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled



Choose the file you want to process

File name:

*.xls

The Select File Dialog in action (as displayed in Windows Vista)

Properties:

Dialog Title:

Enter the text, or a previously stored text variable, to be used as the Dialog title.

Initial Folder:

Enter or choose the initial folder to be opened when browsing for a file. This is where the Select File Dialog action will start the user looking for the file(s).

File Filter:

Choose a filter to limit the files retrieved. This allows wild cards, for example "*.txt" or "document?.doc" (without the quotes). If you want to allow for multiple file filters the user can choose from, separate your choices with a semi-colon, for example, "*.txt;*.exe".

Keep File Selection Dialog Always on Top:

Choose whether the File Selection Dialog should always remain on top of all other windows.

Check if File Exists:

If checked, this action will then only accept a file (or multiple files) that already exists.

Allow Multiple Selection:

Choose whether this action will allow the user to select more than one file or not.

Store Selected File(s) into:

Enter a name to be the variable that will store the file(s). If Allow Multiple Selection is checked, this variable will contain a list of files, even if the list is only one entry. If Allow Multiple Selection is not checked, this variable will contain a single file, not a list.

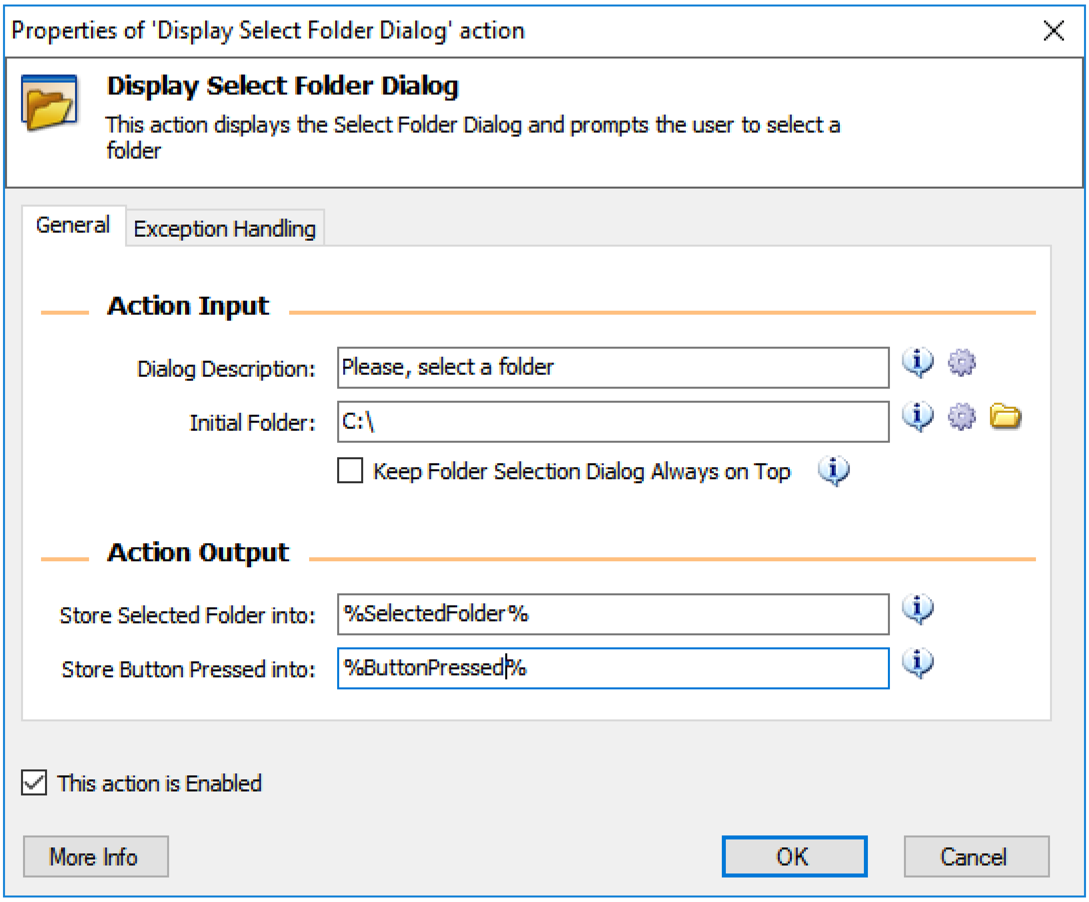
Store Button Pressed into:

The user will automatically be given the choice of Open or Cancel. Enter a name to be the variable that will store the text of the button pressed.

5.7.8 Display Select Folder Dialog Action

Description:

This action displays the Select Folder Dialog and prompts the user to select a folder



Properties of 'Display Select Folder Dialog' action

Display Select Folder Dialog

This action displays the Select Folder Dialog and prompts the user to select a folder

Dialog Description: Please, select a folder

Initial Folder: C:\

□ Keep Folder Selection Dialog Always on Top

Store Selected Folder into: %SelectedFolder%

Store Button Pressed into: %ButtonPressed%

☑ This action is Enabled

Properties:

Dialog Description:

Enter text to explain why you want the user to select a folder. For example, "Please select the folder into which you wish to copy the files."

Initial Folder:

Enter or choose the initial folder to be opened. This will be the default folder unless the user picks a new one.

Keep Folder Selection Always on Top:

Choose whether the Folder Selection Dialog should always remain on top of all other windows.

Store Selected Folder into:

Enter a name to be the variable that will store the selected folder.

Store Button Pressed into:

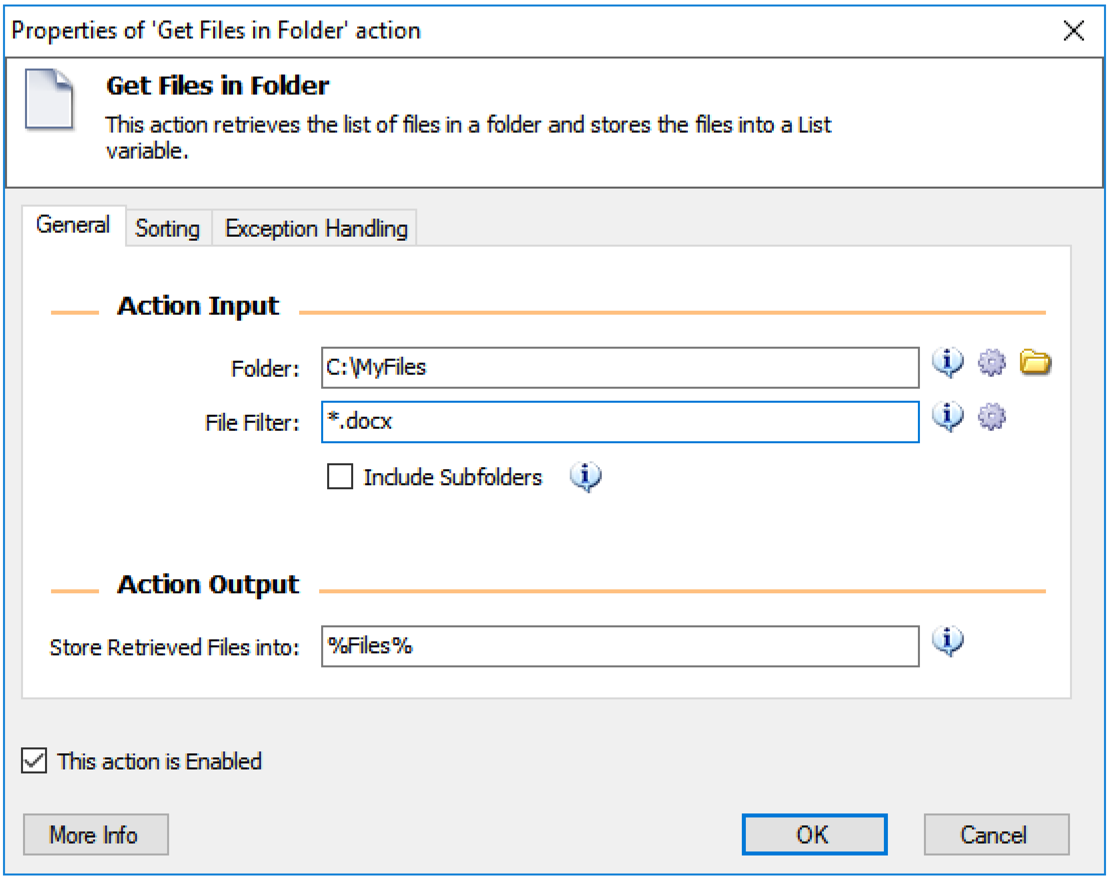
The user will automatically be given the choice of OK or Cancel. Enter a name to be the variable that will store the text of the button pressed.

5.8 Files

5.8.1 Get Files in Folder Action

Description:

This action retrieves the list of files in a folder and stores the files info into a "List of Files" variable



Properties of 'Get Files in Folder' action

Get Files in Folder

This action retrieves the list of files in a folder and stores the files into a List variable.

Action Input

Folder: C:\MyFiles

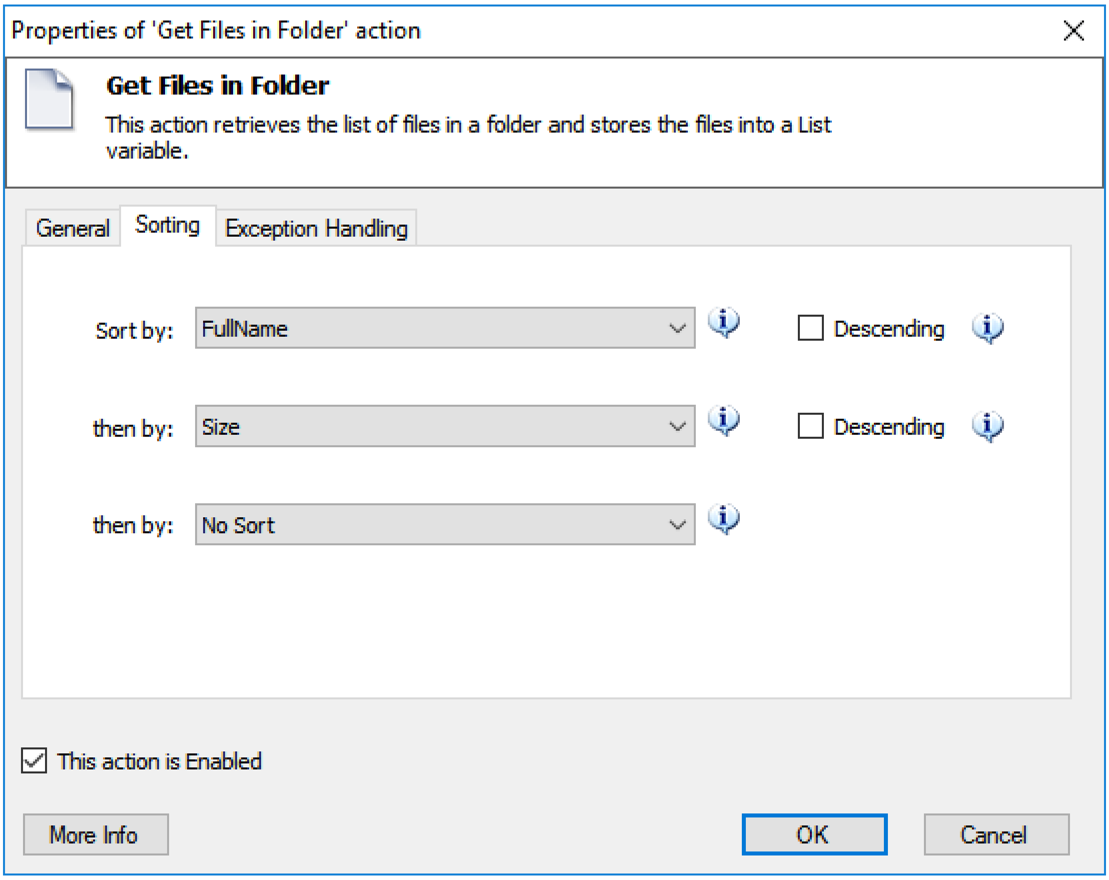
File Filter: *.docx

□ Include Subfolders

Action Output

Store Retrieved Files into: %Files%

☑ This action is Enabled



Properties of 'Get Files in Folder' action

Get Files in Folder

This action retrieves the list of files in a folder and stores the files into a List variable.

Sort by: FullName ☐ Descending

then by: Size ☐ Descending

then by: No Sort

☑ This action is Enabled

Properties:

Folder:

Enter or choose the full path of the folder, or a variable containing the folder, you wish to get files from.

File Filter:

Choose a filter to limit the files retrieved. This allows wild cards, for example "*.txt" or "document?.doc" (without the quotes). If you want to allow for multiple file filters, separate your choices with a semi-colon, for example, "*.txt;*.exe".

Include Subfolders:

Check this if you wish to look into Subfolders as well.

Store Retrieved Files into:

Enter a name to be the variable that will store the files selected by this action as a list of file objects.

Sort by:

Choose if this action will sort the results, and by what criteria.

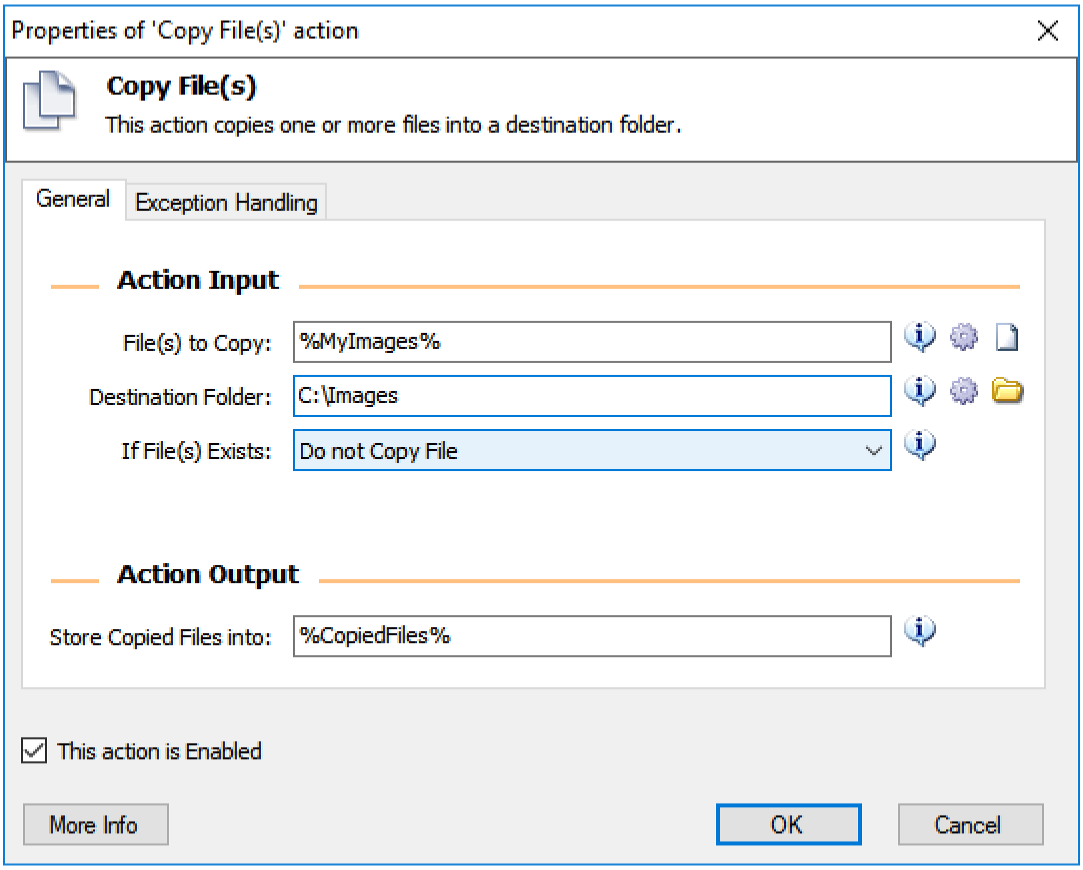
Descending:

Does this action sort into ascending or descending order?

5.8.2 Copy File(s) Action

Description:

This action copies one or more files into a destination folder.



Properties of 'Copy File(s)' action

Copy File(s)

This action copies one or more files into a destination folder.

Action Input

File(s) to Copy: %MyImages%

Destination Folder: C:\Images

If File(s) Exists: Do not Copy File

Action Output

Store Copied Files into: %CopiedFiles%

☑ This action is Enabled

Properties:

File to Copy:

Enter or choose the file(s) that will be copied. This can be a file path, or a variable containing a file, a list of files, a text path, or a list of text paths. You can use the 'Get Files in Folder' action to populate a variable with a list of files.

Destination Folder:

Enter or choose the folder, or a variable containing a folder, that this action will use as the destination for the copied files.

If File Exists:

Choose what will happen if a file with the same name already exists in the destination folder.

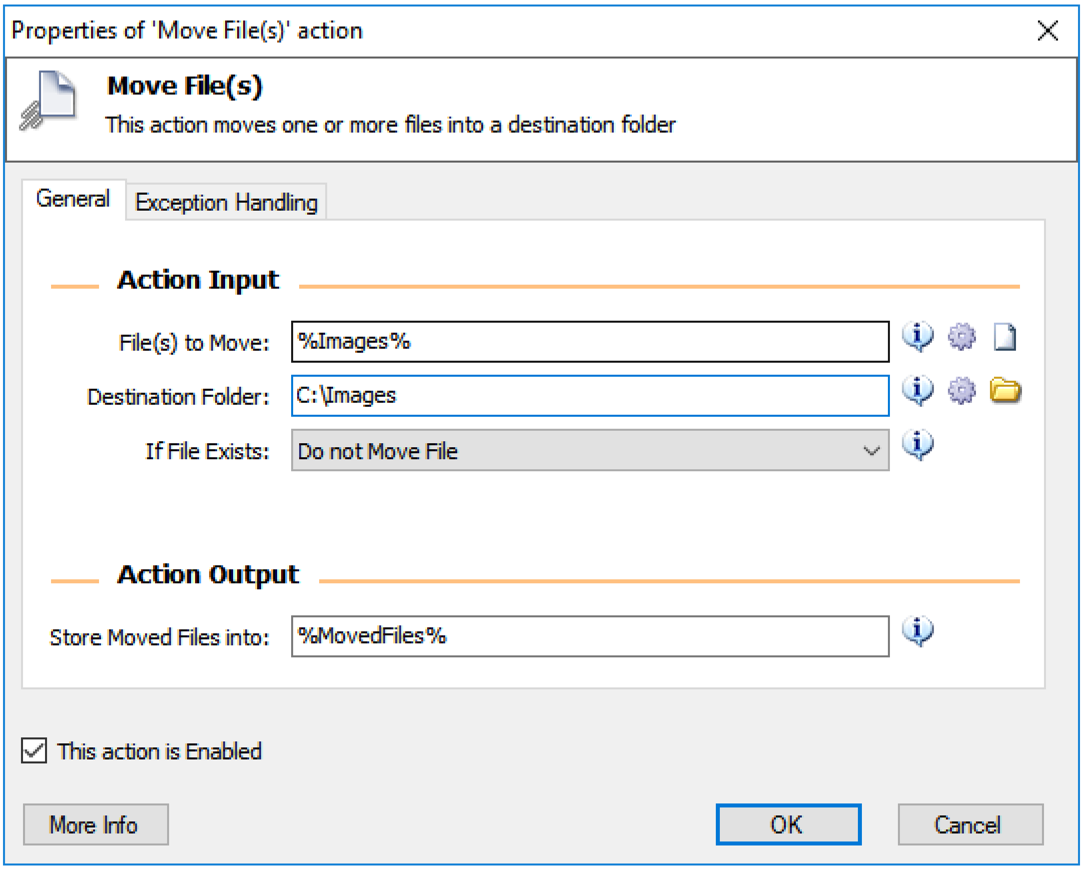
Store Copied Files into:

Enter a name to be the variable that will store the copied file(s) as a list of files.

5.8.3 Move File(s) Action

Description:

This action moves one or more files into a destination folder



Properties of 'Move File(s)' action

Move File(s)

This action moves one or more files into a destination folder

Action Input

File(s) to Move: %Images%

Destination Folder: C:\Images

If File Exists: Do not Move File

Action Output

Store Moved Files into: %MovedFiles%

☑ This action is Enabled

Properties:

File to Move:

Enter or choose the the file(s) that will be moved. This can be a file path, or a variable containing a file, a list of files, a textual path, or a list of text paths. You can use the 'Get Files in Folder' action to populate a variable with a list of files.

Destination Folder:

Enter or choose the folder, or a variable containing a folder, that this action will use as the destination for the moved files.

If File Exists:

Choose what will happen if a file with the same name already exists in the destination folder.

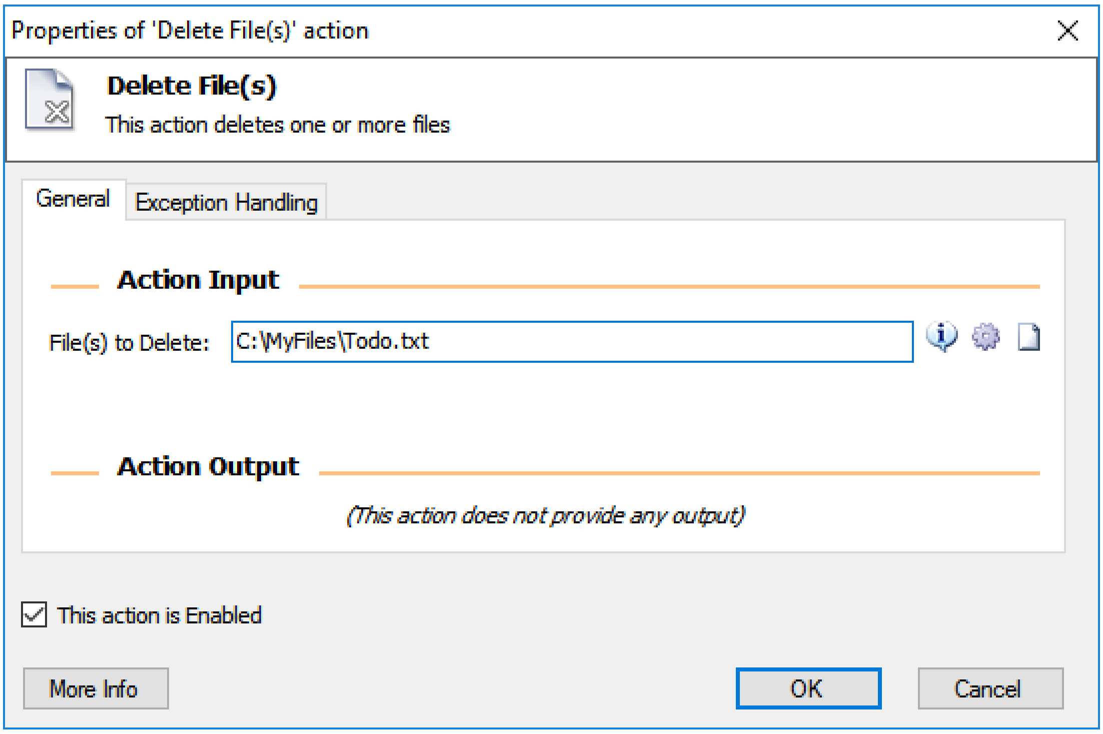
Store Moved Files into:

Enter a name to be the variable that will store the moved file(s) as a list of files.

5.8.4 Delete File(s) Action

Description:

This action deletes one or more files



Properties of 'Delete File(s)' action

Delete File(s)

This action deletes one or more files

Action Input

File(s) to Delete: C:\MyFiles\Todo.txt

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

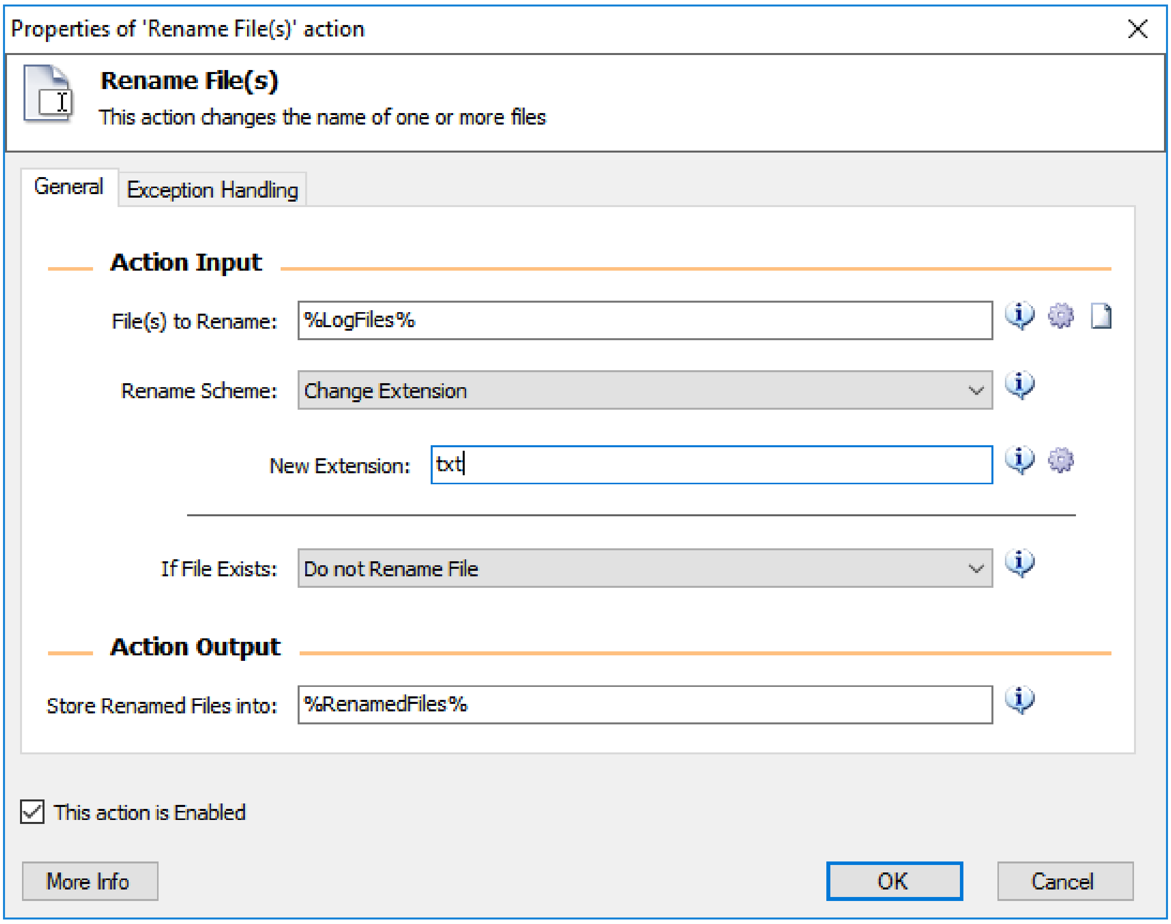
File(s) to Delete:

Enter or choose the file(s) that will be deleted. This can be a file path, or a variable containing a file, a list of files, a text path, or a list of text paths. You can use the 'Get Files in Folder' action to populate a variable with a list of files.

5.8.5 Rename File(s) Action

Description:

This action changes the name of one or more files



Properties of 'Rename File(s)' action

Rename File(s)

This action changes the name of one or more files

Action Input

File(s) to Rename: %LogFiles%

Rename Scheme: Change Extension

New Extension: txt

If File Exists: Do not Rename File

Action Output

Store Renamed Files into: %RenamedFiles%

☑ This action is Enabled

Properties:

File to Rename:

Enter or choose the the file(s) that will be renamed. This can be a file path, or a variable containing a file, a list of files, a text path, or a list of text paths. You can use the 'Get Files in Folder' action to populate a variable with a list of files.

Rename Scheme:

Choose how you wish to rename the file(s).

Rename Scheme: Set New Name

New File Name:

Enter the text, or a previously stored text variable, to be the new name of the file(s).

Keep Extension:

Check this box if you wish to include the previous extension with the file name(s). If this box is not checked, you must include the extension you wish the file(s) to have, or it will have none.

Rename Scheme: Add Text

Text to Add:

Enter the text, or a previously stored text variable, to add to the original file name(s).

Add Text:

Choose whether to add the text before or after the original name(s).

Rename Scheme: Remove Text

Text to Remove:

Enter the text, or a previously stored text variable, to remove from the original file name(s). This will search each file name, and remove the entered text from anywhere in the name. If this text exists more than once in the original name(s), it will be removed every time.

Rename Scheme: Replace Text

Text to Replace:

Enter the text, or a previously stored text variable, to be replaced in the original file name(s). This will search each file name, and replace the entered text anywhere in the name, each time it occurs.

Replace with:

Enter the text, or a previously stored text variable, to replace the original text.

Rename Scheme: Change Extension

New Extension:

Enter the text, or a previously stored text variable, to be the new extension for the file(s).

Rename Scheme: Add Date or Time

DateTime to Add:

Choose what DateTime value to add to the file name(s).

Custom DateTime:

Enter a previously stored DateTime variable to be added to the file name(s).

Add DateTime:

Choose whether to add the DateTime before or after the original name(s).

Separator:

Choose what to use to separate the original file name and the DateTime value added, including 'no separator'.

DateTime Format:

Enter or choose a Format this action will use to express the DateTime value that will be added to the file name. You can custom format a DateTime as, for example, MM/dd/yyyy for date, and hh:mm:sstt for time.

Example:

Here you can see an example of the final output.

Rename Scheme: Make Sequential

Add Number to:

Choose whether to add the number to the existing file name(s) or a new name.

New Name:

Enter the text, or a previously stored text variable, to be the new base name of the file(s).

Add Number:

Choose whether to add the number before or after the original name(s) or a new base name.

Start Numbering at:

Enter a number, or a previously stored number variable, to be the starting number value.

Increment by:

Enter a number, or a previously stored number variable, to be the increment this action will count by.

Separator:

Choose what to use to separate the original file name and the number added, including 'no separator'.

Make each number at least:

Choose to have a set minimum length for each number added.

Example:

Here you can see an example of the final output.

If File Exists:

Choose what will happen if a file with the same name already exists in the folder.

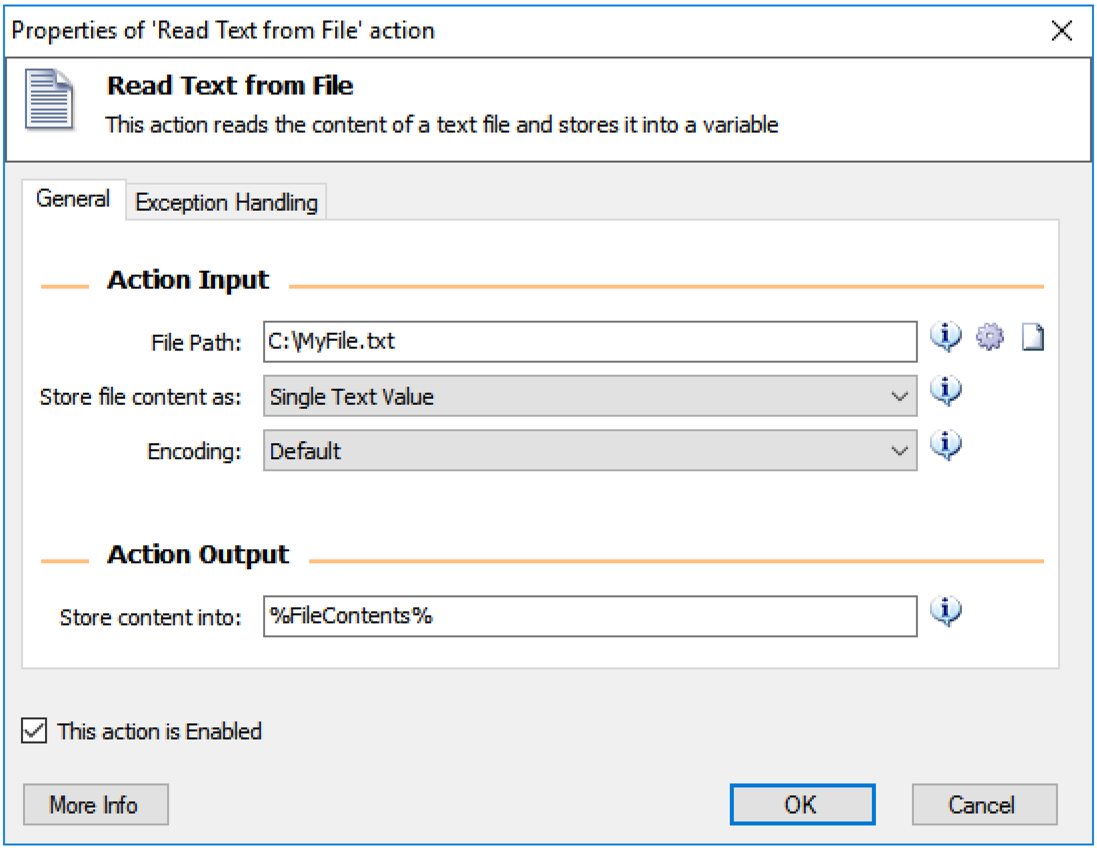
Stored Renamed Files into:

Enter a name to be the variable that will store the renamed file(s) as a list of files.

5.8.6 Read Text from File Action

Description:

This action reads the content of a text file and stores it into a variable



Properties of 'Read Text from File' action

Read Text from File

This action reads the content of a text file and stores it into a variable

Action Input

File Path: C:\MyFile.txt

Store file content as: Single Text Value

Encoding: Default

Action Output

Store content into: %FileContents%

☑ This action is Enabled

Properties:

File Path:

Enter or choose the the file to be read. This can be a file path, or a variable containing a file or a textual path.

Store Content As:

Choose how to store the text. If you choose Single Text Value, the entire text will be stored as a single text value. If you choose to store as a List, each line of the original text will be a text item in the list.

Encoding:

Select the encoding of the input text File.

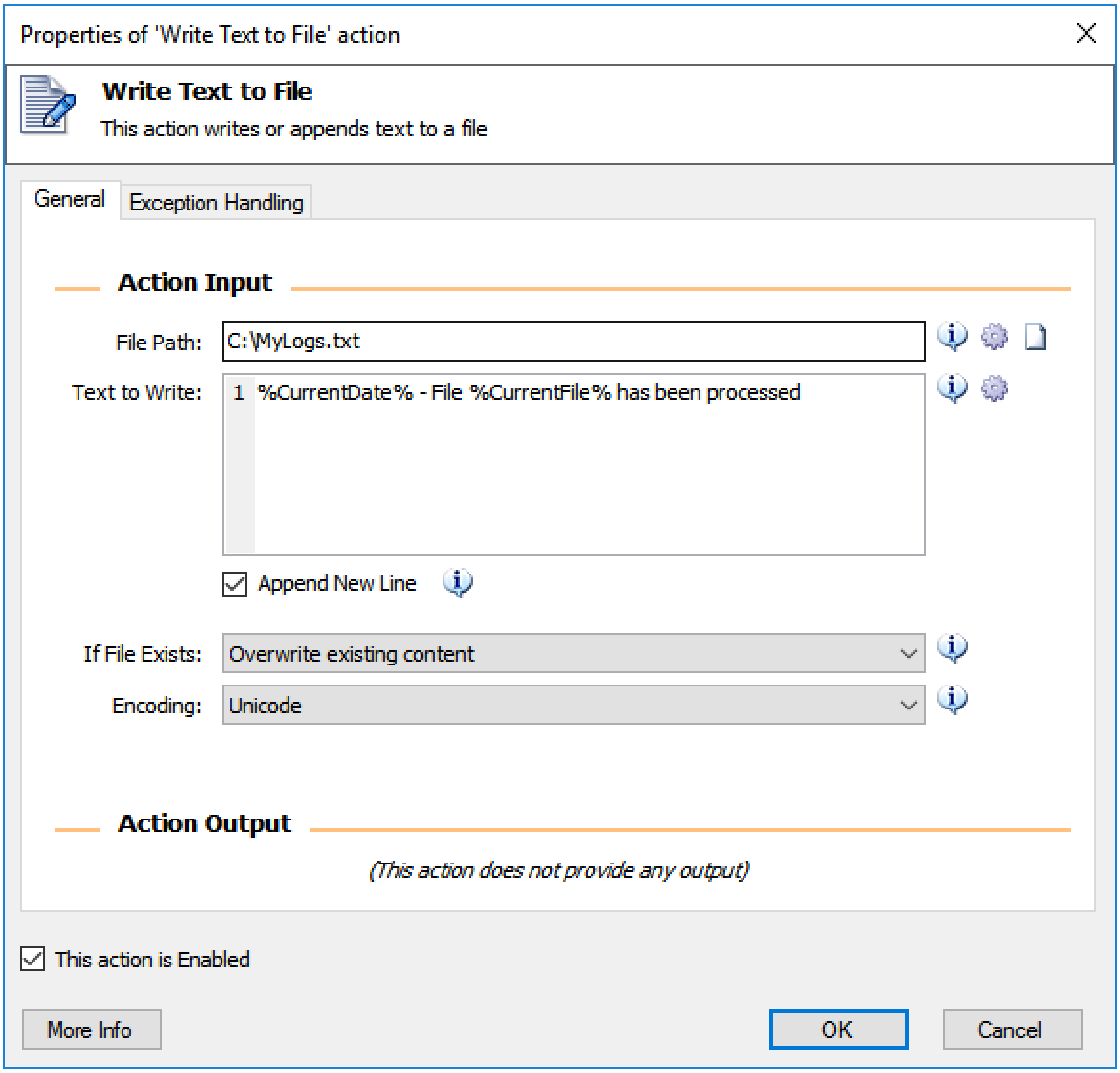
Store Content Into:

Enter a name to be the variable that will store the contents as a text or list of texts, depending on your choice in 'Store File Content As'.

5.8.7 Write Text to File Action

Description:

This action writes or appends text to a file



Properties of 'Write Text to File' action

Write Text to File

This action writes or appends text to a file

Action Input

File Path: C:\MyLogs.txt

Text to Write: 1 %CurrentDate% - File %CurrentFile% has been processed

☑ Append New Line

If File Exists: Overwrite existing content

Encoding: Unicode

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

File Path:

Enter or choose the file to be to be written to. This can be a file path, or a variable containing a file or a textual path.

Text to Write:

Enter the text, or a previously stored variable, to be the content to write.

Append New Line:

Defines whether a new line character should be appended at the end of the overall text to be written to the file.

If File Exists:

Choose whether to overwrite the existing content, or to append to the end of the existing content. If the file does not exist, this action will automatically create it.

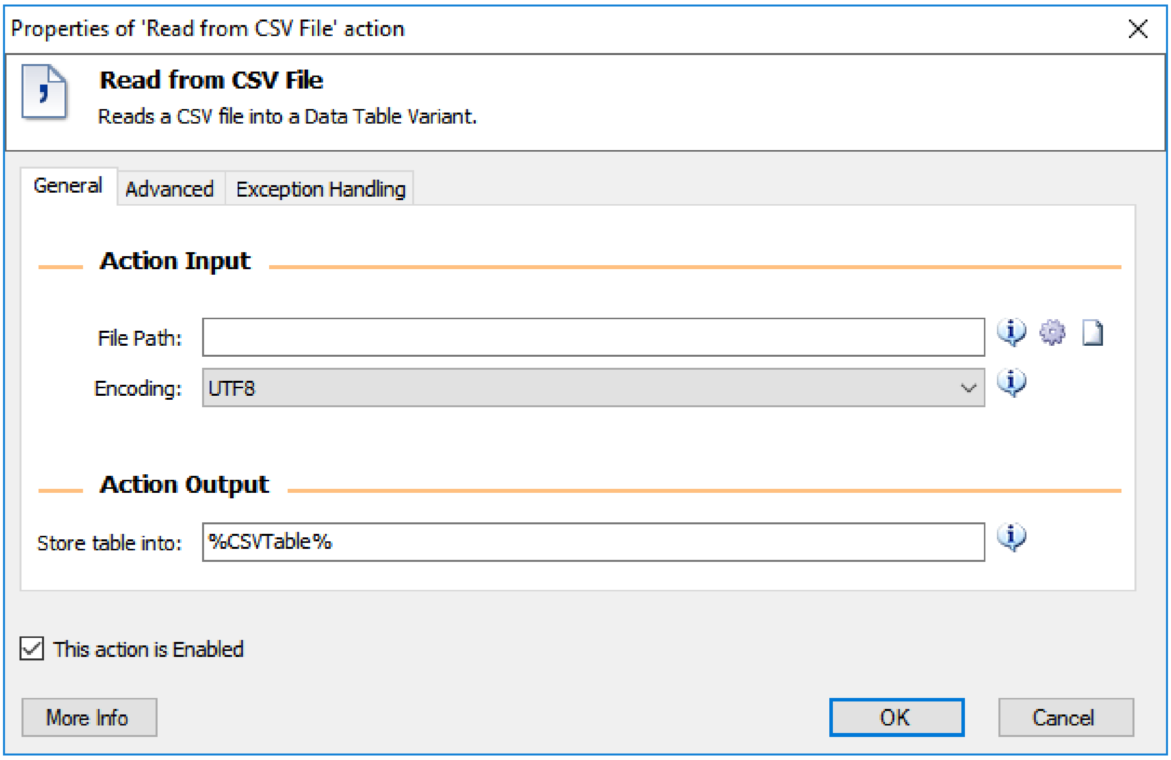
Encoding:

Select the encoding used for the specified text to be written into the text file.

5.8.8 Read From CSV File Action

Description:

Reads a CSV file into a Data Table Variant.



Properties of 'Read from CSV File' action

Read from CSV File

Reads a CSV file into a Data Table Variant.

Action Input

File Path:

Encoding: UTF8

Action Output

Store table into: %CSVTable%

☑ This action is Enabled

Properties:

File Path:

Enter or choose the CSV file to be read. This can be a file path, or a variable containing a file or a textual path.

Encoding:

Select the encoding to be used for reading the CSV file.

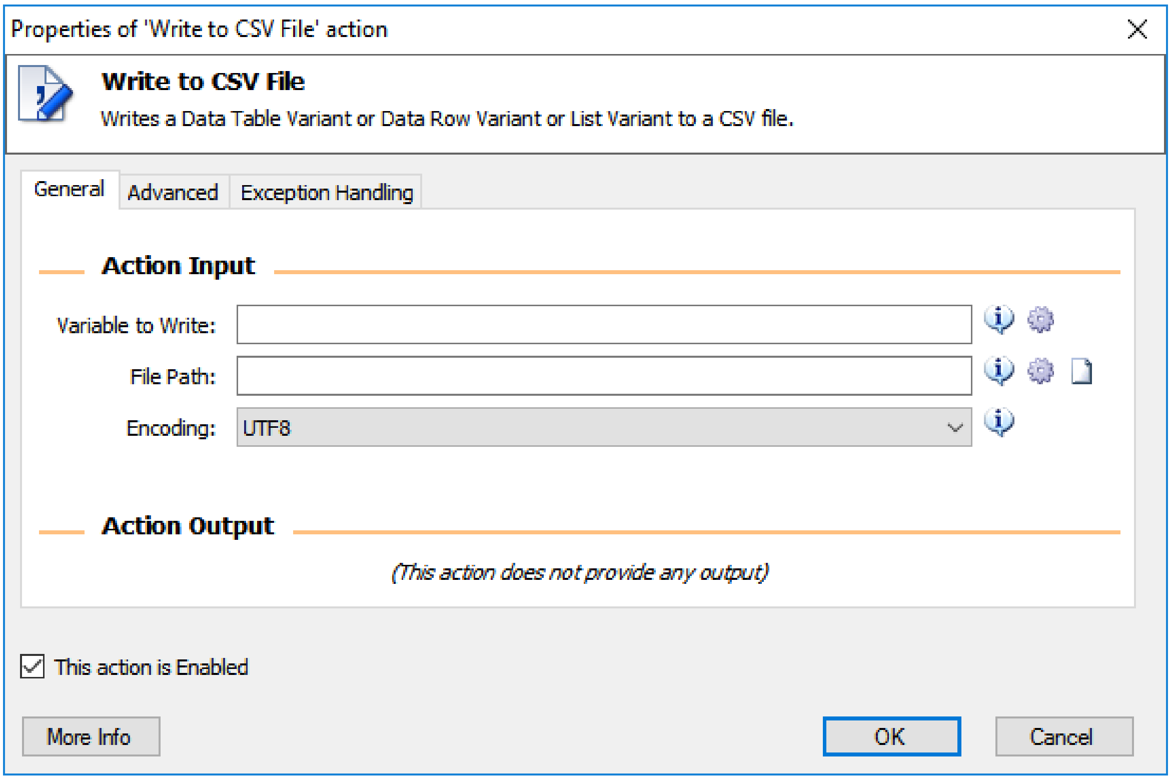
Store Table into:

Enter the name of the variable that will store the contents of the CSV file as a Data Table.

5.8.9 Write to CSV File Action

Description:

Writes a Data Table Variant or Data Row Variant or List Variant to a CSV file.



Properties of 'Write to CSV File' action

Write to CSV File

Writes a Data Table Variant or Data Row Variant or List Variant to a CSV file.

Action Input

Variable to Write:

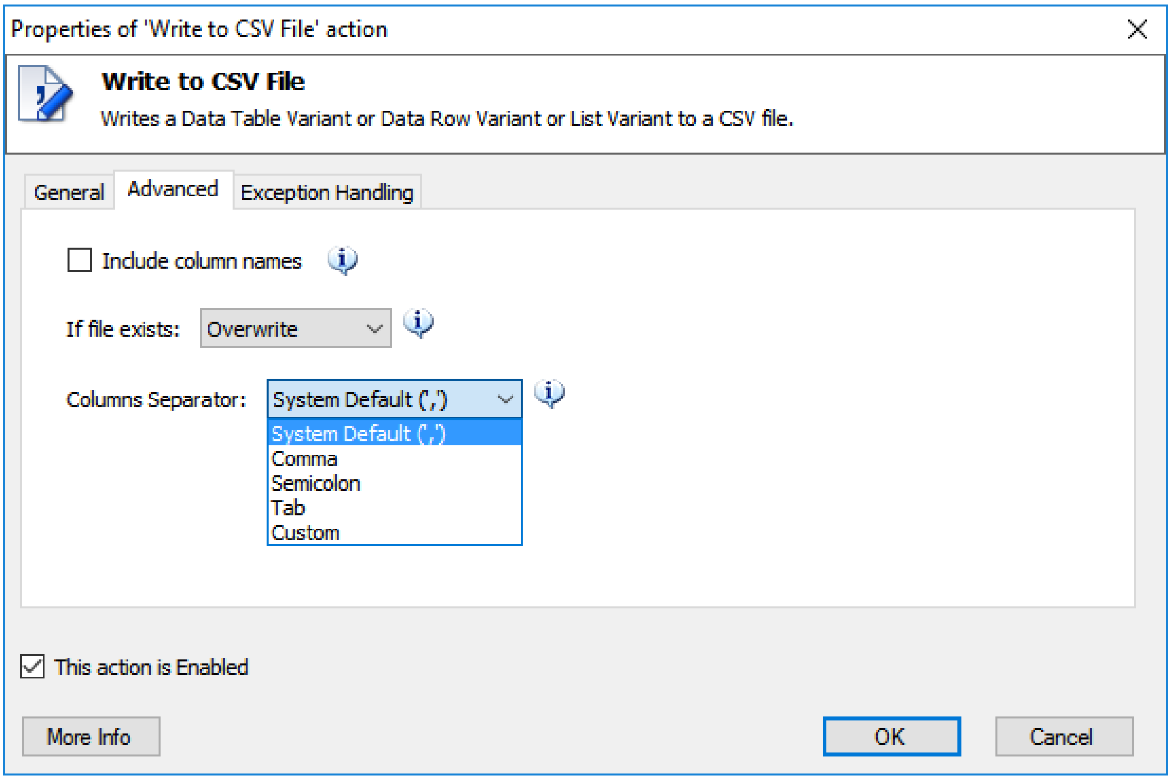
File Path:

Encoding: UTF8

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Write to CSV File' action

Write to CSV File

Writes a Data Table Variant or Data Row Variant or List Variant to a CSV file.

□ Include column names

If file exists: Overwrite

Columns Separator: System Default (',')

☑ This action is Enabled

Properties:

Variable to Export:

Enter the name of the Data Table Variable or Data Row Variable or List Variable which must be written into the target CSV file.

File Path:

Enter or choose the CSV file to export the variable to. This can be a file path, or a variable containing a file or a textual path.

Encoding:

Select the encoding to be used for writing to the CSV file specified.

Include column names:

Choose whether the column names of the variant specified should become the very first row of the CSV file. This option takes effect if and only if the target CSV file either does not initially exist or exists but is otherwise empty of text.

If file exists:

Specify the desired behavior when the targeted CSV file is found to be already present in the filesystem.

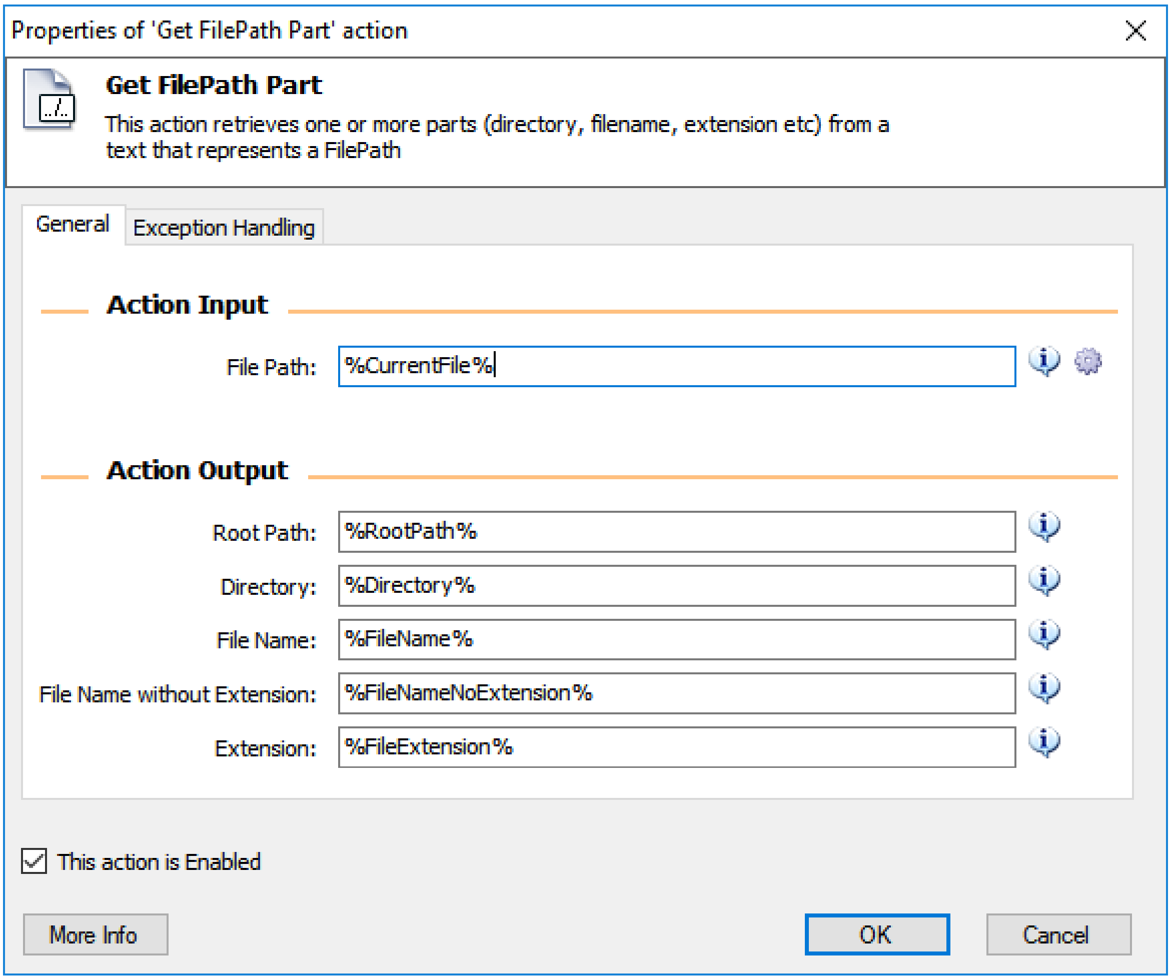
Columns Separator:

Specify the column separator to use in the CSV file to be created.

5.8.10 Get FilePath Part Action

Description:

This action retrieves one or more parts (directory, filename, extension etc) from a text that represents a FilePath



Properties of 'Get FilePath Part' action

Get FilePath Part

This action retrieves one or more parts (directory, filename, extension etc) from a text that represents a FilePath

Action Input

File Path: %CurrentFile%

Action Output

Root Path: %RootPath%

Directory: %Directory%

File Name: %FileName%

File Name without Extension: %FileNameNoExtension%

Extension: %FileExtension%

☑ This action is Enabled

Properties:

File Path:

Enter a previously defined text variable containing a file path to be used as the source.

Root Path:

Enter a name to be the variable that will contain the Root Path of the source file.

Directory:

Enter a name to be the variable that will contain the Directory of the source file.

File Name:

Enter a name to be the variable that will contain the name of the source file.

File Name without Extension:

Enter a name to be the variable that will contain the file name (without the extension) of the source file.

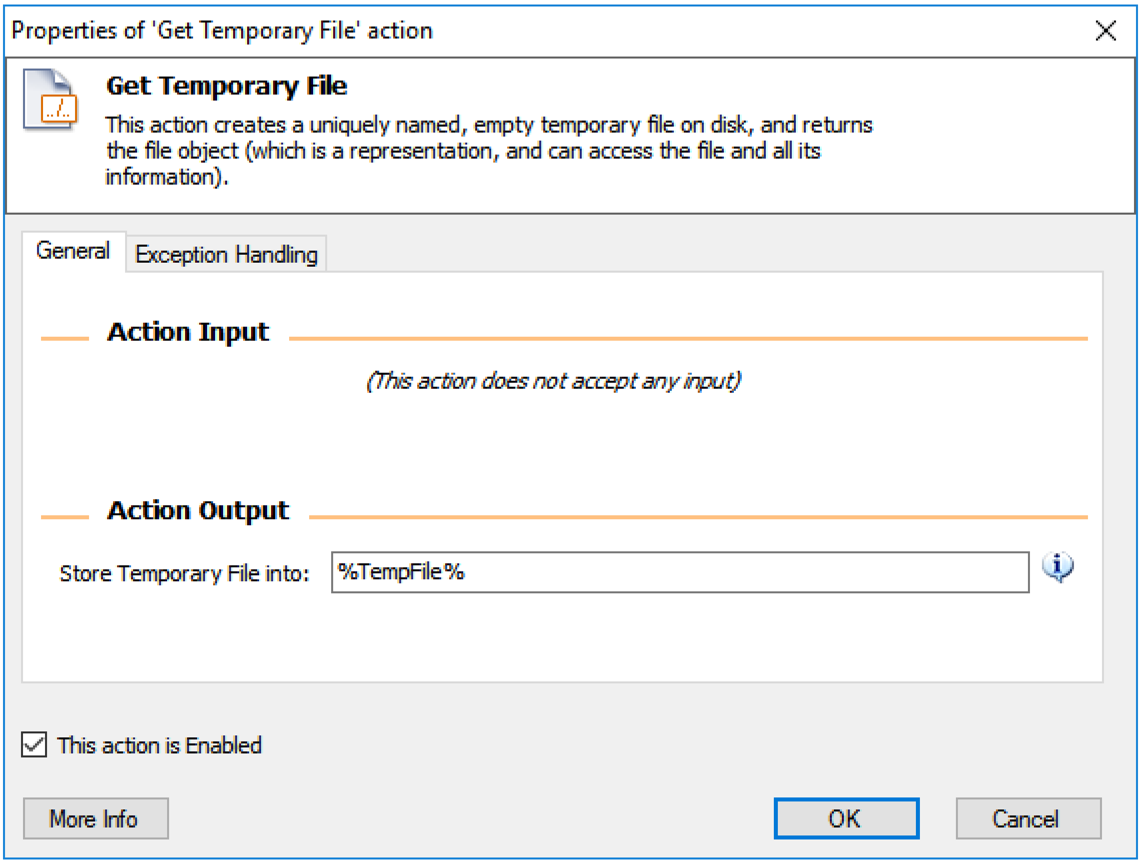
Extension:

Enter a name to be the variable that will contain the Extension (for example, .doc) of the source file.

5.8.11 Get Temporary File Action

Description:

This action creates a uniquely named, empty temporary file on disk, and returns the file object (which is a representation, and can access the file and all its information).



Properties of 'Get Temporary File' action

Get Temporary File

This action creates a uniquely named, empty temporary file on disk, and returns the file object (which is a representation, and can access the file and all its information).

Action Input

(This action does not accept any input)

Action Output

Store Temporary File into: %TempFile%

☑ This action is Enabled

Properties:

Store Temporary File into:

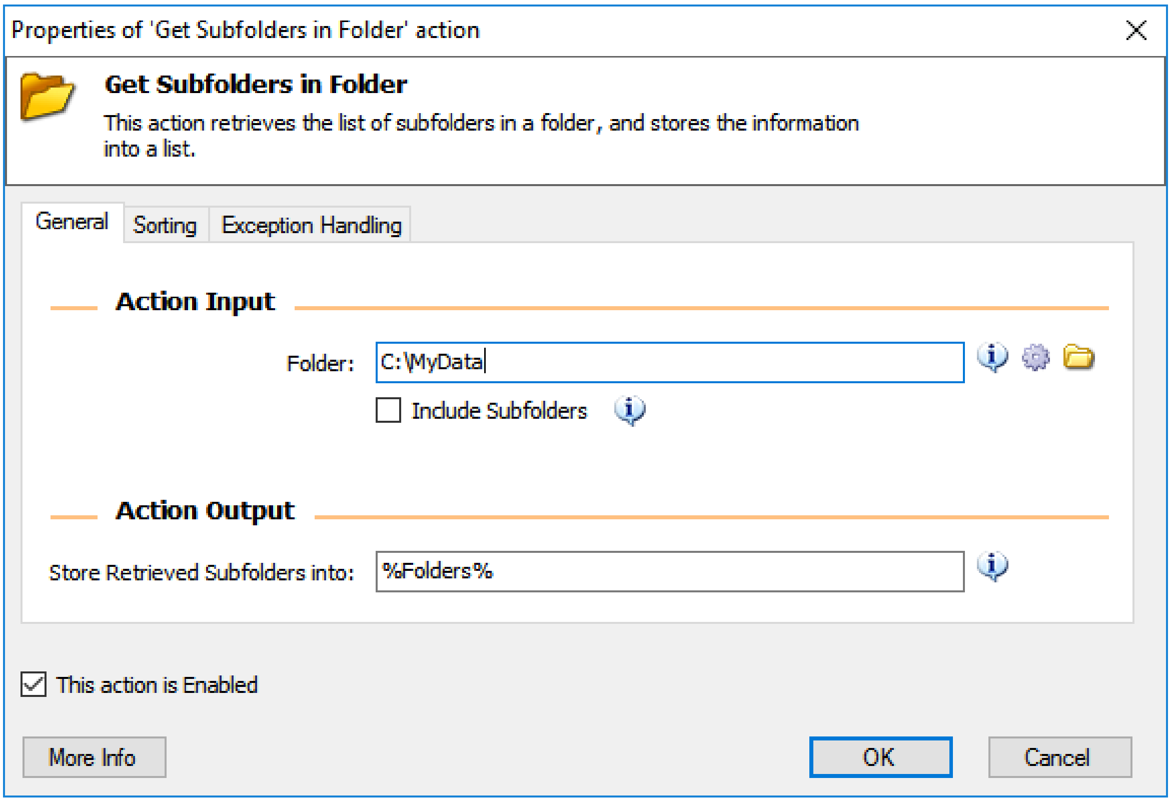
Enter a name to be the variable that will contain the temporary file object.

5.9 Folders

5.9.1 Get Subfolders in Folder Action

Description:

This action retrieves the list of subfolders in a folder and stores the subfolders info into a List of folders variable



Properties of 'Get Subfolders in Folder' action

Get Subfolders in Folder

This action retrieves the list of subfolders in a folder, and stores the information into a list.

Action Input

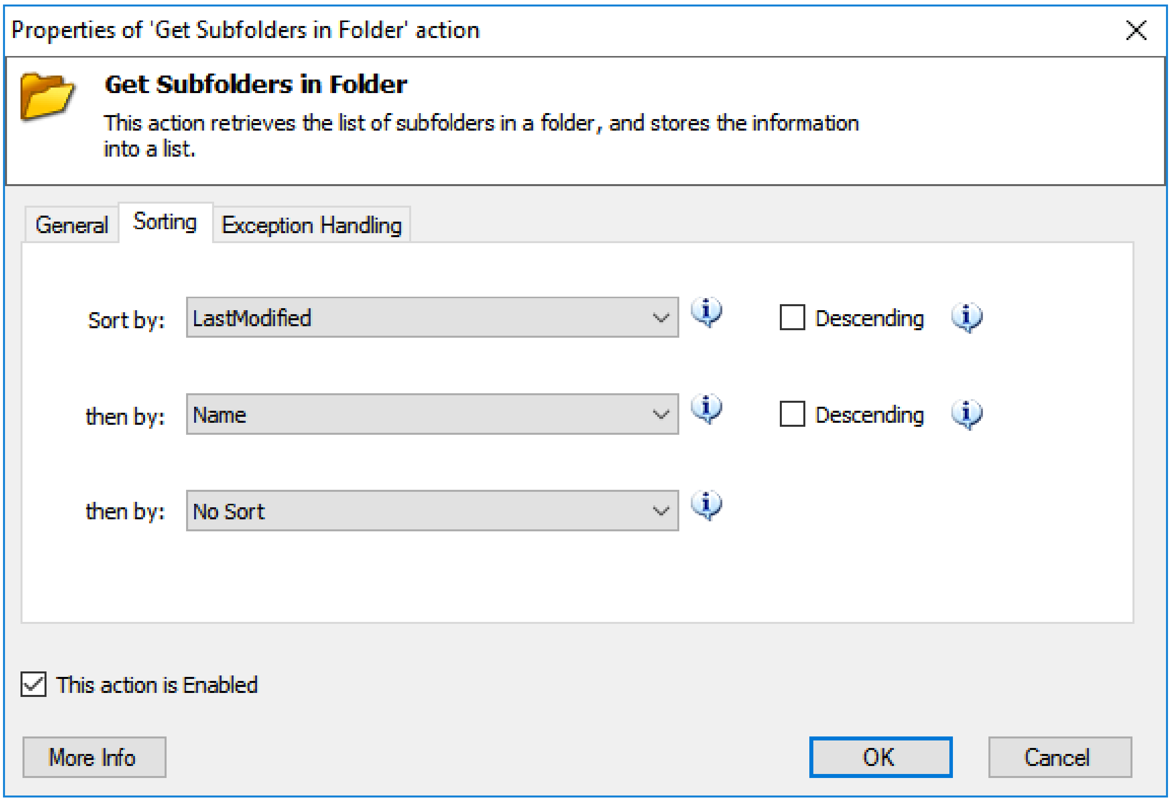
Folder: C:\MyData

□ Include Subfolders

Action Output

Store Retrieved Subfolders into: %Folders%

☑ This action is Enabled



Properties of 'Get Subfolders in Folder' action

Get Subfolders in Folder

This action retrieves the list of subfolders in a folder, and stores the information into a list.

Sort by: LastModified □ Descending

then by: Name □ Descending

then by: No Sort

☑ This action is Enabled

Properties:

Folder:

Enter or choose the full path of the folder, or a variable containing the folder, you wish to retrieve the list of Subfolders from.

Include Subfolders:

Check this if you wish to look into the Subfolders, and retrieve their Subfolders (and so on) as well.

Store Retrieved Subfolders into:

Enter a name to be the variable that will store all of the Subfolders selected by this action as a list of folders.

Sort By:

Choose if this action will sort the results, and by what criteria.

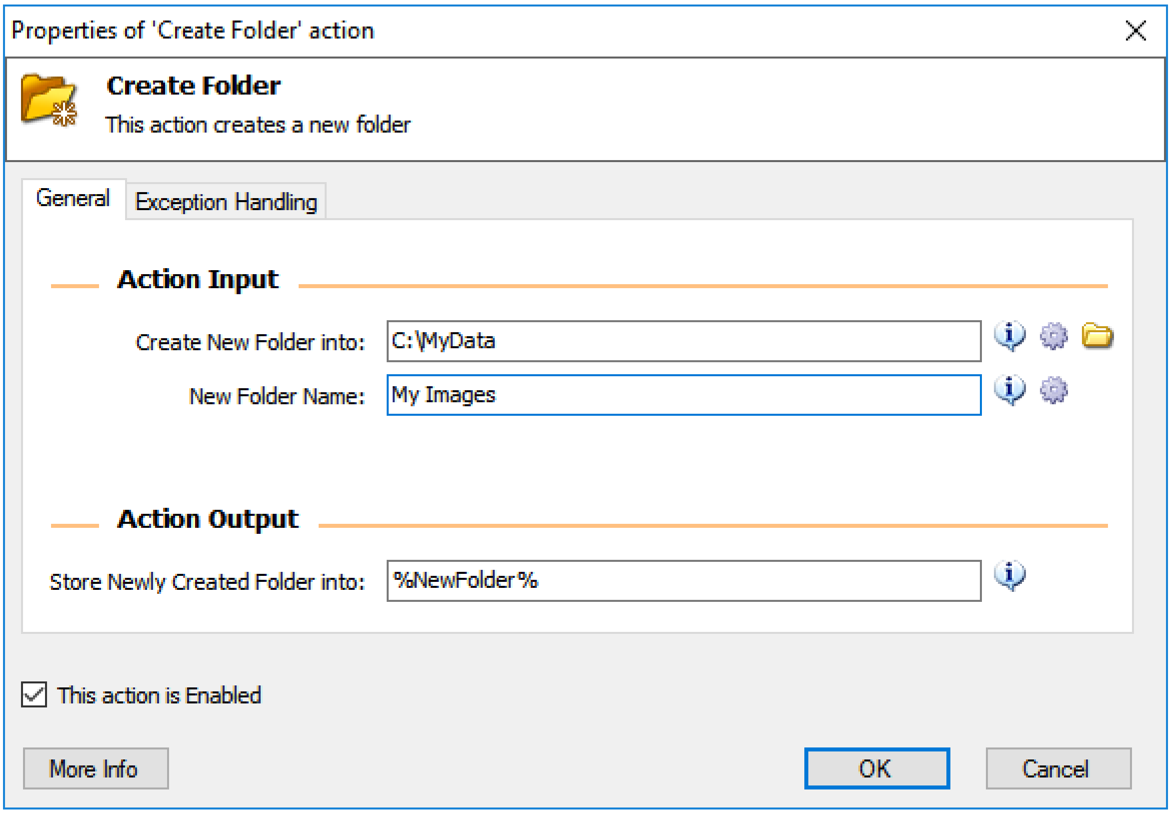
Descending:

Does this action sort into ascending or descending order?

5.9.2 Create Folder Action

Description:

This action creates a new folder



Properties of 'Create Folder' action

Create Folder

This action creates a new folder

Action Input

Create New Folder into: C:\MyData

New Folder Name: My Images

Action Output

Store Newly Created Folder into: %NewFolder%

☑ This action is Enabled

Properties:

Create New Folder into:

Enter or choose the full path of the folder, or a variable containing the folder, you wish to create a new Folder in.

New Folder Name:

Enter the text, or a text variable, to be the name of the new Folder.

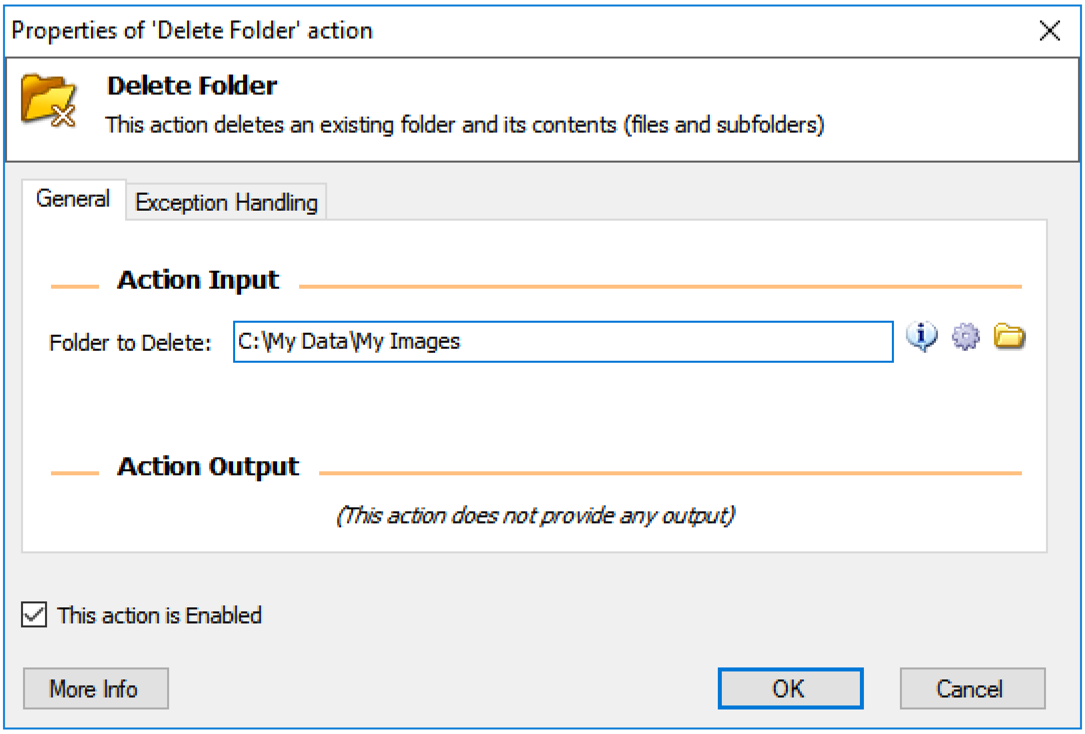
Store Newly Created Folder into:

Enter a name to be the variable that will contain the created Folder object (which is a representation, and can access the folder and all its information).

5.9.3 Delete Folder Action

Description:

This action deletes an existing folder and its contents (files and subfolders)



Properties of 'Delete Folder' action

Delete Folder

This action deletes an existing folder and its contents (files and subfolders)

Action Input

Folder to Delete: C:\My Data\My Images

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

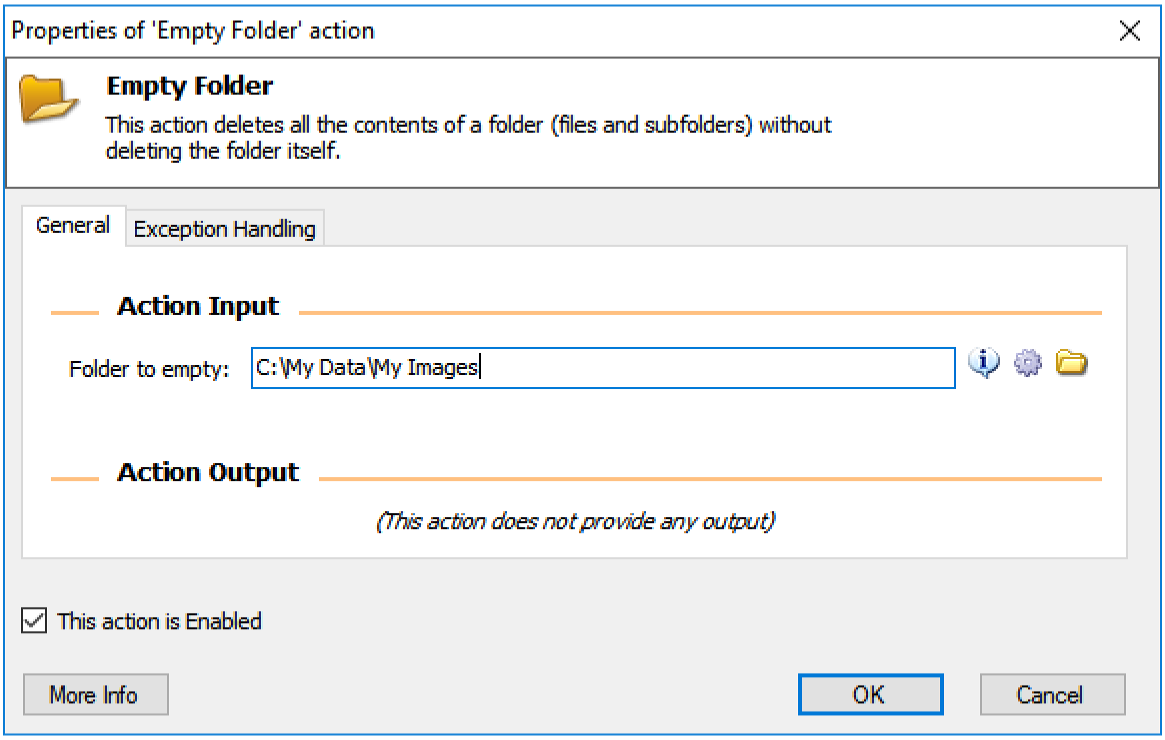
Folder to Delete:

Enter or choose the full path of the folder, or a variable containing the folder, you wish to delete. Remember that all contents of that folder, and its Subfolders, will be deleted too.

5.9.4 Empty Folder Action

Description:

This action deletes all the contents of a folder (files and subfolders) without deleting the folder itself.



Properties of 'Empty Folder' action

Empty Folder

This action deletes all the contents of a folder (files and subfolders) without deleting the folder itself.

Action Input

Folder to empty: C:\My Data\My Images

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

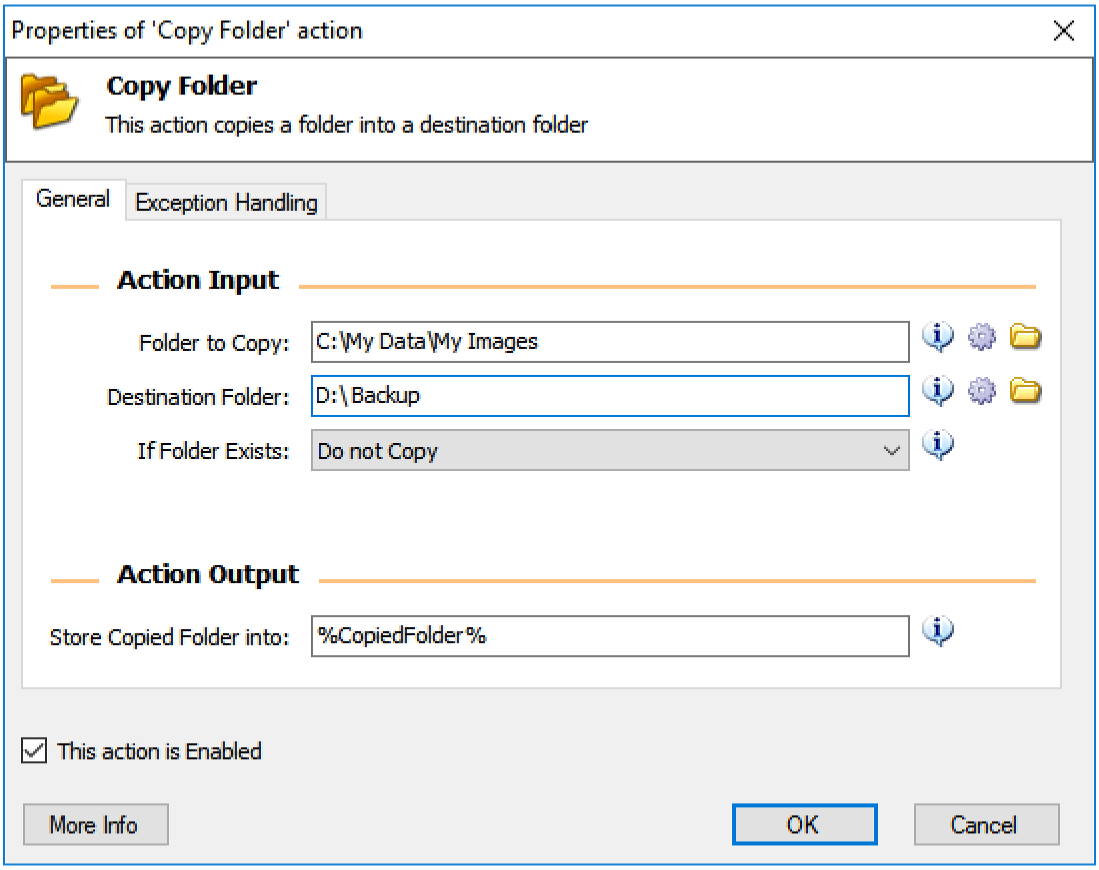
Folder to empty:

Enter or choose the full path of the folder, or a variable containing the folder whose contents you want to delete.

5.9.5 Copy Folder Action

Description:

This action copies a folder into a destination folder



Properties of 'Copy Folder' action

Copy Folder

This action copies a folder into a destination folder

Action Input

Folder to Copy: C:\My Data\My Images

Destination Folder: D:\Backup

If Folder Exists: Do not Copy

Action Output

Store Copied Folder into: %CopiedFolder%

☑ This action is Enabled

Properties:

Folder to Copy:

Enter or choose the full path of the folder, or a variable containing the folder, you wish to copy. If the folder path ends with a \ only the contents of the folder (files + subfolders) will be copied. Otherwise, the folder itself (along with its contents) will be copied as a subfolder into the destination folder

Destination Folder:

Enter or choose the full path of the folder, or a variable containing the folder, to be the destination Folder.

If Folder Exists:

Choose whether to overwrite files or to not copy if the destination folder already exists. If the folder exists, but the files have different names, the old files will still be in the folder.

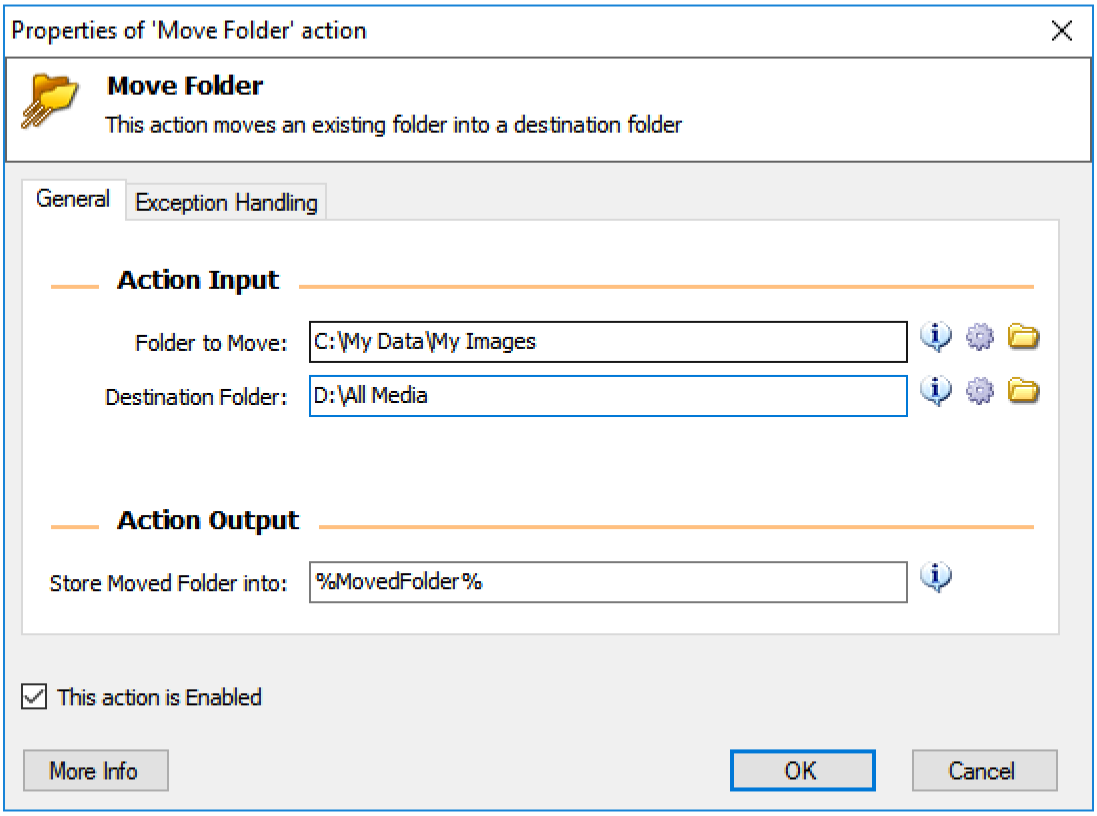
Store Copied Folder into:

Enter a name to be the variable that will contain the copied folder object (which is a representation, and can access the folder and all its information).

5.9.6 Move Folder Action

Description:

This action moves an existing folder into a destination folder



Properties of 'Move Folder' action

Move Folder

This action moves an existing folder into a destination folder

Folder to Move: C:\My Data\My Images

Destination Folder: D:\All Media

Store Moved Folder into: %MovedFolder%

☑ This action is Enabled

Properties:

Folder to Move:

Enter or choose the full path of the folder, or a variable containing the folder, you wish to move.

Destination Folder:

Enter or choose the full path of the folder, or a variable containing the folder, to be the destination Folder.

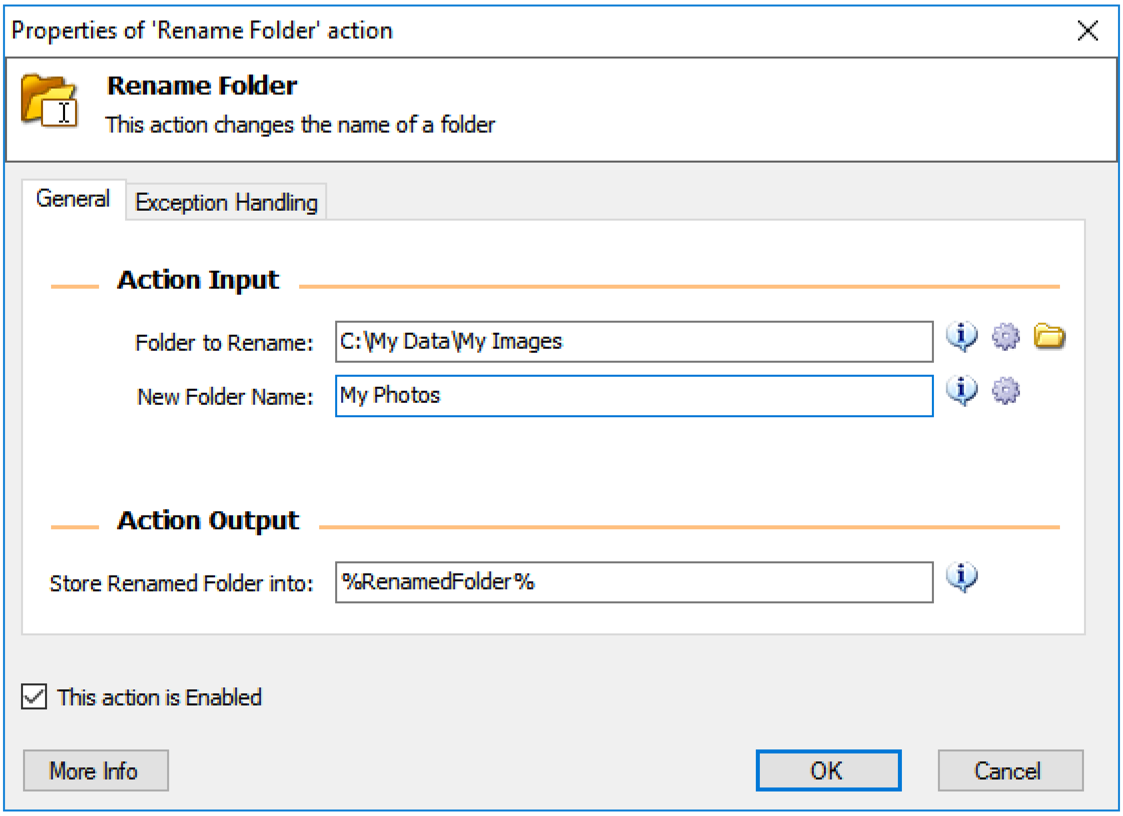
Store Moved Folder into:

Enter a name to be the variable that will contain the moved folder object (which is a representation, and can access the folder and all its information).

5.9.7 Rename Folder Action

Description:

This action changes the name of a folder



Properties of 'Rename Folder' action

Rename Folder

This action changes the name of a folder

Folder to Rename: C:\My Data\My Images

New Folder Name: My Photos

Store Renamed Folder into: %RenamedFolder%

☑ This action is Enabled

Properties:

Folder to Rename:

Enter or choose the full path of the folder, or a variable containing the folder, to be the Folder that will be renamed.

New Folder Name:

Enter or choose the full path, or a variable containing the folder, to be the new Folder name.

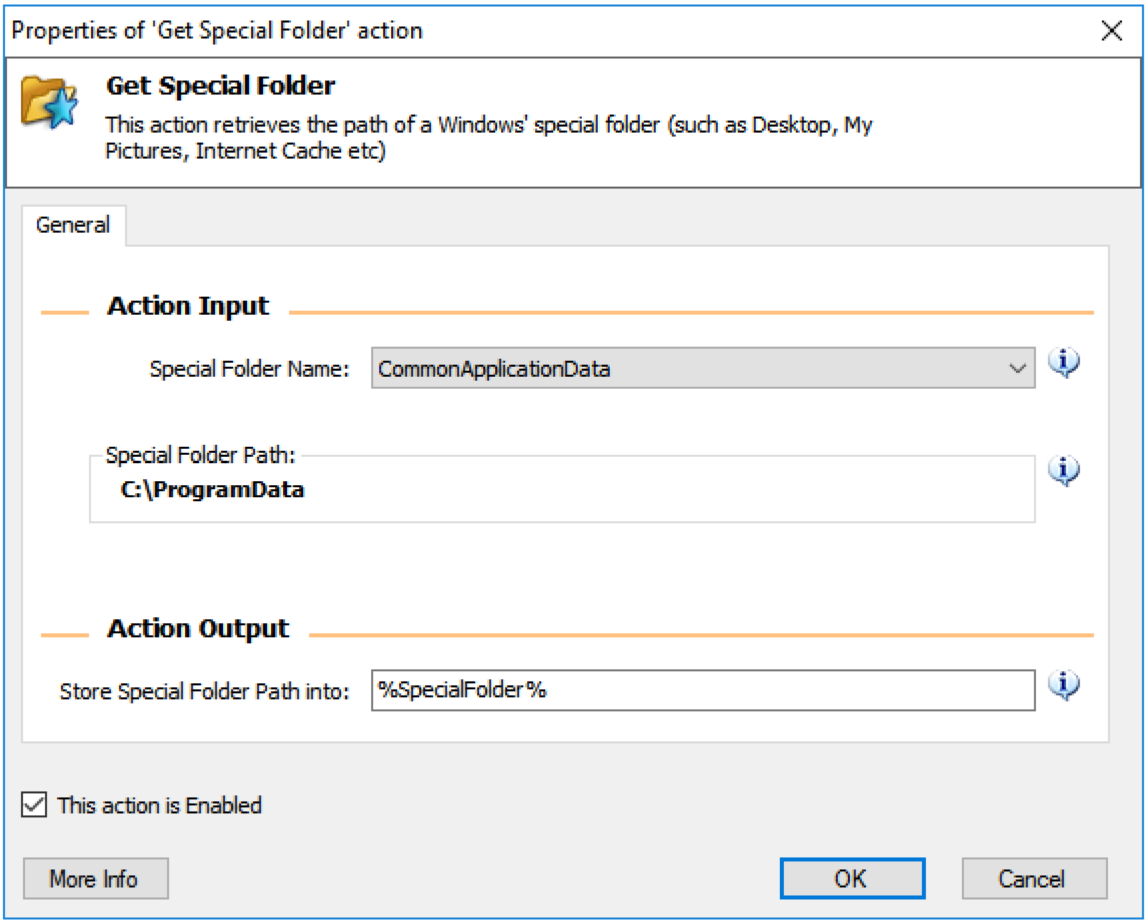
Store Renamed Folder into:

Enter a name to be the variable that will contain the renamed folder object (which is a representation, and can access the folder and all its information).

5.9.8 Get Special Folder Action

Description:

This action retrieves the path of a Windows' special folder (such as Desktop, My Pictures, Internet Cache etc)



Properties of 'Get Special Folder' action

Get Special Folder

This action retrieves the path of a Windows' special folder (such as Desktop, My Pictures, Internet Cache etc)

Action Input

Special Folder Name: CommonApplicationData

Special Folder Path: **C:\ProgramData**

Action Output

Store Special Folder Path into: %SpecialFolder%

☑ This action is Enabled

Properties:

Special Folder Name:

Choose the name of the Special Folder (like My Documents or Desktop). This will be independent of path, so the Special Folder can be found on any computer regardless of path specifics. The Special Folder Path for the current computer will be displayed in the field below.

Store Special Folder Path into:

Enter a name to be the variable that will contain the Special Folder object (which is a Folder object 291, and can access the folder and all its information).

More Information:

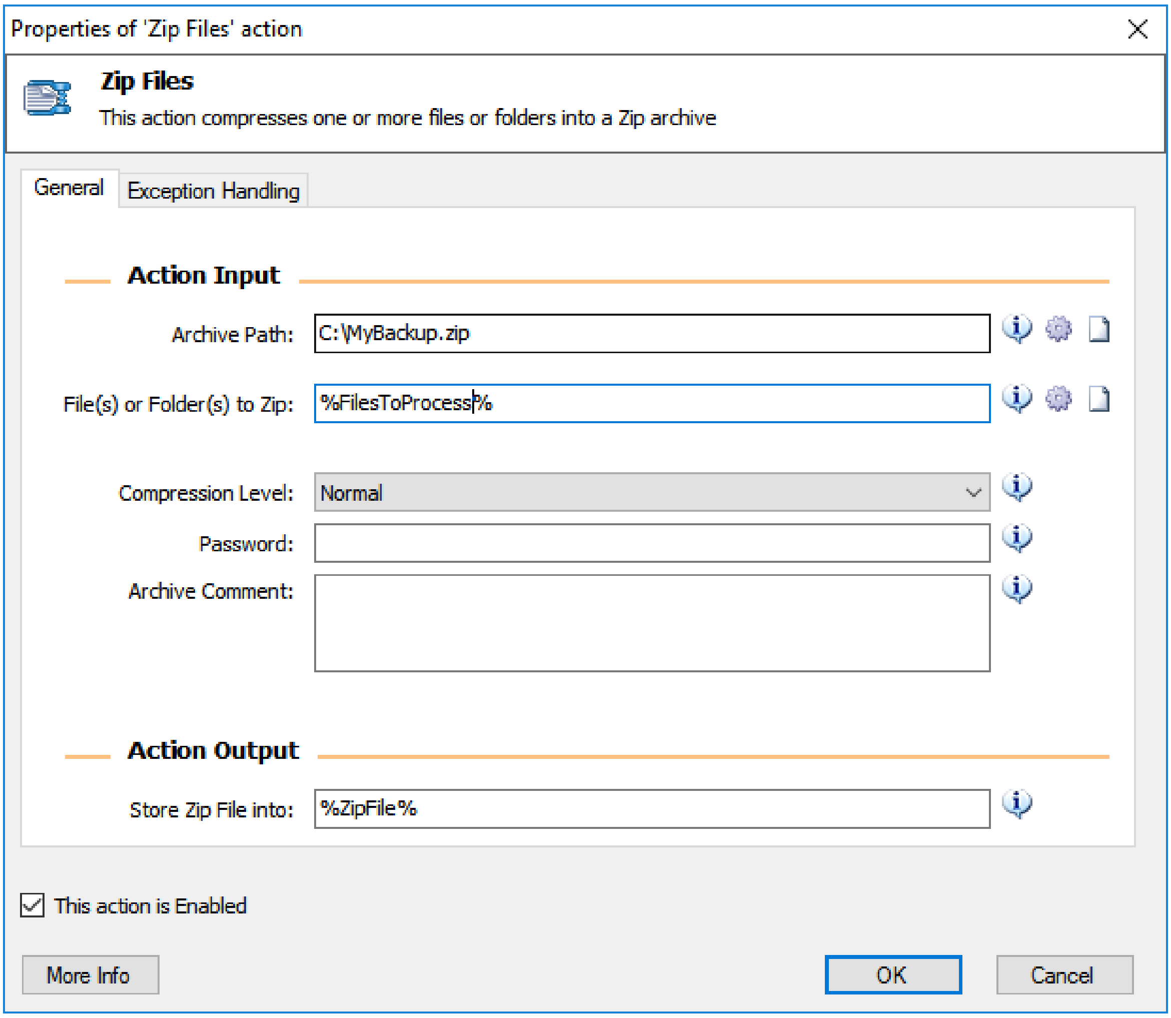
This command is extremely useful if you plan to send a compiled process to many people. Let's say you're unzipping a file to the end user's desktop. The path would look something like this: "C:\Users\Jane Doe\Desktop". Obviously, this will only work if "Jane Doe" is the current user. If "John Doe" tried to run the process it would fail. This action could be used to solve such problems by replacing the names of folders when needed automatically.

5.10 Compression

5.10.1 Zip Files Action

Description:

This action compresses one or more files or folders into a Zip archive



Properties of 'Zip Files' action

Zip Files

This action compresses one or more files or folders into a Zip archive

Action Input

Archive Path: C:\MyBackup.zip

File(s) or Folder(s) to Zip: %FilesToProcess%

Compression Level: Normal

Password:

Archive Comment:

Action Output

Store Zip File into: %ZipFile%

☑ This action is Enabled

Properties:

Archive Path:

Enter the full path of zip file you wish to create. If this file already exists, the new zipped files and/or folders will be added to the zip file. If the zip file already contains a file or folder with the same name, the existing one will be overwritten by the one brought in by this action.

File(s) to Zip:

Enter or choose the full path of a file or folder, or the name of a variable containing a file, a folder, or a list of files or folders, that you wish to include in the zip file. A list can be built with the 'Get Files in Folder' or 'Get Subfolders in Folder' actions. If you create a list of files, all subfolder information will be lost, and these will be extracted to the base folder. If you create a list of folders, subfolders will be kept, and the files will be extracted to their same directory structure.

Compression Level:

Choose the level of compression you want to use. The higher the compression, the smaller the file, though it takes longer to create or access.

Password:

Enter a password if you want the archive to be password protected. Otherwise leave this field blank and it will not have a password.

Archive Comment:

Enter any comment you wish to be included in the zip file as a file property.

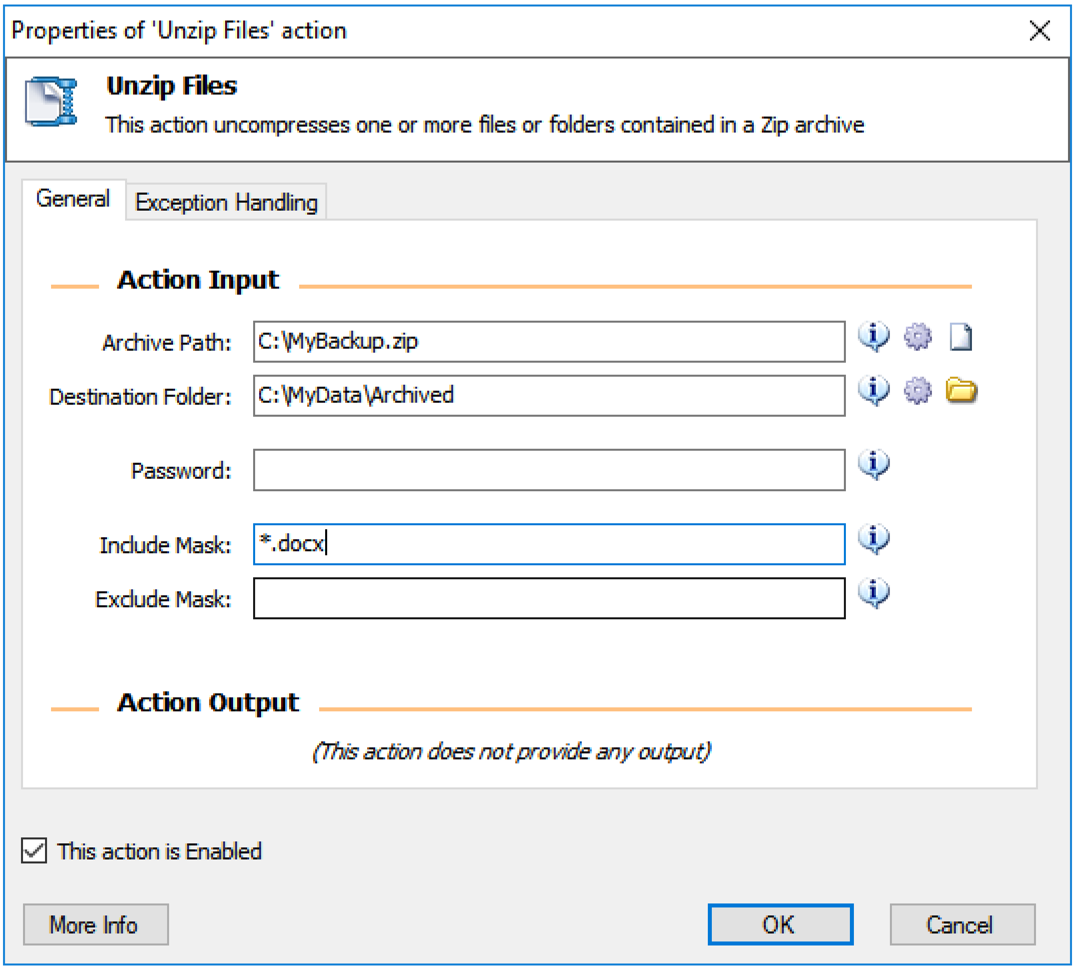
Store Zip File into:

Enter a name to be the variable that will store the zip file created by this action.

5.10.2 Unzip Files Action

Description:

This action uncompresses one or more files or folders contained in a Zip archive



Properties of 'Unzip Files' action

Unzip Files

This action uncompresses one or more files or folders contained in a Zip archive

Action Input

Archive Path: C:\MyBackup.zip

Destination Folder: C:\MyData\Archived

Password:

Include Mask: *.docx

Exclude Mask:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Archive Path:

Enter or choose the full path of a zip file, or the name of a variable containing a zip file, to be extracted.

Destination Folder:

Enter or choose the full path of a folder, or the name of a variable containing a folder, to extract the archive to. This will overwrite files in the folder with the same name as a file in the archive.

Password:

Include the password, if any, that is used for this archive. If the zip file is not password-protected, leave this blank.

Include Mask:

Choose a filter to limit the files extracted to those entered here. This allows wild cards, for example "*.txt" or "document?.doc" (without the quotes). If you want to allow for multiple file filters, separate your choices with a semi-colon, for example, "*.txt;*.exe". Other files will not be extracted.

Exclude Mask:

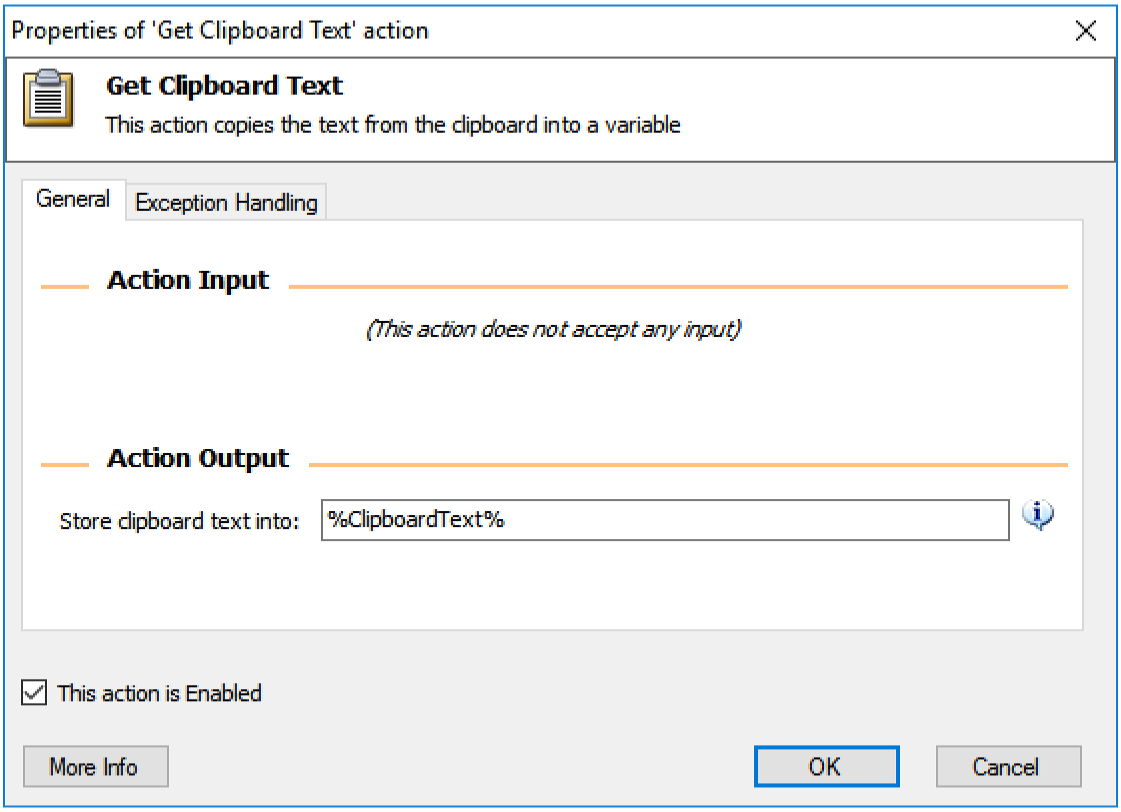
Choose a filter to limit the files extracted by excluding those entered here. This allows wild cards, for example "*.txt" or "document?.doc" (without the quotes). If you want to allow for multiple file filters, separate your choices with a semi-colon, for example, "*.txt;*.exe". These files will not be extracted.

5.11 Clipboard

5.11.1 Get Clipboard Text Action

Description:

This action copies the text from the clipboard into a variable



Properties of 'Get Clipboard Text' action

Get Clipboard Text

This action copies the text from the clipboard into a variable

Action Input

(This action does not accept any input)

Action Output

Store clipboard text into: %ClipboardText%

☑ This action is Enabled

Properties:

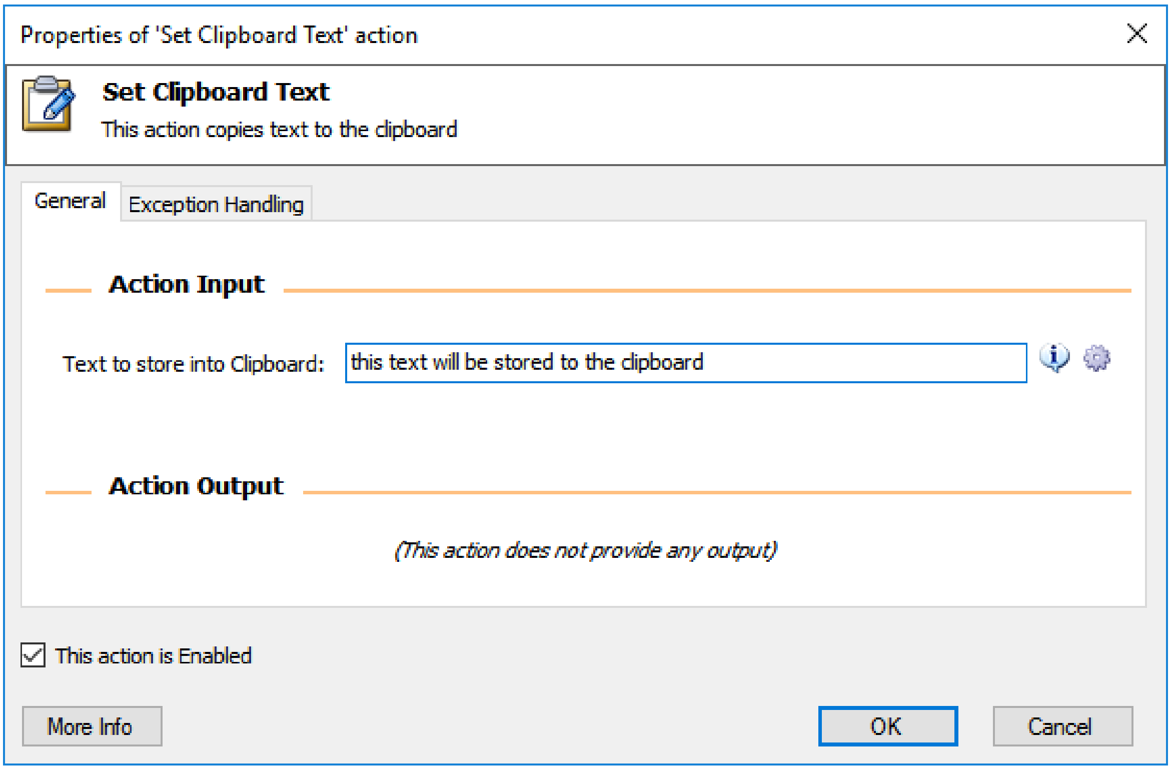
Store Clipboard Text Into:

Enter a name to be the variable that will store the text currently in the clipboard.

5.11.2 Set Clipboard Text Action

Description:

This action copies text to the clipboard


Properties of 'Set Clipboard Text' action

Set Clipboard Text

This action copies text to the clipboard

Action Input

Text to store into Clipboard: this text will be stored to the clipboard

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

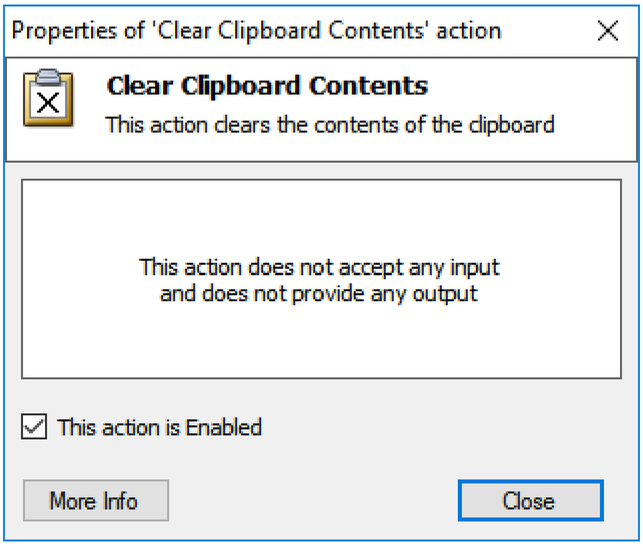
Text to store into Clipboard:

Enter the text, or a previously stored text variable, to be copied into the clipboard.

5.11.3 Clear Clipboard Contents Action

Description:

This action clears the contents of the clipboard


Properties of 'Clear Clipboard Contents' action

Clear Clipboard Contents

This action clears the contents of the clipboard

This action does not accept any input and does not provide any output

☑ This action is Enabled

Properties:

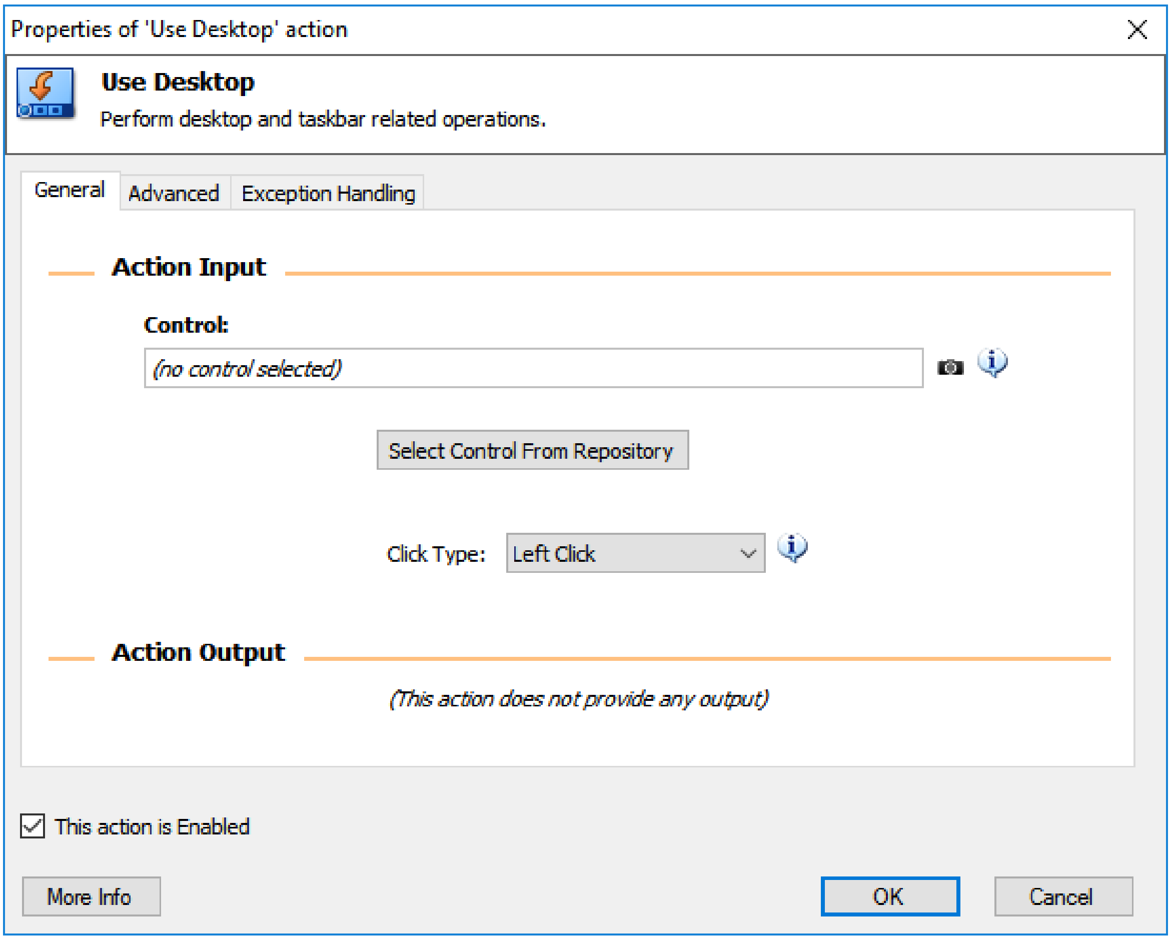
This action does not have any configurable properties.

5.12 UI and Windows

5.12.1 Use Desktop Action

Description:

Perform desktop and taskbar related operations



Properties of 'Use Desktop' action

Use Desktop

Perform desktop and taskbar related operations.

Action Input

Control: *(no control selected)*

Click Type: Left Click

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

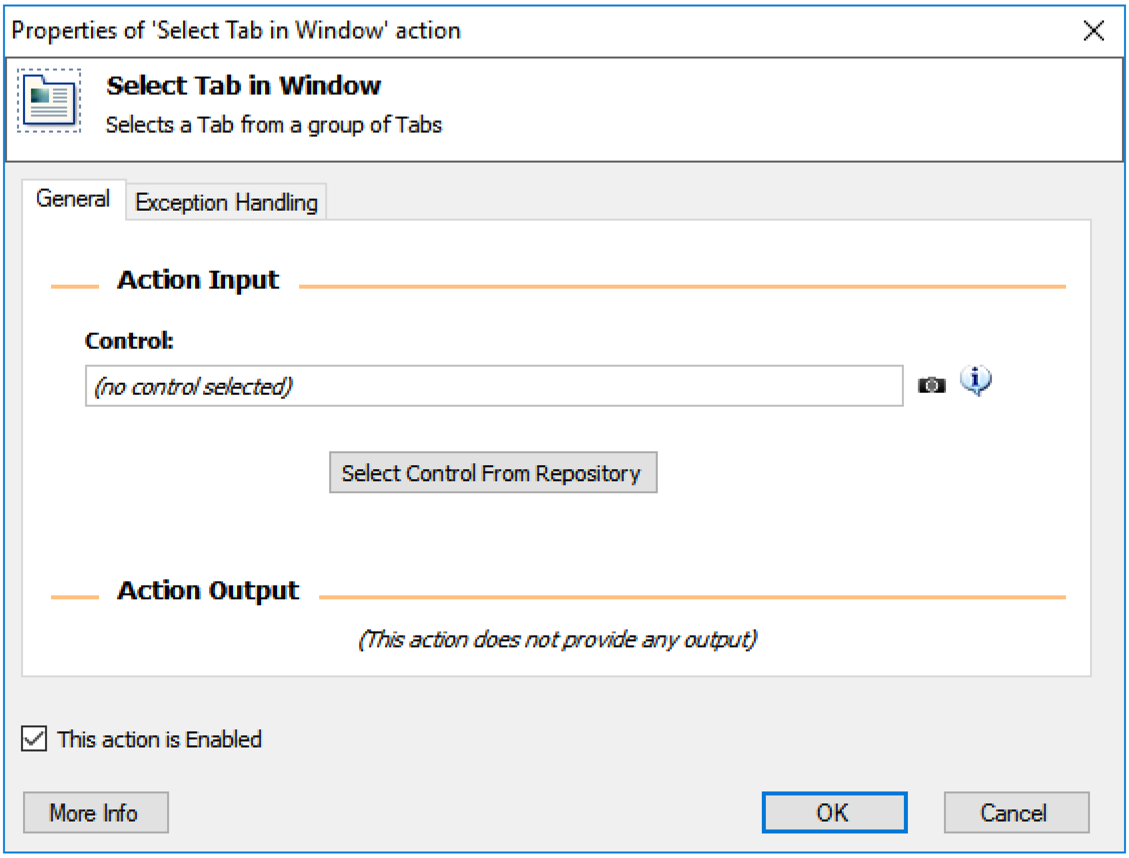
Click-Type:

Set the click action you want to perform on the specified element by selecting the click-type (left/right/double click). Quick-launch items will attempt to spawn a new application window, whenever this is possible.

5.12.2 Select Tab in Window Action

Description:

Select a Tab from a group of Tabs.



Properties of 'Select Tab in Window' action

Select Tab in Window

Selects a Tab from a group of Tabs

Control:

(no control selected)

(This action does not provide any output)

☑ This action is Enabled

Properties:

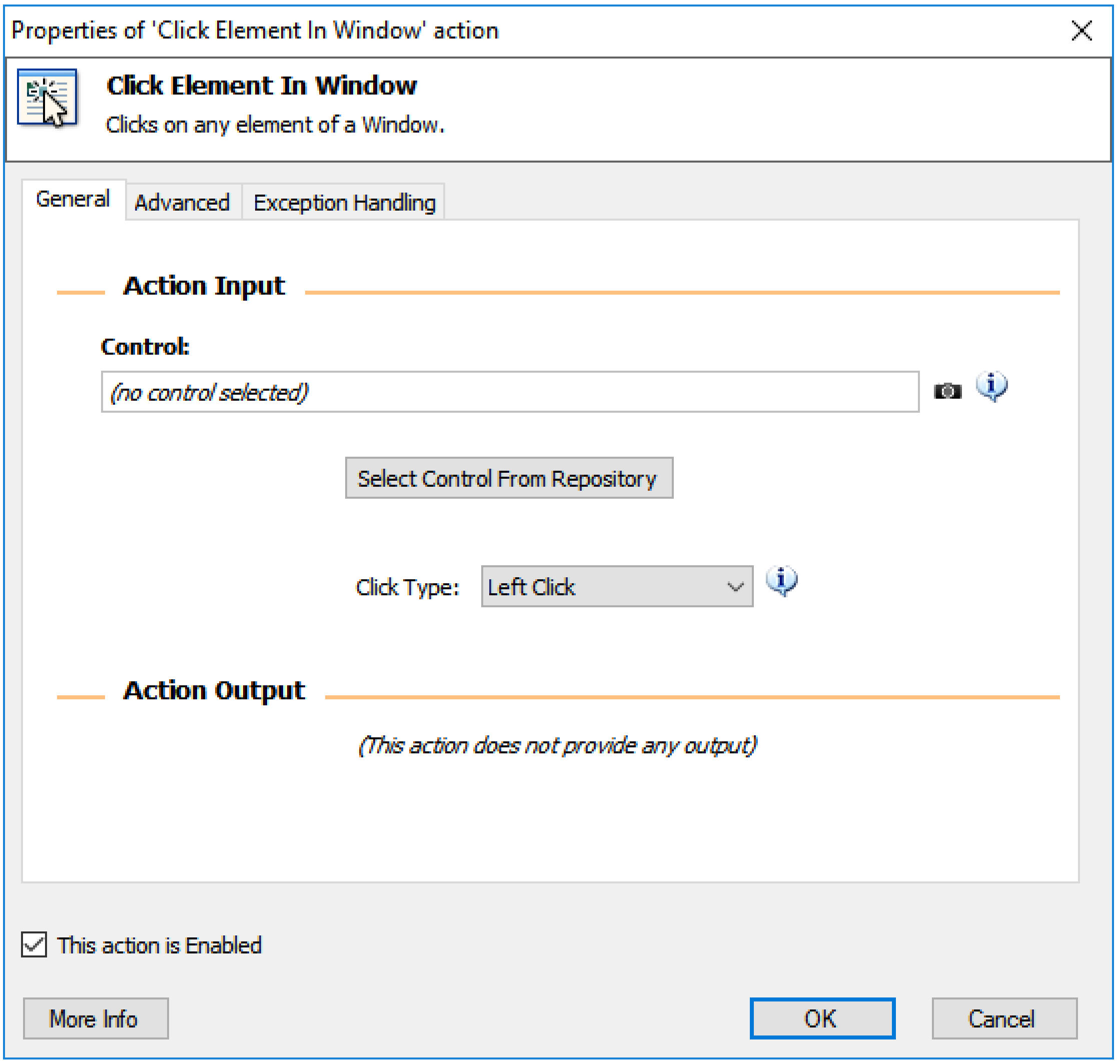
Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

5.12.3 Click Element in Window Action

Description:

Clicks on any element of a Window.



Properties of 'Click Element In Window' action

Click Element In Window

Clicks on any element of a Window.

Action Input

Control: *(no control selected)*

Click Type: Left Click

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties

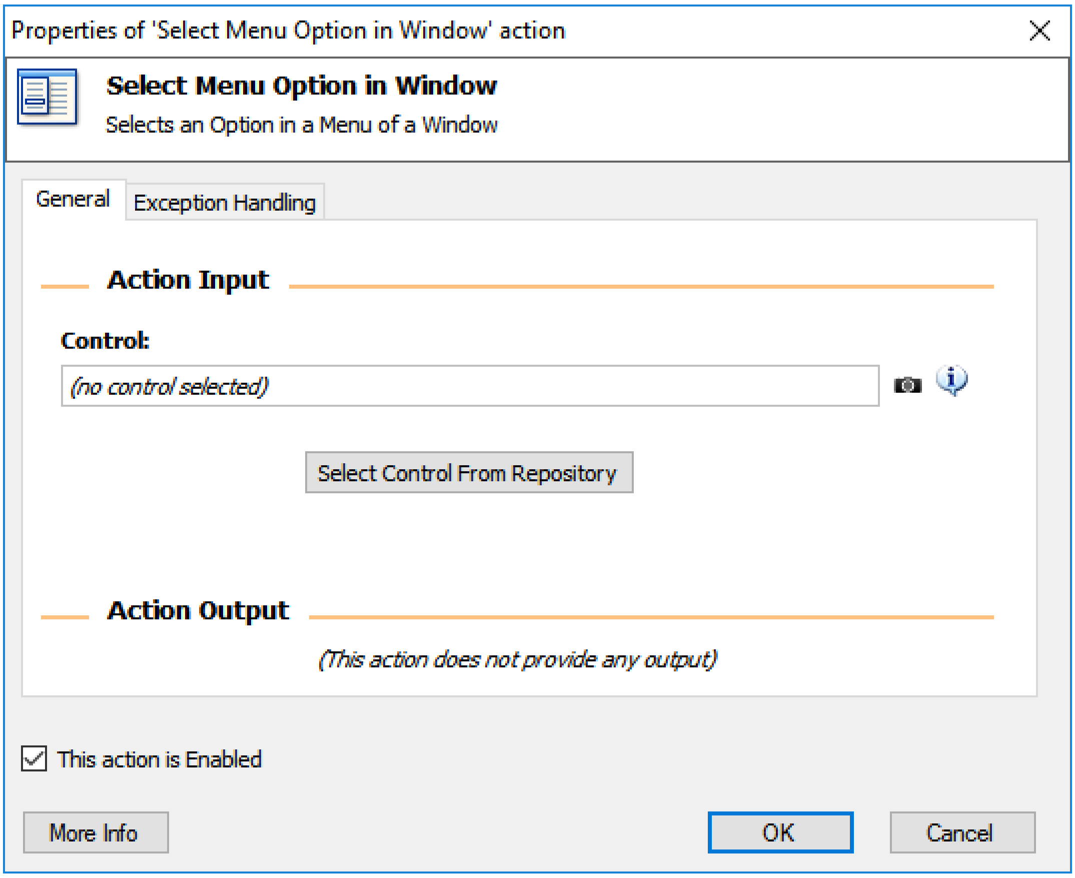
Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

5.12.4 Select Menu Option in Window Action

Description:

Selects an Option in a Menu of a Window



Properties of 'Select Menu Option in Window' action

Select Menu Option in Window

Selects an Option in a Menu of a Window

Action Input

Control: *(no control selected)*

Action Output

(This action does not provide any output)

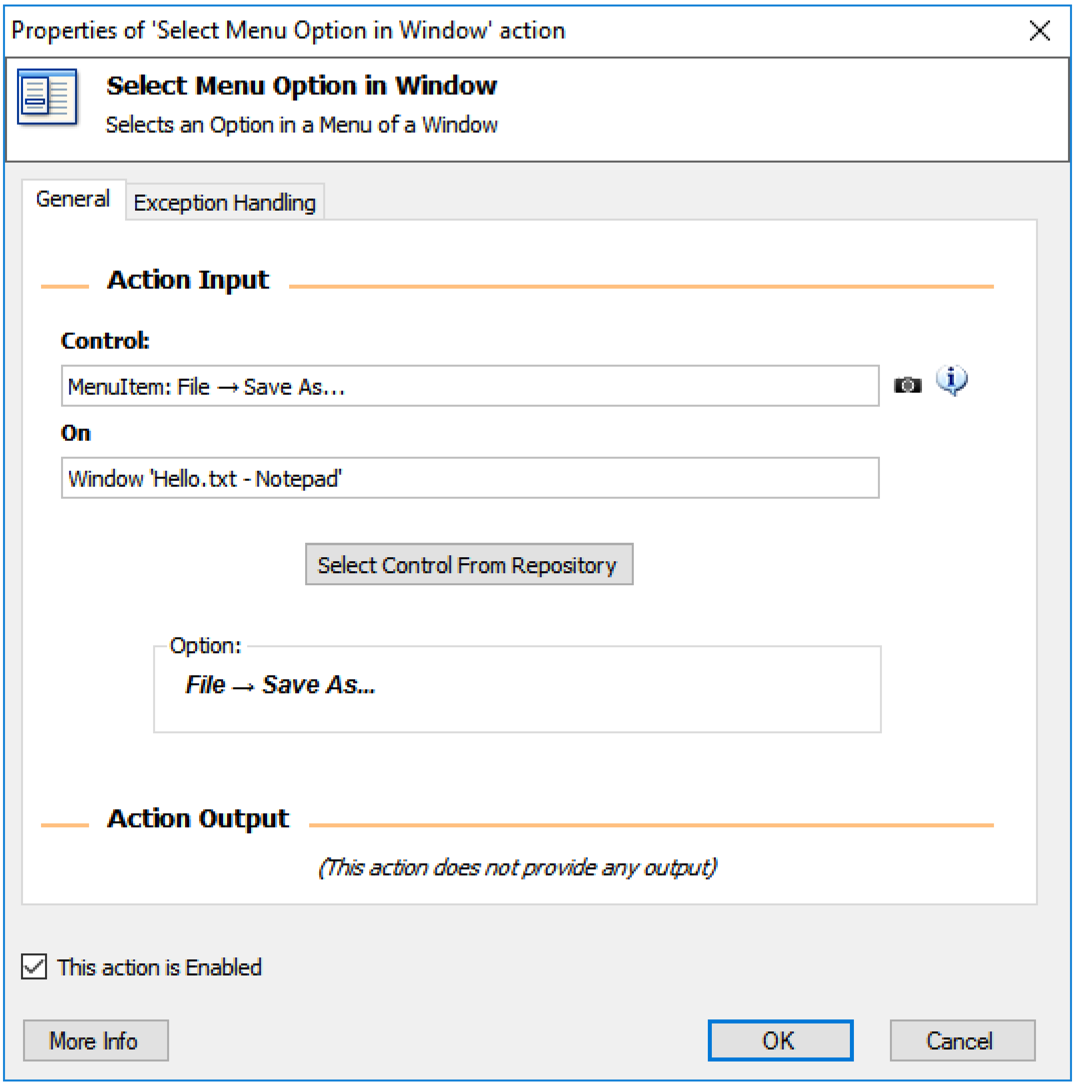
☑ This action is Enabled

Properties

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

i.e. To select the "Save As" menu option on a text file, once you select the control the properties of the action will look like this:



Properties of 'Select Menu Option in Window' action

Select Menu Option in Window

Selects an Option in a Menu of a Window

General | Exception Handling

Action Input

Control: MenuItem: File → Save As...

On Window 'Hello.txt - Notepad'

Select Control From Repository

Option: *File → Save As...*

Action Output

(This action does not provide any output)

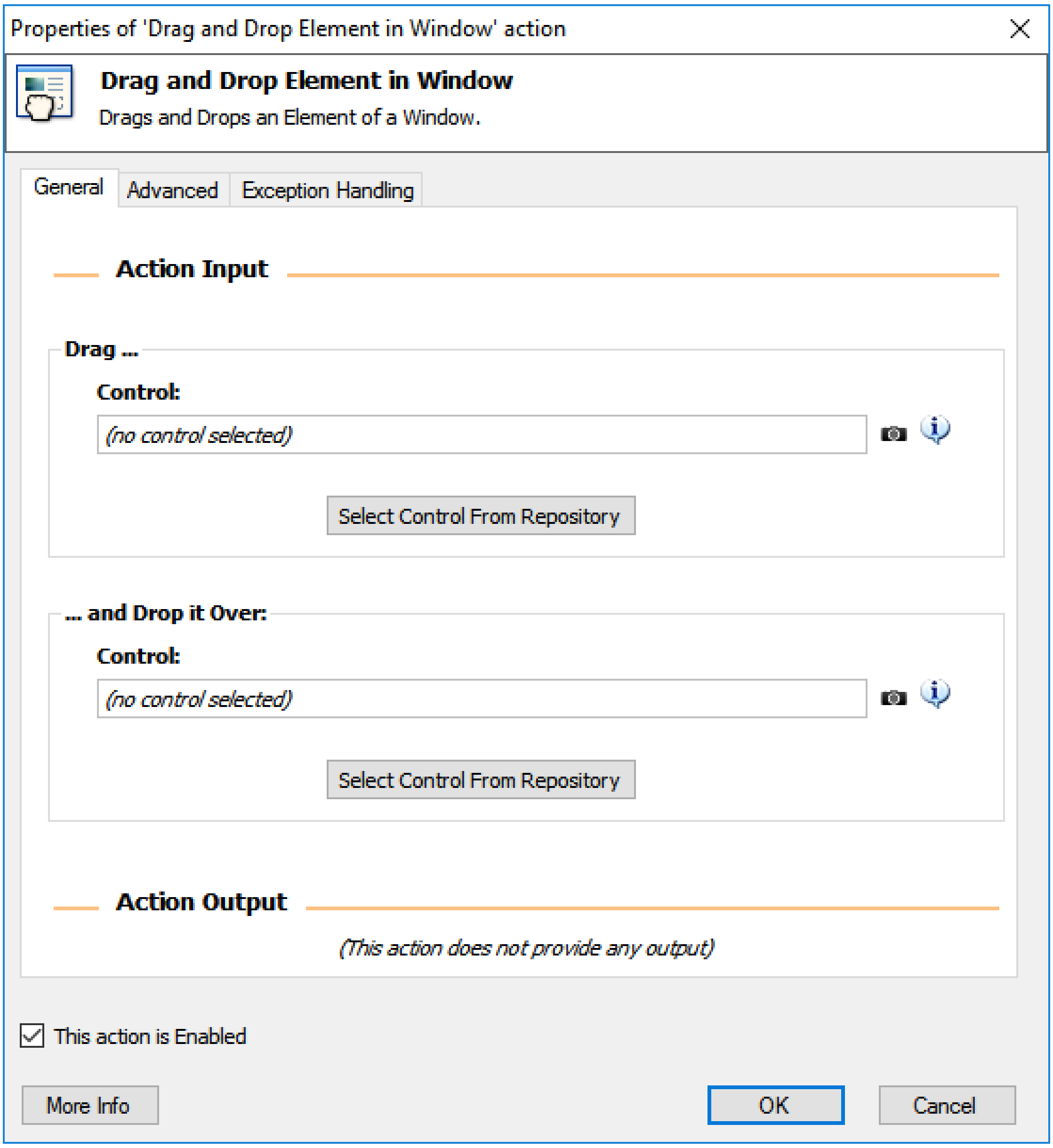
☑ This action is Enabled

More Info | OK | Cancel

5.12.5 Drag and Drop Element in Window Action

Description:

Drags and Drops an Element of a Window



Properties of 'Drag and Drop Element in Window' action

Drag and Drop Element in Window

Drags and Drops an Element of a Window.

General
Advanced
Exception Handling

Action Input

Drag ...

Control: *(no control selected)*

Select Control From Repository

... and Drop it Over:

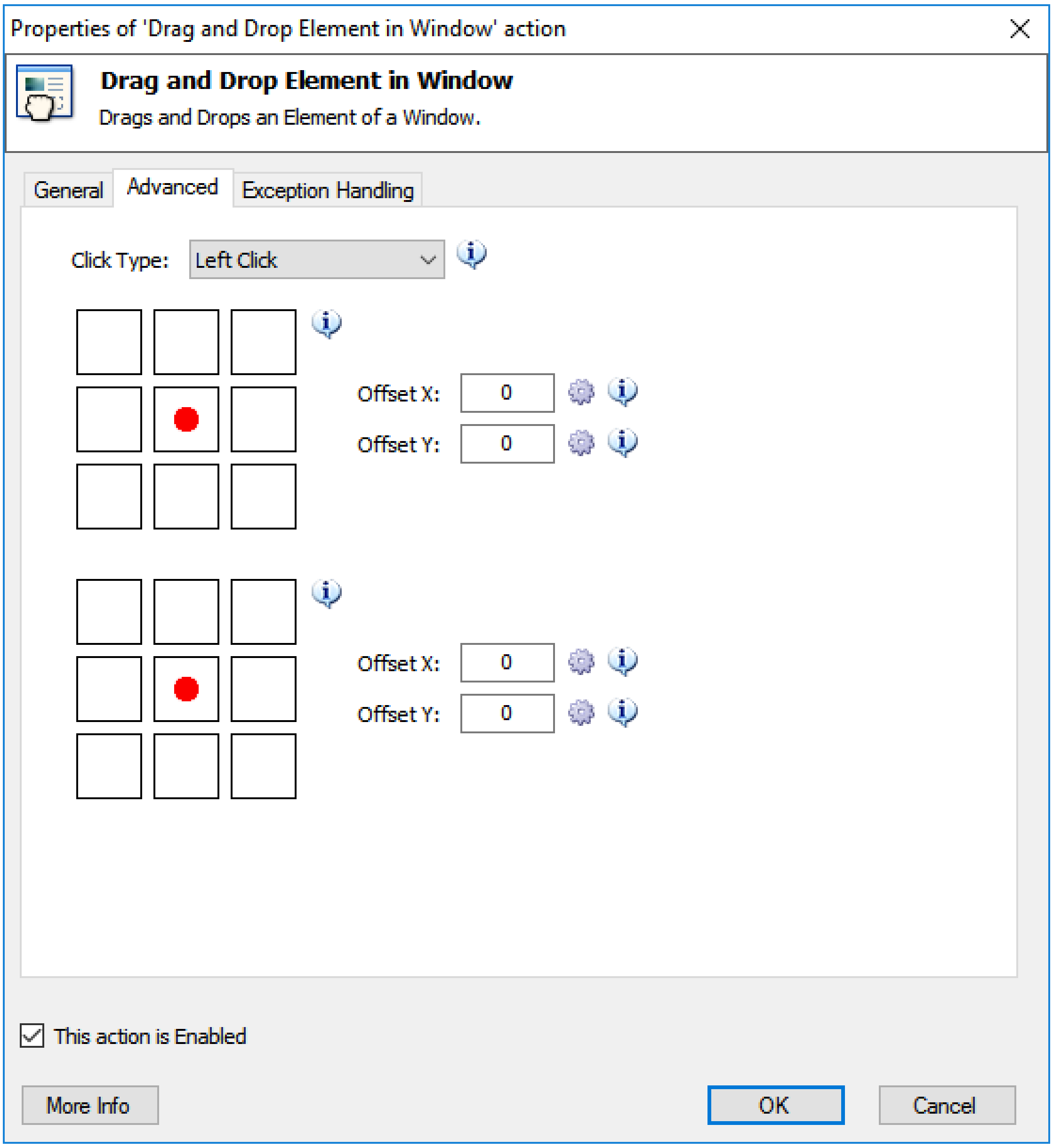
Control: *(no control selected)*

Select Control From Repository

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Drag and Drop Element in Window' action

Drag and Drop Element in Window

Drags and Drops an Element of a Window.

Click Type: Left Click

Offset X: 0

Offset Y: 0

Offset X: 0

Offset Y: 0

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

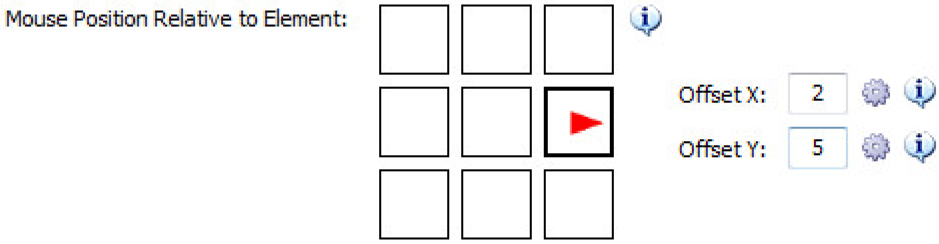
Advanced Properties Tab - Click-Type:

Specify which mouse button to use for clicking and holding down, while dragging the element over to its destination.

Advanced Properties Tab - Drag and Drop Targets Mouse Position Relative to Element:

For occasions where the target element is part of a parent element and cannot be identified as a separate control (when selected from the General Properties tab), you have to select the overall element and in the Advanced Properties Tab set the specific area of the element you want to place your cursor and click.

To do so you may initially select one of the nine parts in which the element is divided to place your the cursor, while for more fine tuning of cursor's position you may also define the Offset (in pixels) for X and Y axes relative to the control element's border or corner (as defined by the red arrow in each part).



Mouse Position Relative to Element:

Offset X: 2

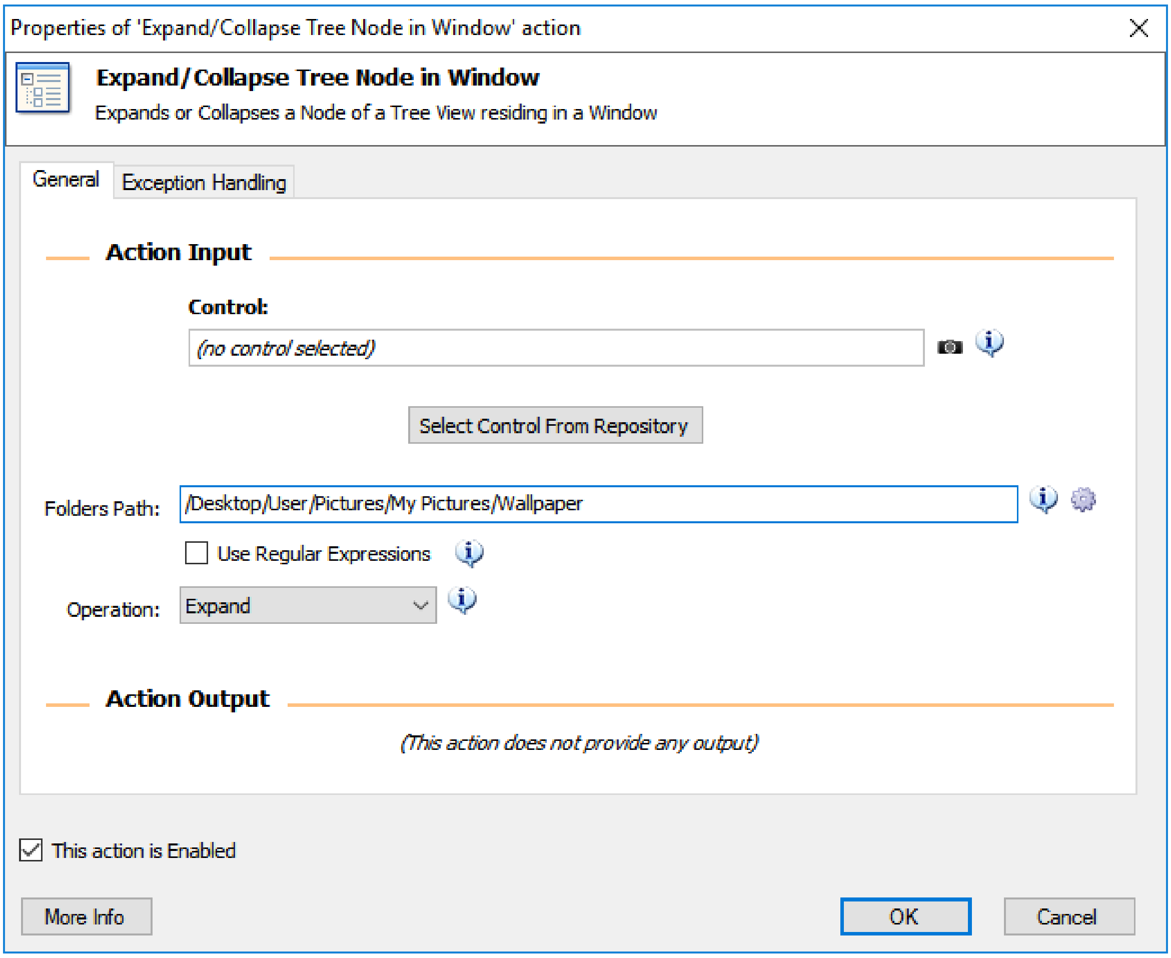
Offset Y: 5

e.g. for the setting above the cursor will be placed in the middle right section of the control element 2 px left from the right border and 5px lower from the middle.

5.12.6 Expand / Collapse Tree Node in Window Action

Description:

Expands or Collapses a Node of a Tree view residing in a Window



Properties of 'Expand/Collapse Tree Node in Window' action

Expand/Collapse Tree Node in Window

Expands or Collapses a Node of a Tree View residing in a Window

Control: *(no control selected)*

Folders Path: /Desktop/User/Pictures/My Pictures/Wallpaper

□ Use Regular Expressions

Operation: Expand

(This action does not provide any output)

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Folders Path:

Enter a forward slash separated path made out of folders names leading to the Tree Node you want to expand or collapse.

Note that you may also use a value of a variable (generated in an earlier step of the process) to specify the path to the tree node you wish to expand or collapse.

Use Regular Expression:

In the case of using a value of a variable for Folder Path input and depending on its notation, you may also need to check the 'Use Regular Expression' option so that action will interpret the name of the folder as a regular expression.

Operation:

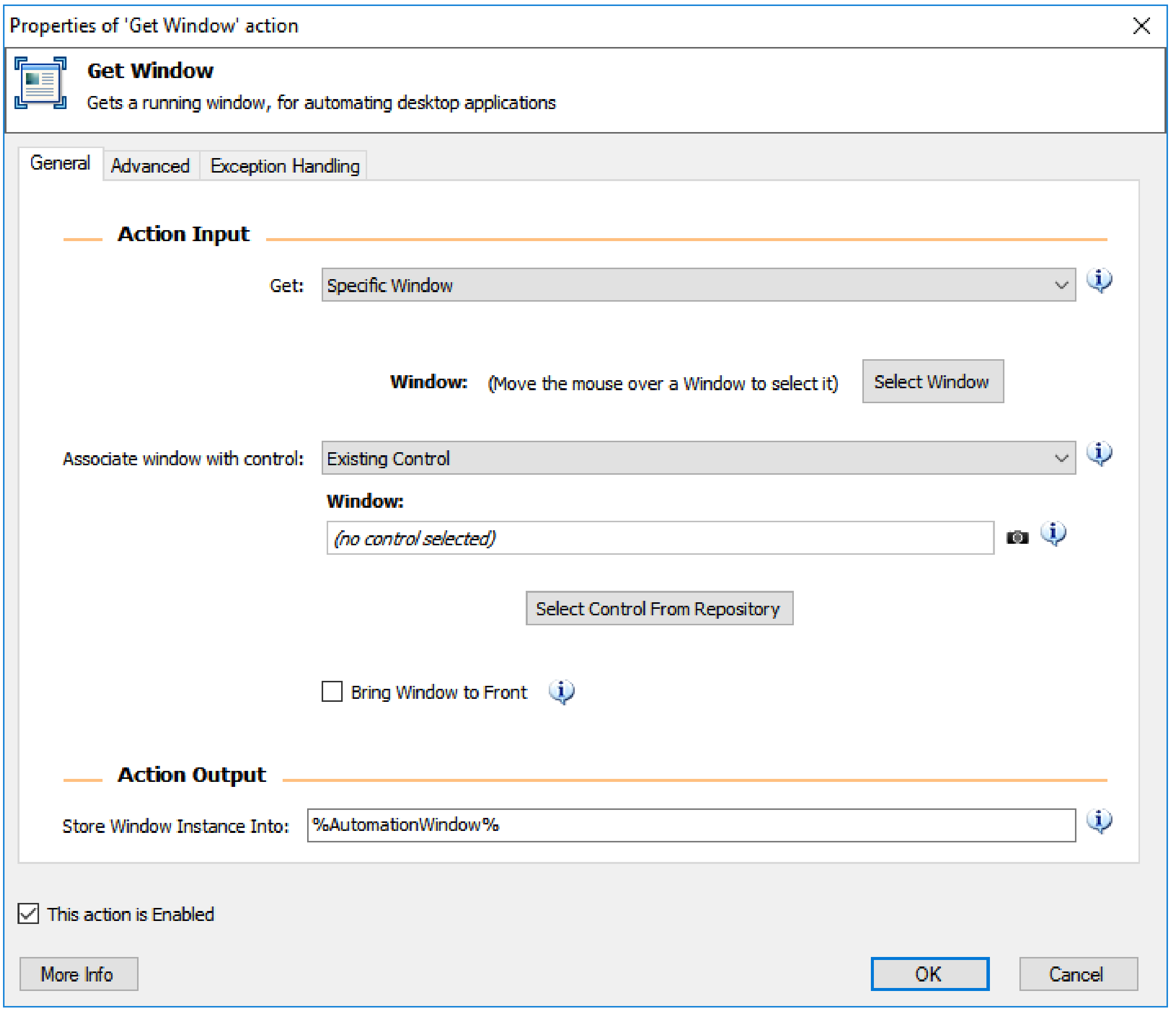
Select whether you want to expand or collapse the tree node.

5.12.7 Windows

5.12.7.1 Get Window Action

Description:

Gets a running window, for automating desktop applications.



Properties of 'Get Window' action

Get Window

Gets a running window, for automating desktop applications

Action Input

Get: Specific Window

Window: (Move the mouse over a Window to select it)

Associate window with control: Existing Control

Window:

(no control selected)

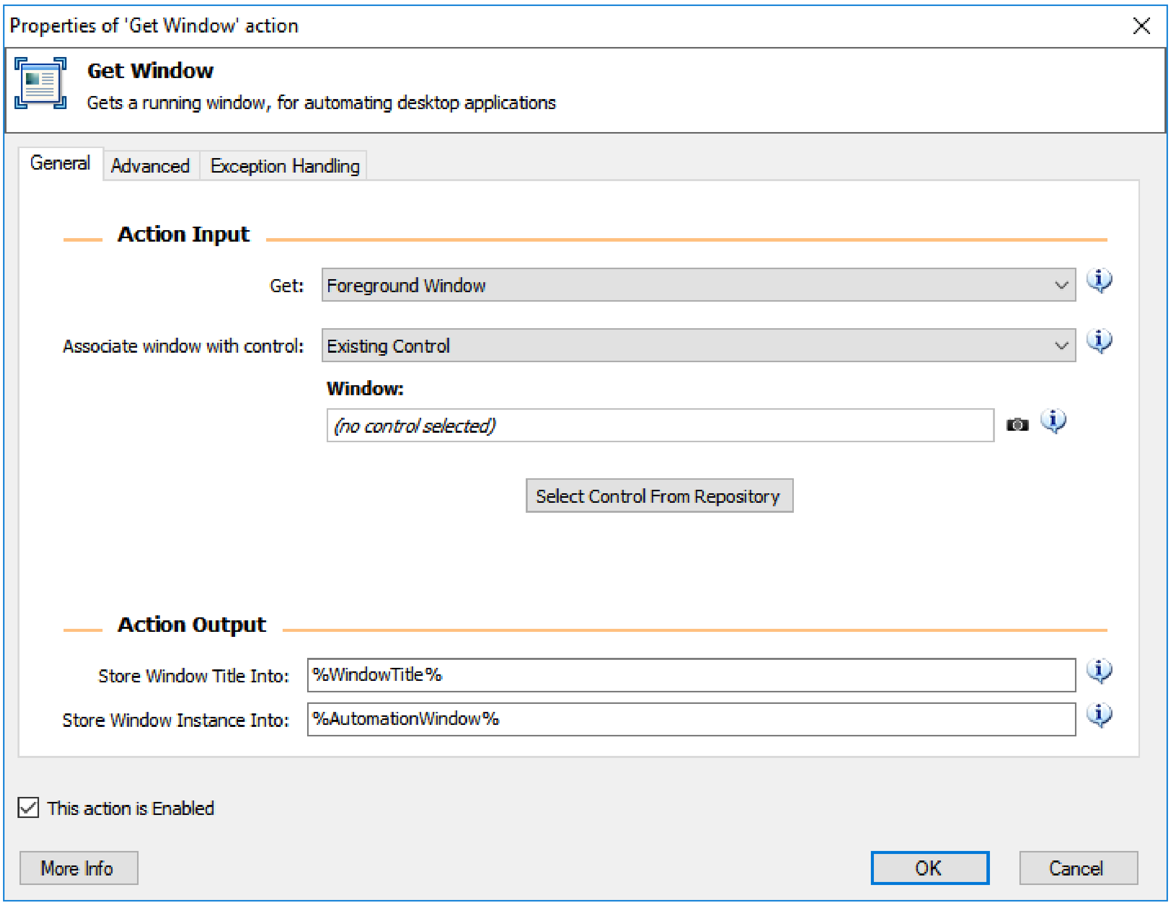
□ Bring Window to Front

Action Output

Store Window Instance Into: %AutomationWindow%

☑ This action is Enabled

Get Specific Window



Properties of 'Get Window' action

Get Window

Gets a running window, for automating desktop applications

Action Input

Get: Foreground Window

Associate window with control: Existing Control

Window: *(no control selected)*

Action Output

Store Window Title Into: %WindowTitle%

Store Window Instance Into: %AutomationWindow%

☑ This action is Enabled

Get Foreground Window

Properties:

Get:

Choose whether the action looks for the Window using a UIAutomation Instance Variable or a combination of Window Title/Class.

Depending on the Get option you will have some of the following inputs

Associate window with control:

Choose whether the window that this action trying to find will be associated with an existing control into controls repository or a new one that will be created.

Window:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Store Window Title into (when Get is "Foreground Window"):

Enter a name to be the variable that will store the title of the Foreground Window

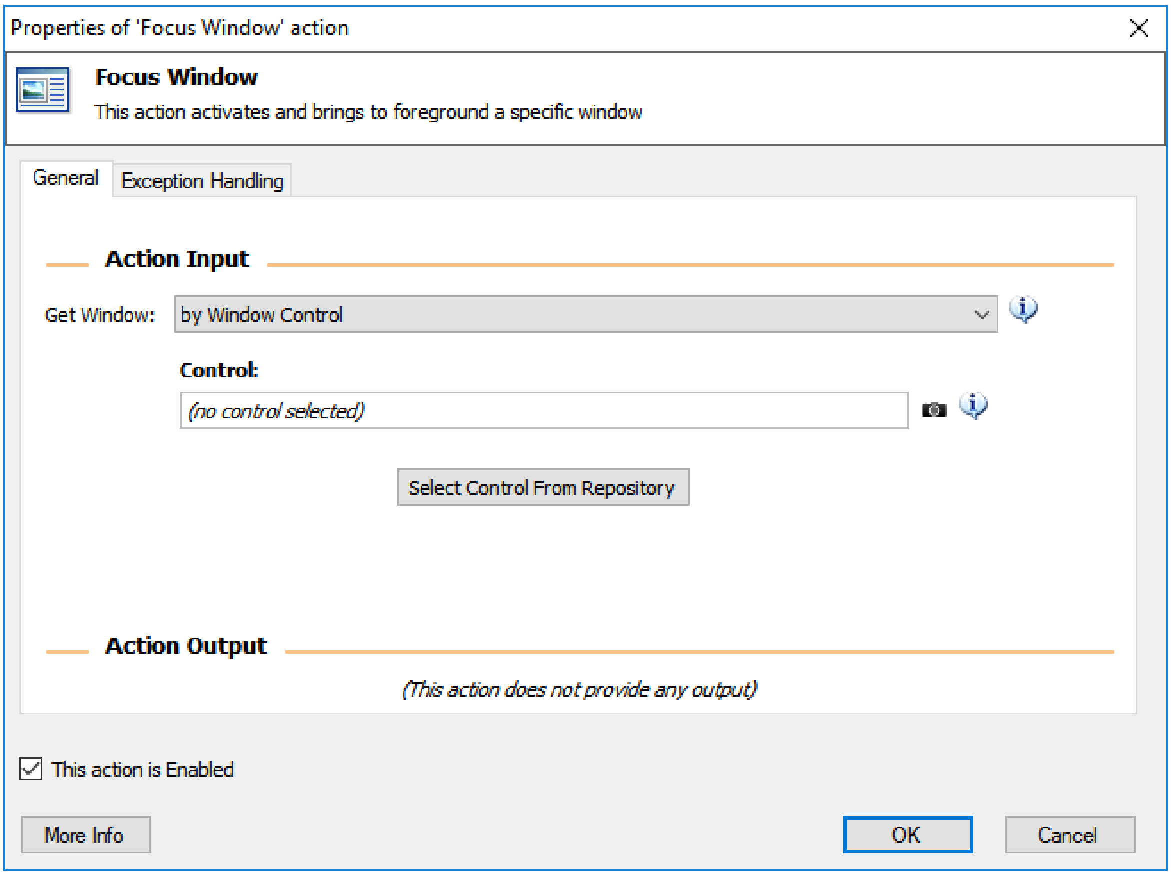
Store Window Instance into:

Enter a name to be the variable that will store the title of the specific Window Instance for use with later UI Windows actions

5.12.7.2 Focus Window Action

Description:

This action activates and brings a specific window to the foreground



Properties of 'Focus Window' action

Focus Window

This action activates and brings to foreground a specific window

Action Input

Get Window: by Window Control

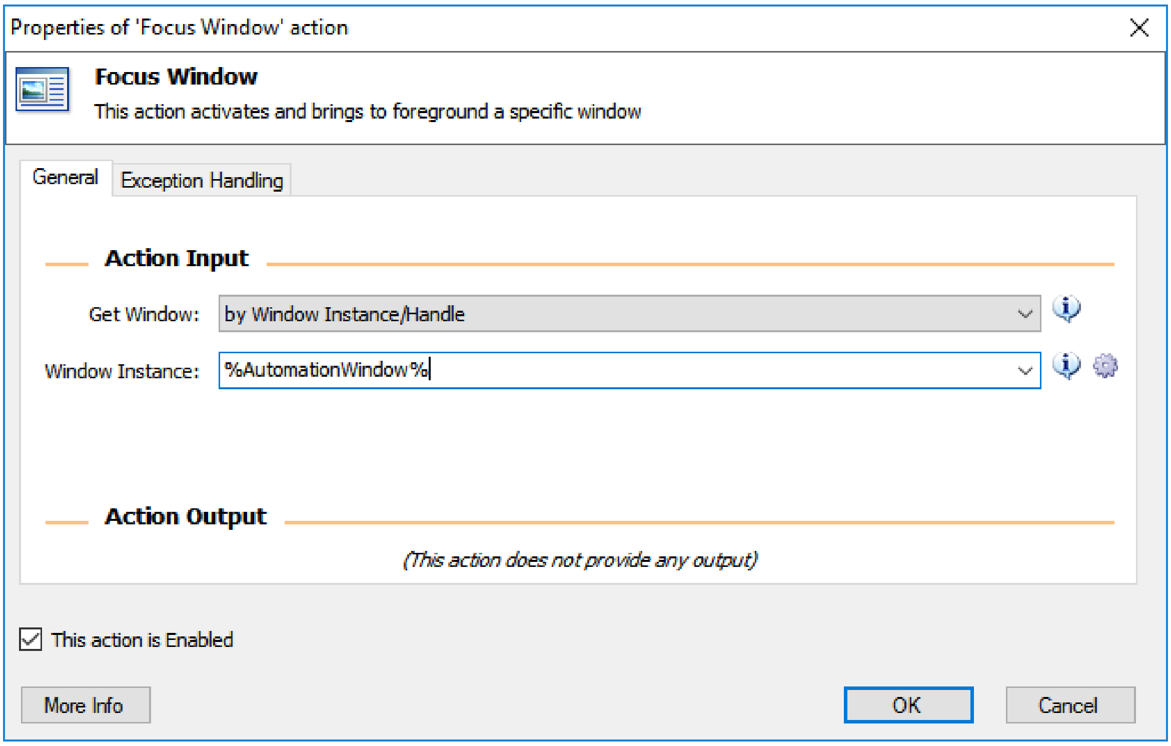
Control: *(no control selected)*

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Control



Focus Window

This action activates and brings to foreground a specific window

Action Input

Get Window: by Window Instance/Handle

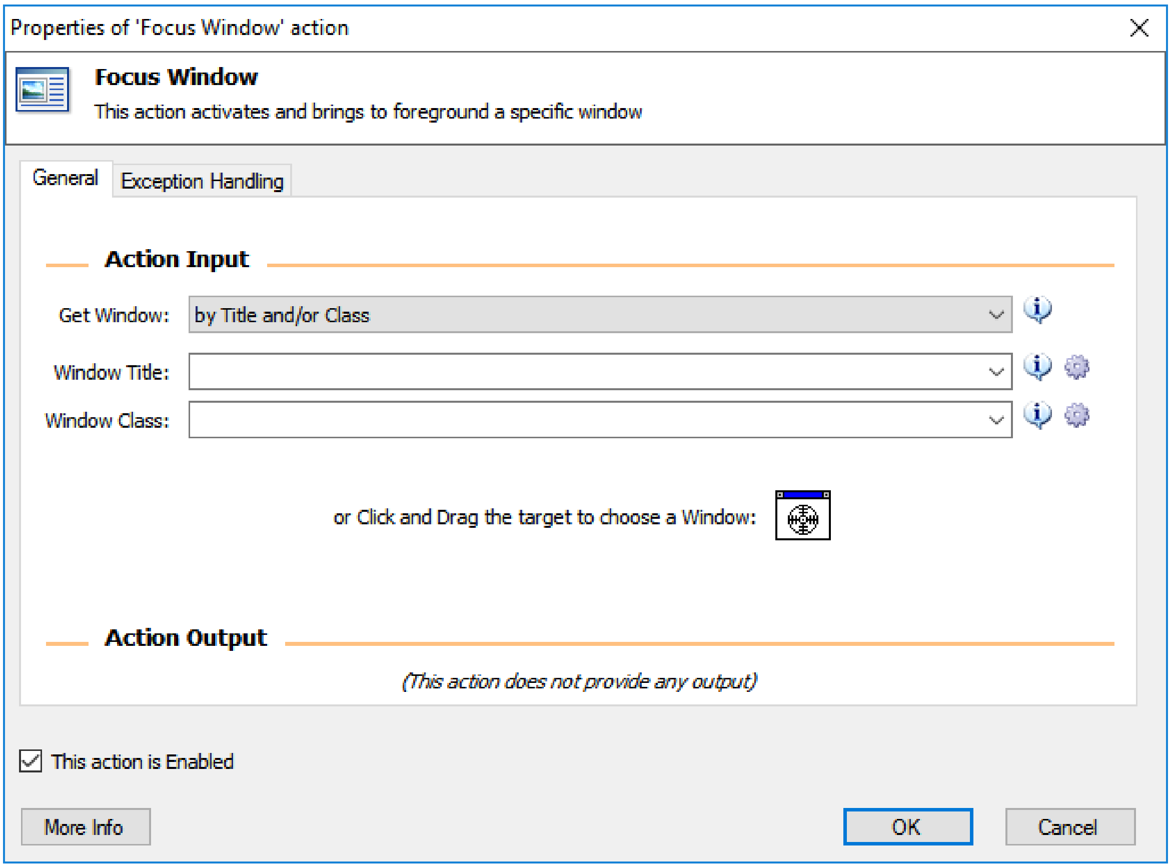
Window Instance: %AutomationWindow%

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Instance/Handle



Properties of 'Focus Window' action

Focus Window

This action activates and brings to foreground a specific window

Action Input

Get Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Title and/or Class

Properties:

Get Window:

Choose whether the action looks for the Window using a UIAutomation Instance Variable or a combination of Window Title/Class.

<u>Depending on the Get Window option you will have some of the following inputs</u>

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Window Instance:

Enter the variable of a variable that contains a UI Automation Instance, acquired by a Get Window Action.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

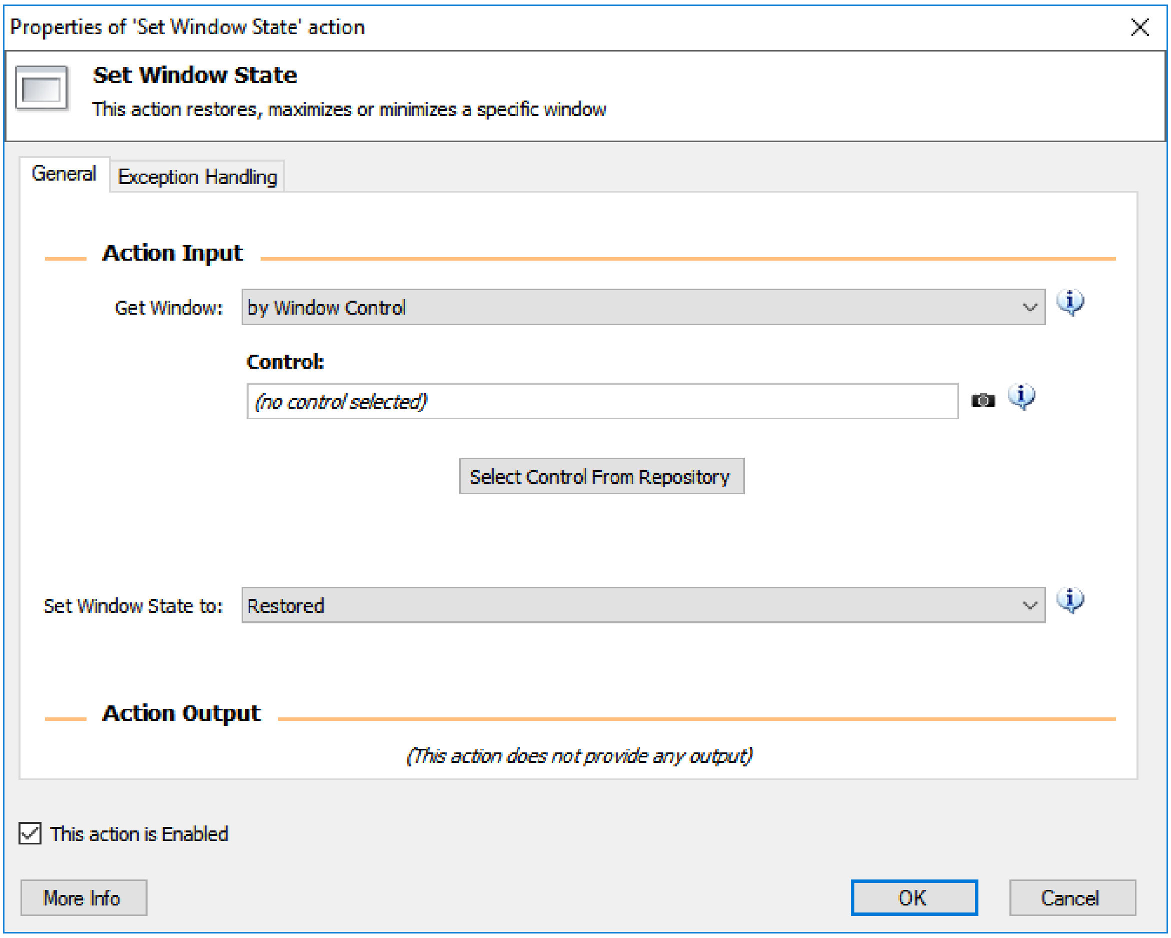
Window Class:

Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank.

5.12.7.3 Set Window State Action

Description:

This action restores, maximizes or minimizes a specific window



Properties of 'Set Window State' action

Set Window State

This action restores, maximizes or minimizes a specific window

Action Input

Get Window: by Window Control

Control: *(no control selected)*

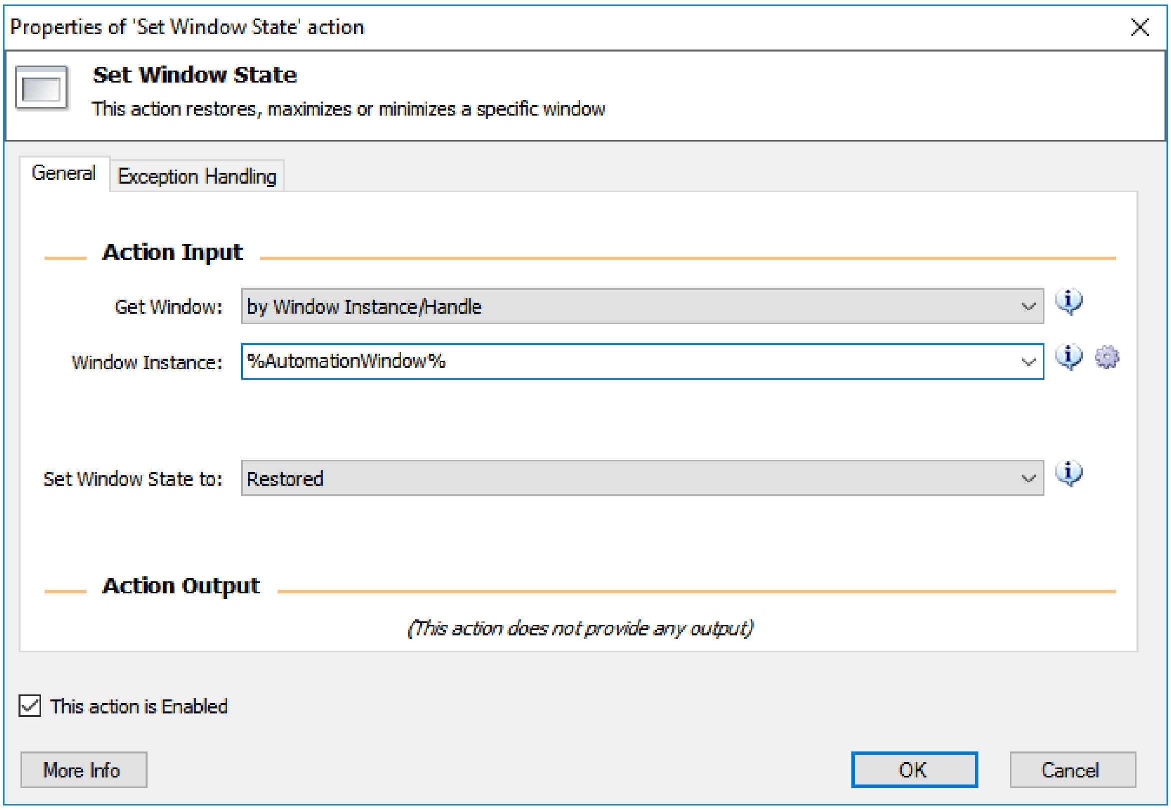
Set Window State to: Restored

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Control



Properties of 'Set Window State' action

Set Window State

This action restores, maximizes or minimizes a specific window

Action Input

Get Window: by Window Instance/Handle

Window Instance: %AutomationWindow%

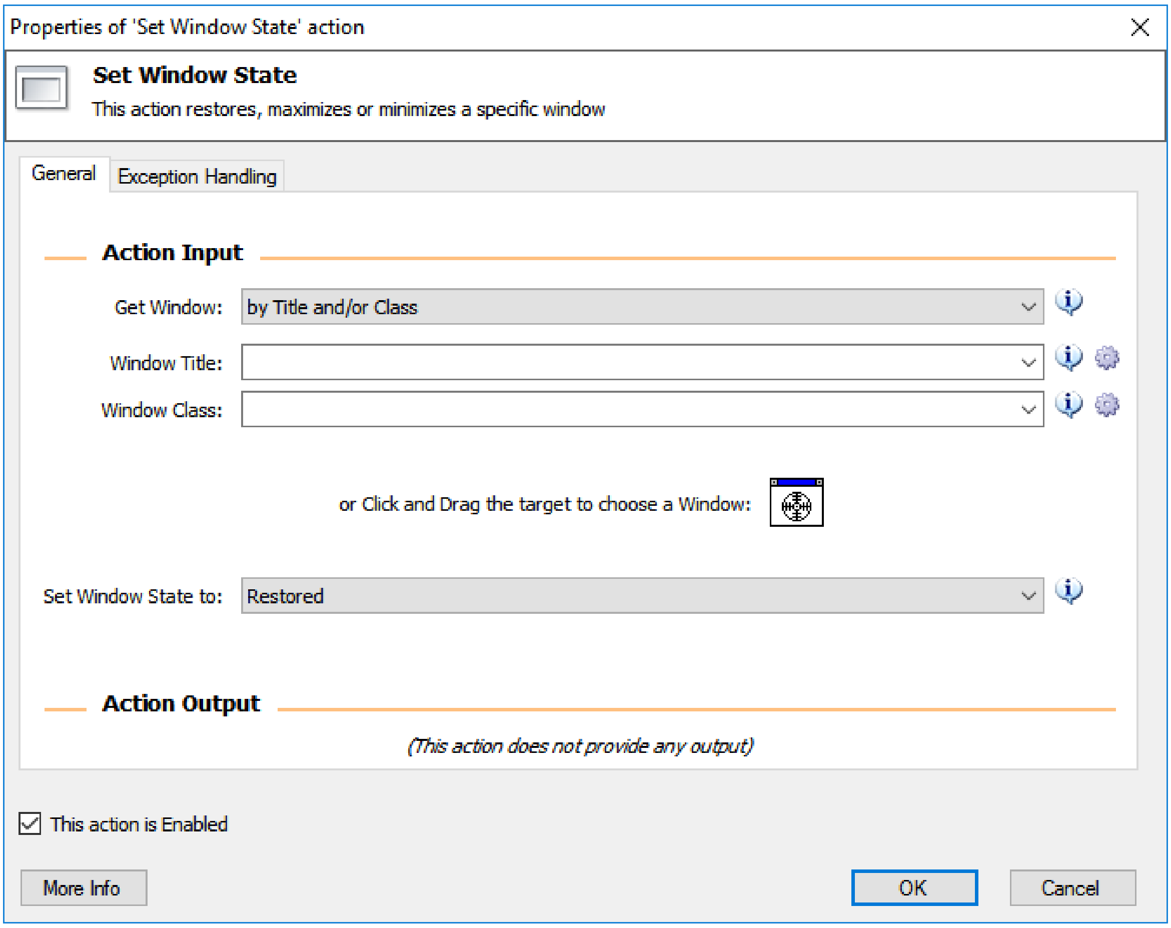
Set Window State to: Restored

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Instance/Handle



Properties of 'Set Window State' action

Set Window State

This action restores, maximizes or minimizes a specific window

Get Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

Set Window State to: Restored

(This action does not provide any output)

☑ This action is Enabled

by Title and/or Class

Properties:

Get Window:

Choose whether the action looks for the Window using a UIAutomation Instance Variable or a combination of Window Title/Class.

Depending on the Get Window option you will have some of the following inputs

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Window Instance:

Enter the variable of a variable that contains a UI Automation Instance, acquired by a Get Window Action.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

Window Class:

Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank.

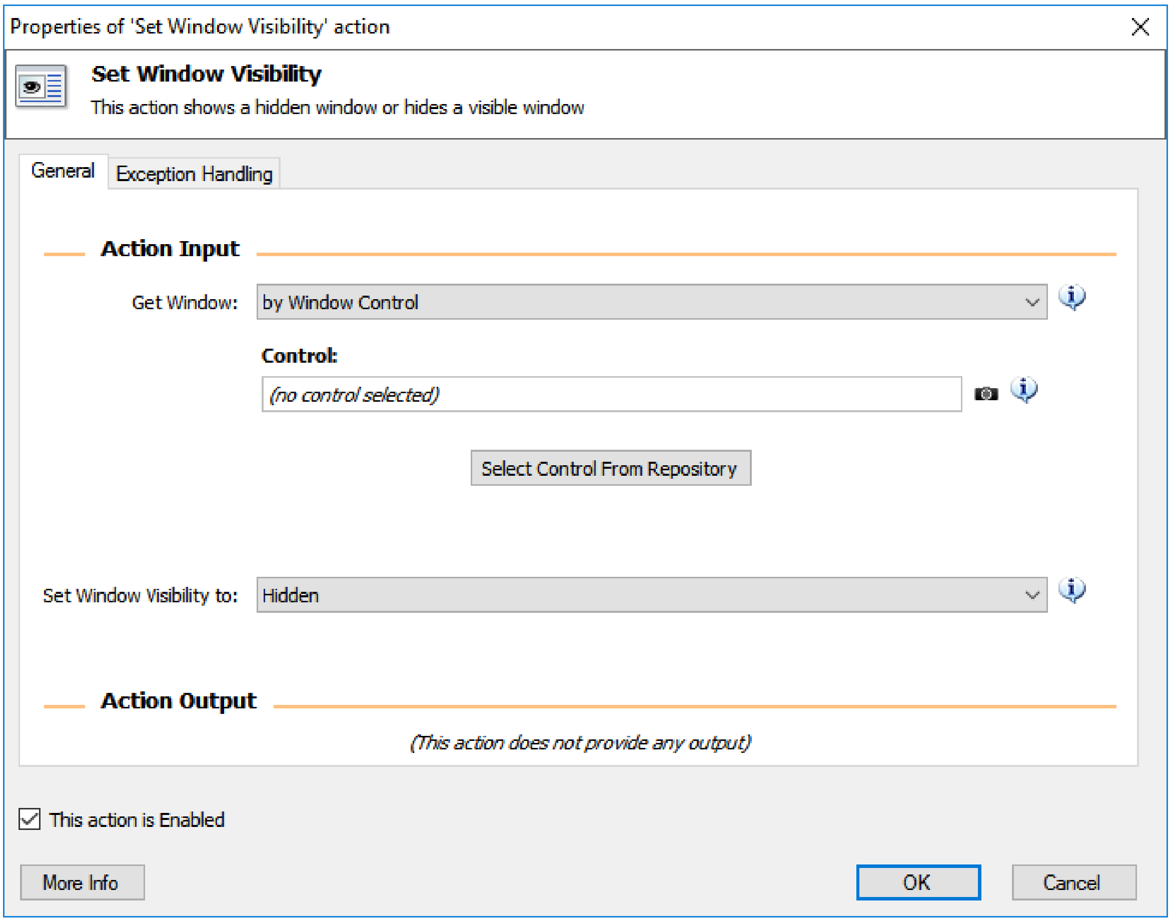
Set Window State to:

Choose in which state you would like to display the window.

5.12.7.4 Set Window Visibility Action

Description:

This action shows a hidden window or hides a visible window



Properties of 'Set Window Visibility' action

Set Window Visibility

This action shows a hidden window or hides a visible window

Action Input

Get Window: by Window Control

Control: *(no control selected)*

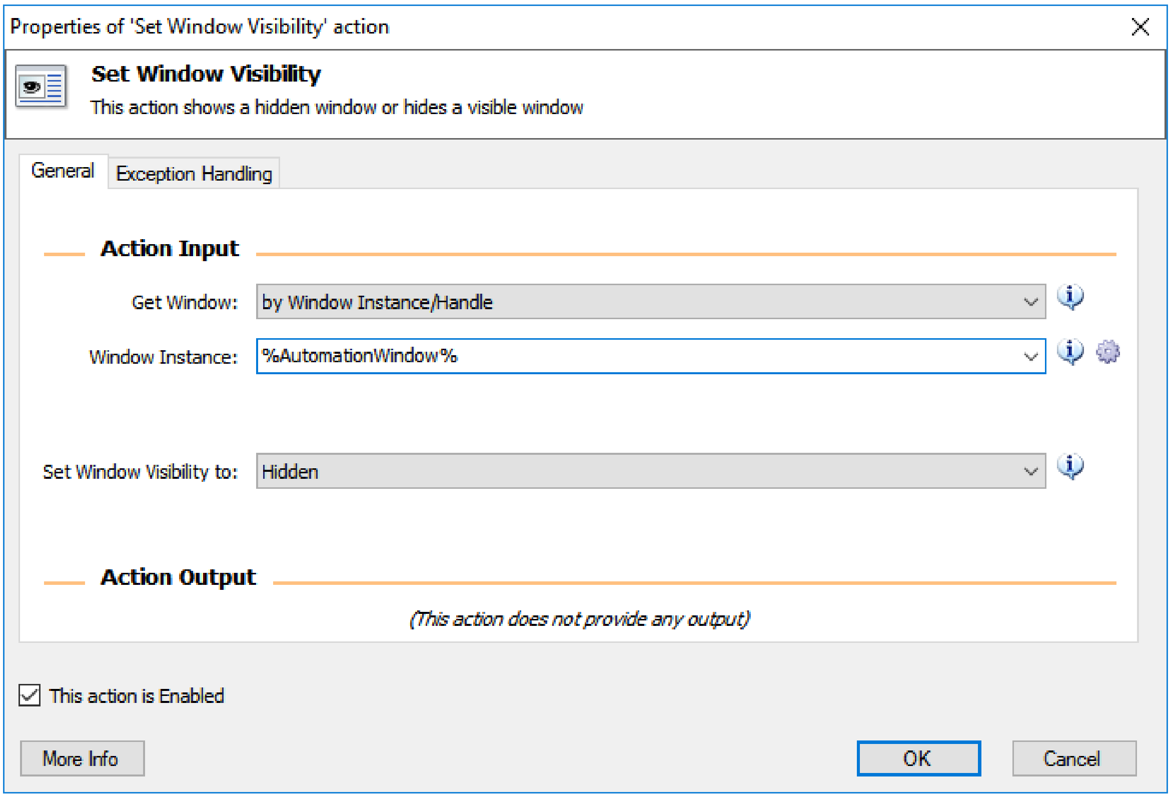
Set Window Visibility to: Hidden

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Control



Properties of 'Set Window Visibility' action

Set Window Visibility

This action shows a hidden window or hides a visible window

Action Input

Get Window: by Window Instance/Handle

Window Instance: %AutomationWindow%

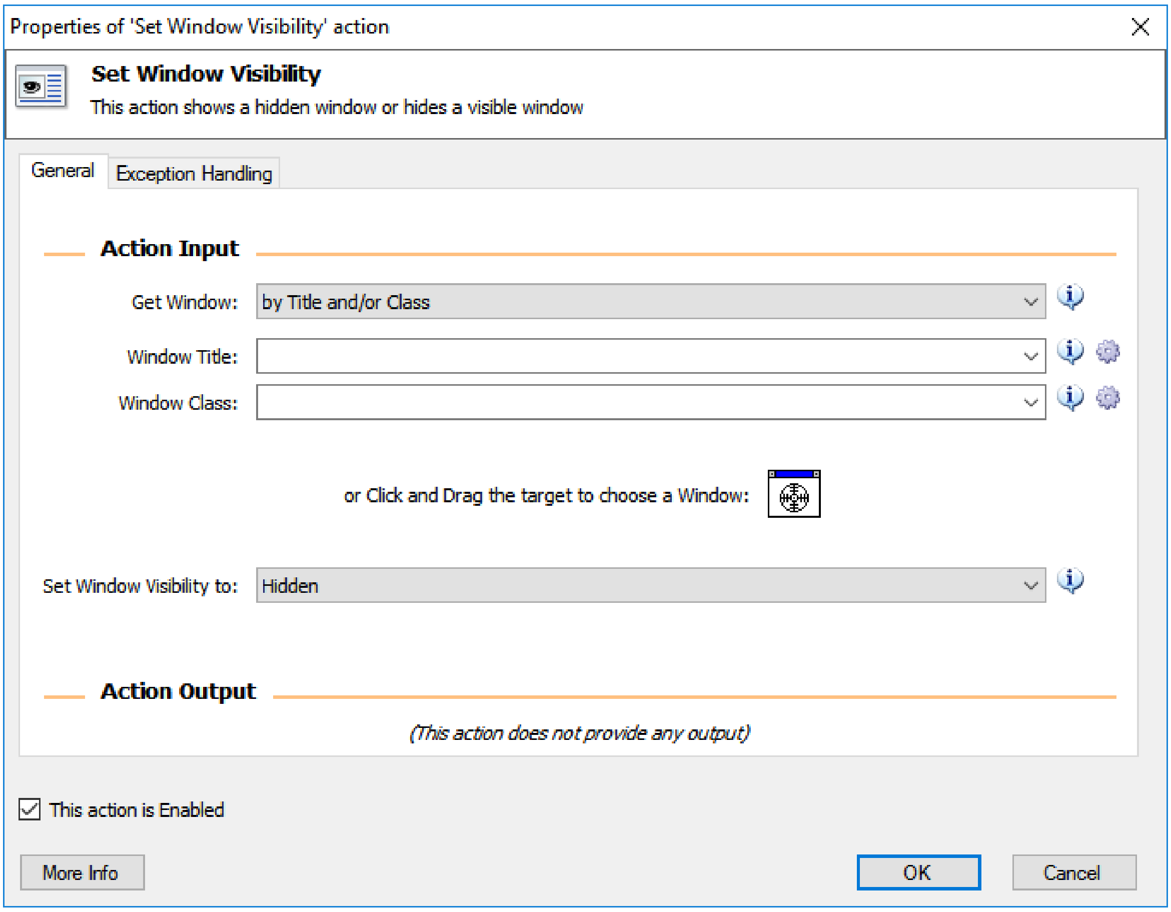
Set Window Visibility to: Hidden

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Instance/Handle



Properties of 'Set Window Visibility' action

Set Window Visibility

This action shows a hidden window or hides a visible window

Action Input

Get Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

Set Window Visibility to: Hidden

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Title and/or Class

Properties:

Get Window:

Choose whether the action looks for the Window using a UIAutomation Instance Variable or a combination of Window Title/Class.

Depending on the Get Window option you will have some of the following inputs

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Window Instance:

Enter the variable of a variable that contains a UI Automation Instance, acquired by a Get Window Action.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

Window Class:

Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank.

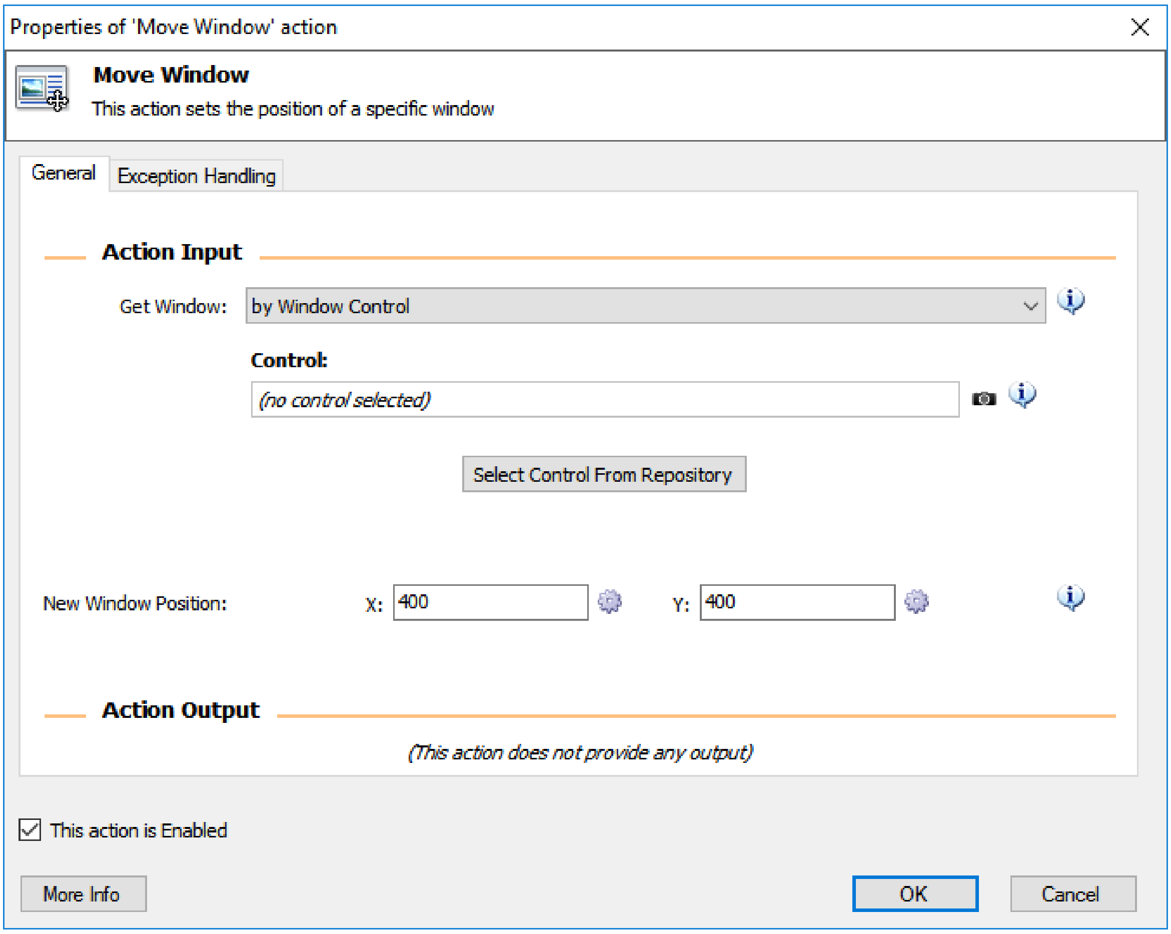
Set Window Visibility to:

Choose in which state you would like to display the window.

5.12.7.5 Move Window Action

Description:

This action sets the position of a specific window



Properties of 'Move Window' action

Move Window

This action sets the position of a specific window

Action Input

Get Window: by Window Control

Control: *(no control selected)*

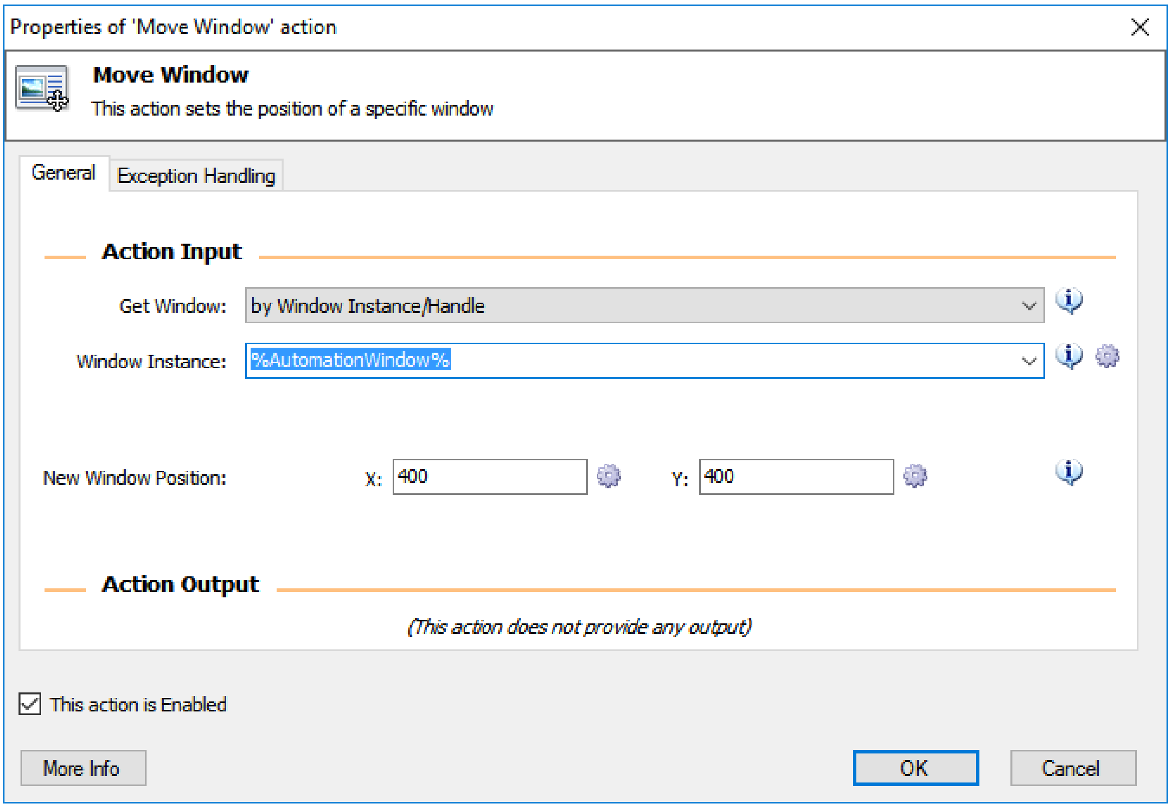
New Window Position: X: 400 Y: 400

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Control



Properties of 'Move Window' action

Move Window

This action sets the position of a specific window

Action Input

Get Window: by Window Instance/Handle

Window Instance: %AutomationWindow%

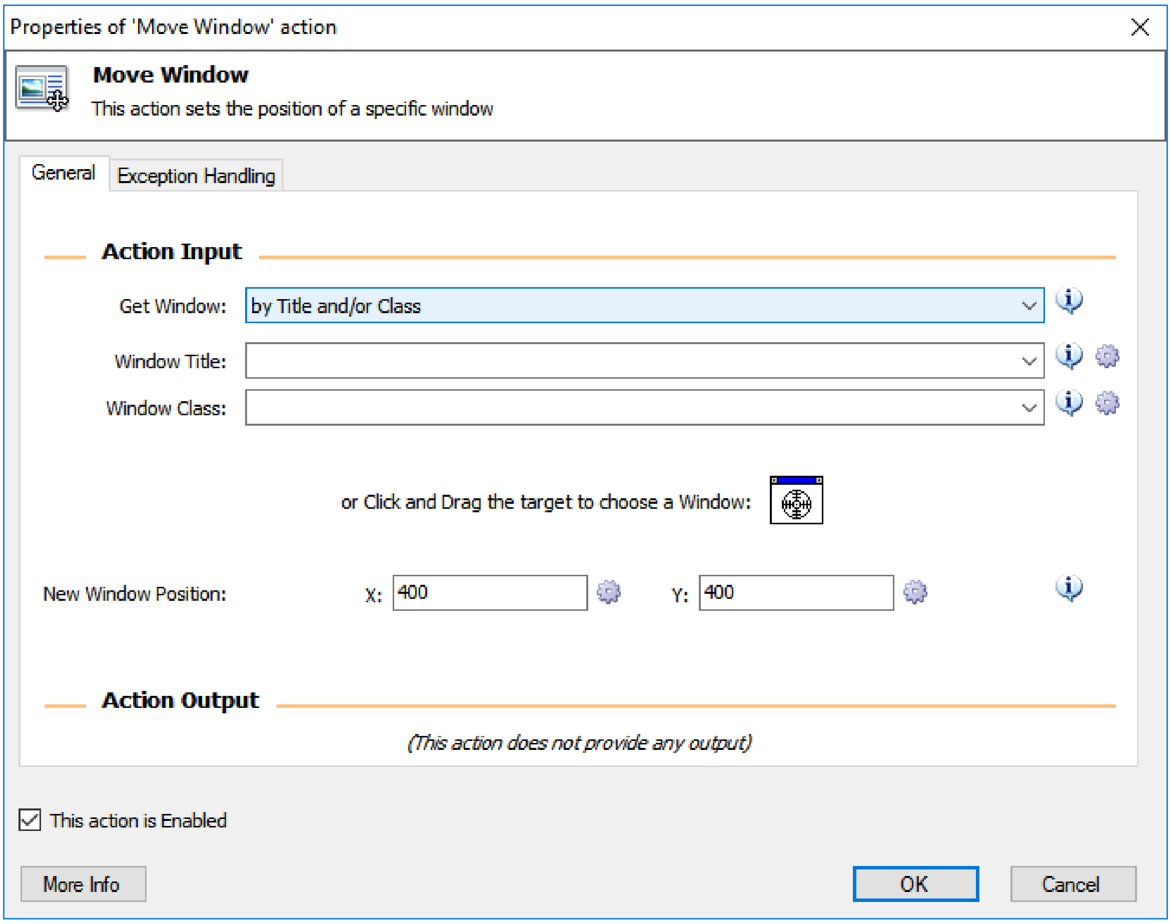
New Window Position: X: 400 Y: 400

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Instance/Handle



Properties of 'Move Window' action

Move Window

This action sets the position of a specific window

Action Input

Get Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

New Window Position: X: 400 Y: 400

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Title and/or Class

Properties:

Get Window:

Choose whether the action looks for the Window using a UIAutomation Instance Variable or a combination of Window Title/Class.

<u>Depending on the Get Window option you will have some of the following inputs</u>

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Window Instance:

Enter the variable of a variable that contains a UI Automation Instance, acquired by a Get Window Action.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

Window Class:

Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank.

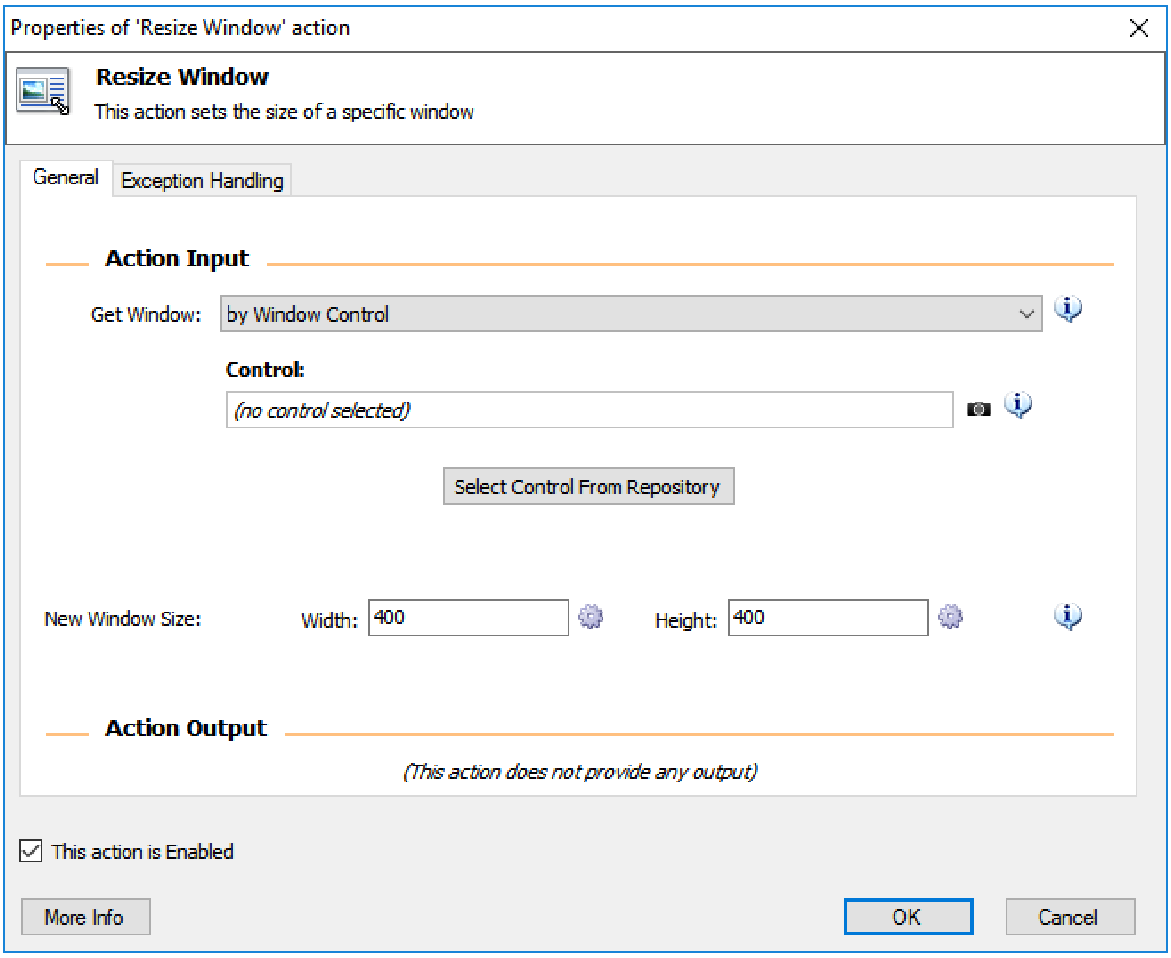
New Window Position:

Set the position of the top left corner of the Window on the X and Y coordinates, based on the pixels of the screen.

5.12.7.6 Resize Window Action

Description:

This action sets the size of a specific window



Properties of 'Resize Window' action

Resize Window

This action sets the size of a specific window

Action Input

Get Window: by Window Control

Control: (no control selected)

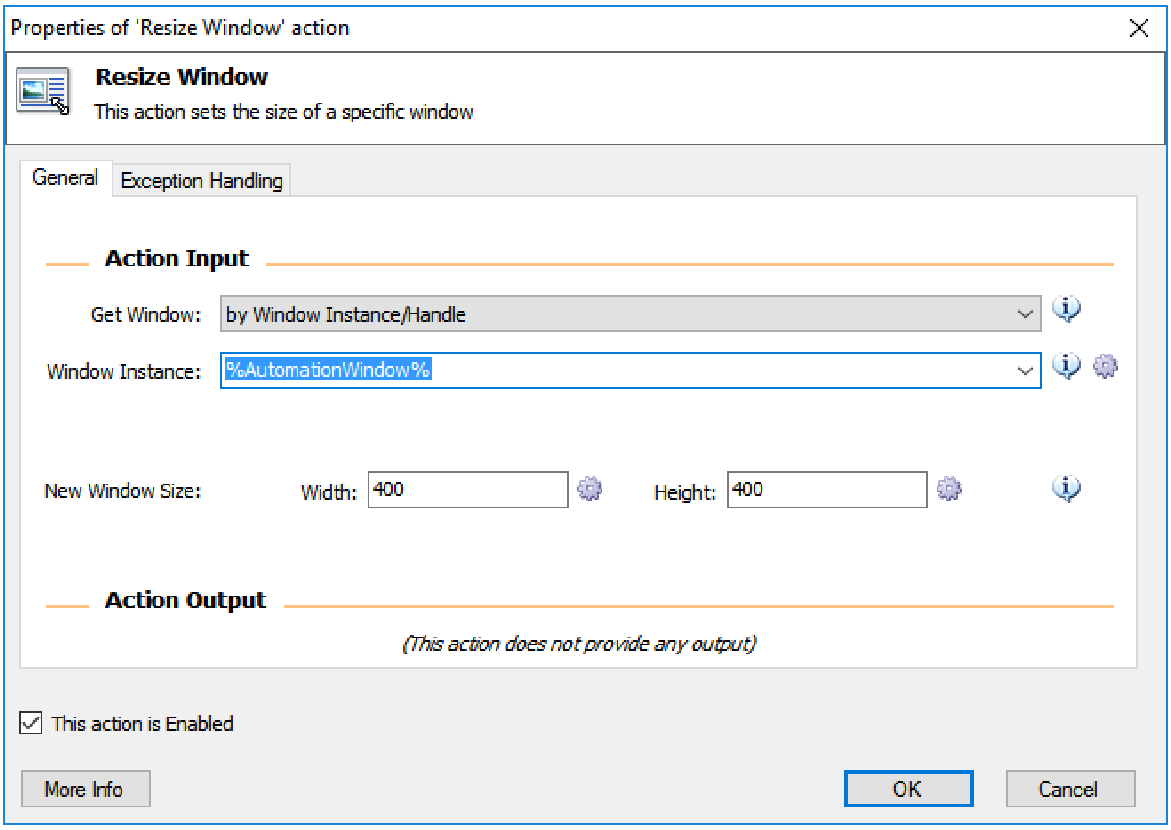
New Window Size: Width: 400 Height: 400

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Control



Properties of 'Resize Window' action

Resize Window

This action sets the size of a specific window

Action Input

Get Window: by Window Instance/Handle

Window Instance: %AutomationWindow%

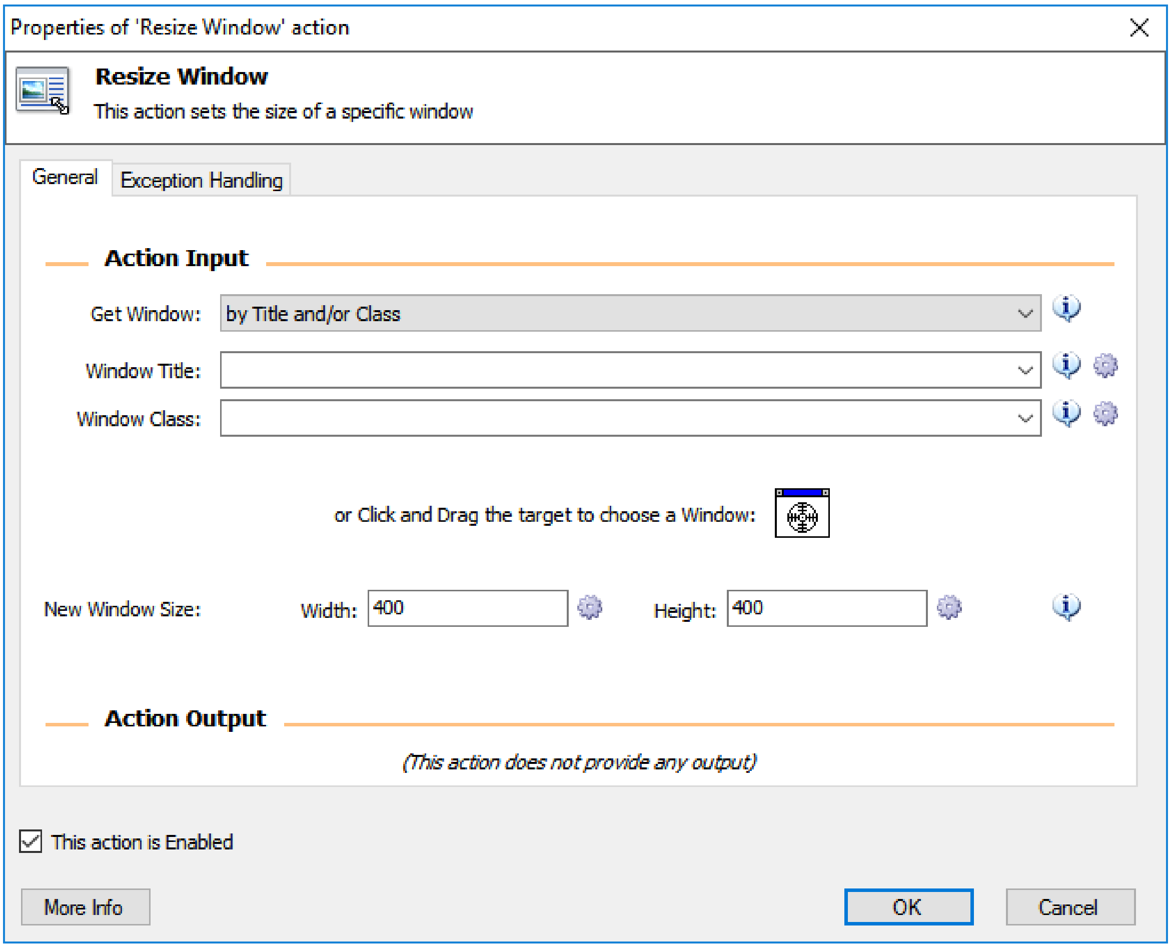
New Window Size: Width: 400 Height: 400

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Instance/Handle



Properties of 'Resize Window' action

Resize Window

This action sets the size of a specific window

Action Input

Get Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

New Window Size: Width: 400 Height: 400

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Title and/or Class

Properties:

Get Window:

Choose whether the action looks for the Window using a UIAutomation Instance Variable or a combination of Window Title/Class.

Depending on the Get Window option you will have some of the following inputs

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Window Instance:

Enter the variable of a variable that contains a UI Automation Instance, acquired by a Get Window Action.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

Window Class:

Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank. this blank.

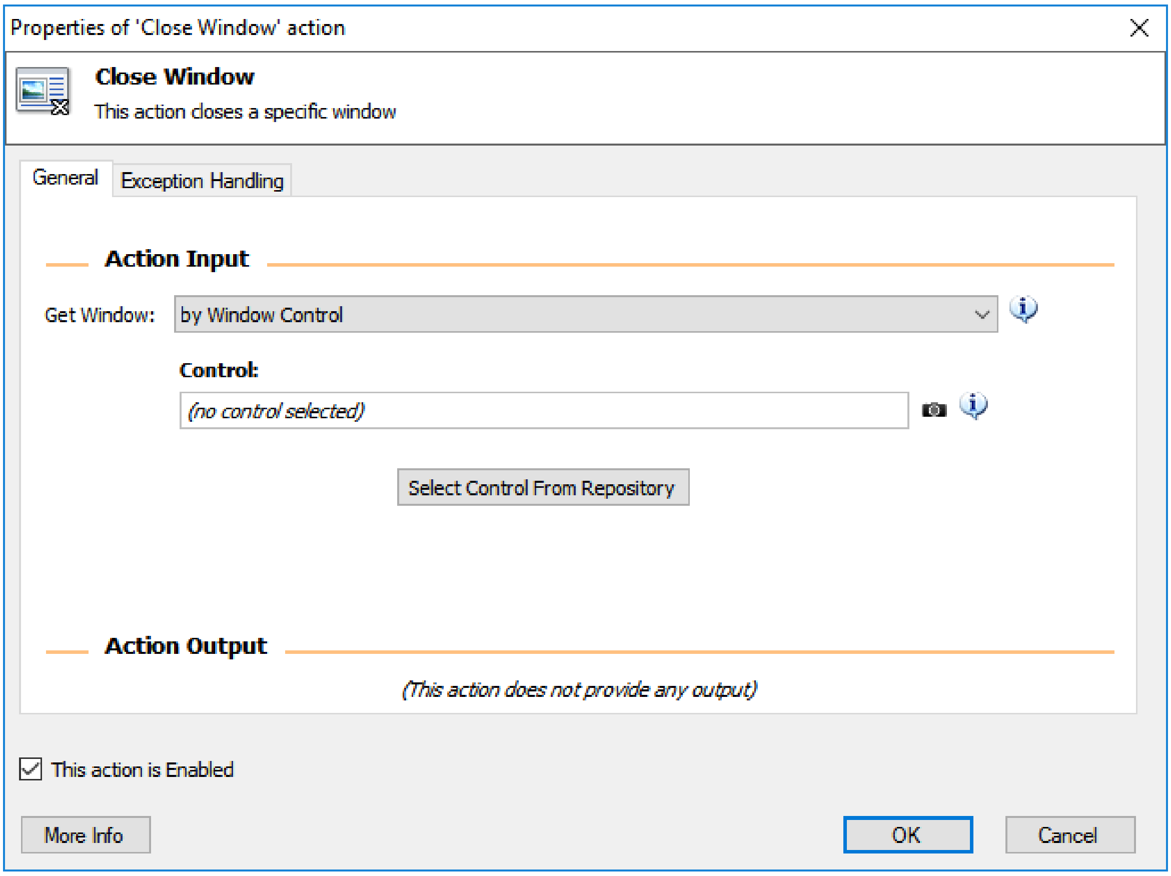
New Window Size:

Set the new size of the Window, in pixels.

5.12.7.7 Close Window Action

Description:

This action closes a specific window



Properties of 'Close Window' action

Close Window

This action closes a specific window

Action Input

Get Window: by Window Control

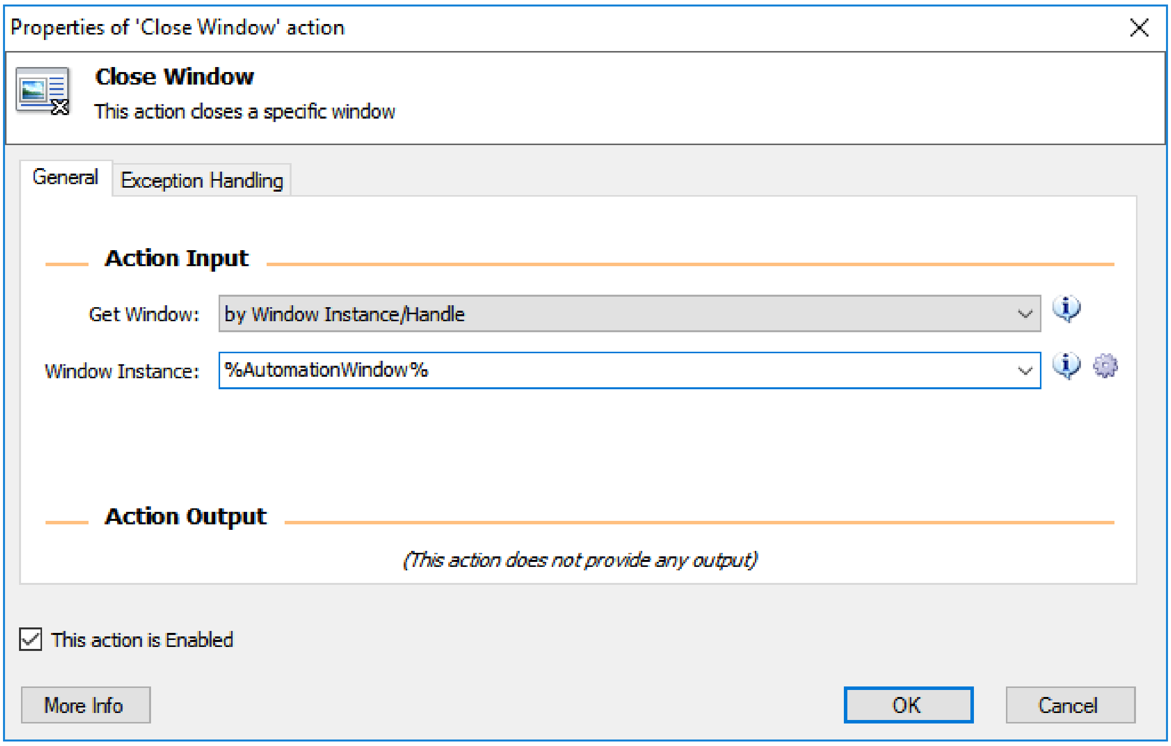
Control: *(no control selected)*

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Control



Close Window

This action closes a specific window

Action Input

Get Window: by Window Instance/Handle

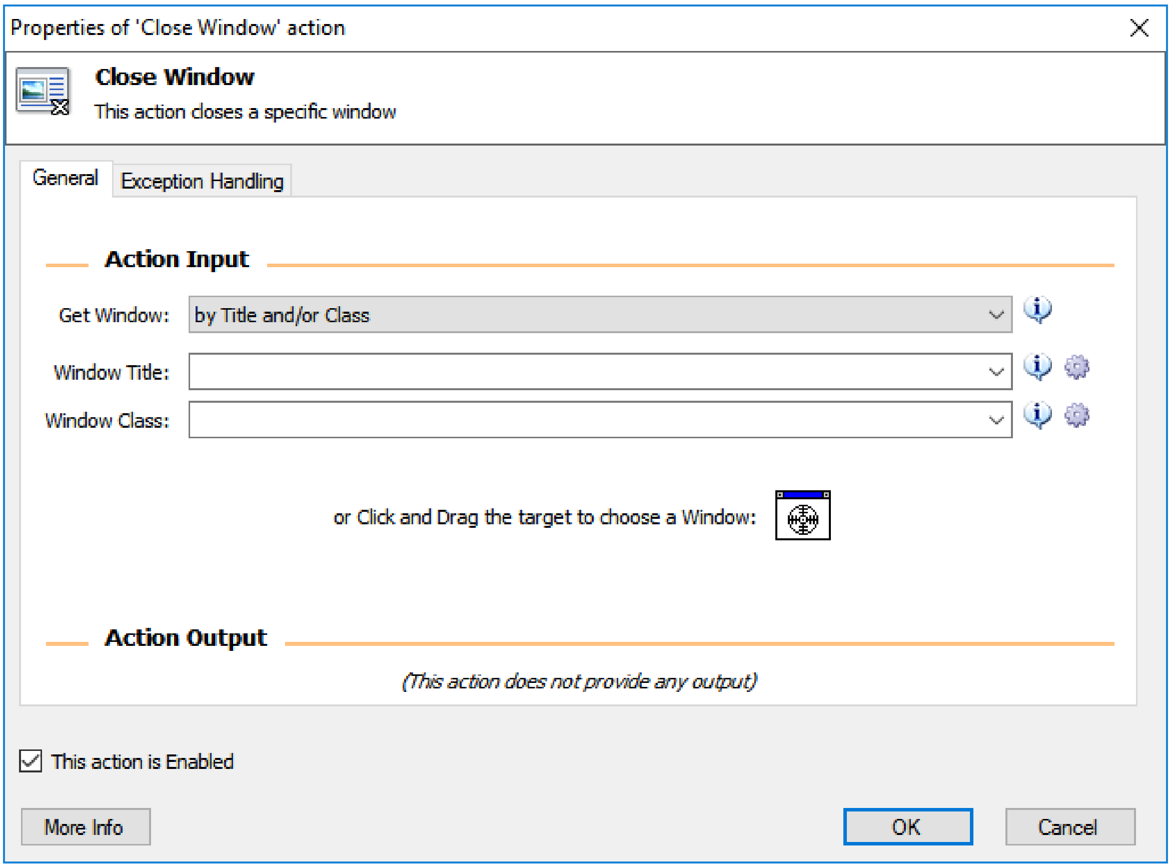
Window Instance: %AutomationWindow%

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Window Instance/Handle



Properties of 'Close Window' action

Close Window

This action closes a specific window

Action Input

Get Window: by Title and/or Class

Window Title:

Window Class:

or Click and Drag the target to choose a Window:

Action Output

(This action does not provide any output)

☑ This action is Enabled

by Title and/or Class

Properties :

Get Window:

Choose whether the action looks for the Window using a UIAutomation Instance Variable or a combination of Window Title/Class.

Depending on the Get Window option you will have some of the following inputs

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Window Instance:

Enter the variable of a variable that contains a UI Automation Instance, acquired by a Get Window Action.

Window Title:

Choose title of window. You can use wildcards, like '?' or '*'. If you can't find the window title in the dropdown list, type it yourself, or open it and press the Refresh button to the right.

Window Class:

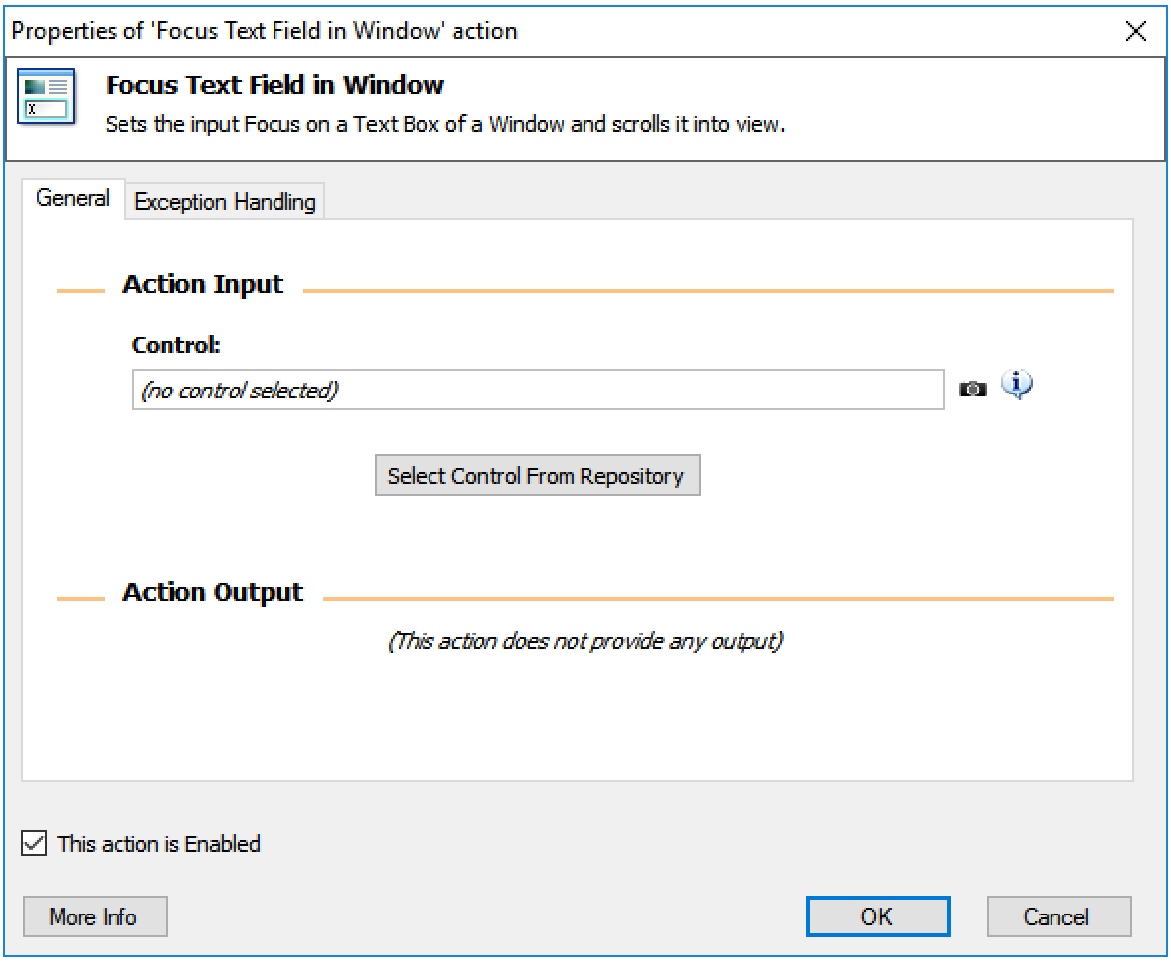
Optional: If you have two windows with the same title, Window Class may help differentiate between them. In this case, enter the class of the window you wish to use. Otherwise, leave this blank. this blank.

5.12.8 Form Filling

5.12.8.1 Focus Text Field in Window Action

Description:

Sets the input Focus on a Text Box of a Window and scrolls it into view.



Properties of 'Focus Text Field in Window' action

Focus Text Field in Window

Sets the input Focus on a Text Box of a Window and scrolls it into view.

Control: *(no control selected)*

(This action does not provide any output)

☑ This action is Enabled

Properties:

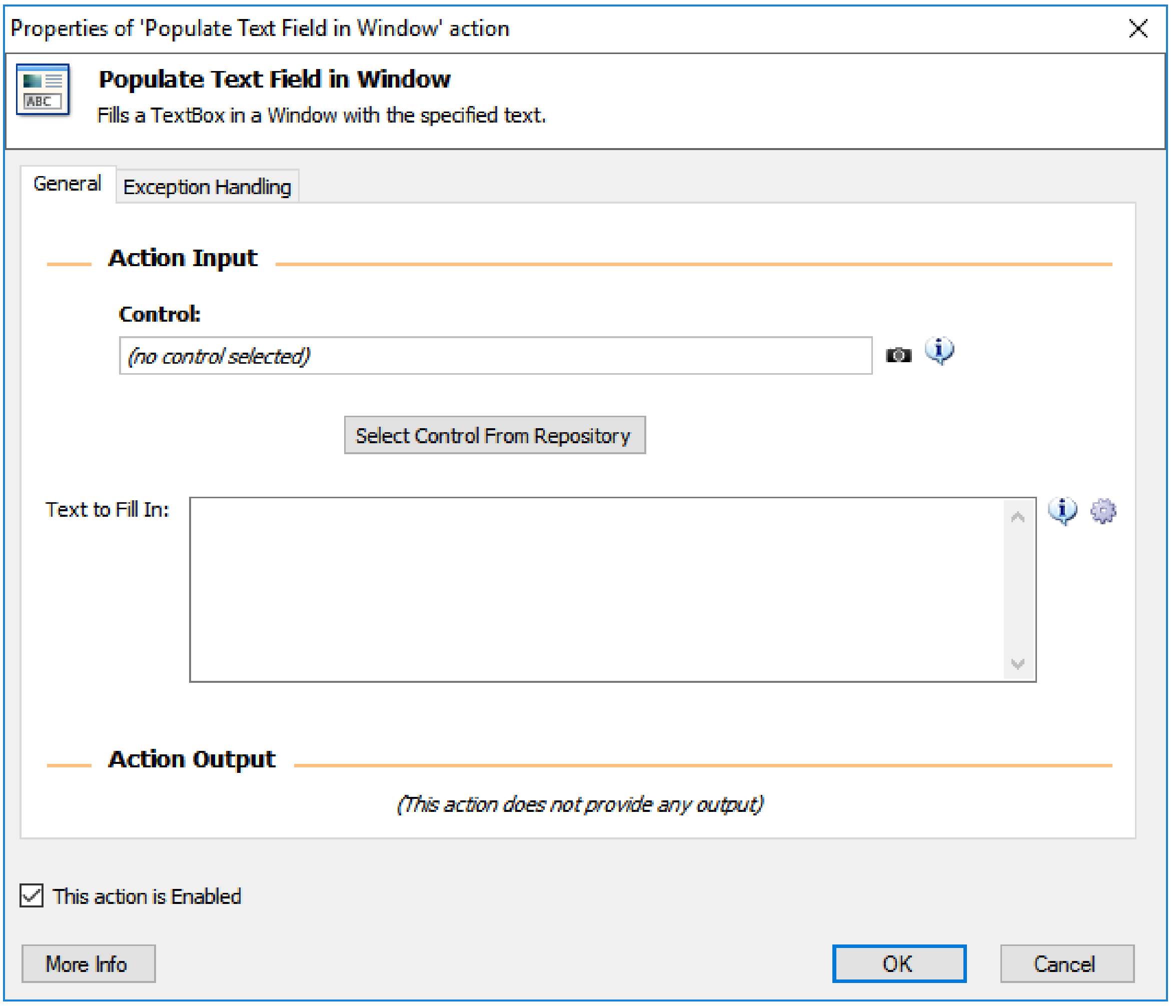
Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

5.12.8.2 Populate Text Field in Window Action

Description:

Fills a TextBox in a Window with the specified text.



Properties of 'Populate Text Field in Window' action

Populate Text Field in Window

Fills a TextBox in a Window with the specified text.

Control: *(no control selected)*

Text to Fill In:

(This action does not provide any output)

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Text to Fill In:

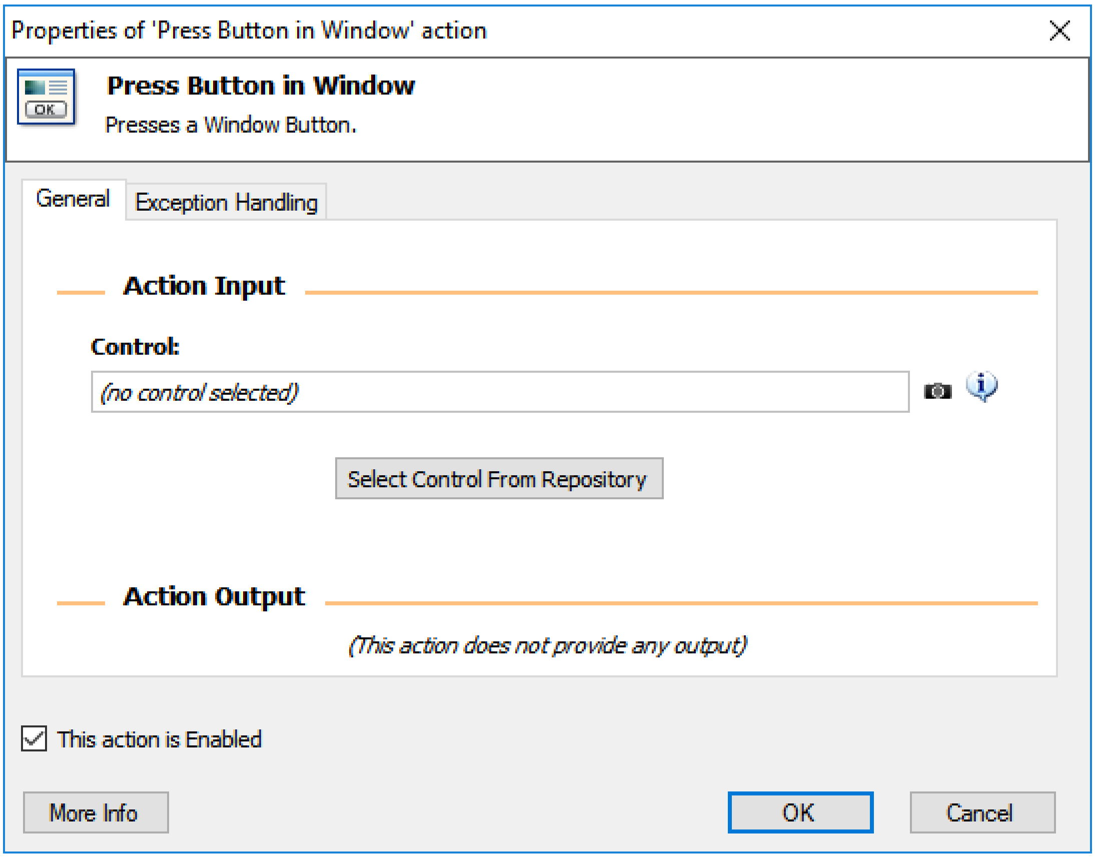
Enter here the text you want to fill in the text field with.

You may also use as input the value of a variable defined in a preceding action of your Process.

5.12.8.3 Press Button in Window Action

Description:

Presses a Window Button



Properties of 'Press Button in Window' action

Press Button in Window

Presses a Window Button.

Properties:

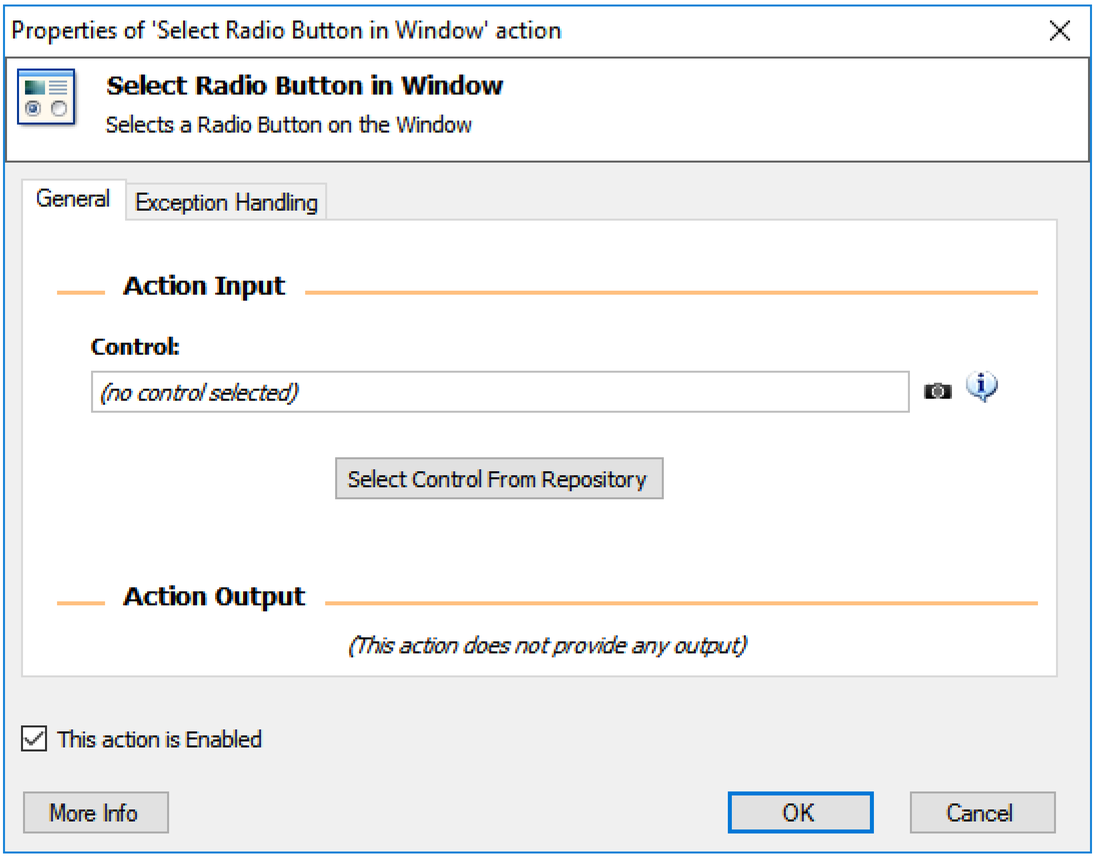
Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

5.12.8.4 Select Radio Button in Window Action

Description:

Selects a Radio Button in the Window



Properties of 'Select Radio Button in Window' action

Select Radio Button in Window

Selects a Radio Button on the Window

Control: (no control selected)

(This action does not provide any output)

☑ This action is Enabled

Properties:

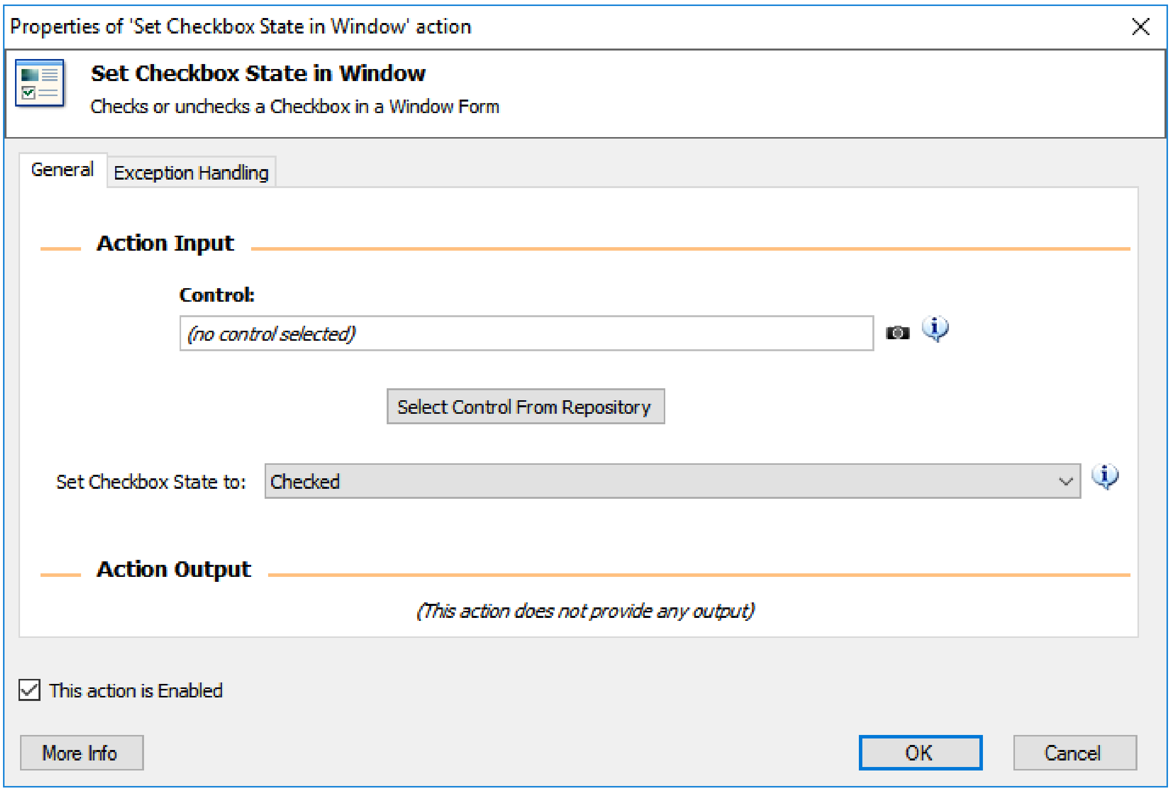
Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

5.12.8.5 Set Checkbox State in Window Action

Description:

Checks or unchecks a Checkbox in a Window Form



Properties of 'Set Checkbox State in Window' action

Set Checkbox State in Window

Checks or unchecks a Checkbox in a Window Form

Control: *(no control selected)*

Set Checkbox State to: Checked

(This action does not provide any output)

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

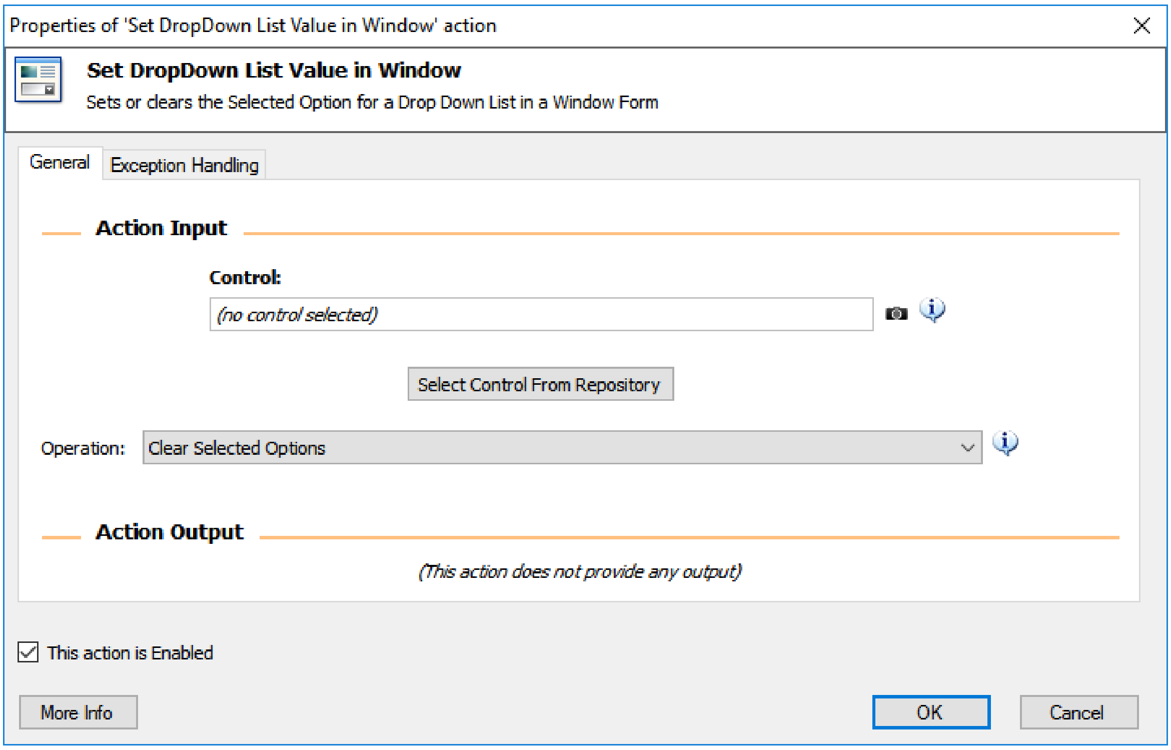
Set Checkbox State to:

Select whether you want the checkbox to be checked or unchecked.

5.12.8.6 Set Dropdown List Value in Window Action

Description:

Sets or clears the Selected Option from a Drop Down List in a Window Form



Properties of 'Set DropDown List Value in Window' action

Set DropDown List Value in Window

Sets or clears the Selected Option for a Drop Down List in a Window Form

Action Input

Control: *(no control selected)*

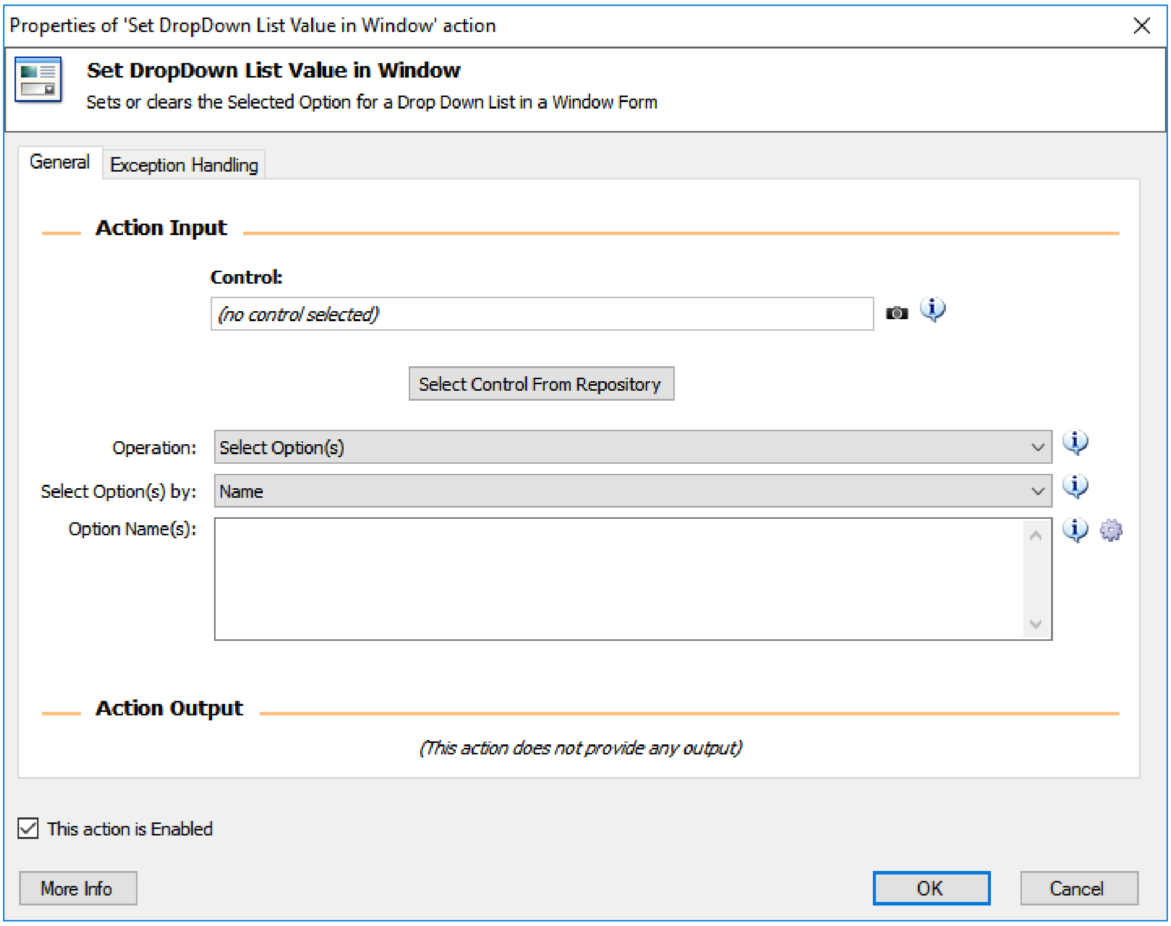
Operation: Clear Selected Options

Action Output

(This action does not provide any output)

☑ This action is Enabled

Operation: Clear Selected Options



Properties of 'Set DropDown List Value in Window' action

Set DropDown List Value in Window

Sets or clears the Selected Option for a Drop Down List in a Window Form

Control: *(no control selected)*

Operation: Select Option(s)

Select Option(s) by: Name

Option Name(s):

(This action does not provide any output)

☑ This action is Enabled

Operation: Select Option(s)

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Operation:

Set whether you want to select a value or clear the selected value from a dropdown list.

Select Option(s) by:

Set the selection method for the value(s) of the Dropdown list.

You may choose to do so either by name or by ordinal position.

Depending on the dropdown list control element design you may be able to select a single or multiple items.

For selection by name, multiple selection is available by entering more than one names (one per line). For selection by index, multiple selection is available by entering more than one items' index separated by a space or a - e.g. 1-3-4.

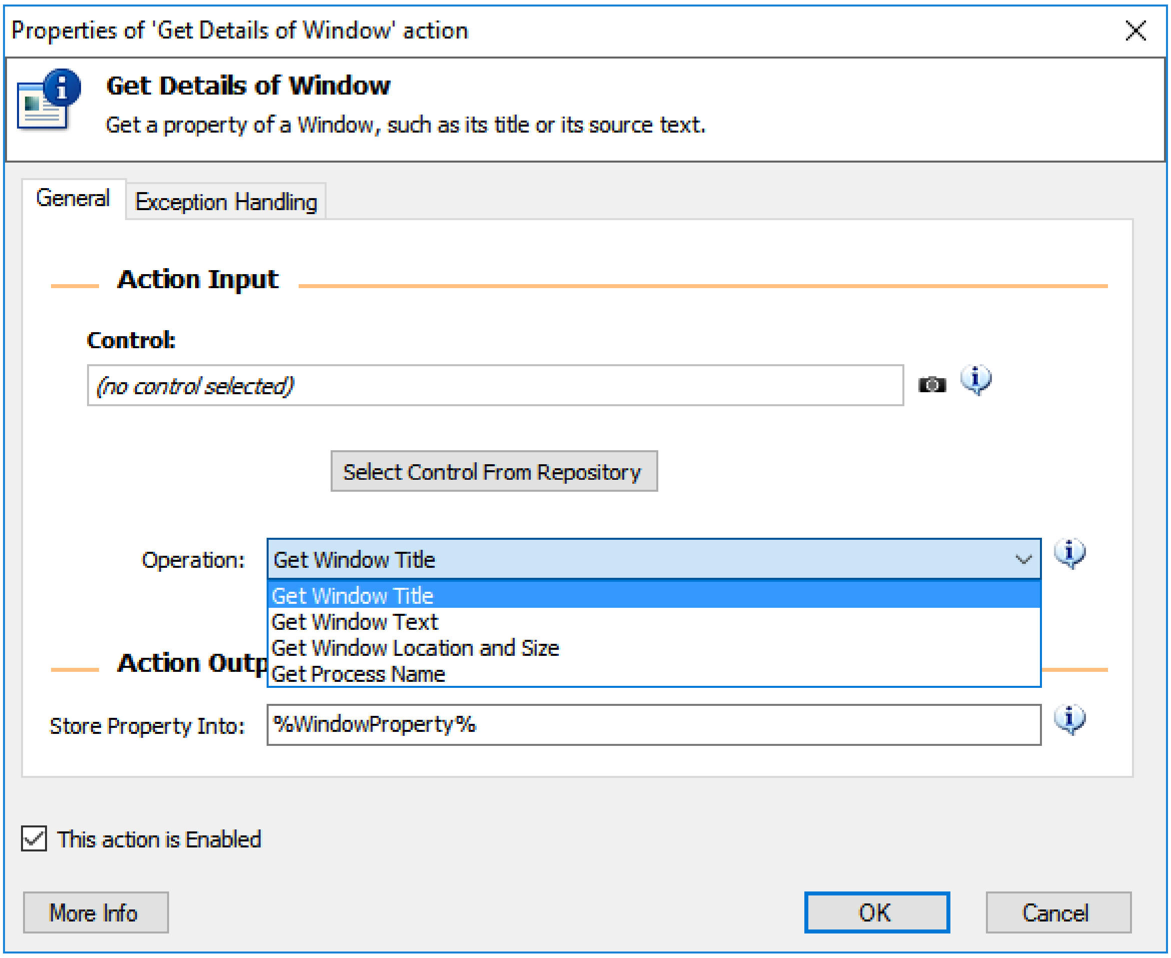
Note that if the Dropdown list only supports single selection and you have specified more than one items then only the first specified will be used.

5.12.9 Data Extraction

5.12.9.1 Get Details of Window Action

Description:

Get a property of a Window, such as its title or its source text.



Properties of 'Get Details of Window' action

Get Details of Window

Get a property of a Window, such as its title or its source text.

Action Input

Control: *(no control selected)*

Operation: Get Window Title

Action Output

Store Property Into: %WindowProperty%

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Operation:

Specify the information of the running Window that you want to retrieve. You have the option to get details such as Window title,Window text, Window location and size.

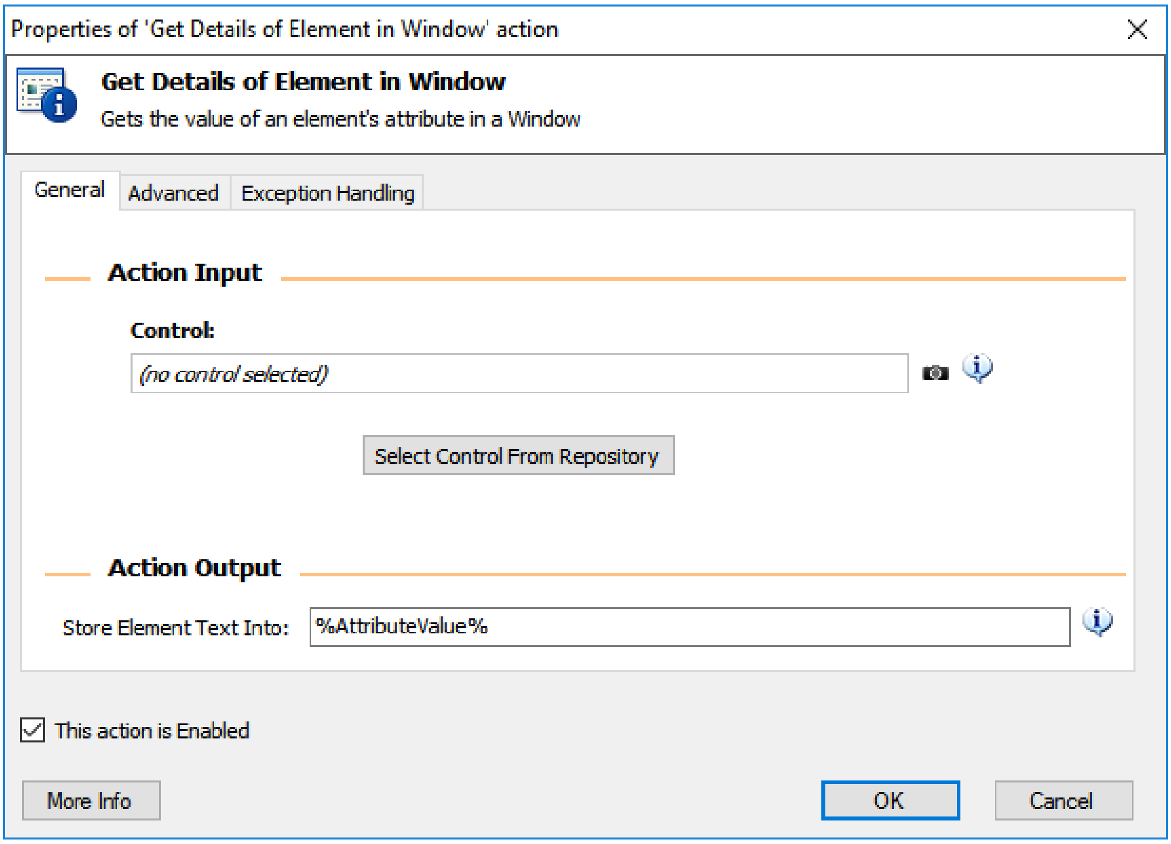
Store Property Into:

Set the name of the variable that will hold the retrieved information of the Window. The value of this variable can be used in a following action (e.g. displayed through a “Display Message” action).

5.12.9.2 Get Details of Element in Window Action

Description:

Gets the value of an element’s attribute in a Window



Properties of 'Get Details of Element in Window' action

Get Details of Element in Window

Gets the value of an element's attribute in a Window

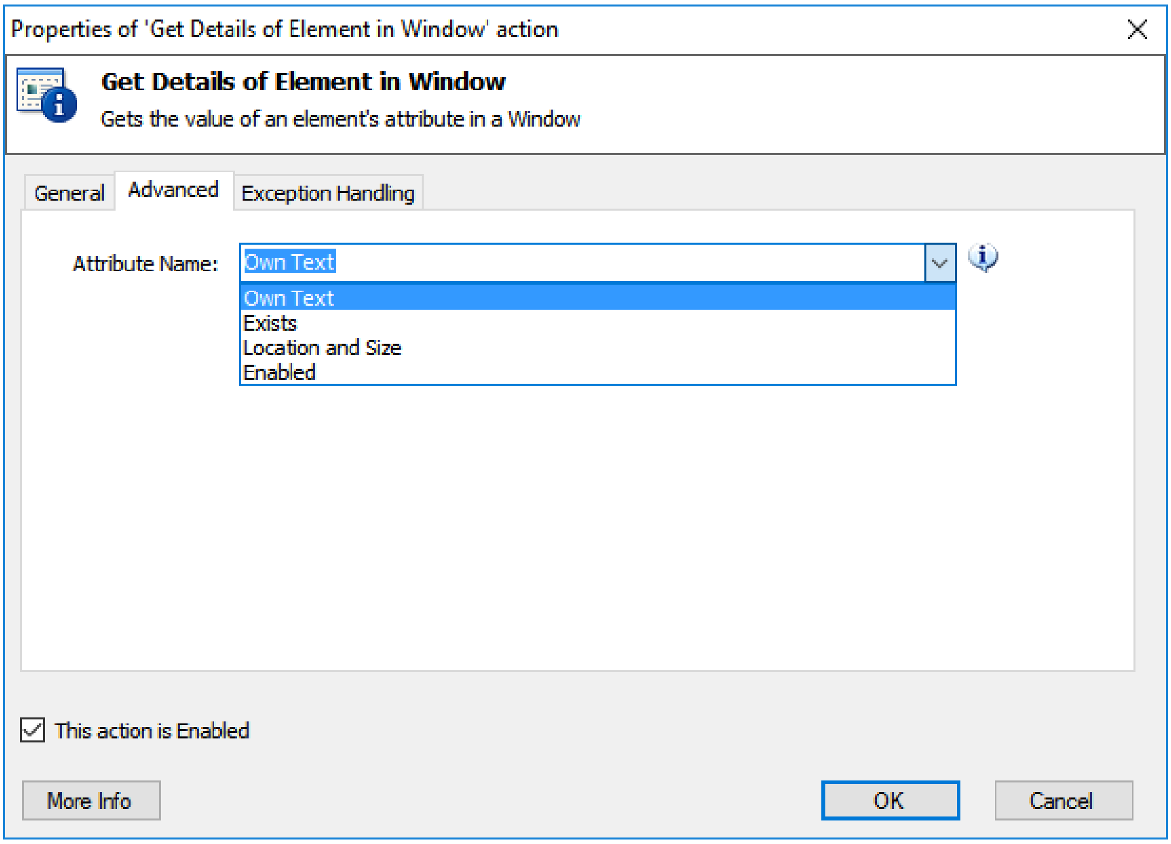
Action Input

Control: *(no control selected)*

Action Output

Store Element Text Into: %AttributeValue%

☑ This action is Enabled


Properties of 'Get Details of Element in Window' action

Get Details of Element in Window

Gets the value of an element's attribute in a Window

Attribute Name: Own Text

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Attribute Name:

You have the option to get details for element attributes such as element’s own text, whether it exists or not, its location and size, and whether it is enabled or not. To select the attribute for which the details you want to retrieve use the ‘Attribute Name’ property menu options in the Advanced Tab.

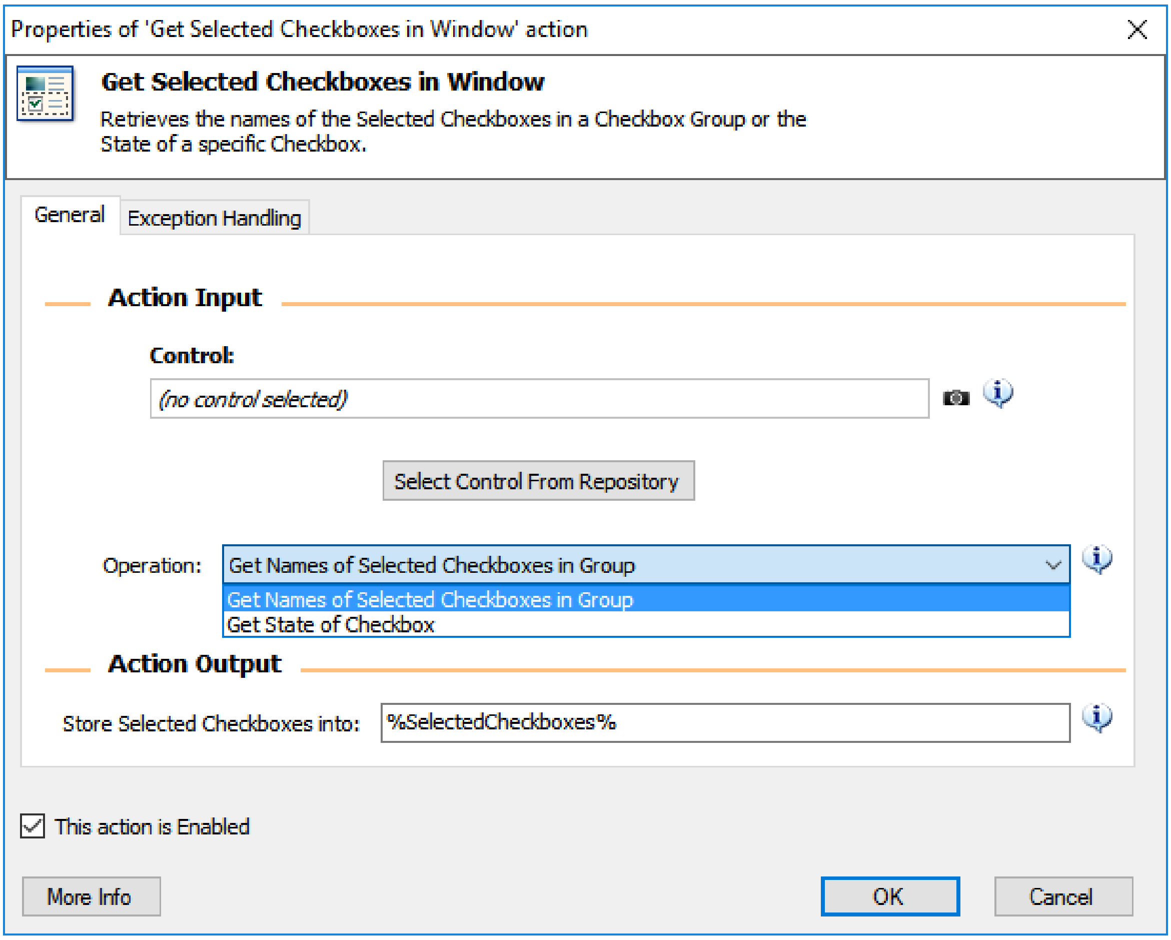
Store Element Text Into:

Set the name of the variable that will hold the retrieved information of the Element’s attribute. The value of this variable can be used in a following action (e.g. displayed through a “Display Message” action).

5.12.9.3 Get Selected Checkboxes in Window Action

Description:

Retrieves the names of the Selected Checkboxes in a Checkbox Group or the State of a specific Checkbox.



Properties of 'Get Selected Checkboxes in Window' action

Get Selected Checkboxes in Window

Retrieves the names of the Selected Checkboxes in a Checkbox Group or the State of a specific Checkbox.

Action Input

Control: *(no control selected)*

Operation: Get Names of Selected Checkboxes in Group

- Get Names of Selected Checkboxes in Group
- Get State of Checkbox

Action Output

Store Selected Checkboxes into: %SelectedCheckboxes%

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Operation:

Specify whether you want to retrieve the names of multiple Checkboxes in the running window or just the State of a Specific Checkbox

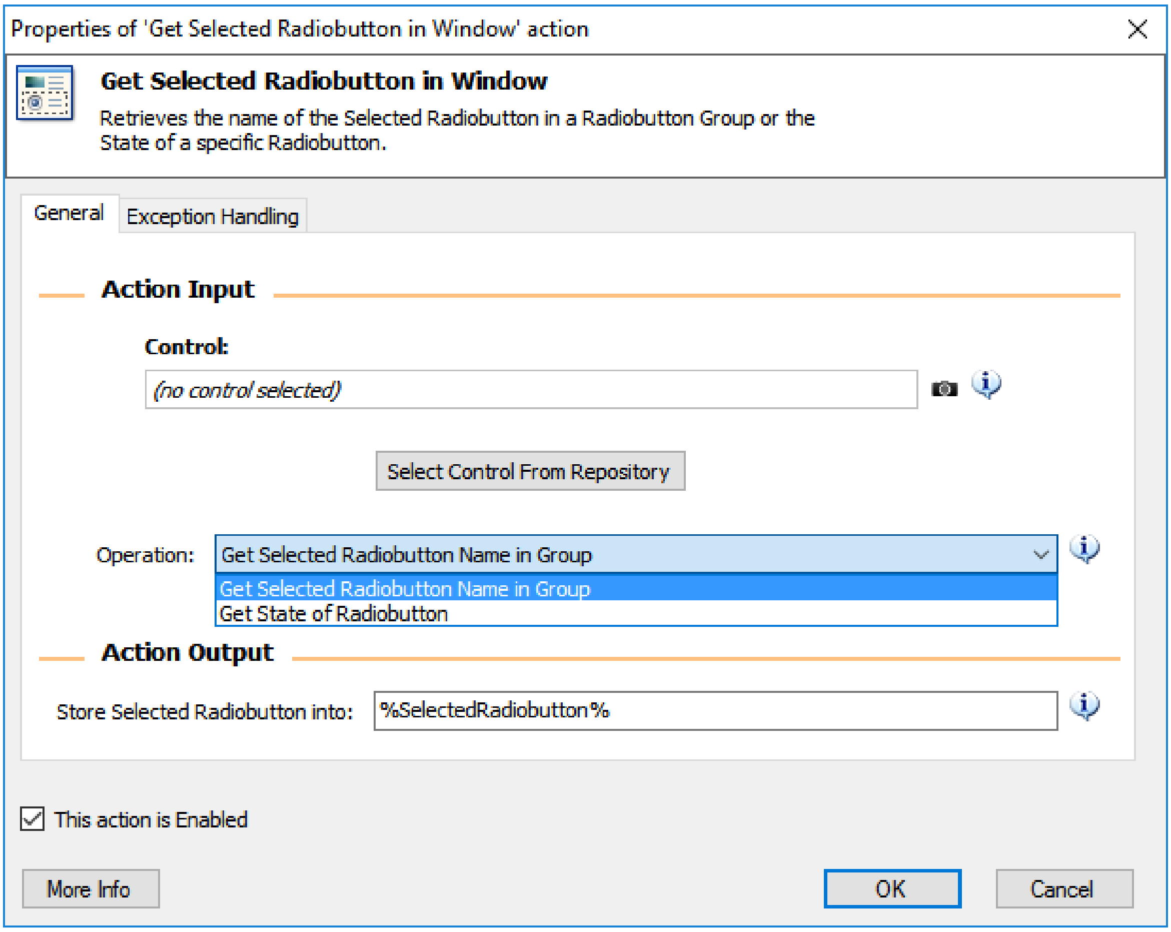
Store Selected Checkboxes/Checkbox Into:

Set the name of the variable that will hold the names of the Selected Checkboxes/state of the specific Checkbox. The value of this variable can be used in a following action (e.g. displayed through a “Display Message” action).

5.12.9.4 Get Selected Radiobutton in Window Action

Description:

Retrieves the names of the Selected Radiobutton in a Radiobutton Group or the State of a specific Radiobutton.



Properties of 'Get Selected Radiobutton in Window' action

Get Selected Radiobutton in Window

Retrieves the name of the Selected Radiobutton in a Radiobutton Group or the State of a specific Radiobutton.

General
Exception Handling

Action Input

Control: *(no control selected)*

Select Control From Repository

Operation: Get Selected Radiobutton Name in Group

Get Selected Radiobutton Name in Group
Get State of Radiobutton

Action Output

Store Selected Radiobutton into: %SelectedRadiobutton%

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Operation:

Specify whether you want to retrieve the name of the Radiobutton that is selected within a Radiobutton Group in the running window or just the State of a Single Radiobutton.

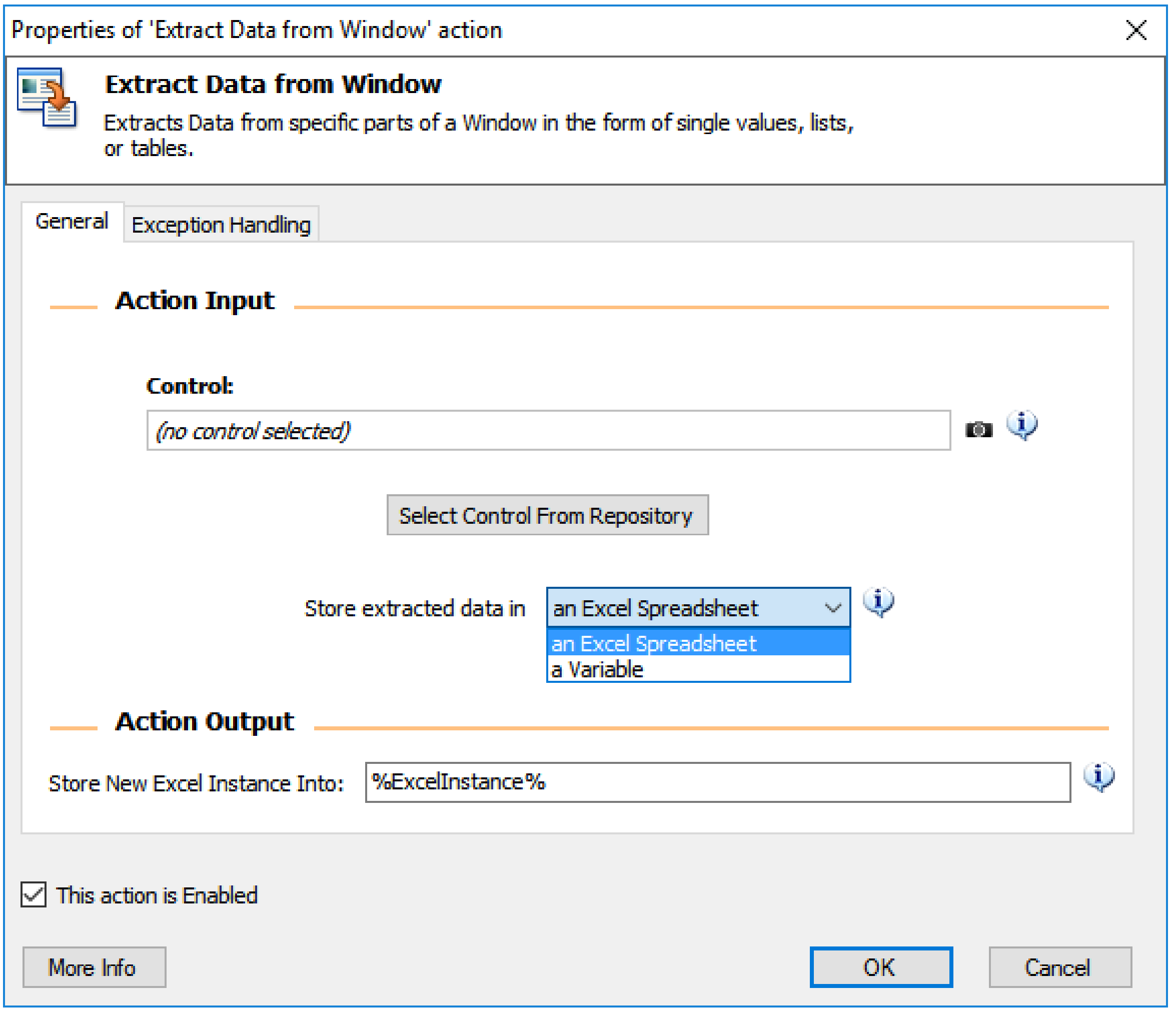
Store Selected Radiobutton Into:

Set the name of the variable that will hold the name of the Selected Radiobutton/state of the specific Radiobutton. The value of this variable can be used in a following action (e.g. displayed through a "Display Message" action).

5.12.9.5 Extract Data from Window Action

Description:

Extracts Data from specific parts of a Window in the form of single values, lists or tables.



Properties of 'Extract Data from Window' action

Extract Data from Window

Extracts Data from specific parts of a Window in the form of single values, lists, or tables.

Action Input

Control: *(no control selected)*

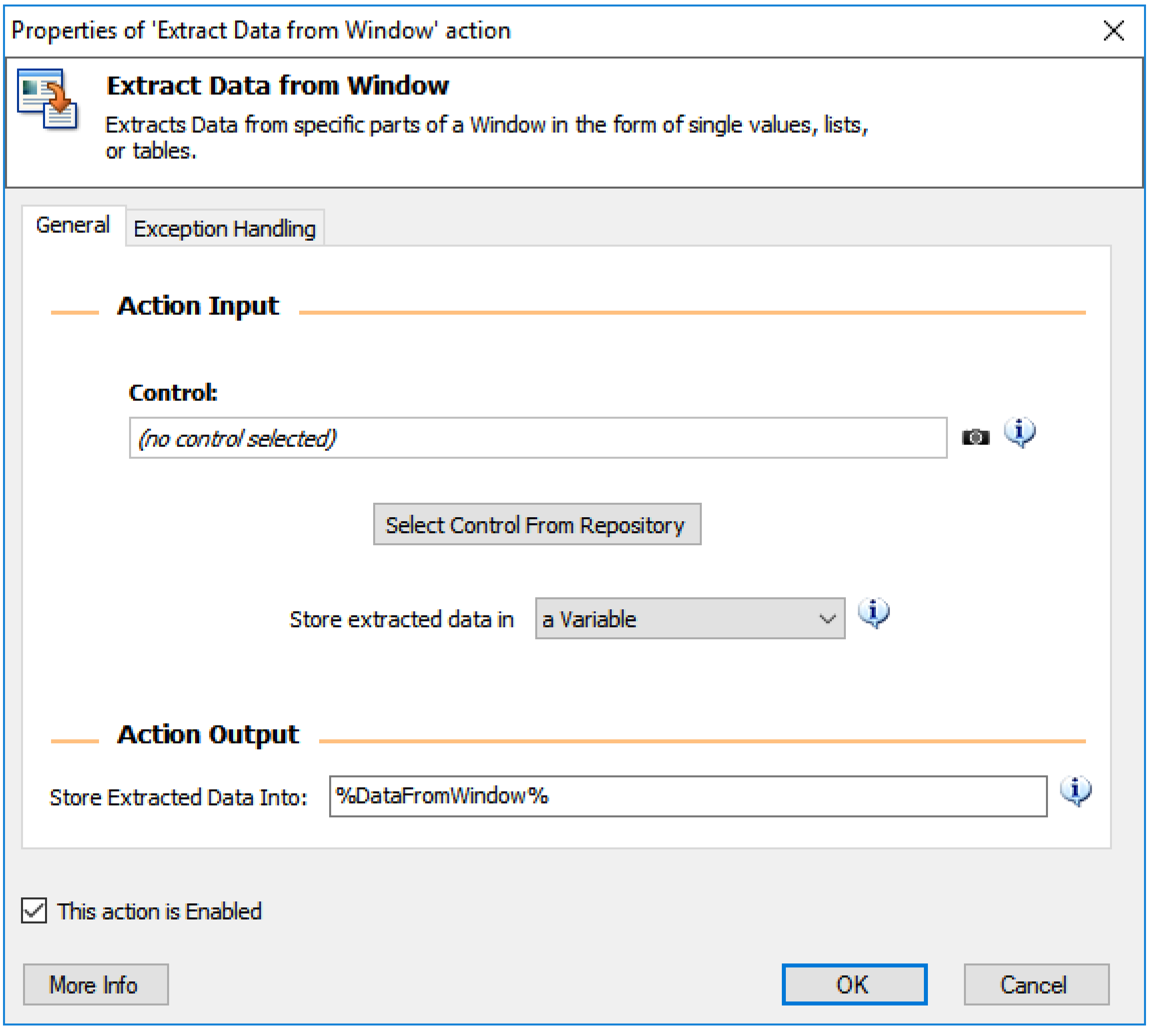
Store extracted data in: an Excel Spreadsheet

Action Output

Store New Excel Instance Into: %ExcelInstance%

☑ This action is Enabled

Store data in an Excel Spreadsheet



Properties of 'Extract Data from Window' action

Extract Data from Window

Extracts Data from specific parts of a Window in the form of single values, lists, or tables.

Control: *(no control selected)*

Store extracted data in: a Variable

Store Extracted Data Into: %DataFromWindow%

☑ This action is Enabled

Store data in a Variable

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Store Extracted data in:

Specify whether you want to store the Extracted Data in an Excel Spreadsheet or as the value of a variable.

Store New Excel Instance Into:

In the case that you have selected to store the Extracted Data in an Excel Spreadsheet, enter the name to be the variable that will hold the Excel Instance with the Extracted Data. This instance can be used in consequent dedicated Excel Actions to manipulate (or save and close) the spreadsheet.

Store Extracted Data Into:

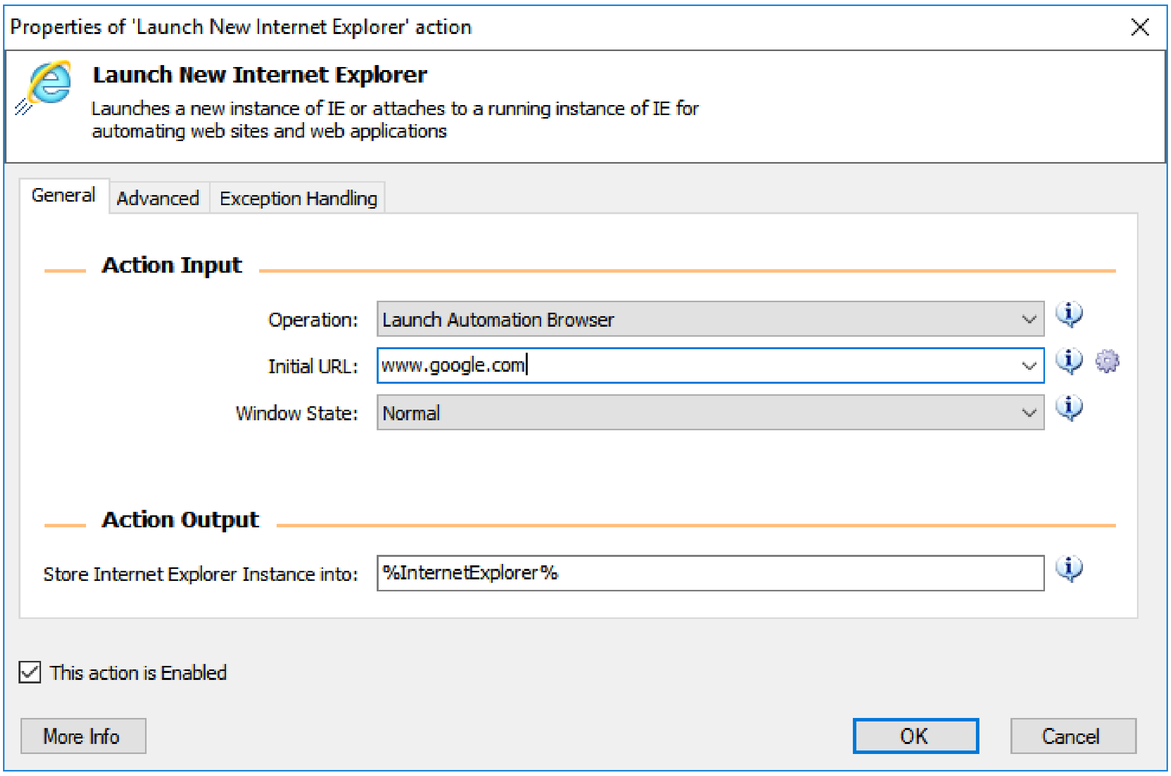
In the case that you have selected to store the Extracted Data as the value of a variable,set the name of the variable that will hold these Data. The value of this variable can be used in a following action (e.g. displayed through a "Display Message" action).

5.13 Web Automation

5.13.1 Launch New Internet Explorer Action

Description:

Launches a new instance of IE or attaches to a running instance of IE for automating web sites and web applications.



Properties of 'Launch New Internet Explorer' action

Launch New Internet Explorer

Launches a new instance of IE or attaches to a running instance of IE for automating web sites and web applications

Action Input

Operation: Launch Automation Browser

Initial URL: www.google.com

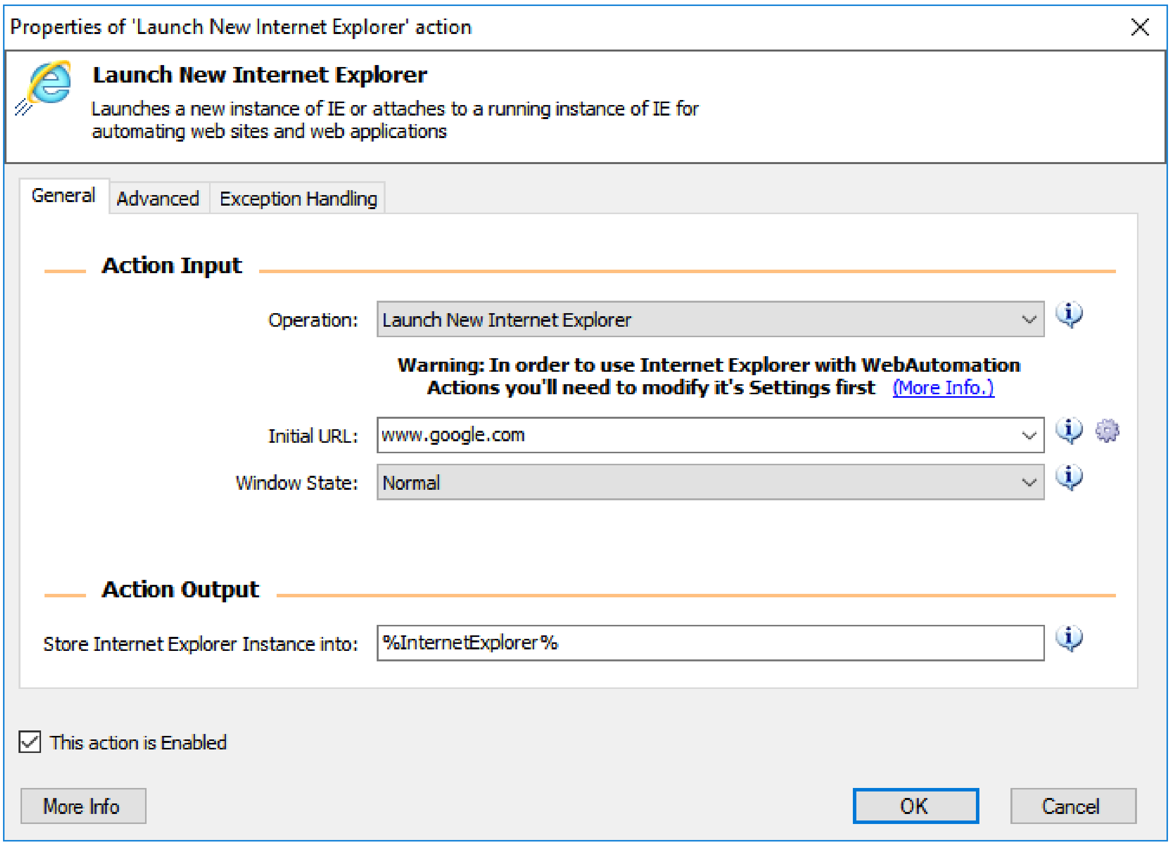
Window State: Normal

Action Output

Store Internet Explorer Instance into: %InternetExplorer%

☑ This action is Enabled

Launch Automation Browser



Properties of 'Launch New Internet Explorer' action

Launch New Internet Explorer

Launches a new instance of IE or attaches to a running instance of IE for automating web sites and web applications

Action Input

Operation: Launch New Internet Explorer

Warning: In order to use Internet Explorer with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Initial URL: www.google.com

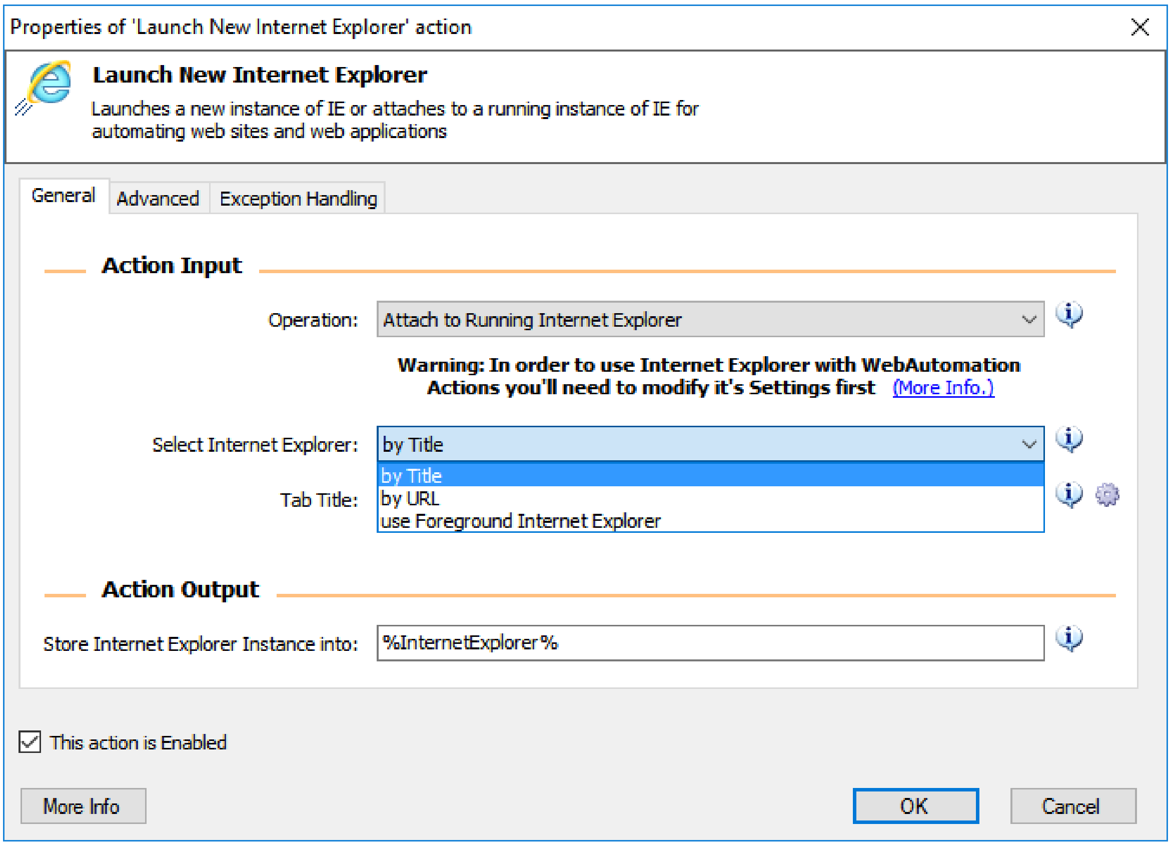
Window State: Normal

Action Output

Store Internet Explorer Instance into: %InternetExplorer%

☑ This action is Enabled

Launch New Internet Explorer



Properties of 'Launch New Internet Explorer' action

Launch New Internet Explorer

Launches a new instance of IE or attaches to a running instance of IE for automating web sites and web applications

Action Input

Operation: Attach to Running Internet Explorer

Warning: In order to use Internet Explorer with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Select Internet Explorer: by Title

- by Title
- by URL
- use Foreground Internet Explorer

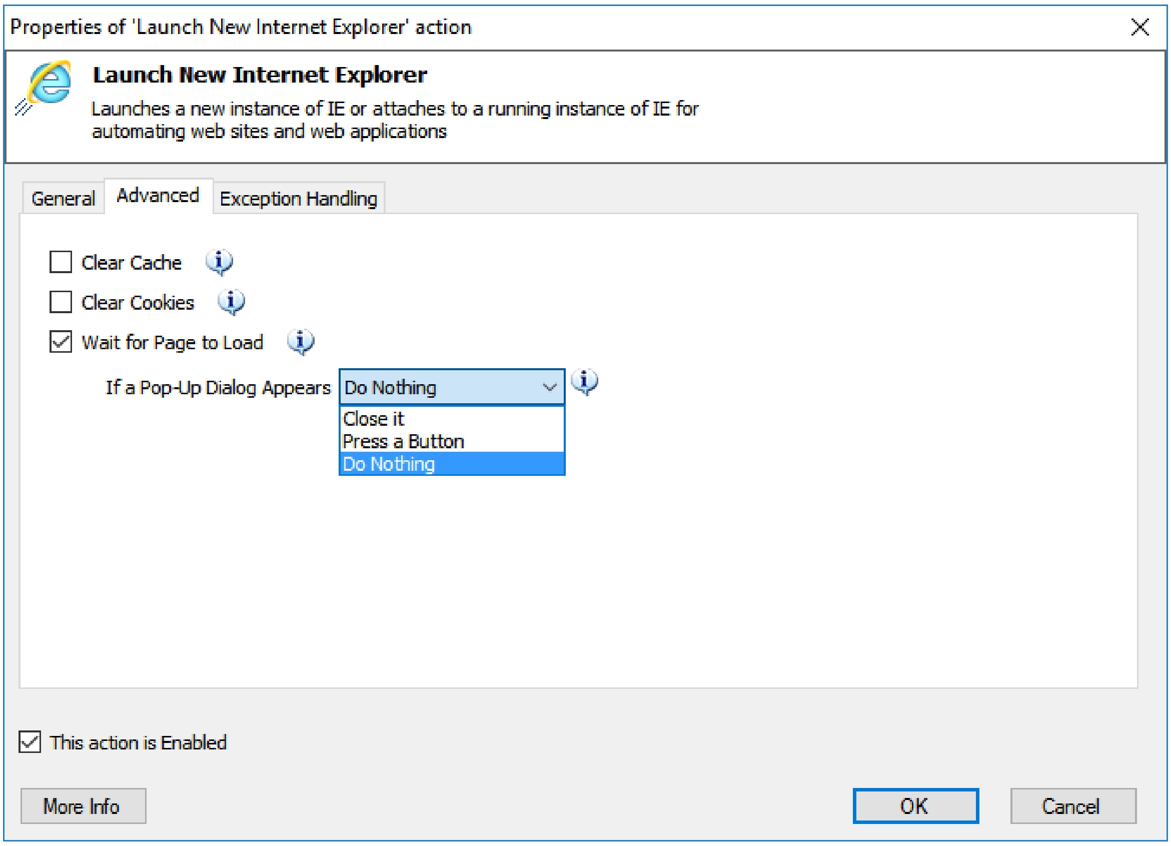
Tab Title:

Action Output

Store Internet Explorer Instance into: %InternetExplorer%

☑ This action is Enabled

Attach to running IE



Properties of 'Launch New Internet Explorer' action

Launch New Internet Explorer

Launches a new instance of IE or attaches to a running instance of IE for automating web sites and web applications

☐ Clear Cache

☐ Clear Cookies

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Advnced tab of "Launch New Internet Explorer"

Properties:

Operation:

Select the type of Internet Explorer you wish to work with. Note that if you want to use Internet Explorer to automate your web related tasks you will need to configure its security settings 267 first.

Initial URL:

Enter the URL of the web site you want to visit as soon as the web browser is launched.

Window State:

Specify whether the Web Browser window will be launched in normal, minimized of maximized state.

Attach to Internet Explorer Tab:

Choose whether the action will attach to an Internet Explorer Tab by it's Title, by it's URL, or attach to the Active Tab of the Internet Exlorer running as the Foreground Window.

Tab Title:

Specify the title (or part of it) of the Internet Explorer Tab you want to attach to. In the dropdown list you can choose between the titles of all the IE tabs that are currently open.

Tab URL:

Enter the URL of the Internet Explorer Tab you want to attach to.

Store Internet Explorer Instance into:

Enter a name to be the variable that will store the specific Internet Explorer Instance for use with later web automation actions.

Clear Cache:

Specify whether to clear the entire cache of the web browser right after launching it.

Clear Cookies:

Specify whether to clear all stored cookies in the web browser right after launching it.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely before proceeding to the next action.

If a popup dialog appears:

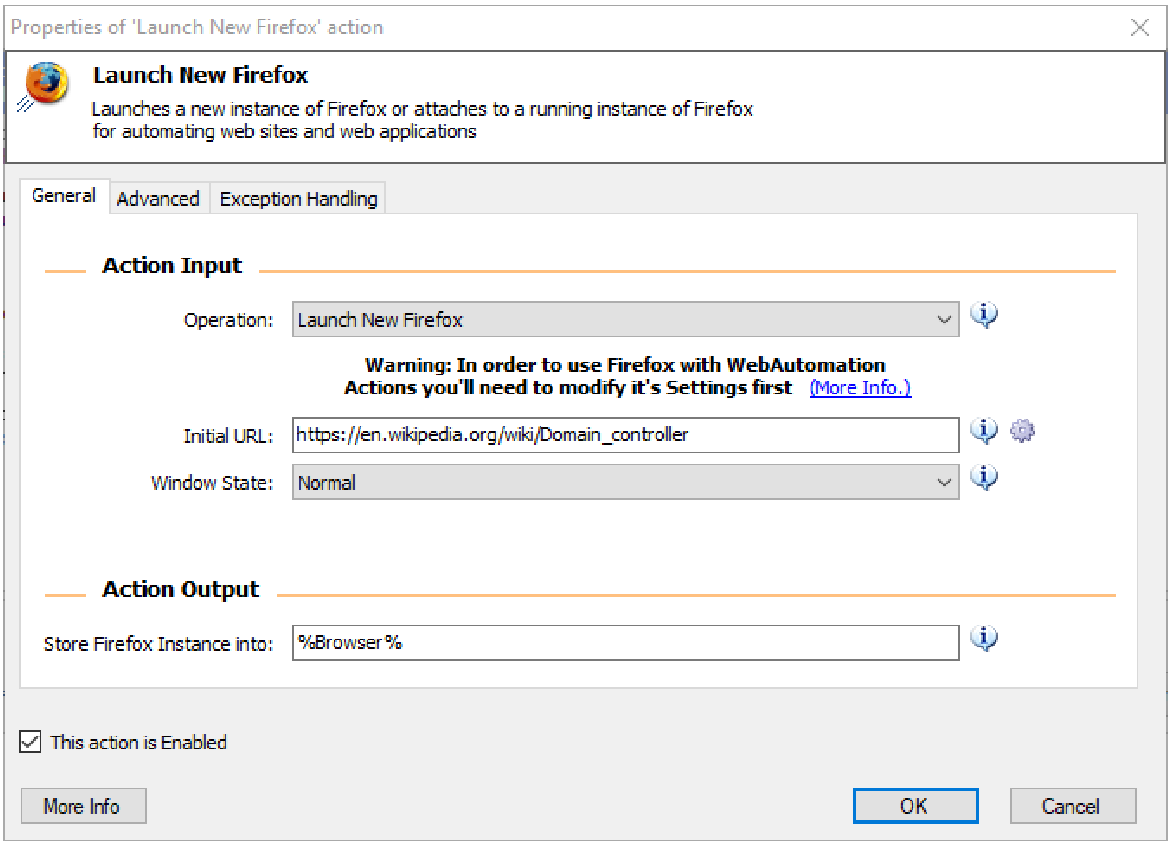
Specify what you want the Process to do if a popup dialog appears while loading the initial web page.

5.13.2 Launch New Firefox

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

Launches a new instance of Mozilla Firefox or attaches to a running instance of Firefox for automating web sites and web applications.



Properties of 'Launch New Firefox' action

Launch New Firefox

Launches a new instance of Firefox or attaches to a running instance of Firefox for automating web sites and web applications

Action Input

Operation: Launch New Firefox

Warning: In order to use Firefox with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Initial URL: https://en.wikipedia.org/wiki/Domain_controller

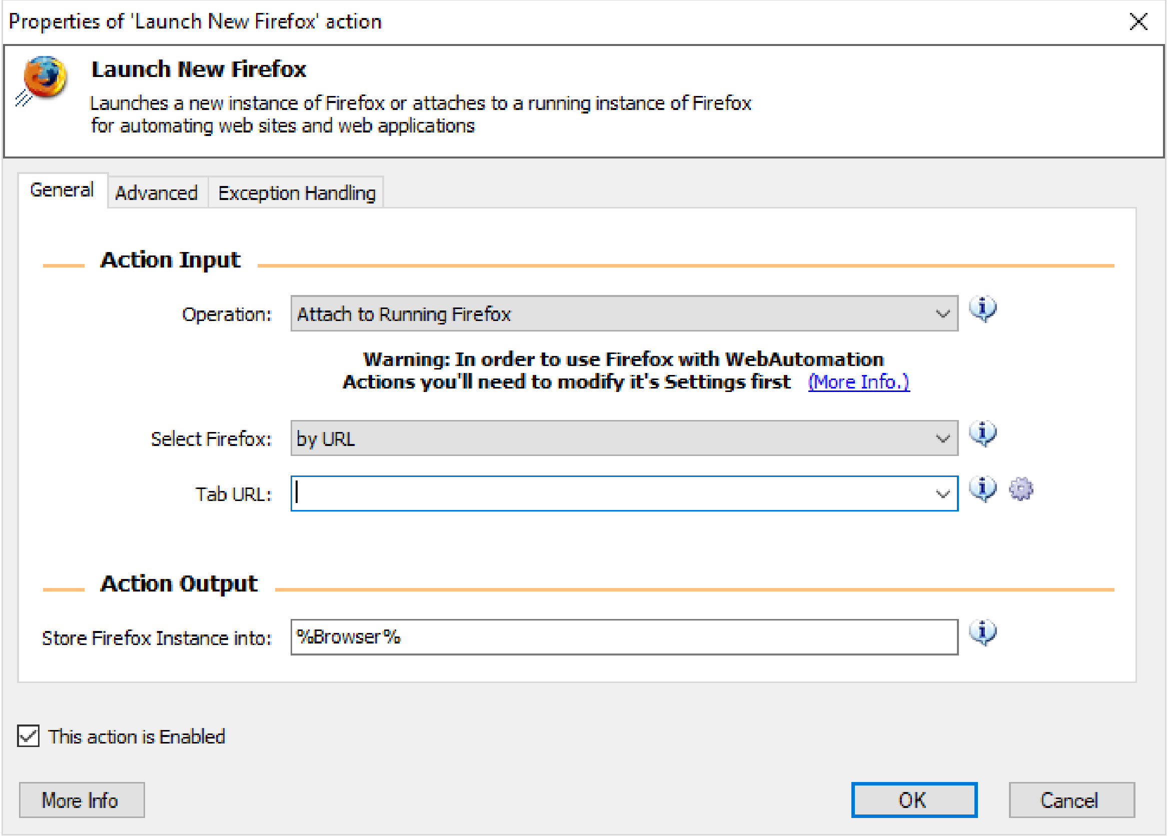
Window State: Normal

Action Output

Store Firefox Instance into: %Browser%

☑ This action is Enabled

Launch New Firefox



Properties of 'Launch New Firefox' action

Launch New Firefox

Launches a new instance of Firefox or attaches to a running instance of Firefox for automating web sites and web applications

Action Input

Operation: Attach to Running Firefox

Warning: In order to use Firefox with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Select Firefox: by URL

Tab URL:

Action Output

Store Firefox Instance into: %Browser%

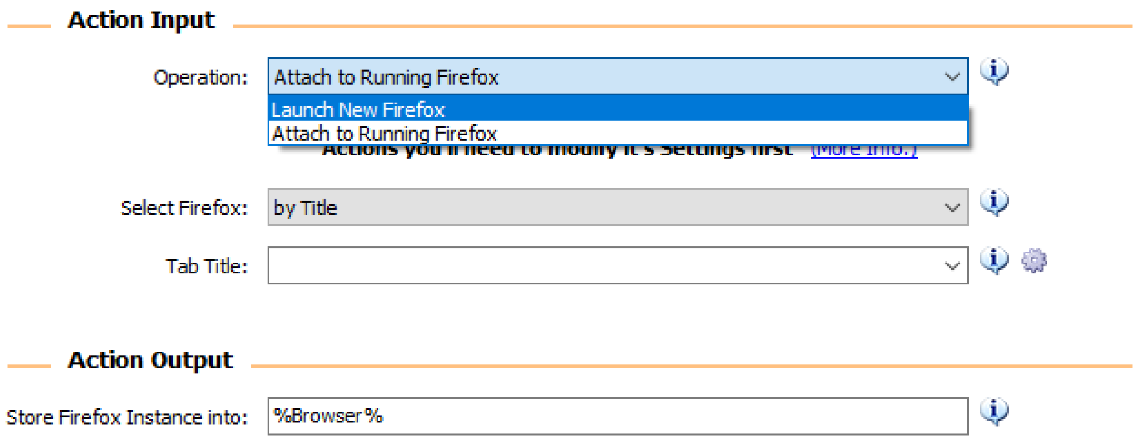
☑ This action is Enabled

Attach to running Firefox Instance

Properties:

Operation:

Select whether you wish to work with an existing running instance of your browser or if you want to launch a new one. You can select either the 'Launch New Firefox' option or the 'Attach to Running Firefox' option.



Action Input

Operation: Attach to Running Firefox

Launch New Firefox
Attach to Running Firefox
Actions you'll need to modify it's settings first (More info.)

Select Firefox: by Title

Tab Title:

Action Output

Store Firefox Instance into: %Browser%

The 'Attach to Running Firefox' option should be selected when we have (or we are about to have through a running script) an open Instance of Firefox and we want to reference that Instance (or Tab) somewhere within our scripts via a Variable.

Initial URL:

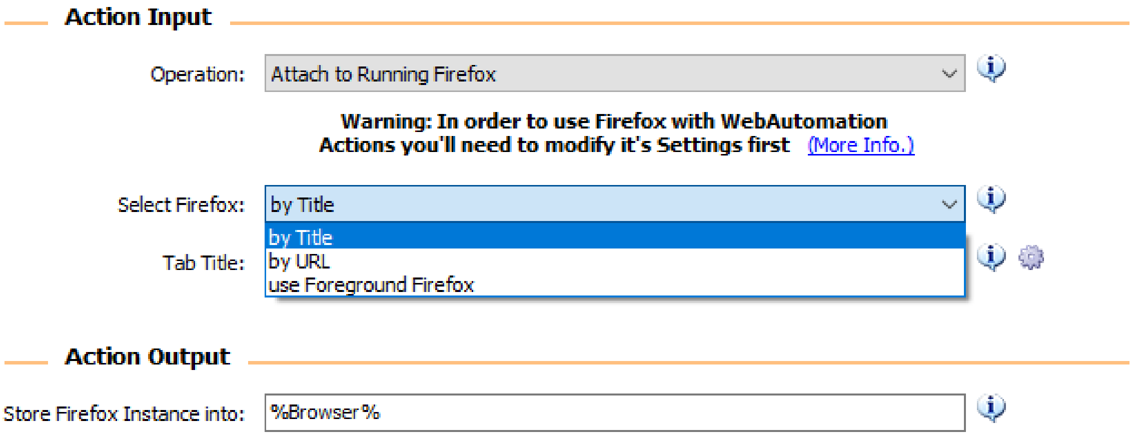
If you have selected to work with a new Firefox Instance (Launch New Firefox) in the Operation drop down menu, the Initial URL text box will invite you to enter the URL of the web site you want to visit as soon as the web browser is launched.

Window State:

If you have selected to work with a new Firefox Instance (Launch New Firefox) in the Operation drop down menu, the Window State text box will invite you to specify whether the new web browser window will be launched in normal, minimized of maximized state.

Select Firefox:

If you have selected to work with an already running Firefox Instance (Attach to Running Firefox) the Select Firefox drop down menu will invite you to specify whether you want to identify that instance via its Title, its URL or simply by the fact that the Instance is running currently in the Foreground:



Action Input

Operation: Attach to Running Firefox

Warning: In order to use Firefox with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Select Firefox: by Title

Tab Title:

Action Output

Store Firefox Instance into: %Browser%

Once more, according to our option we will have the opportunity to work with two different text boxes, the Tab URL and Tab Title respectively, that will allow us to enter the info necessary in order to locate the running Instance that is interesting us.

Tab Title:

If you have selected to work with a running Firefox Instance (Attach to Running Firefox) this drop down menu allows you to specify the title (or part of it) of the Firefox Window or Tab you want to use in your scripts. From this drop down list you can choose between the titles of all the Firefox windows or tabs that are currently open.

Tab URL:

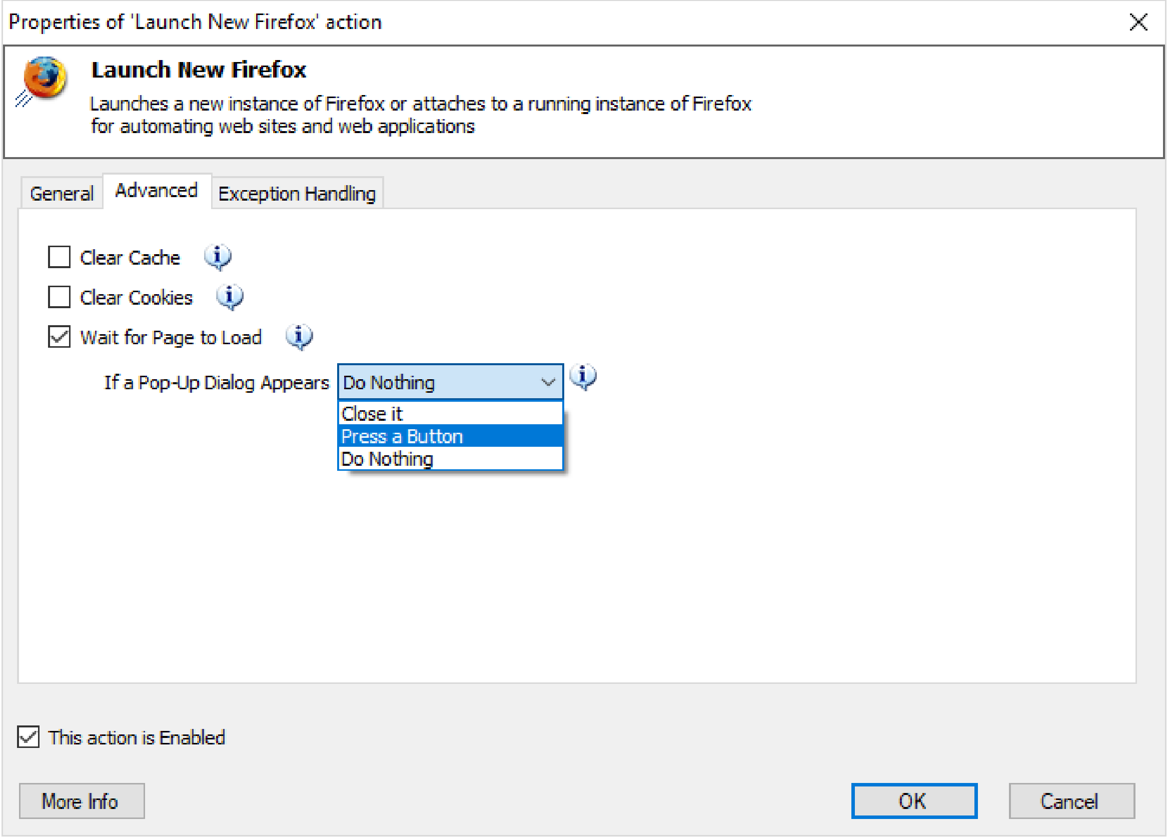
Enter the URL of the Firefox Tab you want to use in your scripts.

Store Firefox Instance into:

Enter a name to be the variable that will store the specific Firefox Instance for use in later web automation actions.

The Advanced tab:

The Advanced tab options are available to you only if you have previously selected to work with a brand new Firefox Instance.



Properties of 'Launch New Firefox' action

Launch New Firefox

Launches a new instance of Firefox or attaches to a running instance of Firefox for automating web sites and web applications

General | Advanced | Exception Handling

□ Clear Cache

□ Clear Cookies

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Advanced tab of "Launch New Firefox"

Clear Cache:

Specify whether to clear the entire cache of the web browser right after launching it.

Clear Cookies:

Specify whether to clear all stored cookies in the web browser right after launching it.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely before proceeding to the next action.

If a pop-up dialog appears:

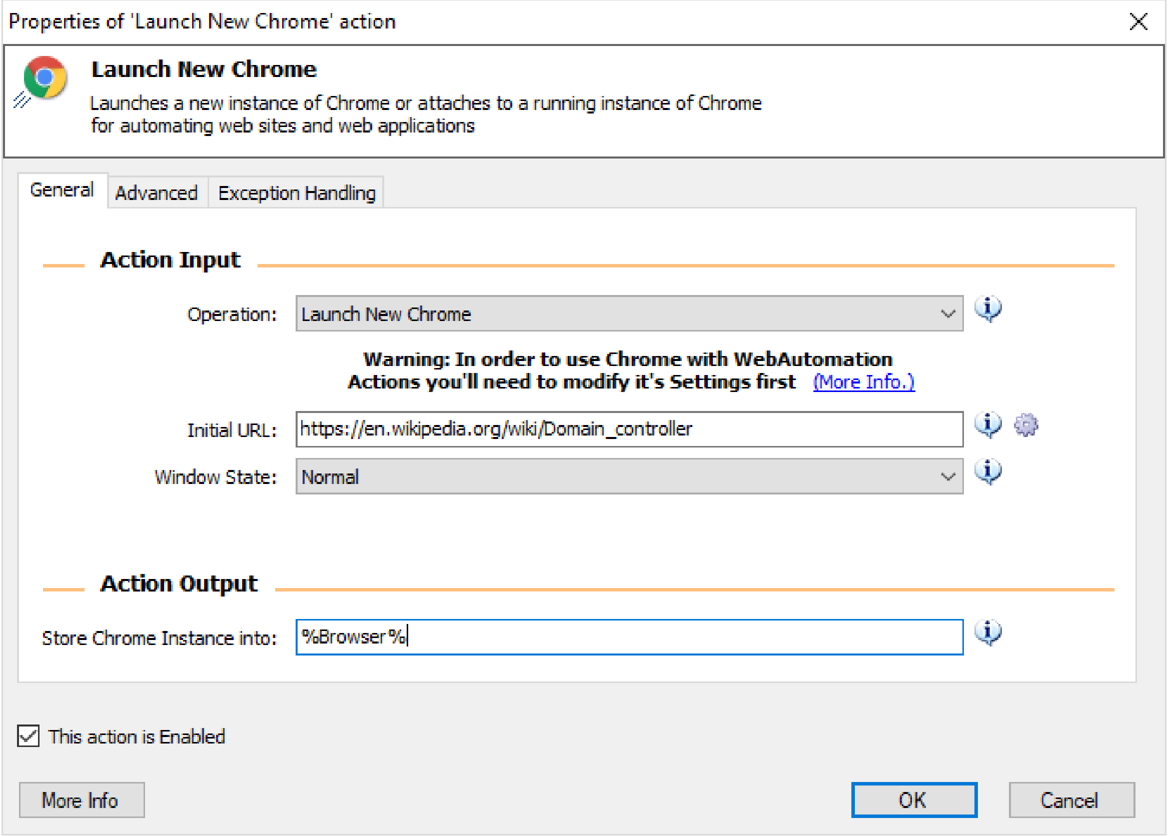
Specify what you want the Process to do if a pop-up dialog appears while loading the initial web page.

5.13.3 Launch New Chrome

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

Launches a new instance of Google Chrome or attaches to a running instance of Chrome for automating web sites and web applications.



Properties of 'Launch New Chrome' action

Launch New Chrome

Launches a new instance of Chrome or attaches to a running instance of Chrome for automating web sites and web applications

Action Input

Operation: Launch New Chrome

Warning: In order to use Chrome with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Initial URL: https://en.wikipedia.org/wiki/Domain_controller

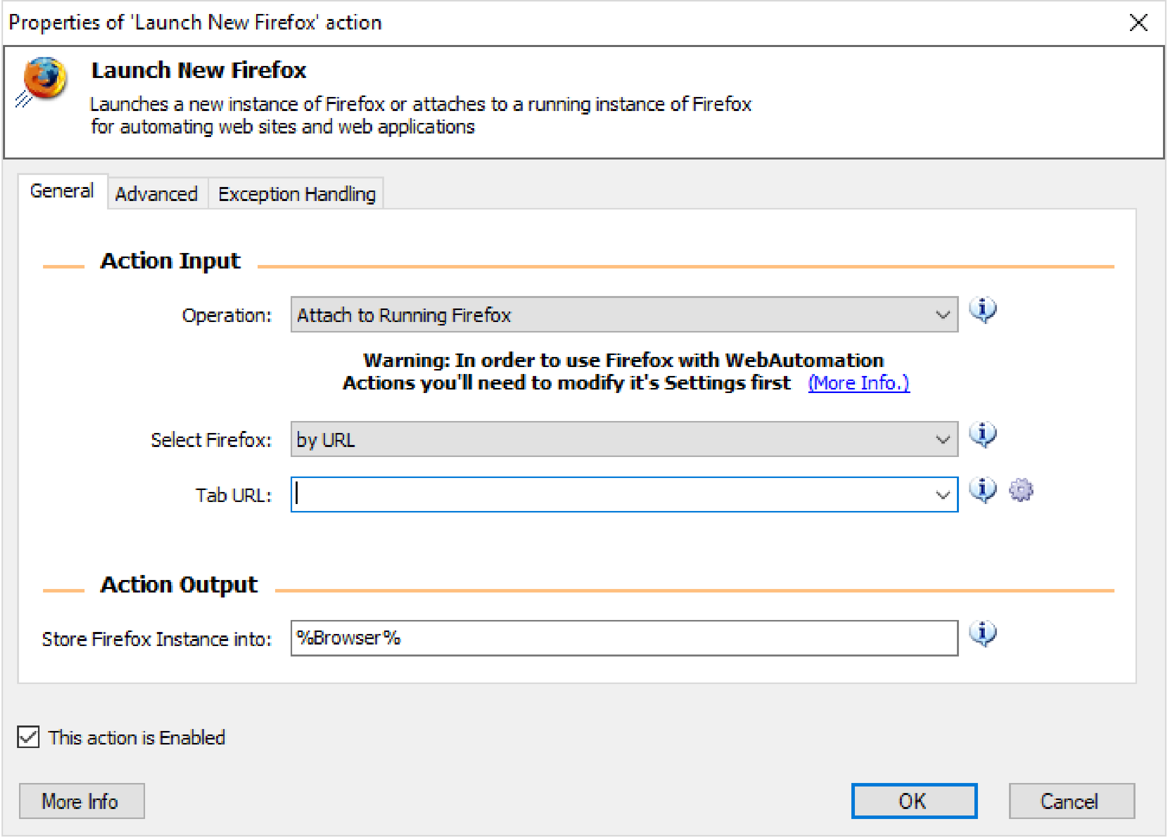
Window State: Normal

Action Output

Store Chrome Instance into: %Browser%

☑ This action is Enabled

Launch New Chrome



Properties of 'Launch New Firefox' action

Launch New Firefox

Launches a new instance of Firefox or attaches to a running instance of Firefox for automating web sites and web applications

Action Input

Operation: Attach to Running Firefox

Warning: In order to use Firefox with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Select Firefox: by URL

Tab URL:

Action Output

Store Firefox Instance into: %Browser%

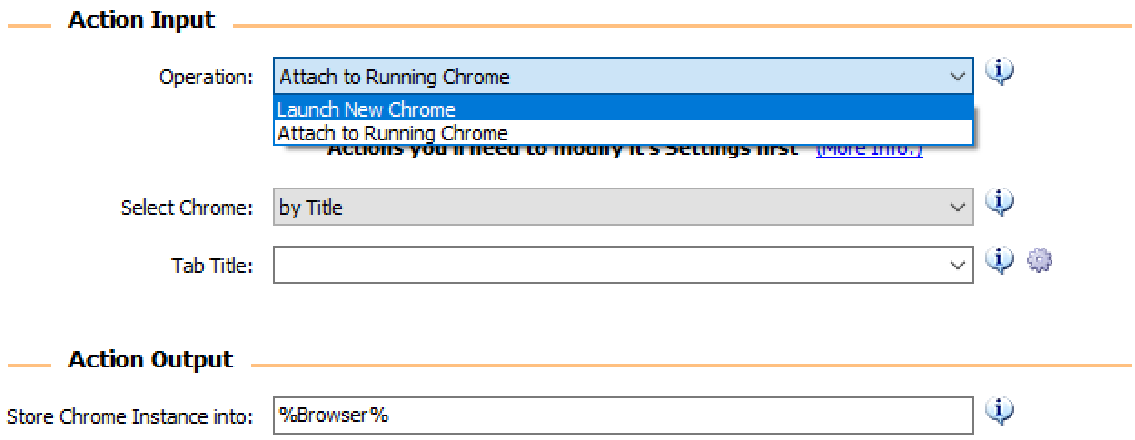
☑ This action is Enabled

Attach to running Chrome Instance

Properties:

Operation:

Select whether you wish to work with an existing running instance of your browser or if you want to launch a new one. You can select either the 'Launch New Chrome' option or the 'Attach to Running Chrome' option.



Operation: Attach to Running Chrome

Select Chrome: by Title

Tab Title:

Store Chrome Instance into: %Browser%

The 'Attach to Running Chrome' option should be selected when we have (or we are about to have through a running script) an open Instance of Chrome and we want to reference that Instance (or Tab) somewhere within our scripts via a Variable.

Initial URL:

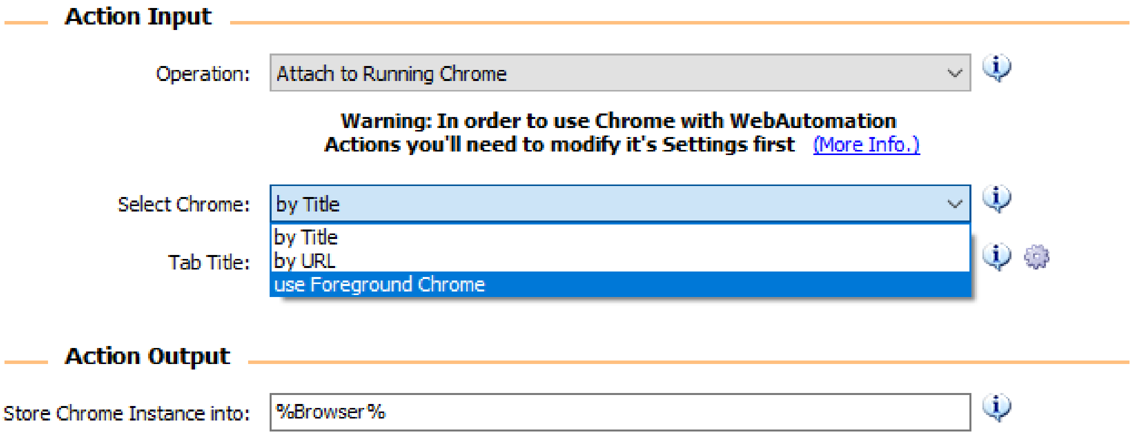
If you have selected to work with a brand new Google Chrome Instance (Launch New Chrome) in the Operation drop down menu, the Initial URL text box will invite you to enter the URL of the web site you want to visit as soon as the web browser is launched.

Window State:

If you have selected to work with a brand new Google Chrome Instance (Launch New Chrome) in the Operation drop down menu, the Window State text box will invite you to specify whether the new web browser window will be launched in normal, minimized of maximized state.

Select Chrome:

If you have selected to work with an already running Google Chrome Instance (Attach to Running Chrome) the Select Chrome drop down menu will invite you to specify whether you want to identify that instance via its Title, its URL or simply by the fact that the Instance is running currently in the Foreground:



Action Input

Operation: Attach to Running Chrome

Warning: In order to use Chrome with WebAutomation Actions you'll need to modify it's Settings first (More Info.)

Select Chrome: by Title

Tab Title:

Action Output

Store Chrome Instance into: %Browser%

Once more, according to our option we will have the opportunity to work with two different text boxes, the Tab URL and Tab Title respectively, that will allow us to enter the info necessary in order to locate the running Instance that is interesting us.

Tab Title:

If you have selected to work with a running Chrome Instance (Attach to Running Chrome) this drop down menu allows you to specify the title (or part of it) of the Chrome Tab you want to work with in your scripts. From this drop down list you can choose between the titles of all the Chrome tabs that are currently open.

Tab URL:

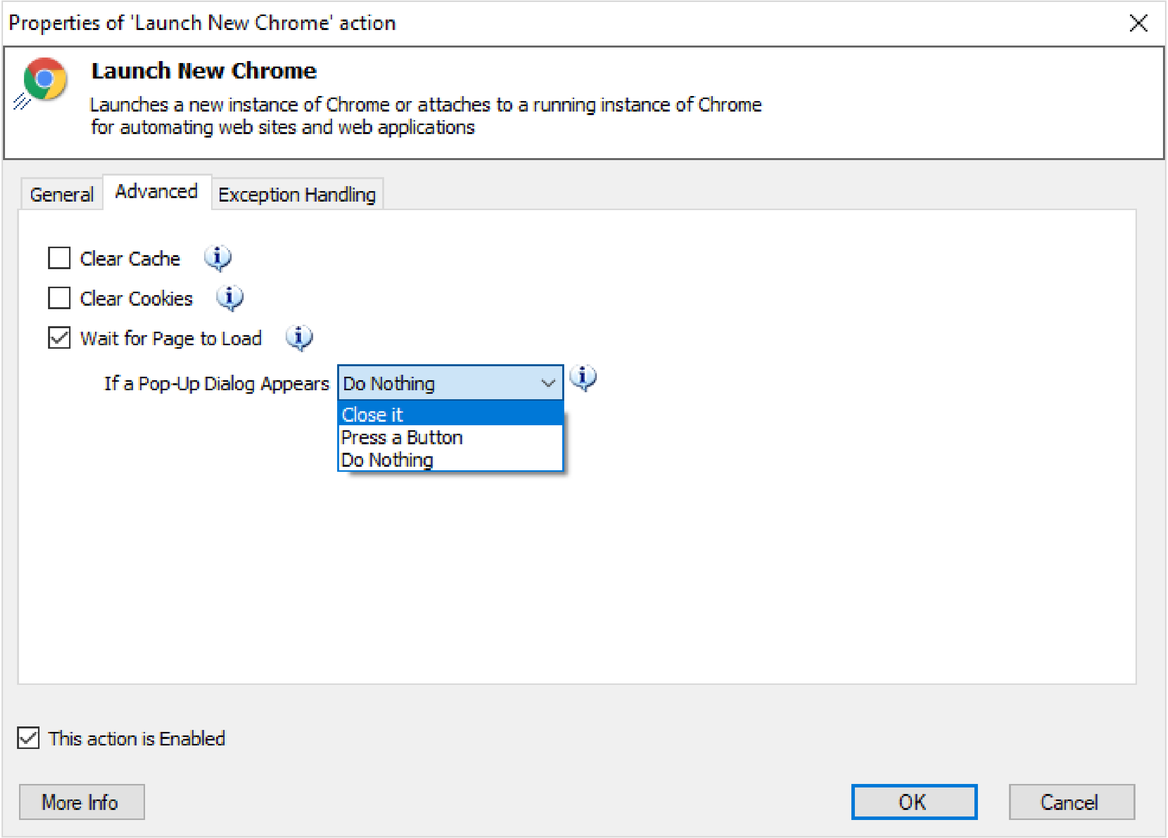
Enter the URL of the Chrome Tab you want to use in your scripts.

Store Chrome Instance into:

Enter a name to be the variable that will store the specific Chrome Instance for use in later web automation actions.

The Advanced tab:

The Advanced tab options are available to you only if you have previously selected to work with a brand new Chrome Instance.



Properties of 'Launch New Chrome' action

Launch New Chrome

Launches a new instance of Chrome or attaches to a running instance of Chrome for automating web sites and web applications

□ Clear Cache

□ Clear Cookies

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Advanced tab of "Launch New Chrome"

Clear Cache:

Specify whether to clear the entire cache of the web browser right after launching it.

Clear Cookies:

Specify whether to clear all stored cookies in the web browser right after launching it.

Wait for Page to Load:

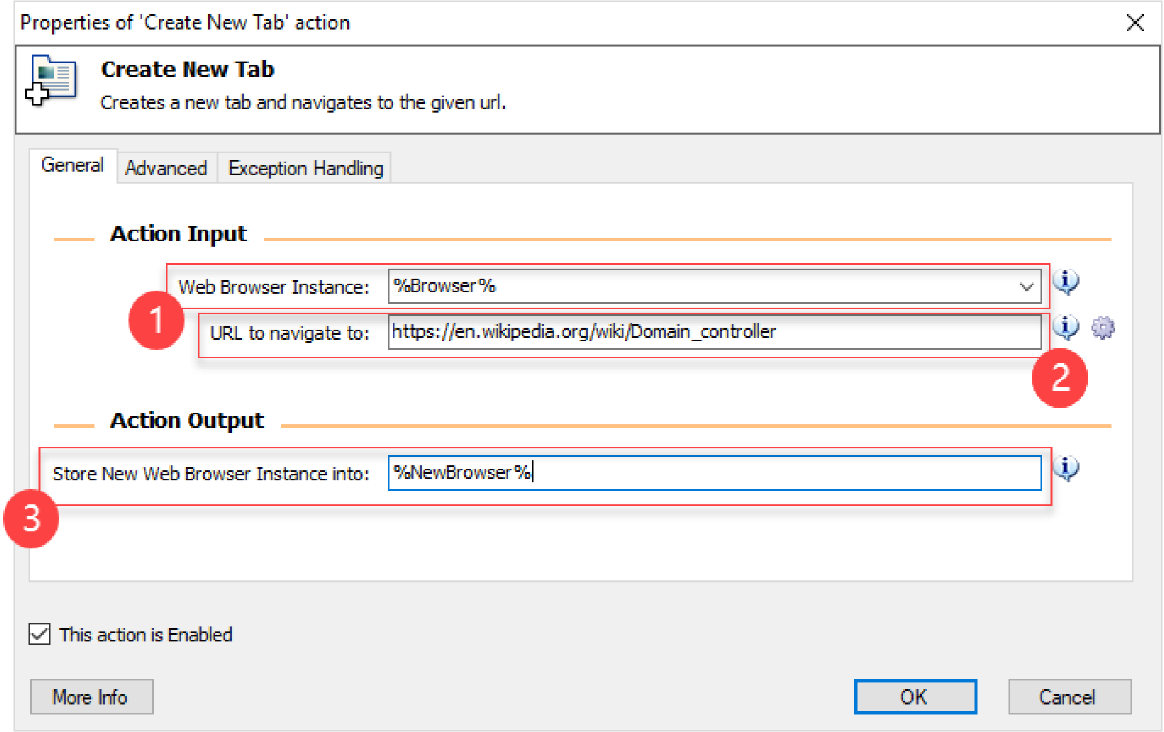
Choose whether you want the Process to wait for the new web page to load completely before proceeding to the next action.

If a pop-up dialog appears:

Specify what you want the Process to do if a pop-up dialog appears while loading the initial web page.

5.13.4 Create New Tab

The Create new Tab action allows you to create a new tab on a running web browser instance. The Web Browser Instance in which the tab will be added is provided to the action via a Variable [1] and the URL you want the tab to navigate to can be provided as either a string or a Variable [2]. The output of the Action is another Variable [3] of type Web Browser Instance.



Properties of 'Create New Tab' action

Create New Tab

Creates a new tab and navigates to the given url.

Action Input

Web Browser Instance: %Browser%

URL to navigate to: https://en.wikipedia.org/wiki/Domain_controller

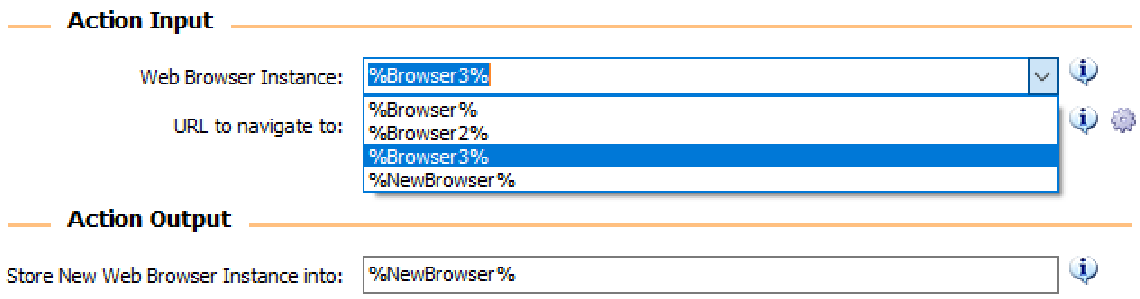
Action Output

Store New Web Browser Instance into: %NewBrowser%

☑ This action is Enabled

1. The Web Browser Instance:

This drop down menu will present to you a list with all the available variables of web browser instance type. You have not but to select the one that interests you:



Action Input

Web Browser Instance: %Browser3%

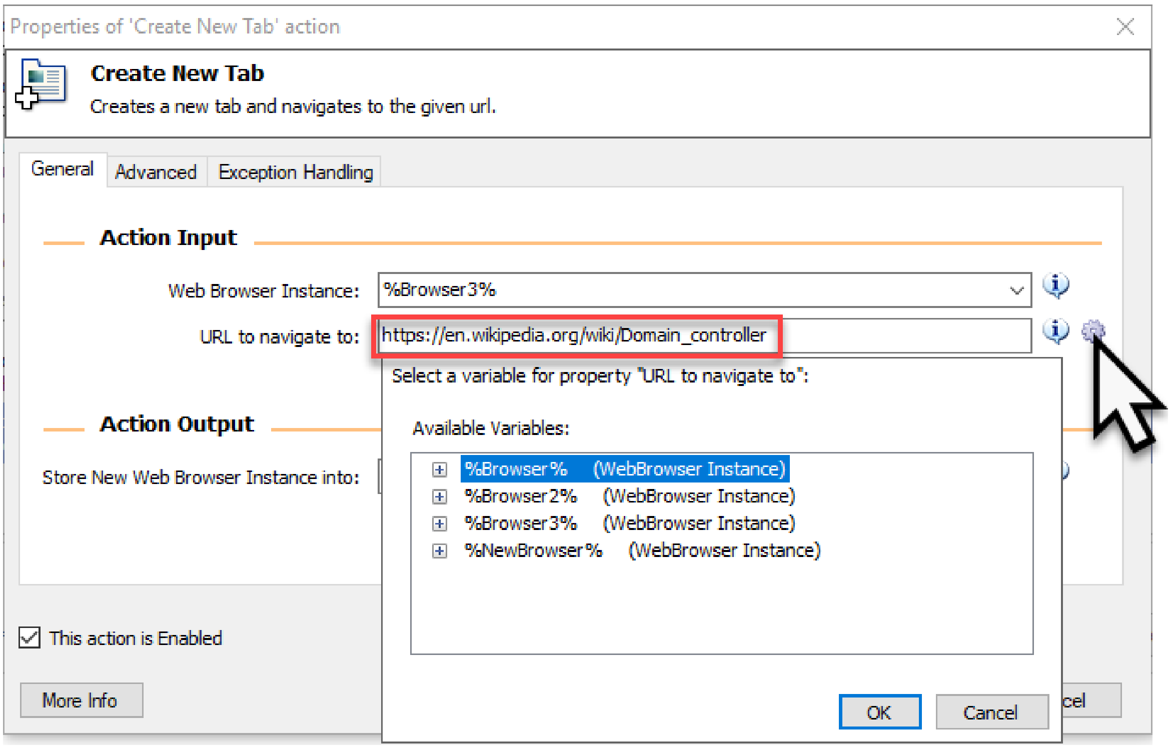
URL to navigate to:

Action Output

Store New Web Browser Instance into: %NewBrowser%

2.URL to navigate to:

This text box allows you to either enter directly the URL you want to navigate to (for example https://en.wikipedia.org/wiki/Domain_controller) or to simply press the interactive gear control element that will allow you to select a variable as this property's value.



Properties of 'Create New Tab' action

Create New Tab

Creates a new tab and navigates to the given url.

Action Input

Web Browser Instance: %Browser3%

URL to navigate to: https://en.wikipedia.org/wiki/Domain_controller

Action Output

Store New Web Browser Instance into:

☑ This action is Enabled

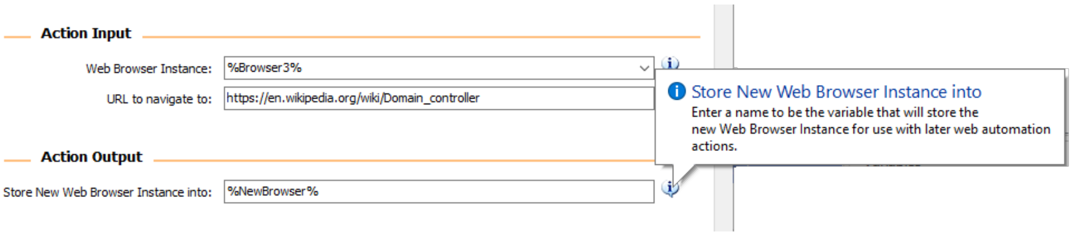
Select a variable for property "URL to navigate to":

Available Variables:

%Browser%	(WebBrowser Instance)
%Browser2%	(WebBrowser Instance)
%Browser3%	(WebBrowser Instance)
%NewBrowser%	(WebBrowser Instance)

3. Start New Web Browser Instance into:

Here you have not but to enter a name as the name of the Variable that will store the resultant web browser instance (the new Tab you have just created) for later use:



Action Input

Web Browser Instance: %Browser3%

URL to navigate to: https://en.wikipedia.org/wiki/Domain_controller

Action Output

Store New Web Browser Instance into: %NewBrowser%

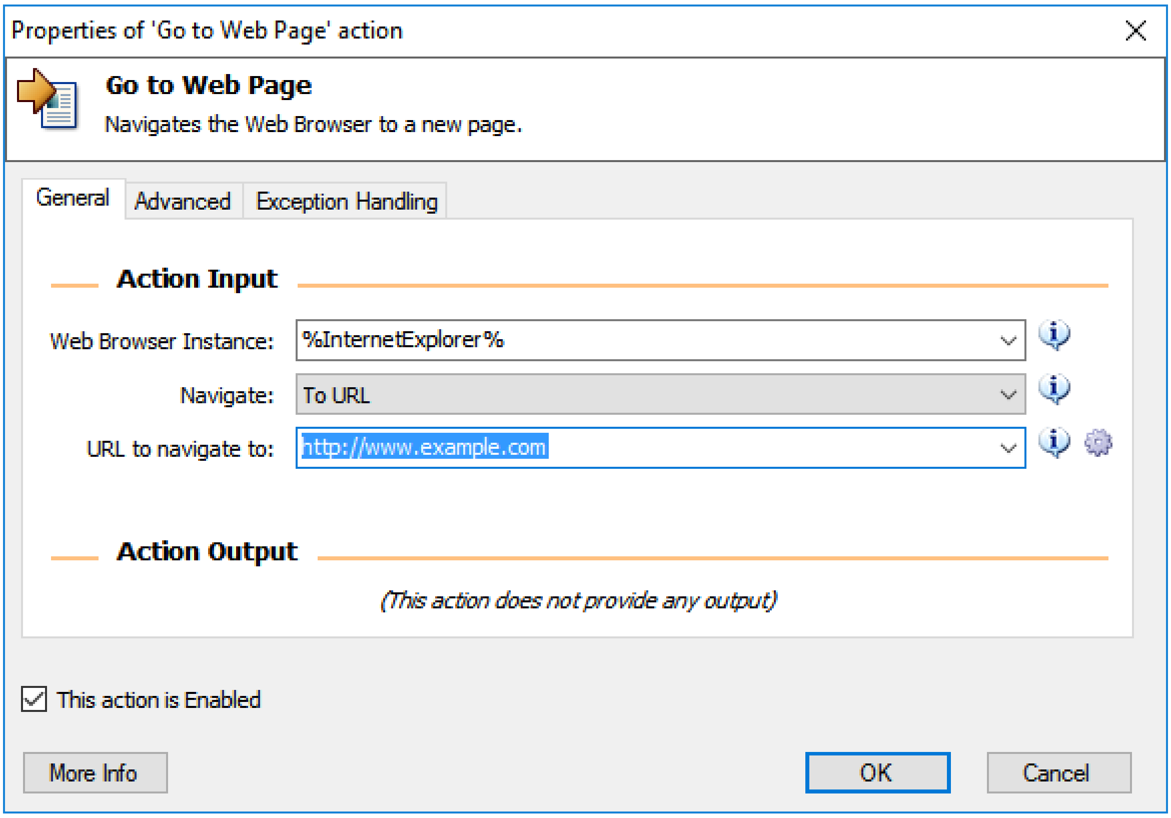
Store New Web Browser Instance into

Enter a name to be the variable that will store the new Web Browser Instance for use with later web automation actions.

5.13.5 Go to Web Page Action

Description:

Navigates the Web Browser to a new page, back, forward or reloads the currently loaded page.



Properties of 'Go to Web Page' action

Go to Web Page

Navigates the Web Browser to a new page.

Action Input

Web Browser Instance: %InternetExplorer%

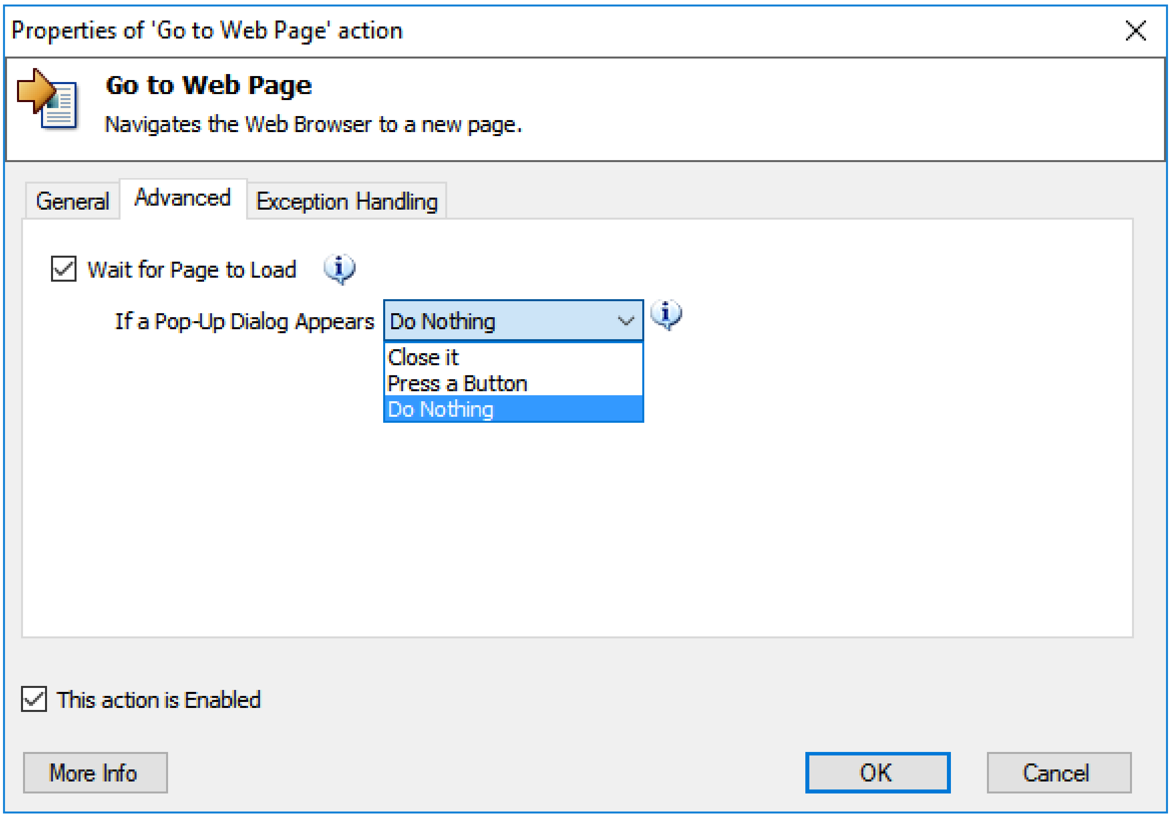
Navigate: To URL

URL to navigate to: http://www.example.com

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Go to Web Page' action

Go to Web Page

Navigates the Web Browser to a new page.

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Navigate:

Specify whether you want to visit a new URL, refresh the page, move back or forward.

URL to navigate to:

Enter here the URL you want to navigate to.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely before proceeding to the next action.

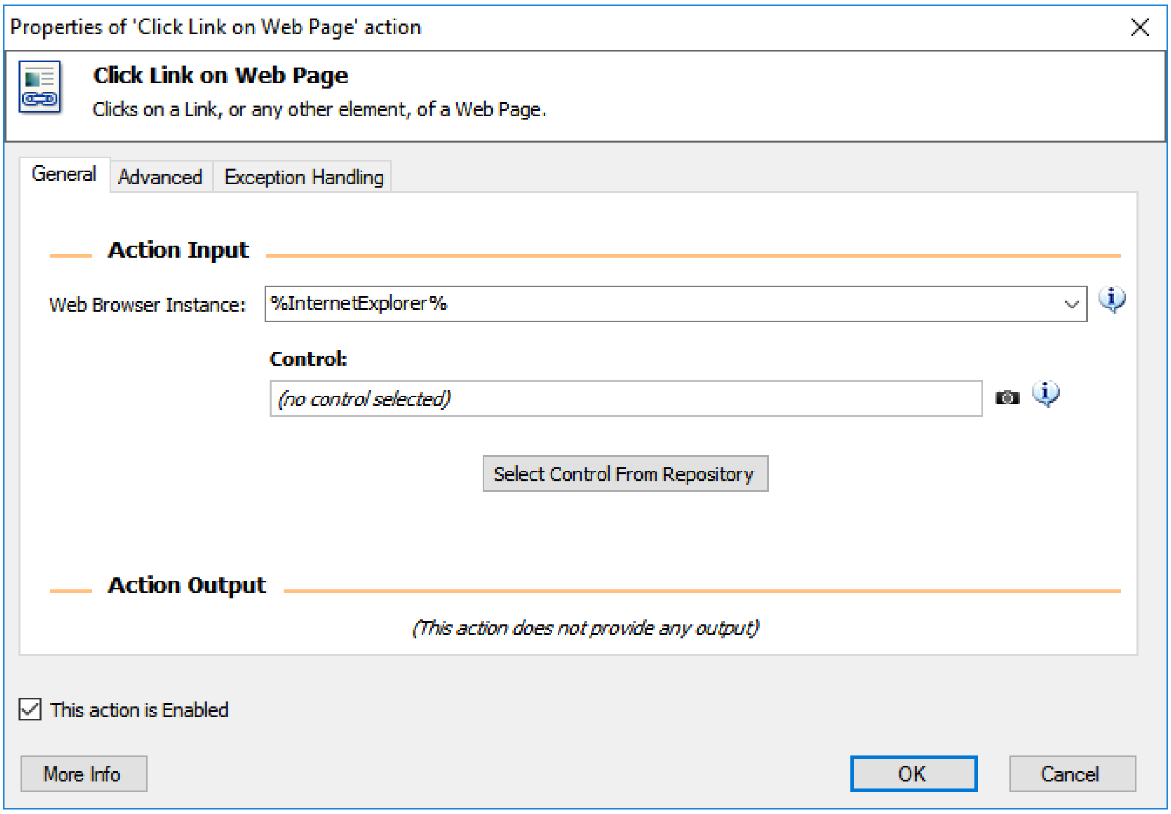
If a popup dialog appears:

Specify what you want the Process to do if a popup dialog appears while loading the web page.

5.13.6 Click Link on Web Page Action

Description:

Clicks on a Link, or any other element, of a Web Page.



Properties of 'Click Link on Web Page' action

Click Link on Web Page

Clicks on a Link, or any other element, of a Web Page.

Action Input

Web Browser Instance: %InternetExplorer%

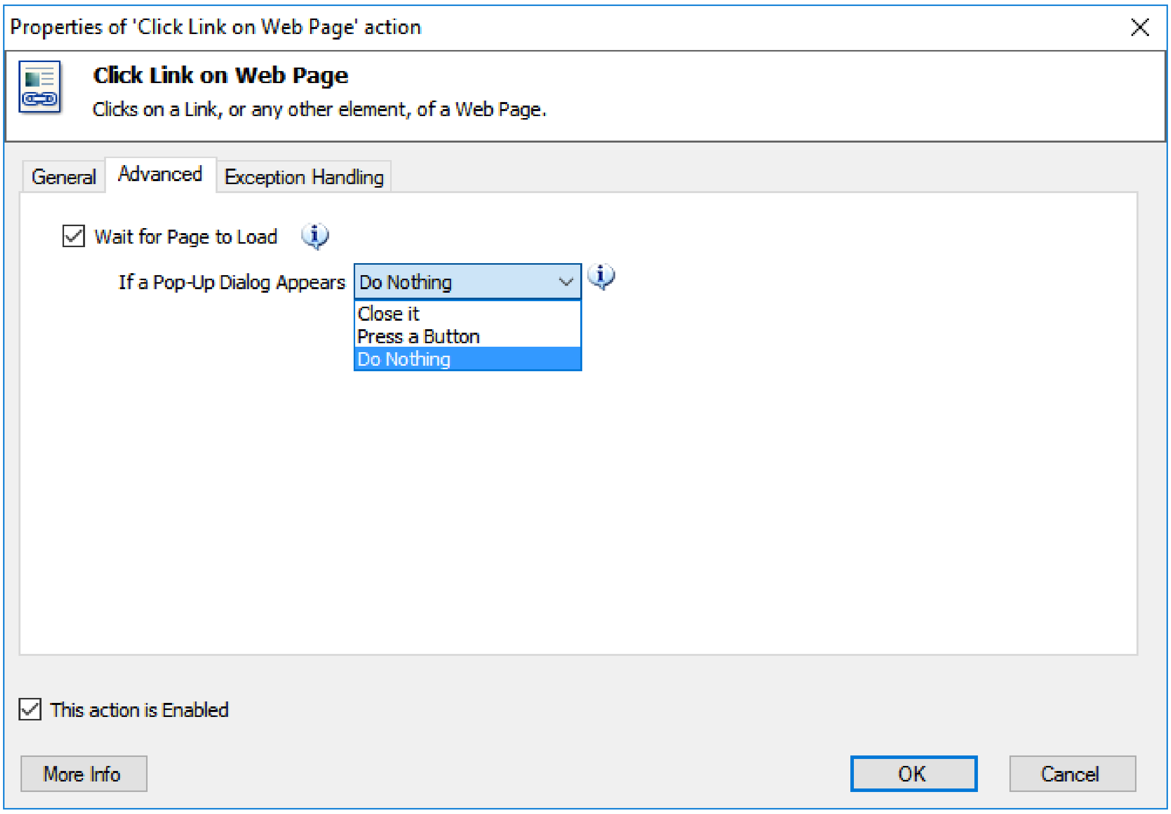
Control:

(no control selected)

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Click Link on Web Page' action

Click Link on Web Page

Clicks on a Link, or any other element, of a Web Page.

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely after clicking on the link.

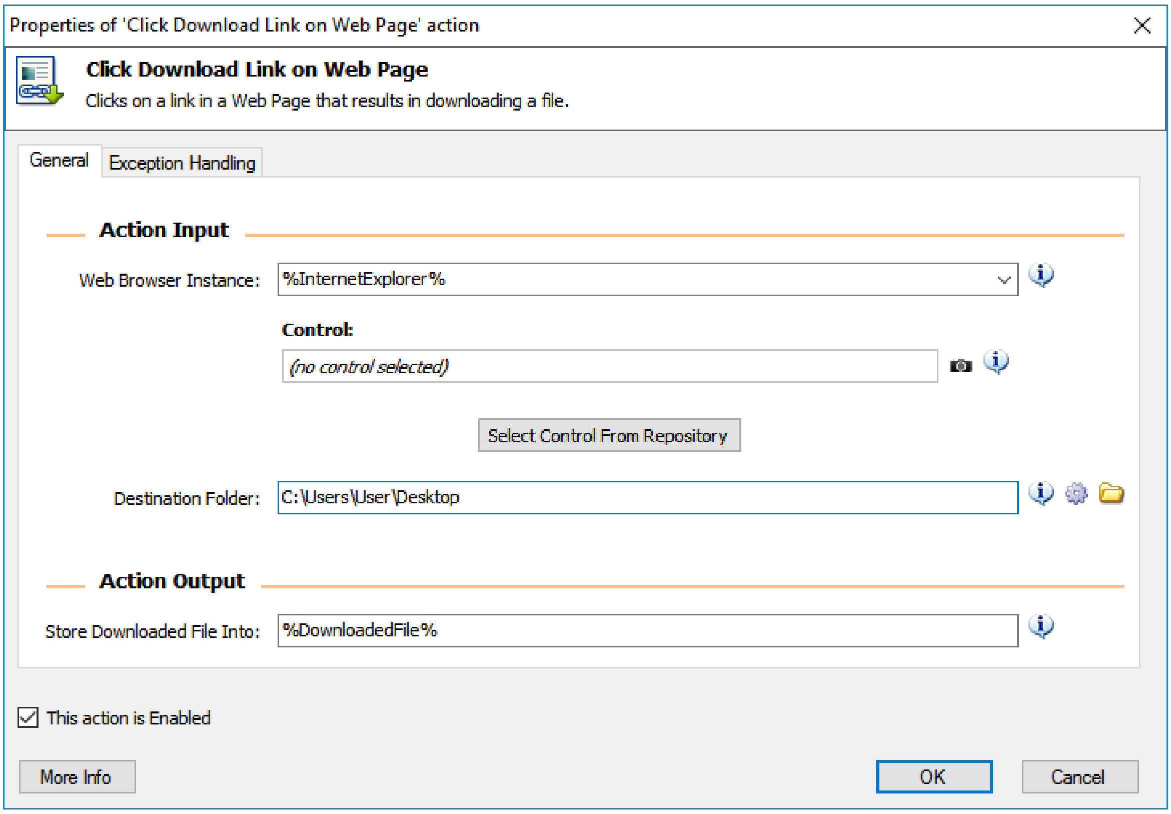
If a pop-up dialog appears:

Specify what you want the Process to do if a pop-up dialog appears after clicking on the link.

5.13.7 Click Download Link on Web Page Action

Description:

Clicks on a link in a Web Page that results in downloading a file.



Properties of 'Click Download Link on Web Page' action

Click Download Link on Web Page

Clicks on a link in a Web Page that results in downloading a file.

Action Input

Web Browser Instance: %InternetExplorer%

Control: *(no control selected)*

Destination Folder: C:\Users\User\Desktop

Action Output

Store Downloaded File Into: %DownloadedFile%

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Destination Folder:

Enter the folder where you want the file to be saved.

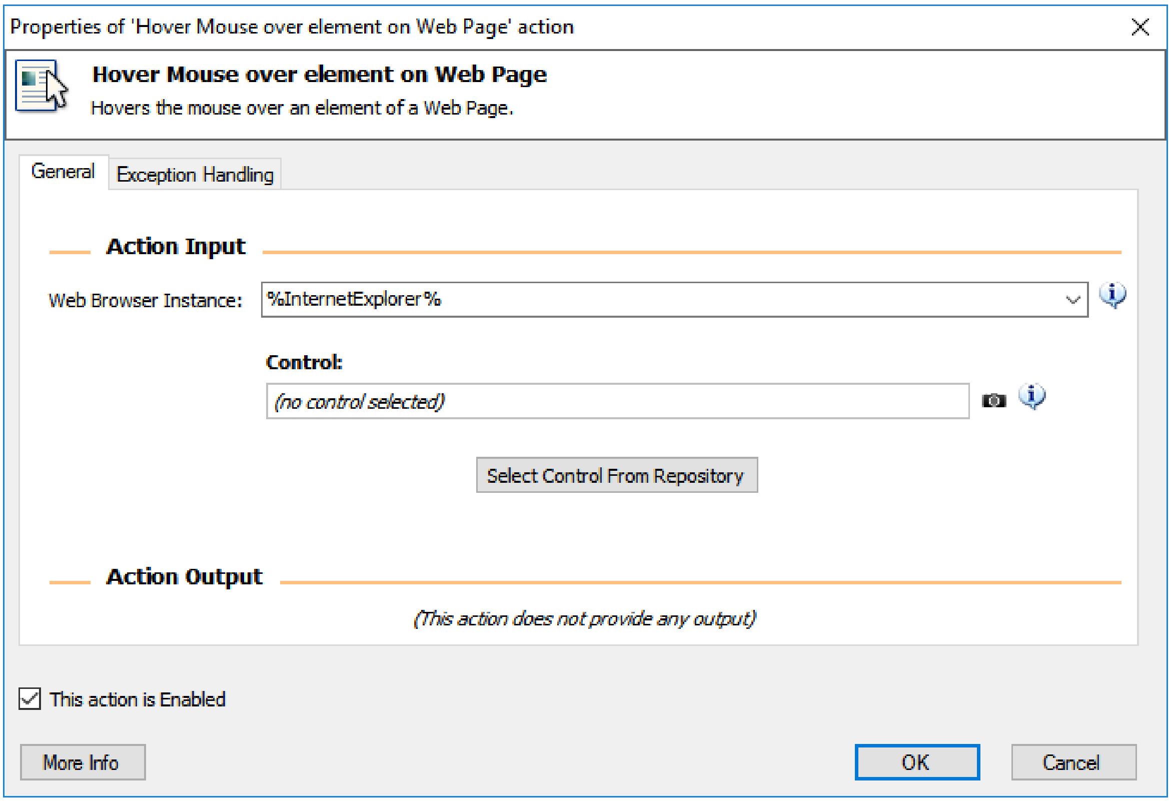
Store Download File into:

Enter the name to be the variable that will store the file on the disk where the download has been saved. This will be a file path that consists of the download folder as specified above plus the name of the file as provided by the web server.

5.13.8 Hover Mouse over element on Web Page Action

Description:

This action hovers the mouse over an element of a Web Page



Properties of 'Hover Mouse over element on Web Page' action

Hover Mouse over element on Web Page

Hovers the mouse over an element of a Web Page.

General | Exception Handling

Action Input

Web Browser Instance: %InternetExplorer%

Control:

(no control selected)

Select Control From Repository

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to use. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

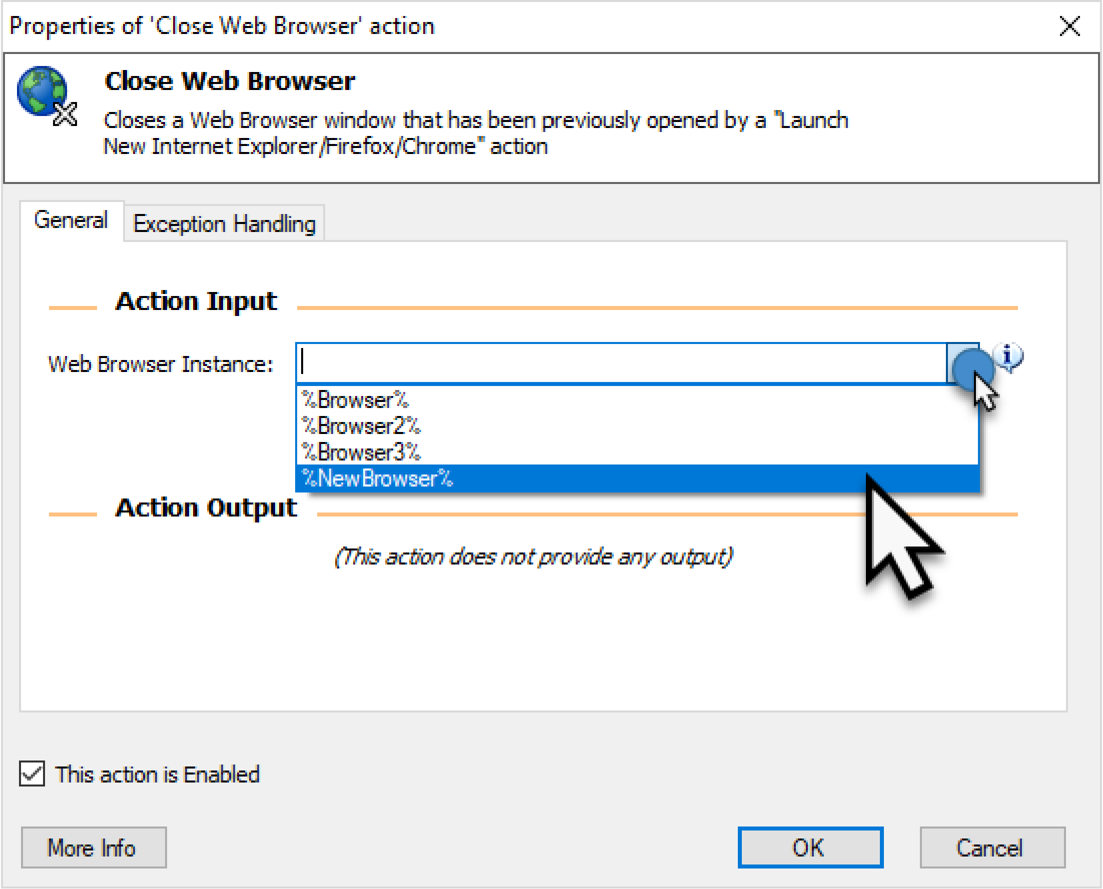
Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

5.13.9 Close Web Browser

Description:

Closes a Web Browser window that has been previously opened by a "Launch new Internet Explorer 562/Firefox 567/Chrome 572" action.



Properties of 'Close Web Browser' action

Close Web Browser

Closes a Web Browser window that has been previously opened by a "Launch New Internet Explorer/Firefox/Chrome" action

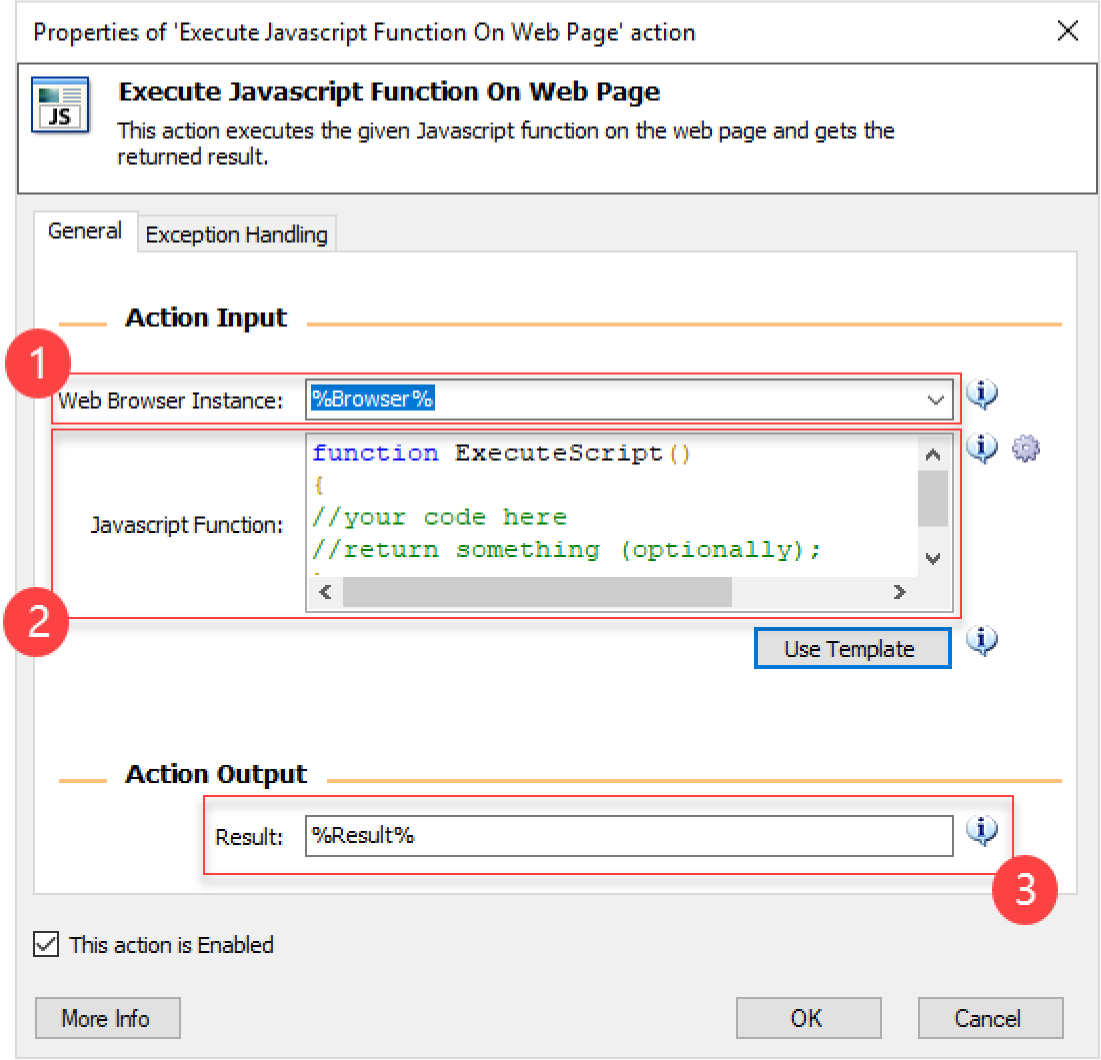
Properties:

Web Browser Instance:

Click on the drop down menu and select the the variable that contains the Web Browser Instance you want to close.

5.13.10 Execute Javascript Function On Web

This action allows you to execute a given Javascript function [2] on a web page [1] and stores the returned result into a variable for later use [3]:



Properties of 'Execute Javascript Function On Web Page' action

Execute Javascript Function On Web Page

This action executes the given Javascript function on the web page and gets the returned result.

General | Exception Handling

Action Input

Web Browser Instance: %Browser%

Javascript Function:

```
function ExecuteScript()
{
//your code here
//return something (optionally);
```

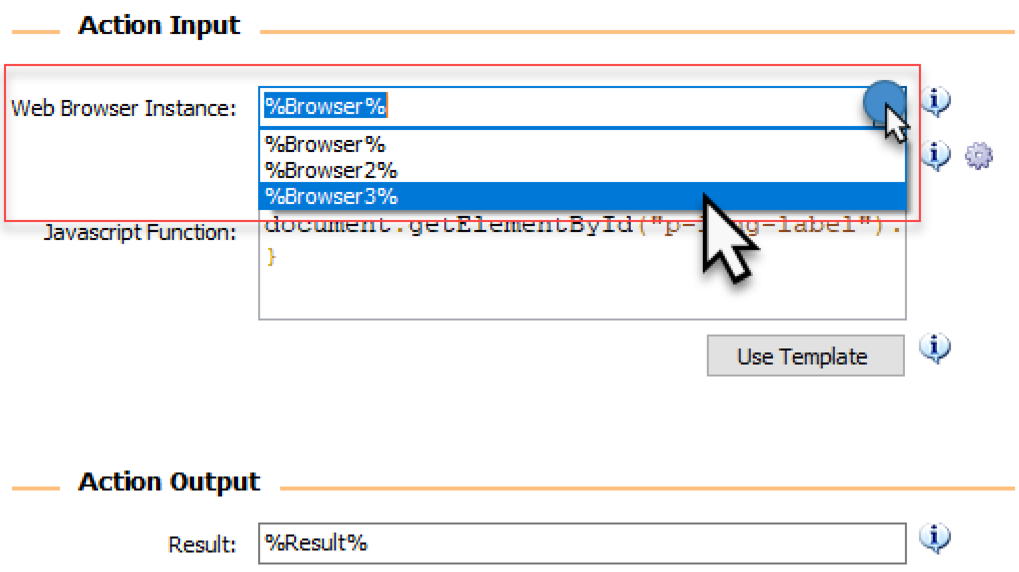
Action Output

Result: %Result%

☑ This action is Enabled

1. Web Browser Instance:

This drop down menu allows you to enter effortlessly the Browser Instance of your choice, by listing all the variables of that type (web browser instance) in your script:



Web Browser Instance: %Browser%

Javascript Function:

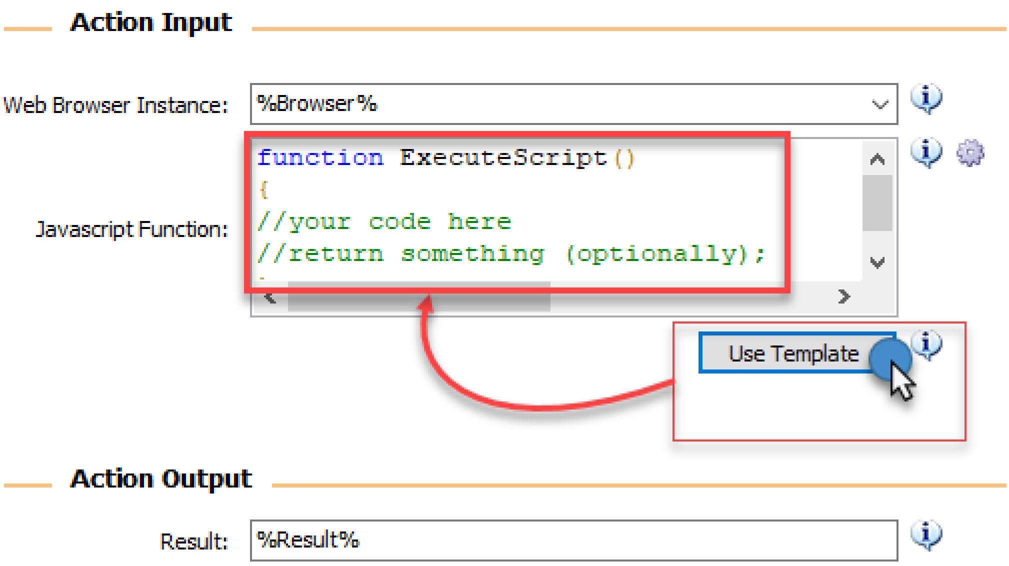
```
document.getElementById("p-l  g-label").
}
```

Result: %Result%

It is worth noting here, that the drop down menu will list even browser instances that haven't yet come up on your workflow, so you might want to be careful about that.

2. Javascript Function:

The Javascript Function text box, not only allows you to enter your javascript through a variable, using the handy familiar gear next to the info bubble, but it also comes with a little helper on its own, the Use Template button [a]. This button produces the following Javascript template that helps you understand how you should structure your code:



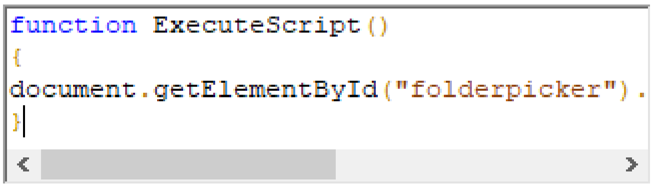
Web Browser Instance: %Browser%

Javascript Function:

```
function ExecuteScript()
{
//your code here
//return something (optionally);
```

Result: %Result%

In this template, you should replace the single line comments in green with your js



```
function ExecuteScript()
{
document.getElementById("folderpicker").
}
```

3. Result:

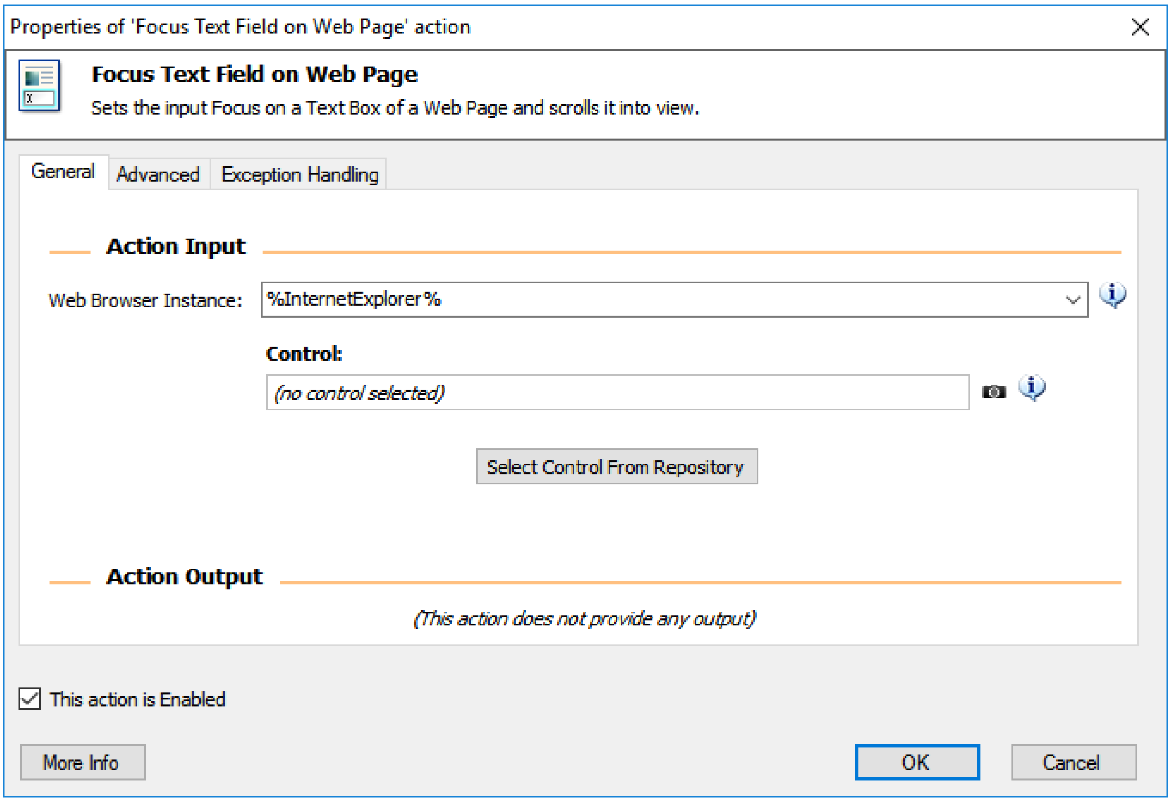
This text box invites you to enter a new or existing variable in order to store in it the result of the Javascript Function from [2] for later use.

5.13.11 Web Forms

5.13.11.1 Focus Text Field on Web Page Action

Description:

Sets the input Focus on a Text Box of a Web Page and scrolls it into view.



Properties of 'Focus Text Field on Web Page' action

Focus Text Field on Web Page

Sets the input Focus on a Text Box of a Web Page and scrolls it into view.

Action Input

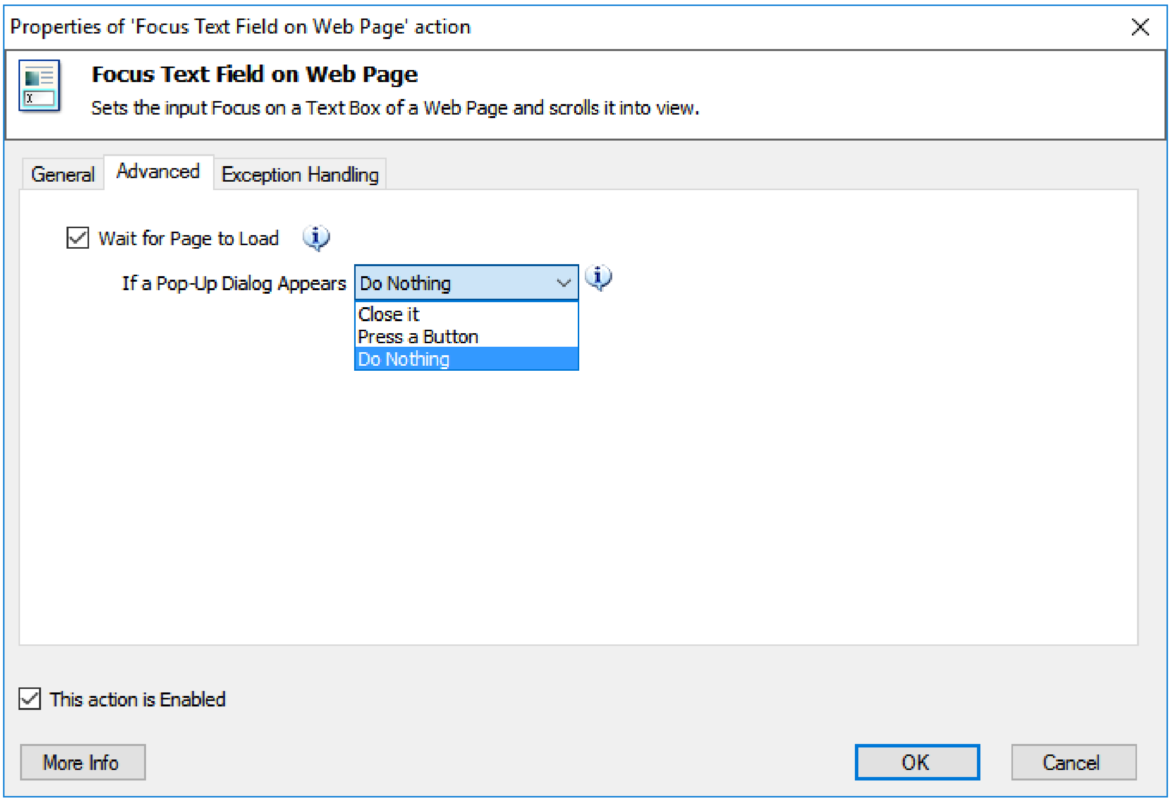
Web Browser Instance: %InternetExplorer%

Control: *(no control selected)*

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Focus Text Field on Web Page' action

Focus Text Field on Web Page

Sets the input Focus on a Text Box of a Web Page and scrolls it into view.

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely after setting the focus on the text field.

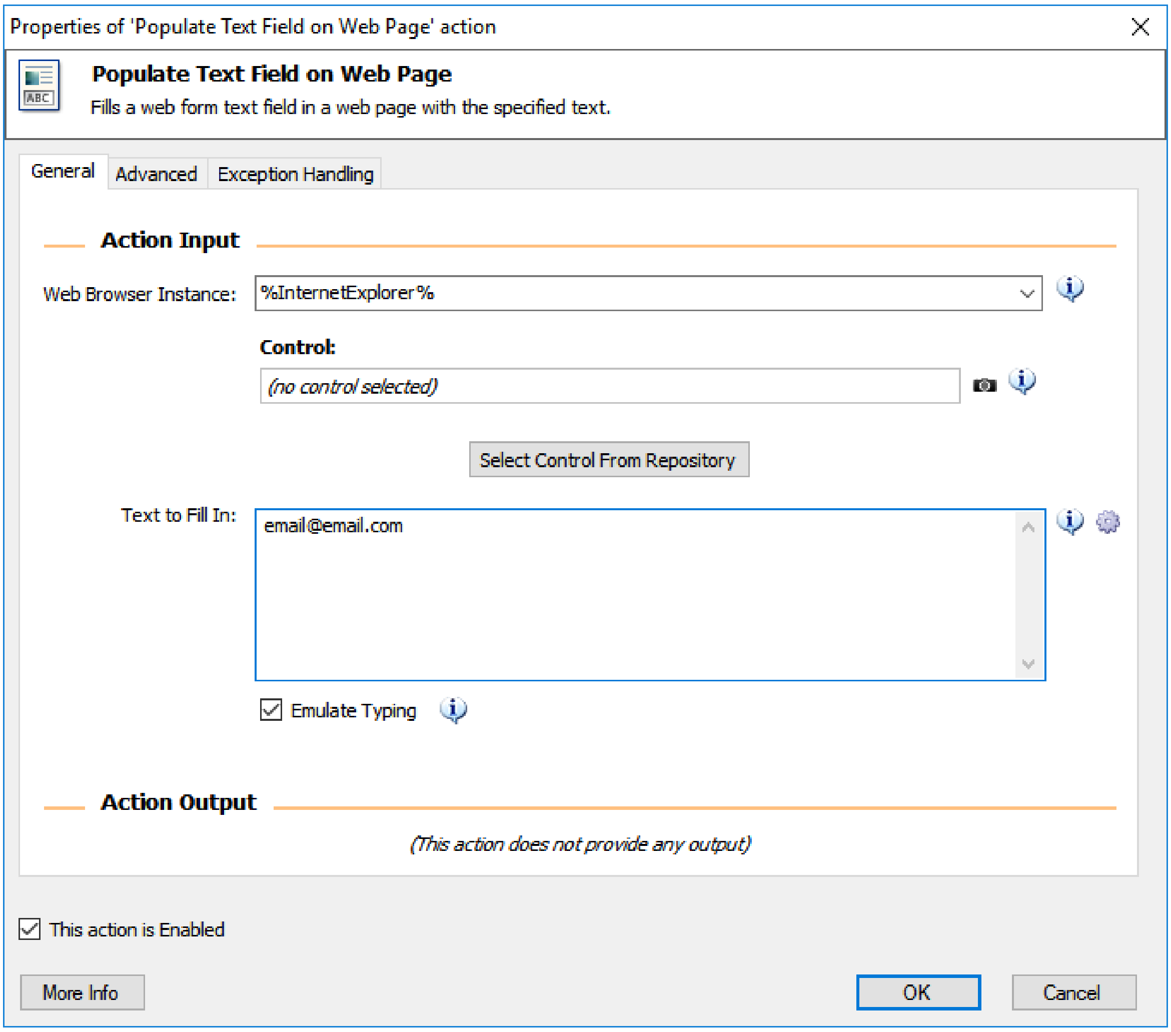
If a popup dialog appears:

Specify what you want the Process to do if a popup dialog appears after setting the focus on the text field.

5.13.11.2 Populate Text Field on Web Page Action

Description:

Fills a web form text field in a web page with the specified text.



Properties of 'Populate Text Field on Web Page' action

Populate Text Field on Web Page

Fills a web form text field in a web page with the specified text.

Action Input

Web Browser Instance: %InternetExplorer%

Control: *(no control selected)*

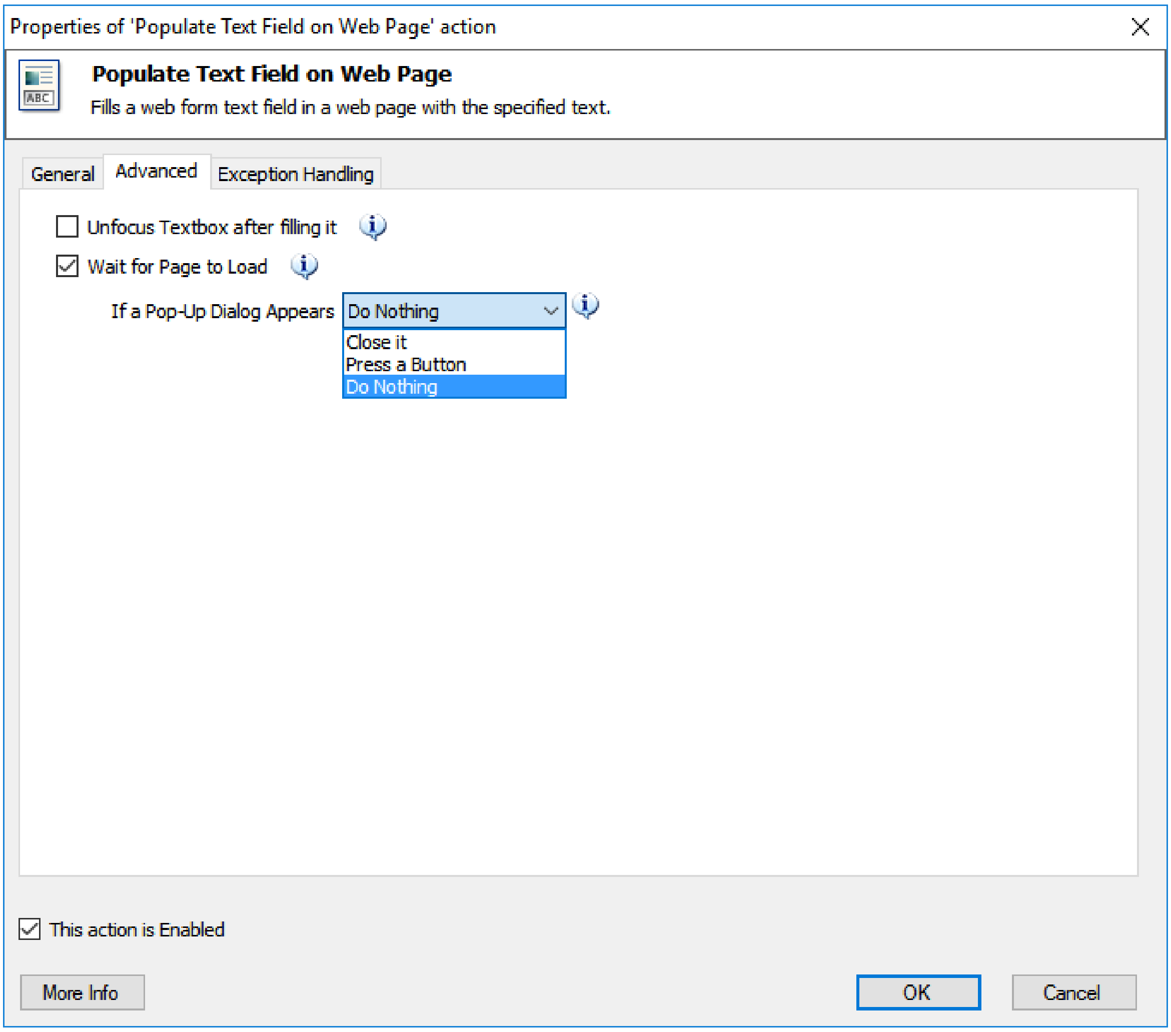
Text to Fill In: email@email.com

☑ Emulate Typing

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Populate Text Field on Web Page' action

Populate Text Field on Web Page

Fills a web form text field in a web page with the specified text.

☐ Unfocus Textbox after filling it

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Text To Fill-In:

Enter here the text you want to fill in the text field with.

Emulate Typing:

Specify whether you want the text to be filled in at once by simply setting the value of the text box, or emulate a user typing by sending characters one by one. The latter method is slower, but required in some complex web pages.

Unfocus Text after filling it:

Choose whether you want the text field to become unfocused right after this action fills it with the text you 've specified.

If you are planning on scraping autocompletion lists, you most probably need to leave this option unchecked.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely after populating the text field.

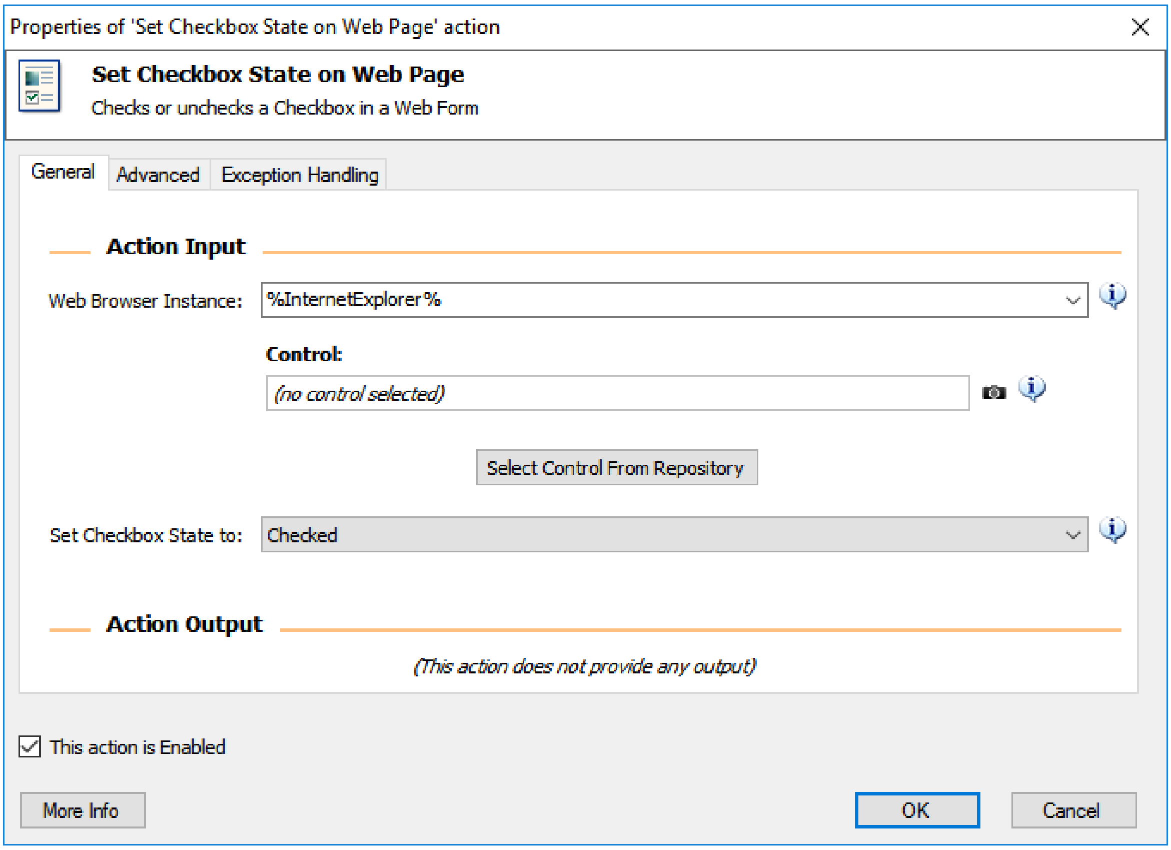
If a popup dialog appears:

Specify what you want the Process to do if a popup dialog appears after populating the text field.

5.13.11.3 Set Checkbox State on Web Page Action

Description:

Checks or unchecks a Checkbox in a Web Form.



Properties of 'Set Checkbox State on Web Page' action

Set Checkbox State on Web Page

Checks or unchecks a Checkbox in a Web Form

Action Input

Web Browser Instance: %InternetExplorer%

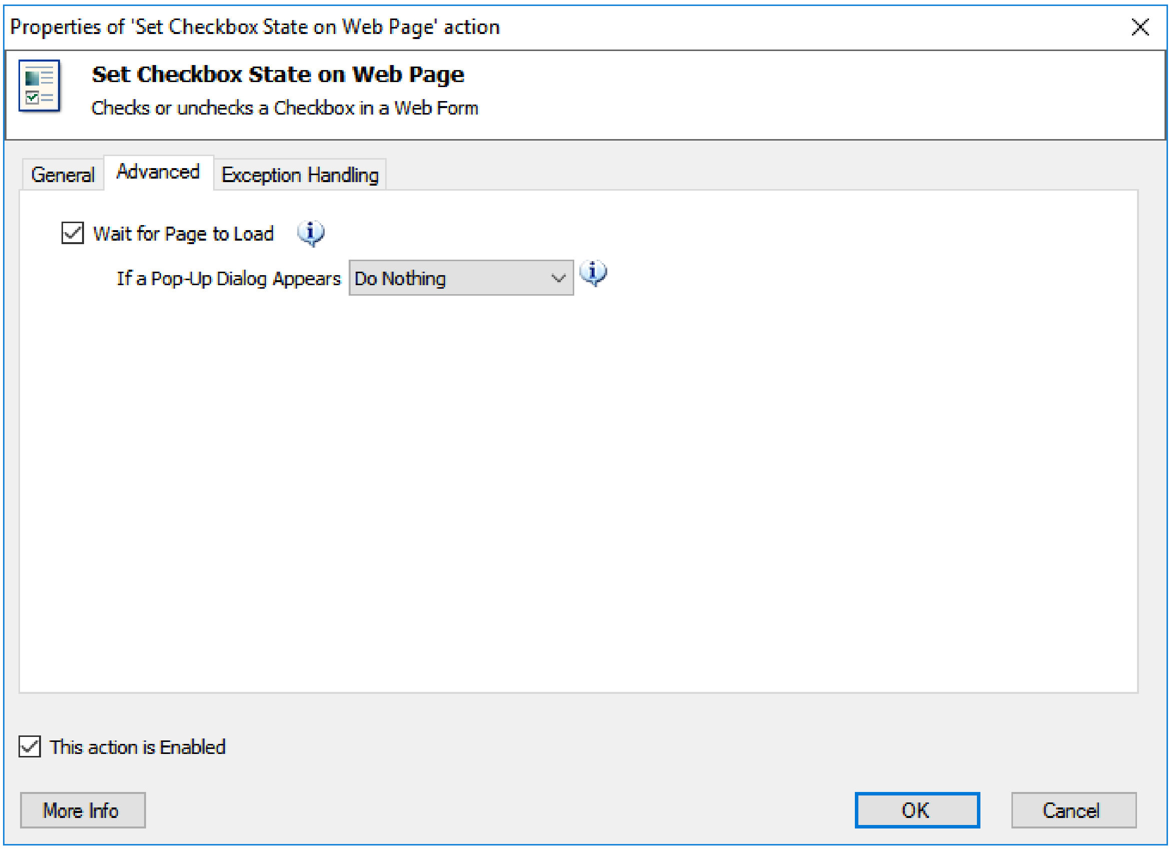
Control: *(no control selected)*

Set Checkbox State to: Checked

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Set Checkbox State on Web Page' action

Set Checkbox State on Web Page

Checks or unchecks a Checkbox in a Web Form

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Set Checkbox State to:

Select whether you want the checkbox to become checked or uncheched.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely after setting the checkbox state.

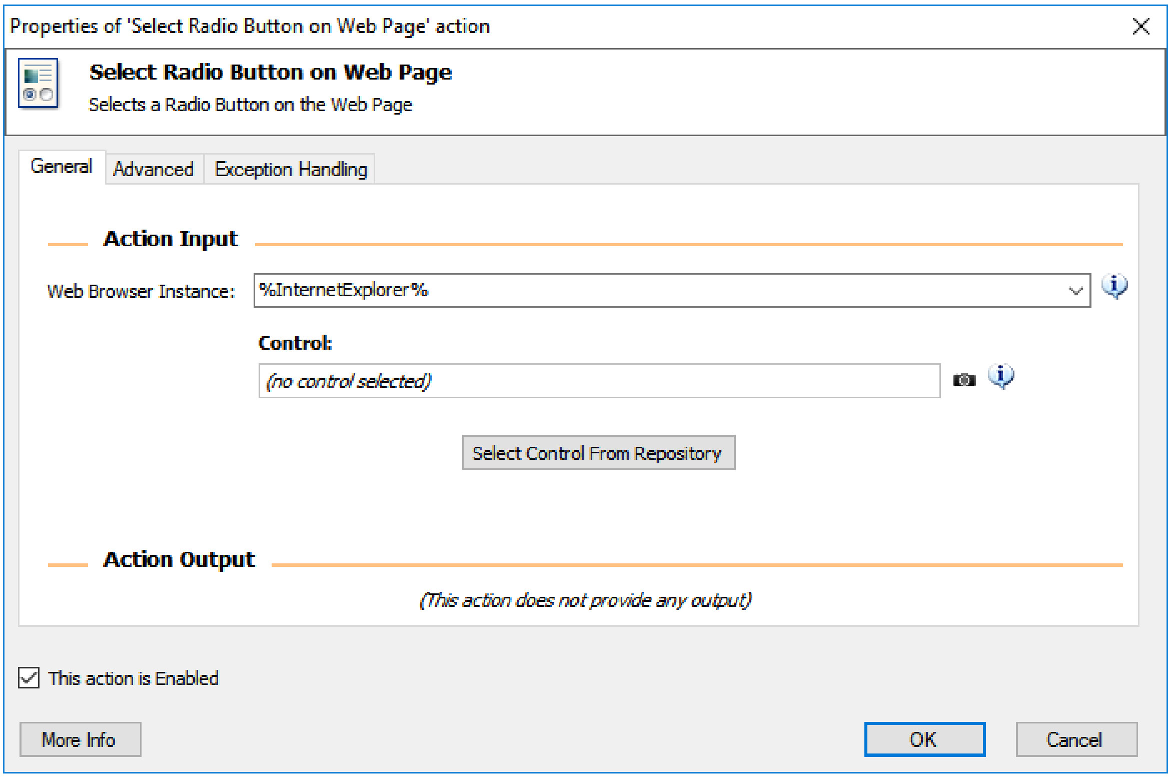
If a popup dialog appears:

Specify what you want the Process to do if a popup dialog appears after setting the checkbox state.

5.13.11.4 Select Radio Button on Web Page Action

Description:

Selects a Radio Button on the Web Page.



Properties of 'Select Radio Button on Web Page' action

Select Radio Button on Web Page

Selects a Radio Button on the Web Page

Action Input

Web Browser Instance: %InternetExplorer%

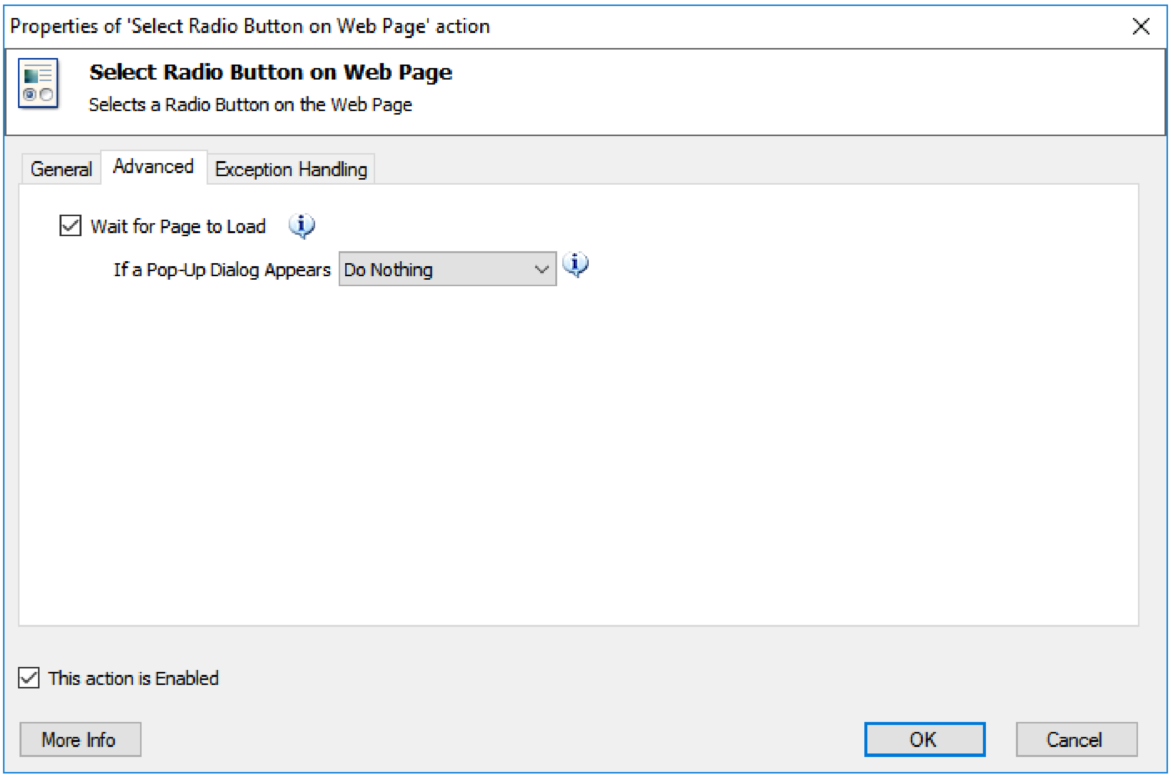
Control:

(no control selected)

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Select Radio Button on Web Page' action

Select Radio Button on Web Page

Selects a Radio Button on the Web Page

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely after selecting the radio button.

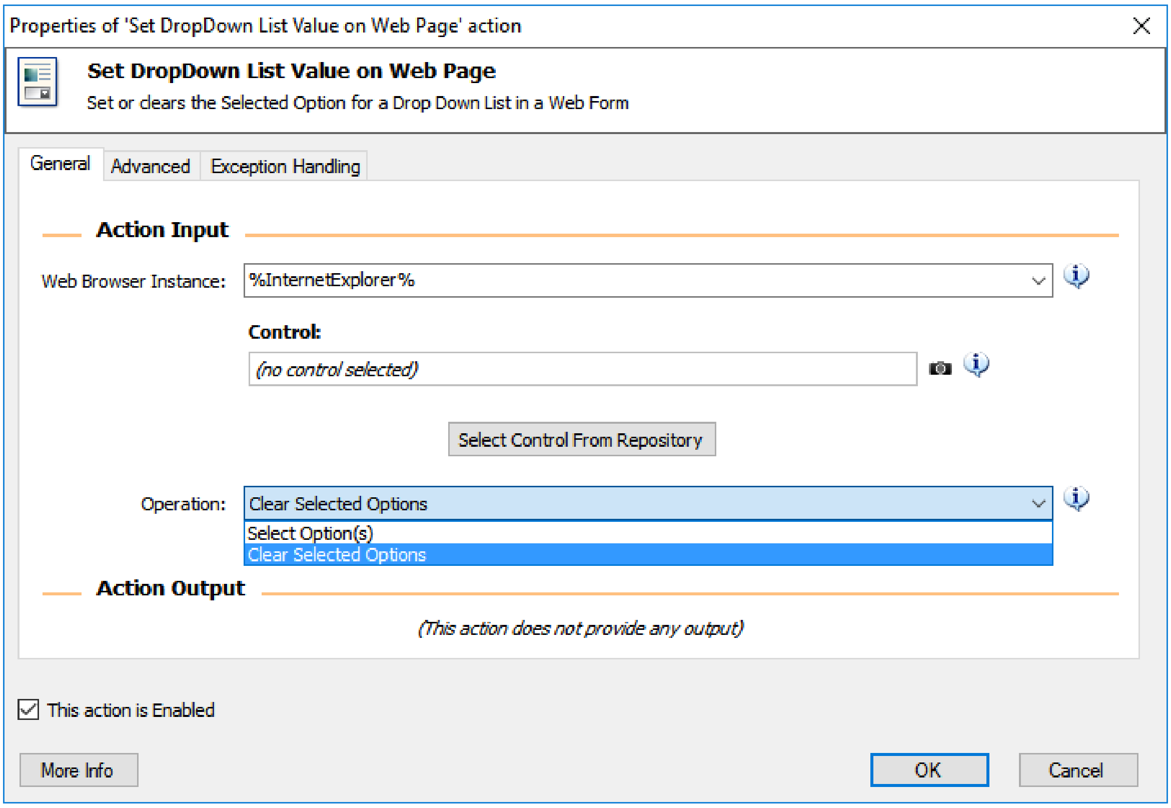
If a popup dialog appears:

Specify what you want the Process to do if a popup dialog appears after selecting the radio button.

5.13.11.5 Set DropDown List Value on Web Page Action

Description:

Set or clear the Selected Option for a Drop Down List in a Web Form.



Properties of 'Set DropDown List Value on Web Page' action

Set DropDown List Value on Web Page

Set or clears the Selected Option for a Drop Down List in a Web Form

Action Input

Web Browser Instance: %InternetExplorer%

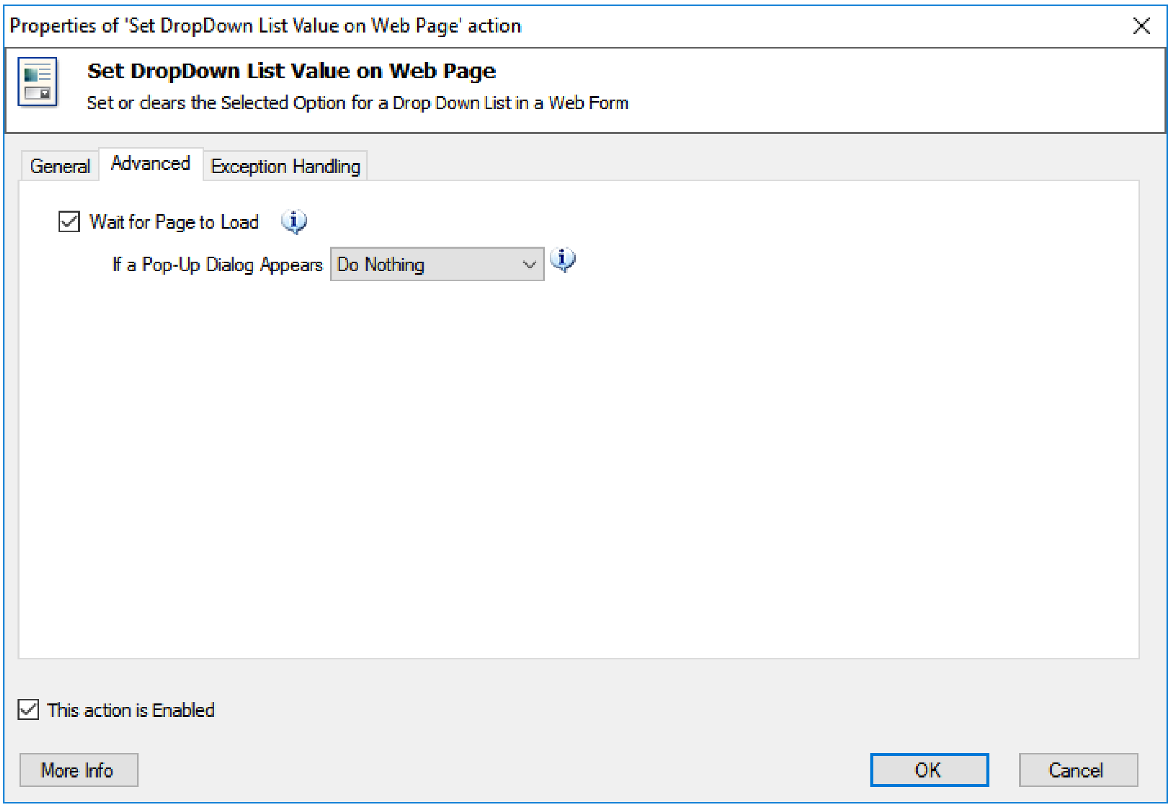
Control: *(no control selected)*

Operation: Clear Selected Options

Action Output

(This action does not provide any output)

☑ This action is Enabled


Properties of 'Set DropDown List Value on Web Page' action

Set DropDown List Value on Web Page

Set or clears the Selected Option for a Drop Down List in a Web Form

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer[562]" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Operation:

Select whether you want to select a value or clear the selected value of the dropdown list.

Selection Option(s) by:

Choose the method to use in order to select the options: By name or by ordinal position (1 2 3 ...) inside the list.

Option Names:

Enter one or more options (one per line if more than one) you want to be selected in the drop down list. Multiple options make sense only when working with multi-select lists. If the list is single-selection, then only the first option specified will be used.

Options Indeces:

Type a space-separated list of 1-based indeces (e.g. 1 3 4), denoting which options of the list should be selected.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely after setting the value for the dropdown list.

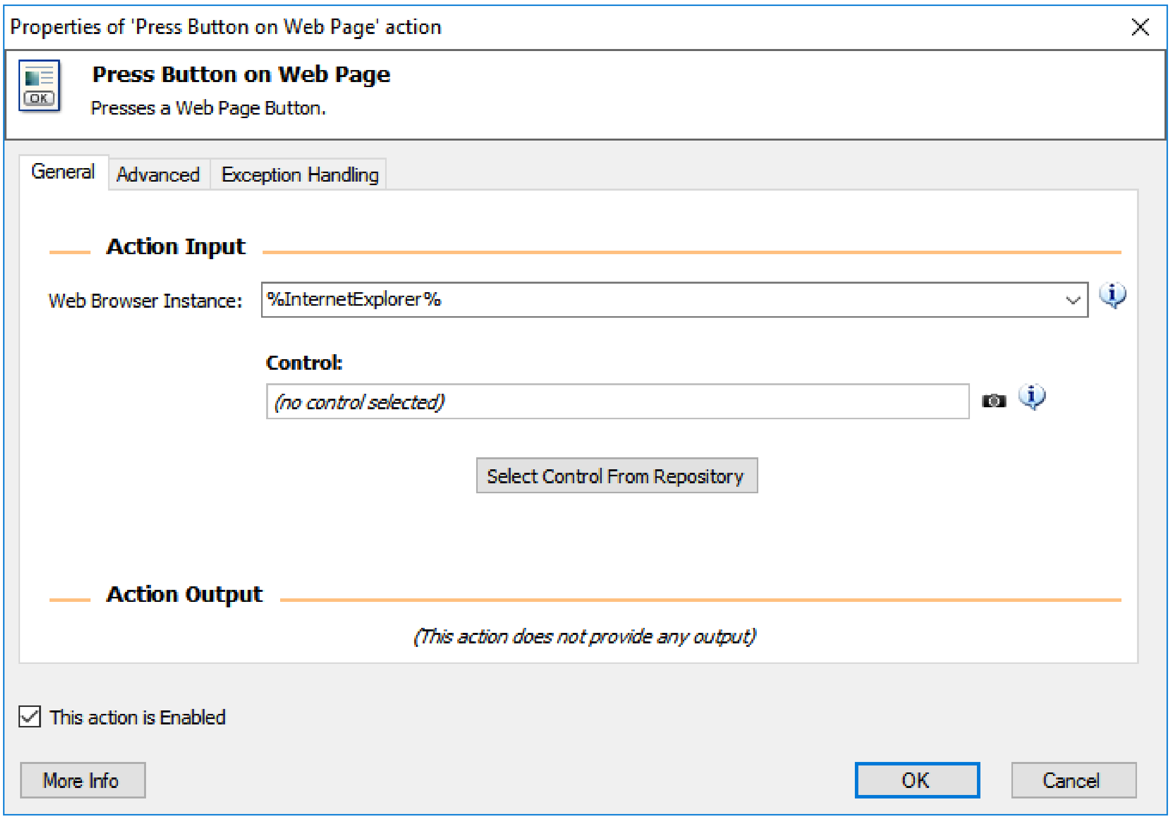
If a popup dialog appears:

Specify what you want the Process to do if a popup dialog appears after setting the value for the dropdown list.

5.13.11.6 Press Button on Web Page Action

Description:

Presses a button on a Web Page Form.



Properties of 'Press Button on Web Page' action

Press Button on Web Page

Presses a Web Page Button.

Action Input

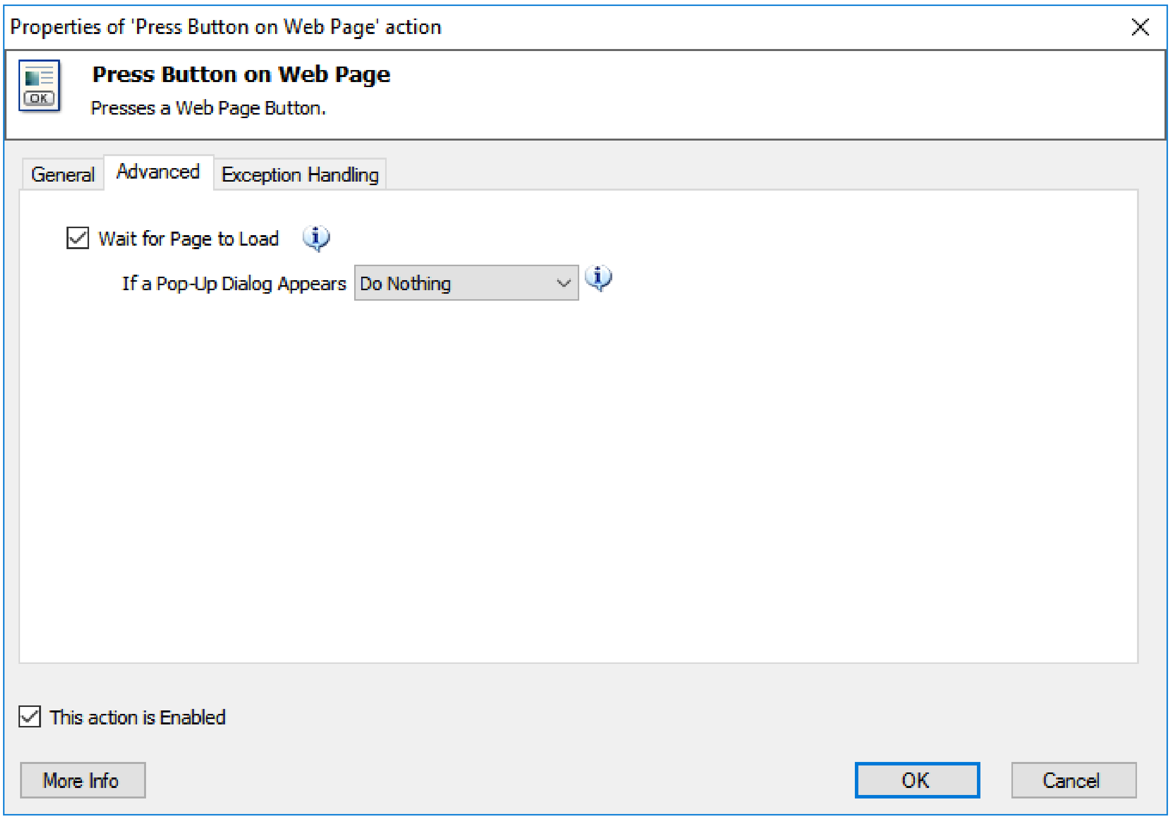
Web Browser Instance: %InternetExplorer%

Control: *(no control selected)*

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Press Button on Web Page' action

Press Button on Web Page

Presses a Web Page Button.

☑ Wait for Page to Load

If a Pop-Up Dialog Appears: Do Nothing

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Wait for Page to Load:

Choose whether you want the Process to wait for the new web page to load completely after the button is pressed.

If a Popup Dialog Appears:

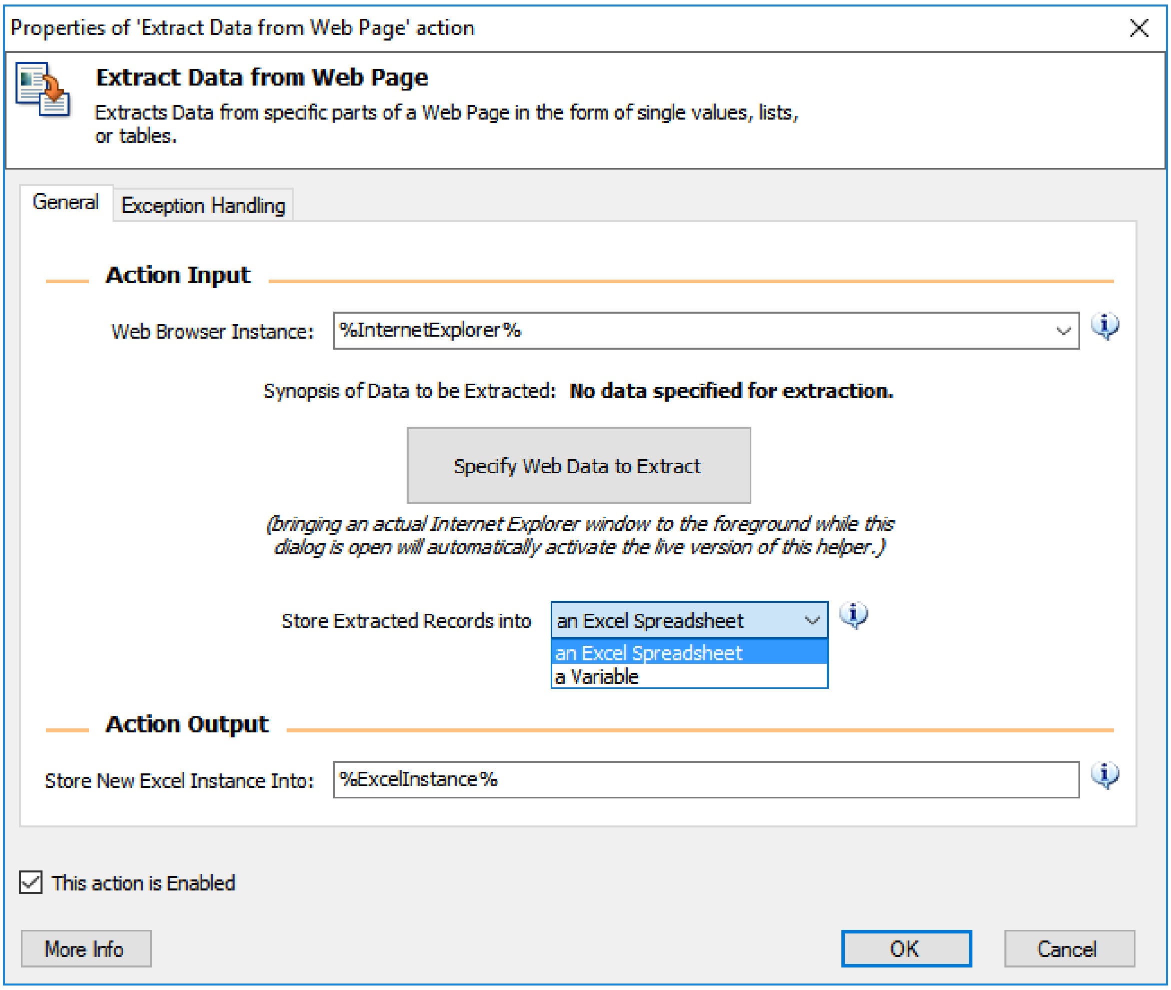
Specify what you want the Process to do if a popup dialog appears after pressing the button.

5.13.12 Web Data Extraction

5.13.12.1 Extract Data from Web Page Action

Description:

Extracts Data from specific parts of a Web Page in the form of single values, lists, or tables.



Properties of 'Extract Data from Web Page' action

Extract Data from Web Page

Extracts Data from specific parts of a Web Page in the form of single values, lists, or tables.

Action Input

Web Browser Instance: %InternetExplorer%

Synopsis of Data to be Extracted: **No data specified for extraction.**

(bringing an actual Internet Explorer window to the foreground while this dialog is open will automatically activate the live version of this helper.)

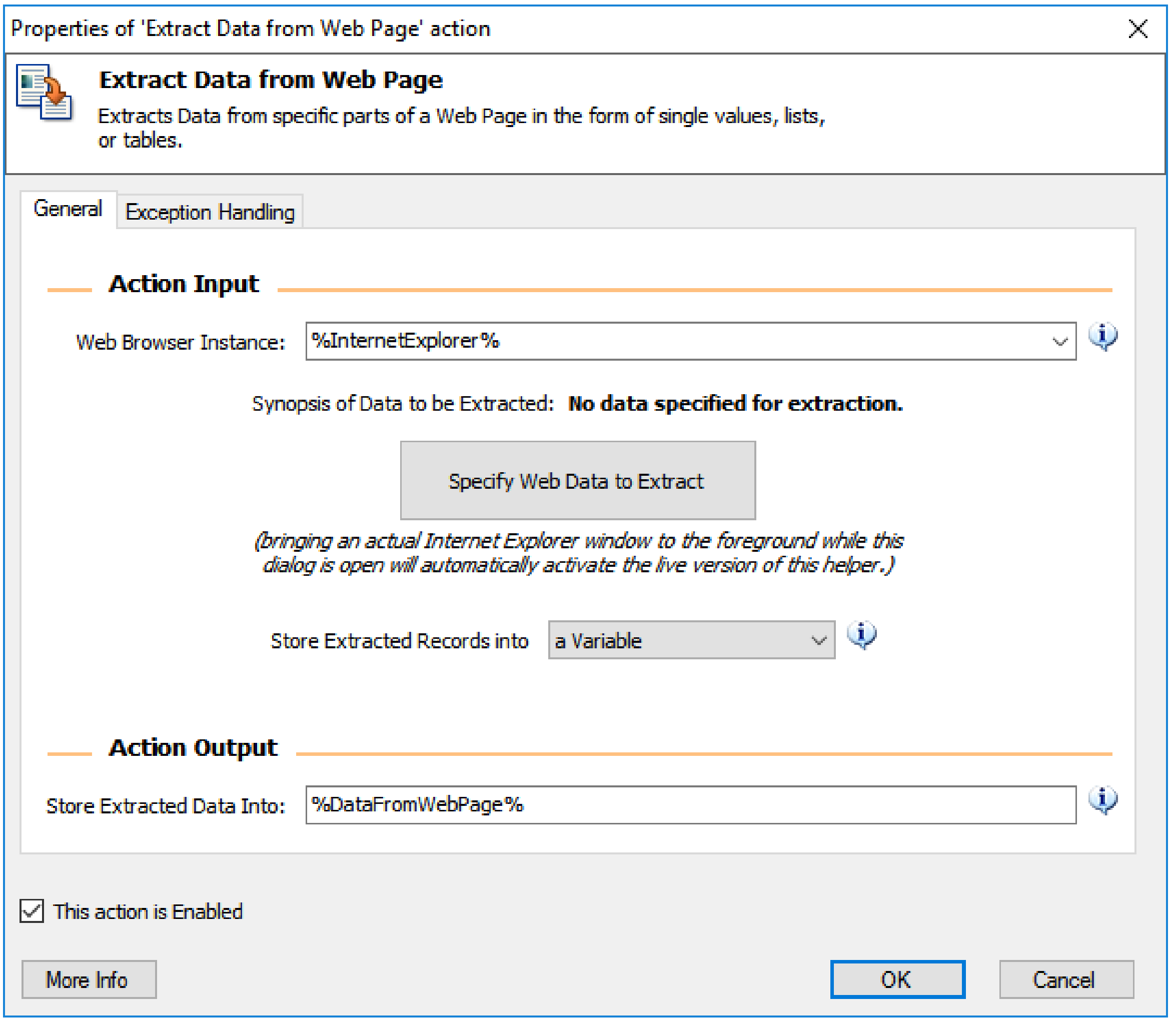
Store Extracted Records into: an Excel Spreadsheet

Action Output

Store New Excel Instance Into: %ExcelInstance%

☑ This action is Enabled

Store extracted data into Excel



Properties of 'Extract Data from Web Page' action

Extract Data from Web Page

Extracts Data from specific parts of a Web Page in the form of single values, lists, or tables.

Web Browser Instance: %InternetExplorer%

Synopsis of Data to be Extracted: **No data specified for extraction.**

(bringing an actual Internet Explorer window to the foreground while this dialog is open will automatically activate the live version of this helper.)

Store Extracted Records into: a Variable

Store Extracted Data Into: %DataFromWebPage%

☑ This action is Enabled

Store extracted data into a Variable

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

"Specify Web Data to Extract" button:

To specify which parts of a web page will be extracted you can press this button to launch the "Data Extraction Web Helper 255". Though this tool you can select the elements that you want to retrieve as well as the form in which you want to retrieve the values. Depending on your selection, the result can be in a form of a list, a table or a single value.

Store Extracted Records into:

Specify whether you want to store the extracted data into a variable for later processing or you want it directly exported into an Excel spreadsheet (you need to have Microsoft Excel installed for the latter option).

Store New Excel Instance Into:

Enter a name to be the variable that will hold the Excel Instance with the Extracted Data. You can use this instance to manipulate the spreadsheet (or save and close it) by using the dedicated Excel Actions.

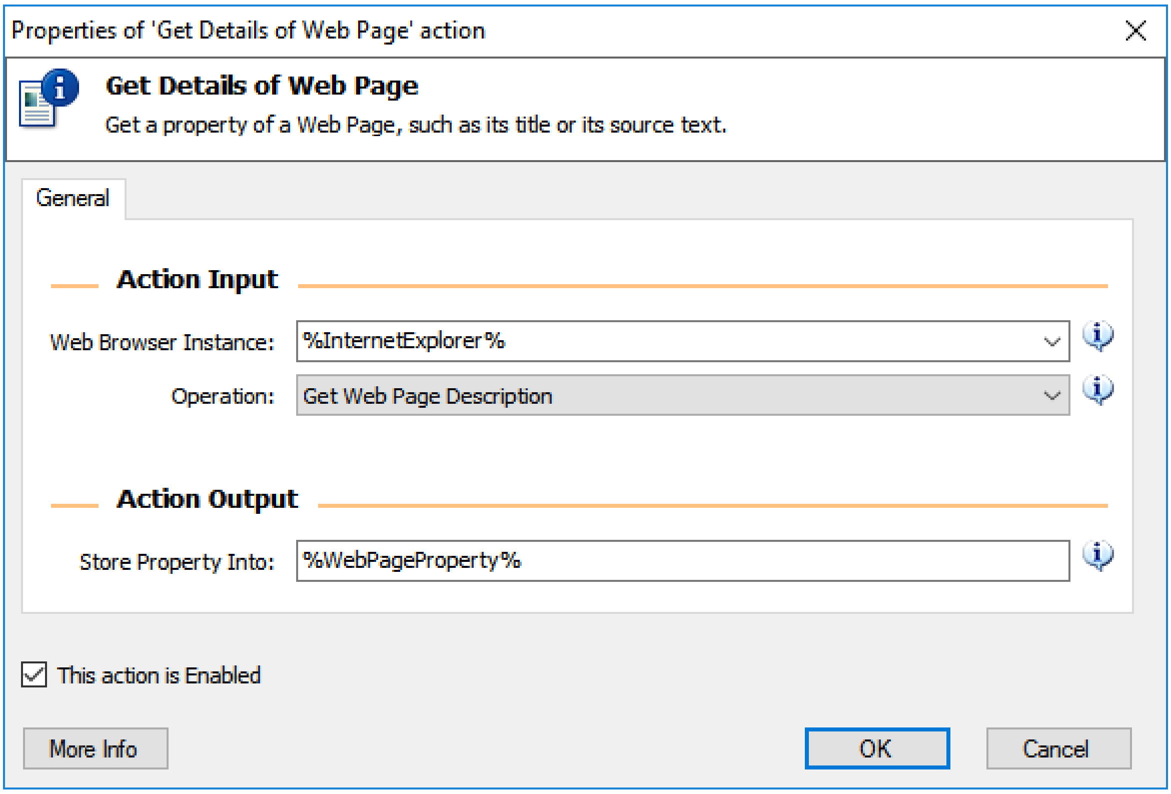
Store Extracted Data Into:

Enter a name to be the variable that will hold the Extracted Data.

5.13.12.2 Get Details of Web Page Action

Description:

Get a property of a Web Page, such as its title or its source text.



Properties of 'Get Details of Web Page' action

Get Details of Web Page

Get a property of a Web Page, such as its title or its source text.

General

Action Input

Web Browser Instance: %InternetExplorer%

Operation: Get Web Page Description

Action Output

Store Property Into: %WebPageProperty%

☑ This action is Enabled

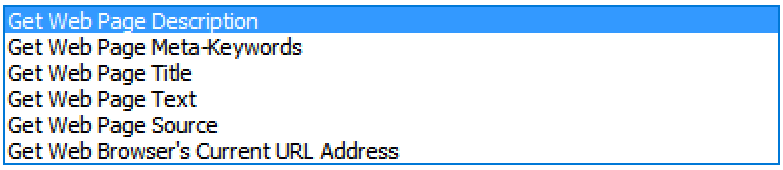
Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Operation:

Specify the information of the Web Page that you want to retrieve.



Get Web Page Description
Get Web Page Meta-Keywords
Get Web Page Title
Get Web Page Text
Get Web Page Source
Get Web Browser's Current URL Address

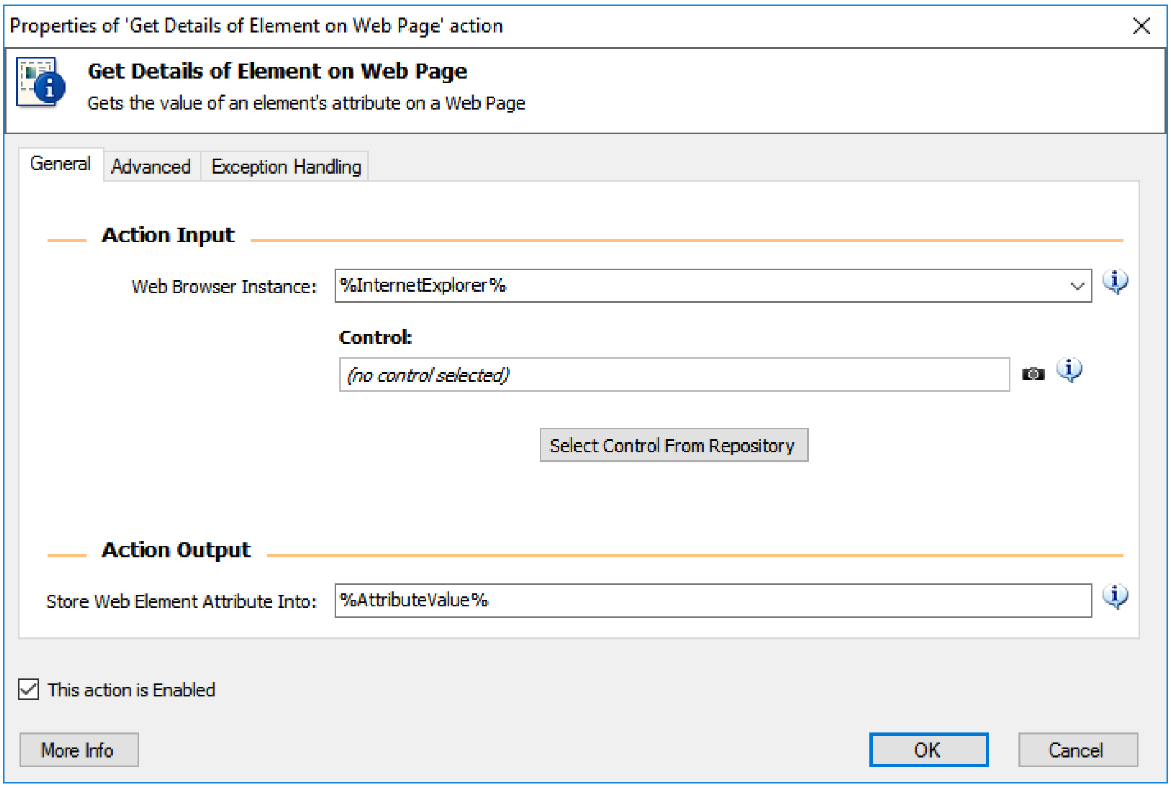
Store Property Into:

Set the name of the variable that will hold the retrieved information of the Web Page.

5.13.12.3 Get Details of Element on Web Page Action

Description:

Gets the value of an element's attribute on a Web Page.



Properties of 'Get Details of Element on Web Page' action

Get Details of Element on Web Page

Gets the value of an element's attribute on a Web Page

Action Input

Web Browser Instance: %InternetExplorer%

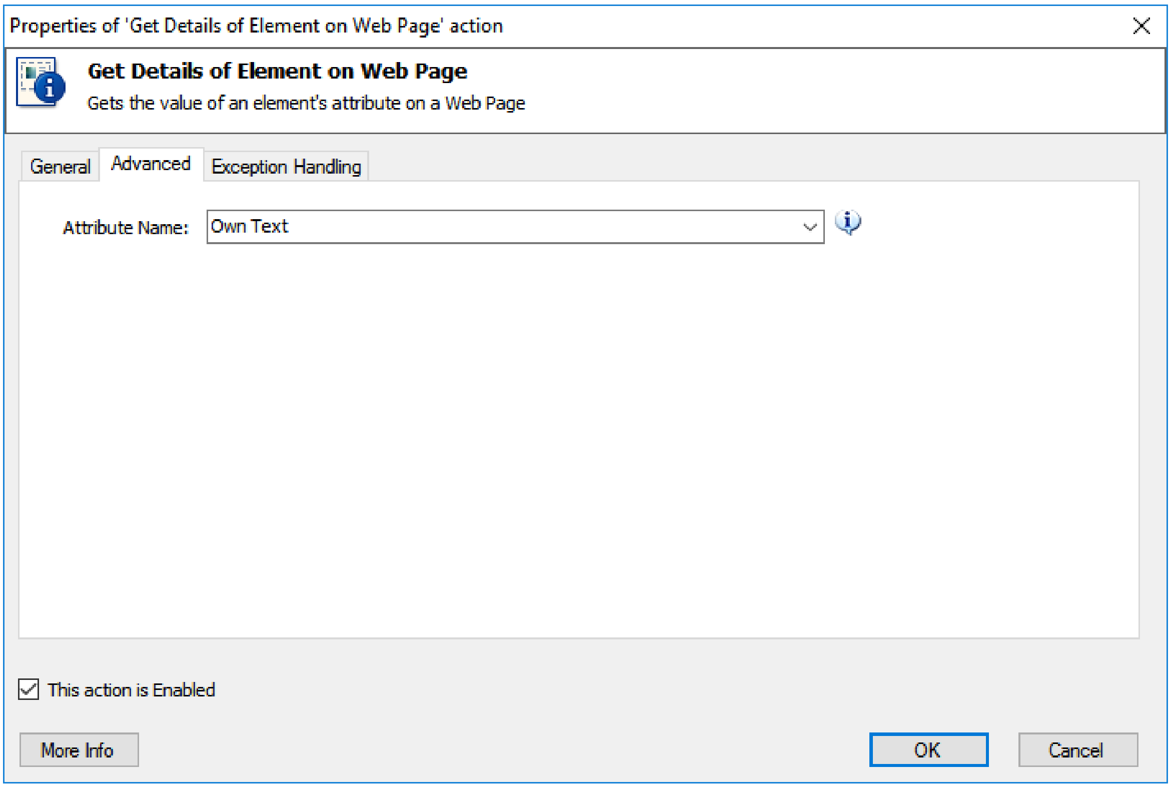
Control:

(no control selected)

Action Output

Store Web Element Attribute Into: %AttributeValue%

☑ This action is Enabled



Properties of 'Get Details of Element on Web Page' action

Get Details of Element on Web Page

Gets the value of an element's attribute on a Web Page

Attribute Name: Own Text

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer[562]" action.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Store Web Element Attribute into:

Enter a name to be the variable that will hold the value of the Web Element's attribute.

Attribute Name:

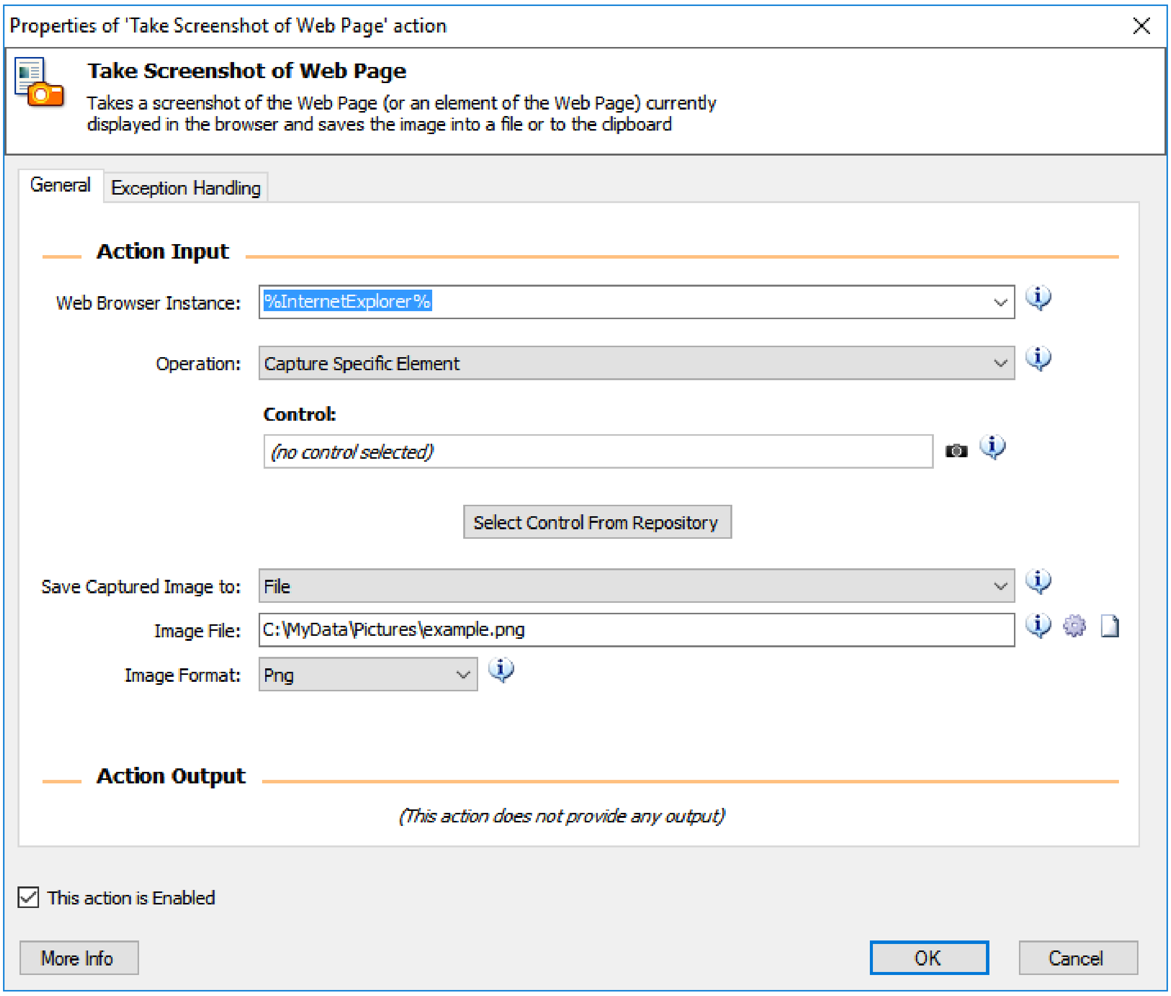
Select an attribute from the list or type in the attribute whose value you want to retrieve.

NOTE: Should you wish to get the coordinates of an element in the web browser, you may type "***waelementcentercoords***". The output of the action will be X and Y coordinates of the element relative to the active window which is the browser.

5.13.12.4 Take Screenshot of Web Page Action

Description:

Takes a screenshot of the Web Page (or an element of the Web Page) currently displayed in the browser and saves the image into a file or to the clipboard.


Properties of 'Take Screenshot of Web Page' action

Take Screenshot of Web Page

Takes a screenshot of the Web Page (or an element of the Web Page) currently displayed in the browser and saves the image into a file or to the clipboard

Action Input

Web Browser Instance: %InternetExplorer%

Operation: Capture Specific Element

Control: (no control selected)

Save Captured Image to: File

Image File: C:\MyData\Pictures\example.png

Image Format: Png

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Web Browser Instance:

Enter the variable that contains the Web Browser Instance you want to work with. This must be a variable defined by a preceding "Launch New Internet Explorer 562" action.

Operation:

Specify whether you want to capture the entire web page or only a specific element of it.

Control:

Click on Select Control from Repository button and a box with all controls will appear. Hover over camera icon to preview the control's image.

Save Captured Image to:

Choose whether you want to save the image into a file or store it into the clipboard.

Image File:

Set the full path for the file where the image capture will be saved.

Image Format:

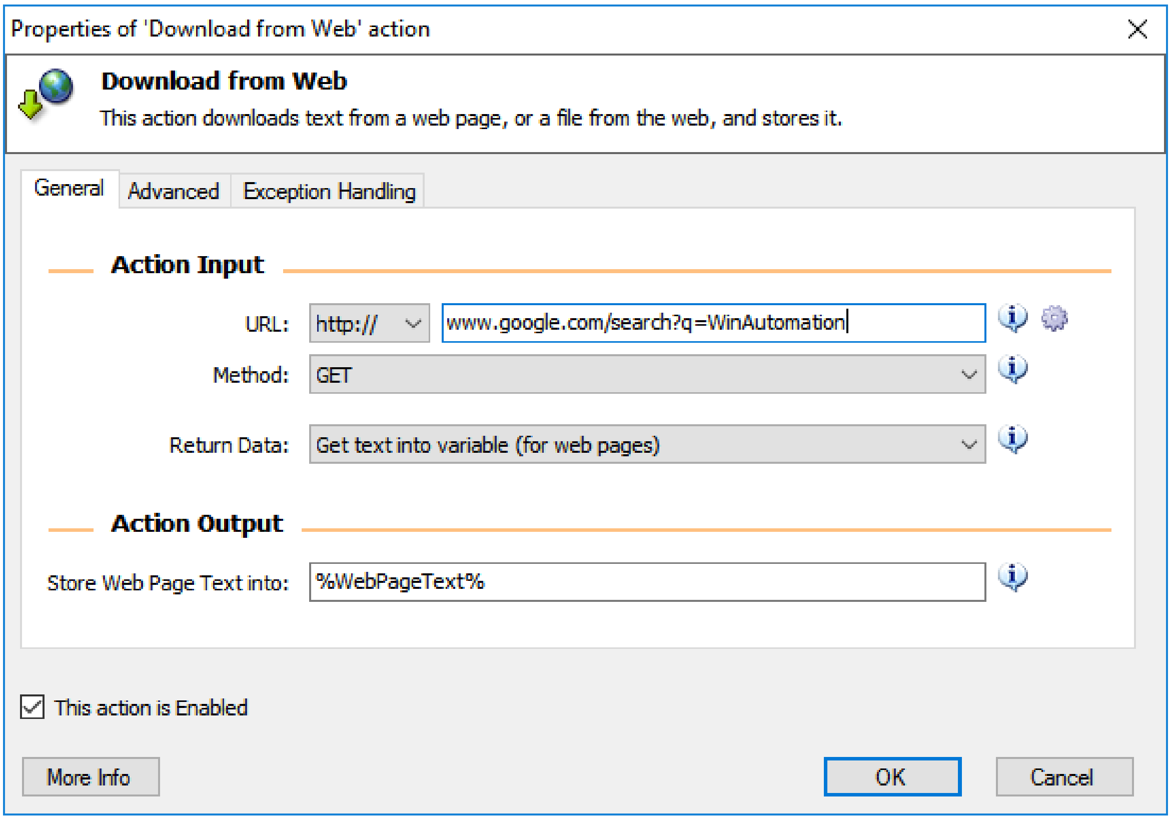
Set the format for the image file to be saved.

5.13.13 Direct Web Access

5.13.13.1 Download from Web Action

Description:

This action downloads text from a web page, or a file from the web, and stores it.



Properties of 'Download from Web' action

Download from Web

This action downloads text from a web page, or a file from the web, and stores it.

Action Input

URL: http:// www.google.com/search?q=WinAutomation

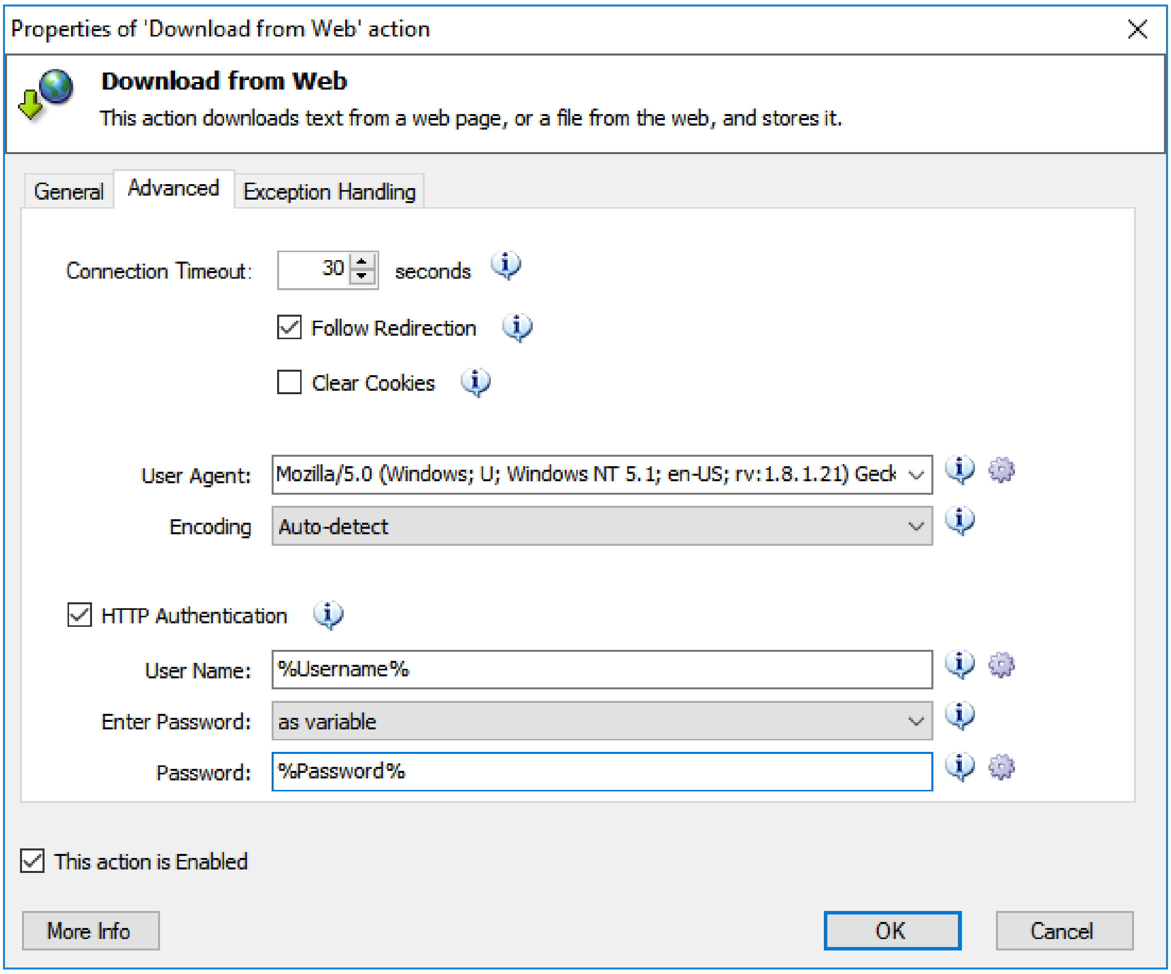
Method: GET

Return Data: Get text into variable (for web pages)

Action Output

Store Web Page Text into: %WebPageText%

☑ This action is Enabled



Properties of 'Download from Web' action

Download from Web

This action downloads text from a web page, or a file from the web, and stores it.

Connection Timeout: 30 seconds

☑ Follow Redirection

□ Clear Cookies

User Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.8.1.21) Geck

Encoding: Auto-detect

☑ HTTP Authentication

User Name: %Username%

Enter Password: as variable

Password: %Password%

☑ This action is Enabled

Properties:

URL:

First choose http or https protocol, then enter the remainder of the web address.

Method:

Choose how you want to retrieve a website's information. Choose GET if all information needed is in the URL, and choose POST if you need to enter more information (passwords, etc).

Return Data:

Specify how the returned data will be stored. If you are downloading a webpage, you can choose to Get Text so you can access it directly. Otherwise, or if you are downloading a file, choose Save to Disk.

Post Parameters:

Click here to Add, Edit, or Delete details for a Post's Parameter(s).

Connection Timeout:

Specify the time (in seconds) that the agent should wait for a connection to be established with the server, before giving up.

Follow Redirection:

Choose whether you want to allow the web server to redirect you to another web page or website.

Clear Cookies:

Choose whether you want to clear all cookies created by similar actions during this Process before this action. Note that WinAutomation does not interact with existing cookies, and that old cookies are not used or affected by the Process, and no new cookies are made by the Process. Therefore this only applies to cookies created by other Actions in this Process.

User Agent:

Choose which browser identity you wish to be seen as. Some web servers will not allow you access unless you choose a browser identity.

Encoding:

Choose the encoding used for the web page. If you choose Auto-detect the encoding to be used will be specified by the web server.

File Name:

Choose whether you want to keep the original name of the downloaded file, or you want to specify a new name. In the first case you will need to provide just the destination folder where the file will be saved. In the second case you will need to provide the full path of the downloaded file (destination folder plus the new file name).

Destination File Path:

Enter or choose a file path, or a previously stored variable, to specify the full path (folder plus filename) where the file returned by the web server will be stored.

Destination Folder:

Enter or choose a local folder, or a previously stored variable containing a folder, to specify the folder where the file returned from the web server will be saved.

Store Web Page Text into:

Enter a name to be the variable that will store the Webpage text.

Store Downloaded File into:

Enter a name to be the variable that will store the file object.

HTTP Authentication:

Specify whether or not the web server requires authentication. This property refers to HTTP authentication (that is, when the browser displays a popup window asking for user name and password).

User Name:

Enter the User Name for the web server here.

Enter Password:

If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' it will expect you to enter a variable and treat the '%' as an indicator of a variable, not part of the password.

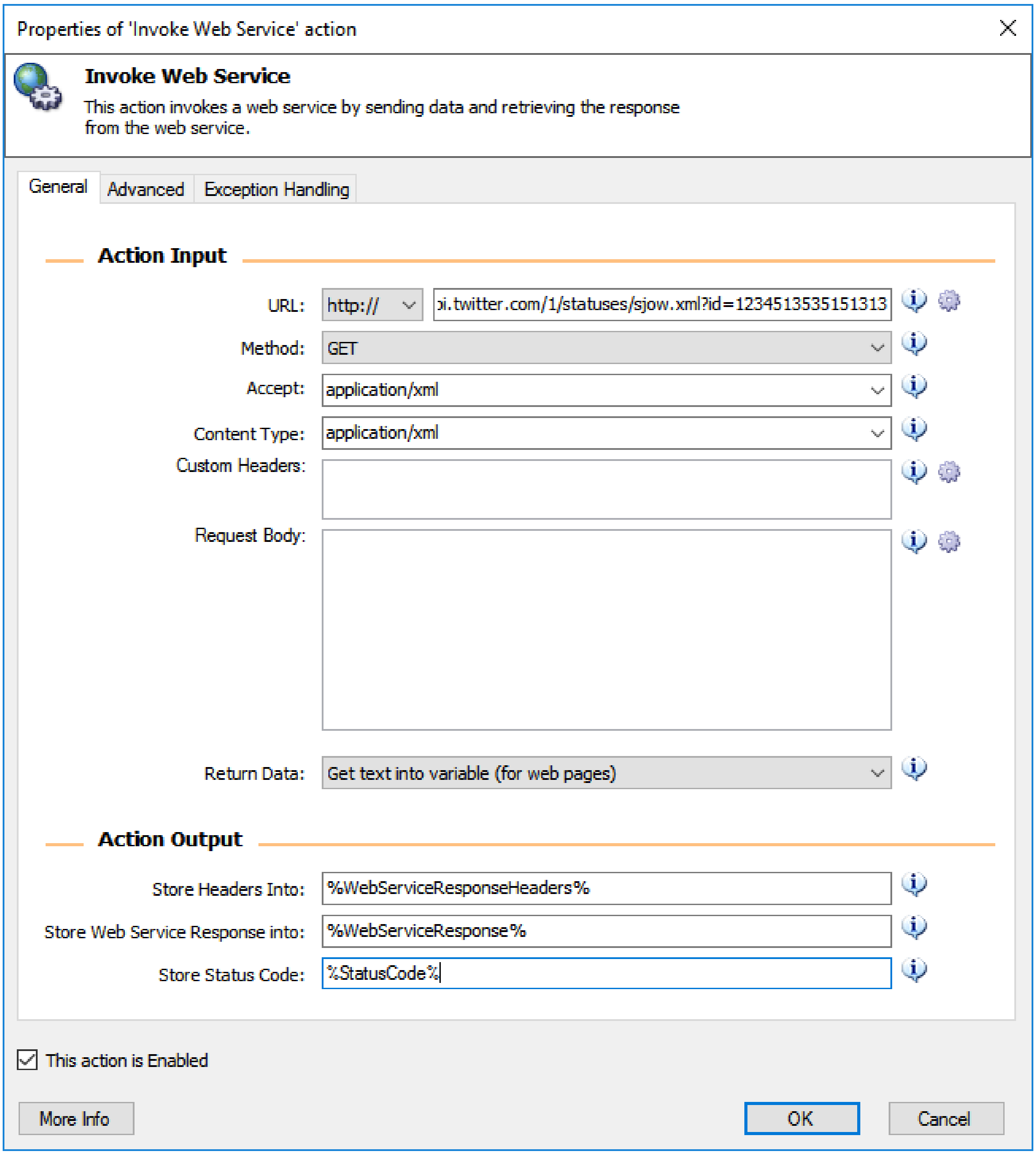
Password:

Enter the Password here. You may enter either a text, or a variable containing the password depending on the selection of the previous property (Enter Password).

5.13.13.2 Invoke Web Service Action

Description:

This action invokes a web service by sending data through HTTP and retrieving the response from the web service.



This action invokes a web service by sending data and retrieving the response from the web service.

Action Input

URL: http:// ɔi.twitter.com/1/statuses/sjow.xml?id=1234513535151313

Method: GET

Accept: application/xml

Content Type: application/xml

Custom Headers:

Request Body:

Return Data: Get text into variable (for web pages)

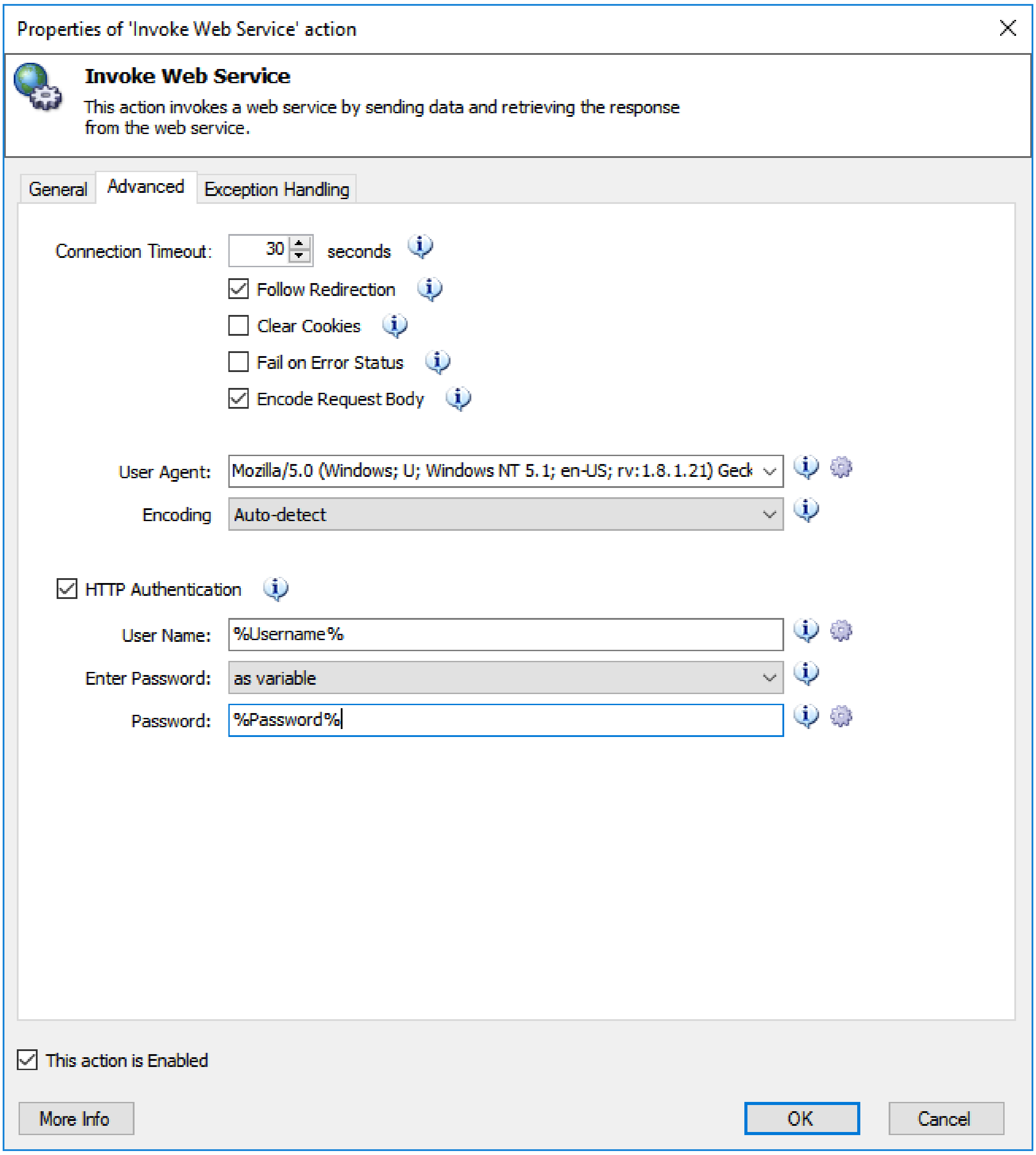
Action Output

Store Headers Into: %WebServiceResponseHeaders%

Store Web Service Response into: %WebServiceResponse%

Store Status Code: %StatusCode%

☑ This action is Enabled



Properties of 'Invoke Web Service' action

Invoke Web Service

This action invokes a web service by sending data and retrieving the response from the web service.

Connection Timeout: 30 seconds

☑ Follow Redirection

□ Clear Cookies

□ Fail on Error Status

☑ Encode Request Body

User Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.8.1.21) Geck

Encoding Auto-detect

☑ HTTP Authentication

User Name: %Username%

Enter Password: as variable

Password: %Password%

☑ This action is Enabled

Properties:

URL:

First choose http or https format, then enter the remainder of the web address.

Method:

Choose the HTTP method you want to use to invoke the web service.

Accept:

Specify the acceptable content type for the response of the web service.

Content Type:

Specify the content type of the request that will be sent to the web service.

Custom Headers:

Specify any custom headers to be included in the request that will be sent to the web service.

Request Body:

Specify the body of the request that will be sent to the web service.

Return Data:

Specify how the Web Service response will be stored. You can either store it into a variable or (if the Web Service will return a file) store it into a file by choosing Save to Disk.

File Name:

Choose whether you want to keep the original name of the downloaded file, as provided by the Web Service, or you want to specify a new name. In the first case you will need to provide just the destination folder where the file will be saved. In the second case you will need to provide the full path of the downloaded file (destination folder plus the new file name).

Destination File Path:

Enter or choose a file path, or a previously defined variable, to specify the full path (folder plus filename) where the file returned by the Web Service will be stored.

Destination Folder:

Enter or choose a local folder, or a previously defined variable containing a folder, to specify the folder where the file returned by the Web Service will be saved.

Store Headers Into:

Enter a name to be the variable that will store the HTTP Headers of the response.

Store Web Service Response into:

Enter a name to be the variable that will store the Web Service response.

Store Downloaded File into:

Enter a name to be the variable that will store the file object.

Advanced tab

Connection Timeout:

Specify the time (in seconds) that the agent should wait for a connection to be established with the server, before giving up.

Follow Redirection:

Choose whether you want to allow the web server to redirect you to another web service.

Clear Cookies:

Choose whether you want to clear all cookies created by similar actions during this Process before this action. Note that WinAutomation does not interact with existing cookies, and that old cookies are not used or affected by the Process, and no new cookies are made by the Process. Therefore this only applies to cookies created by other Actions in this Process.

Fail on Error Status:

Choose whether you want the responses of the invoked web service that denote errors to be processed as if they were normal responses (suppressing all exceptions) or whether you would like them to result in the related exceptions displayed in the Exception Handling Tab)

Encode Request Body:

Specify whether the body of the request should be url-encoded before invoking.

HTTP Authentication:

Specify whether or not the web server requires authentication. This property refers to HTTP authentication (that is, when the browser displays a popup window asking for user name and password).

User Name:

Enter the User Name for the web server here.

Enter Password:

If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' it will expect you to enter a variable and treat the '%' as an indicator of a variable, not part of the password.

Password:

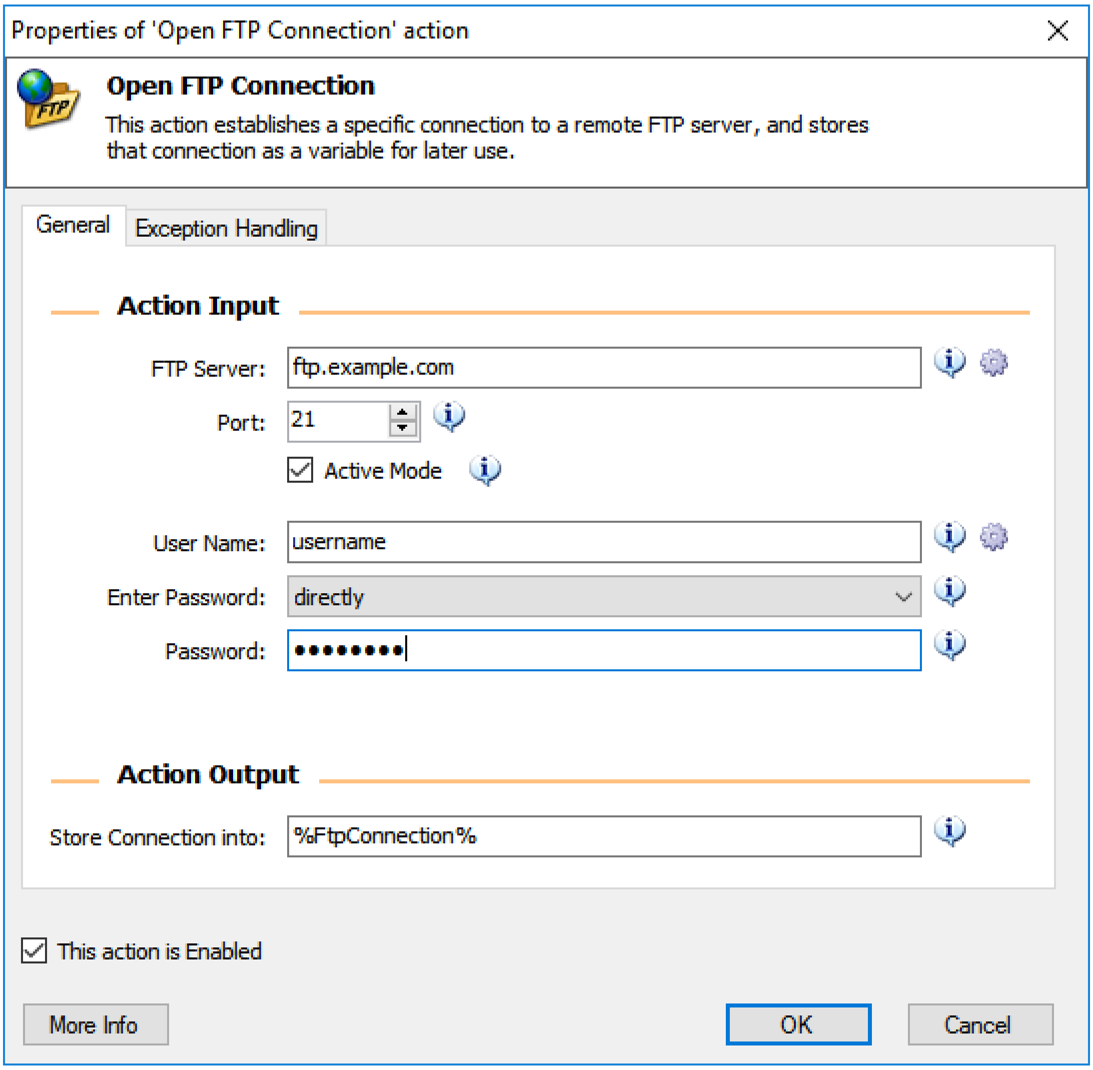
Enter the Password here. You may enter either a text, or a variable containing the password depending on the selection of the previous property (Enter Password).

5.14 FTP

5.14.1 Open FTP Connection Action

Description:

This action establishes a connection to a remote FTP server



Properties of 'Open FTP Connection' action

Open FTP Connection

This action establishes a specific connection to a remote FTP server, and stores that connection as a variable for later use.

Action Input

FTP Server: ftp.example.com

Port: 21

☑ Active Mode

User Name: username

Enter Password: directly

Password: ••••••••

Action Output

Store Connection into: %FtpConnection%

☑ This action is Enabled

Properties:

Ftp Server:

Enter the FTP Server address here.

Port:

Choose which port to use for the FTP Server. Usually, this is Port 21.

Active Mode:

Uncheck this box if you want the connection to be made in passive mode. Default is Active Mode, as that is most common.

User Name:

Enter the User Name for this FTP Server here.

Enter Password:

If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' it will expect you to enter a variable and treat the '%' as an indicator of a variable, not part of the password.

Password:

Enter the Password here. You may enter either a text, or a variable containing the password depending on the selection of the previous property (Enter Password).

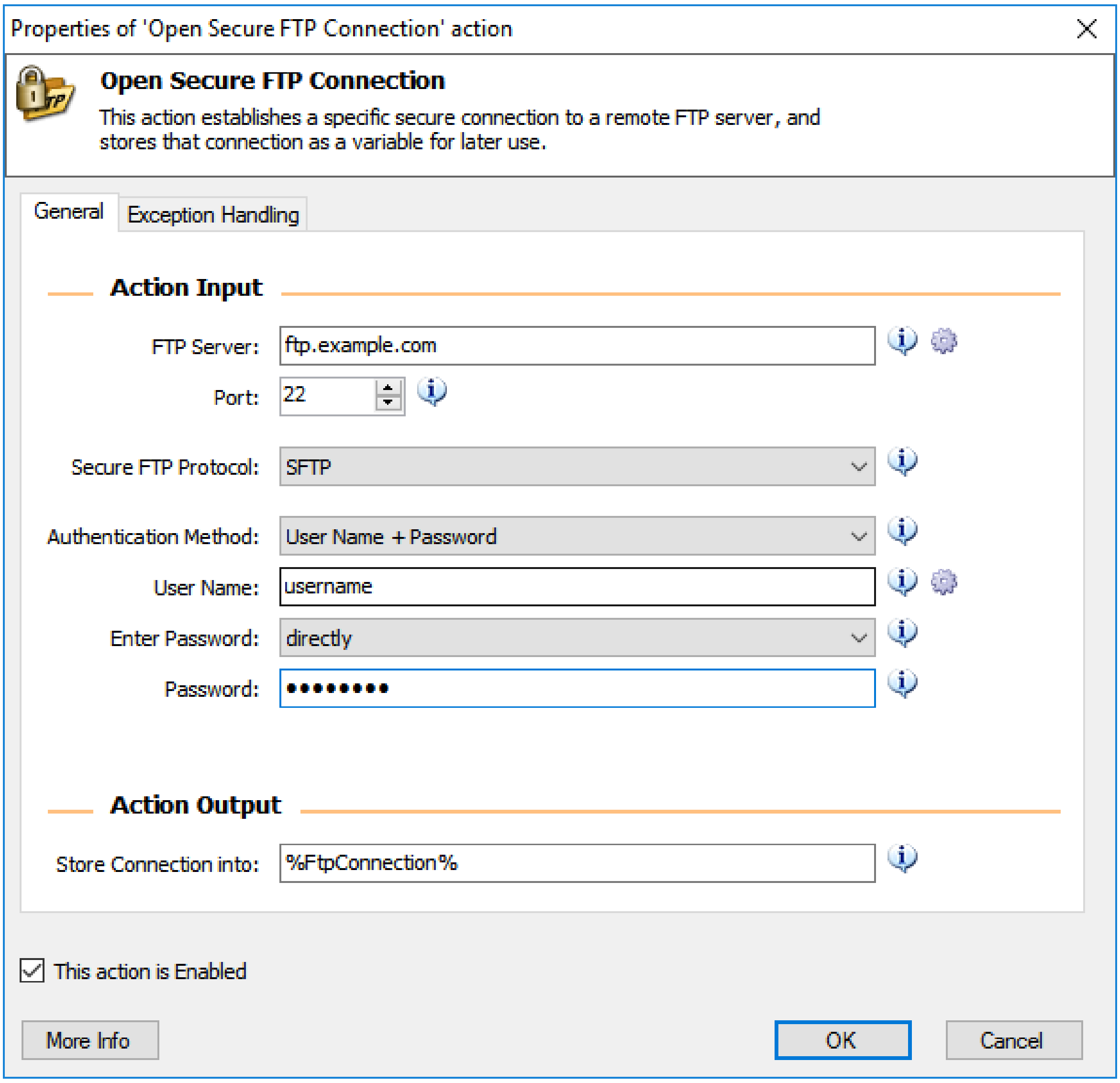
Store Connection into:

Enter a name to be the variable that will store the specific FTP Connection for use with later FTP Actions. This allows you to specify which, of possibly several, FTP Connection to access.

5.14.2 Open Secure FTP Connection Action

Description:

This action establishes a secure connection to a remote FTP server



Properties of 'Open Secure FTP Connection' action

Open Secure FTP Connection

This action establishes a specific secure connection to a remote FTP server, and stores that connection as a variable for later use.

Action Input

FTP Server: ftp.example.com

Port: 22

Secure FTP Protocol: SFTP

Authentication Method: User Name + Password

User Name: username

Enter Password: directly

Password: •••••••••

Action Output

Store Connection into: %FtpConnection%

☑ This action is Enabled

Properties:

Ftp Server:

Enter the FTP Server address here.

Port:

Choose which port to use for the FTP Server.

Secure FTP Protocol:

Choose the FTP protocol you wish to use to encrypt your connection.

Authentication Method:

Choose the method you wish to use to authenticate yourself on the FTP server. You have the choice between using username and password or username and a private key file which may or may not protected by a passphrase.

User Name:

Enter the User Name for this FTP Server here.

Enter Password:

If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' it will expect you to enter a variable and treat the '%' as an indicator of a variable, not part of the password.

Password:

Enter the Password here. You may enter either a text, or a variable containing the password depending on the selection of the previous property (Enter Password).

File Path to Private Key:

If the authentication method is set to "Private Key" enter here the path to the file containing the private-key to be used for authentication.

Enter Private Key Pass Phrase:

If you choose 'directly', the pass phrase entered in the Private Key Pass Phrase field will be hidden. If you choose 'as variable' it will expect you to enter a variable and treat the '%' as an indicator of a variable, not part of the password.

Private Key Pass Phrase:

Enter the private key pass phrase here. You may enter either a text, or a variable containing the password depending on the selection of the previous property (Enter Private Key Pass Phrase).

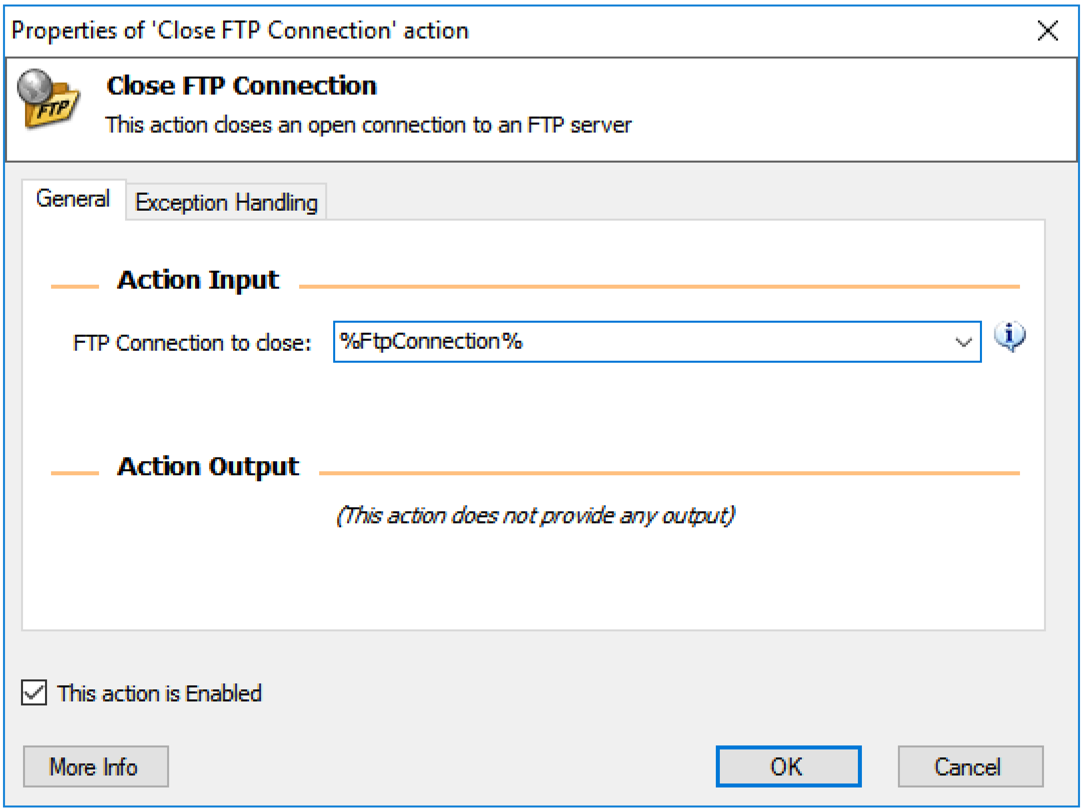
Store Connection into:

Enter a name to be the variable that will store the specific FTP Connection for use with later FTP Actions. This allows you to specify which, of possibly several, FTP Connection to access.

5.14.3 Close FTP Connection Action

Description:

This action closes an open connection to an FTP server



Properties of 'Close FTP Connection' action

Close FTP Connection

This action closes an open connection to an FTP server

Action Input

FTP Connection to close: %FtpConnection%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

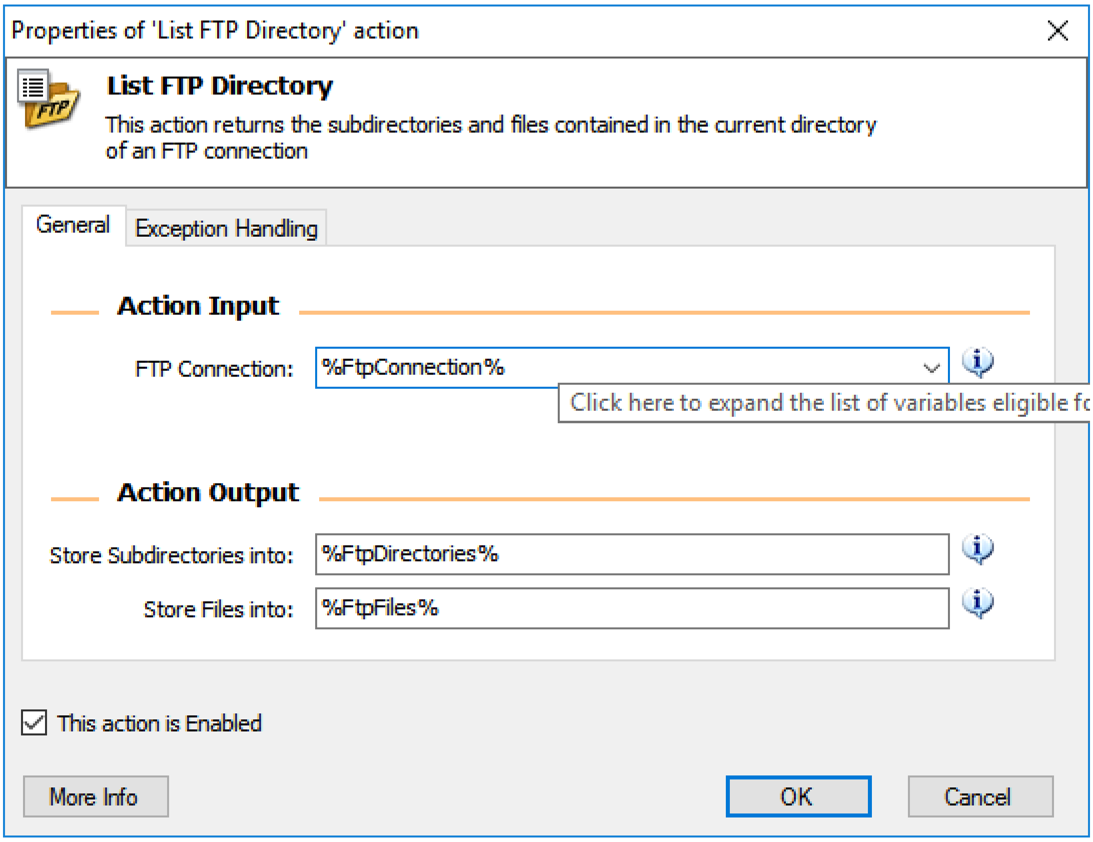
FTP Connection to close:

Enter the variable containing the previously opened FTP Connection you wish to close. You must have previously specified this variable in an Open FTP Connection action.

5.14.4 List FTP Directory Action

Description:

This action returns the subdirectories and files contained in the current directory of an FTP connection



Properties of 'List FTP Directory' action

List FTP Directory

This action returns the subdirectories and files contained in the current directory of an FTP connection

Action Input

FTP Connection: %FtpConnection%

Click here to expand the list of variables eligible fo

Action Output

Store Subdirectories into: %FtpDirectories%

Store Files into: %FtpFiles%

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to look in. You must have previously specified this variable in an Open FTP Connection action.

Store Subdirectories into:

Enter a name to be the variable that will store the list of FTP folders in the current FTP location.

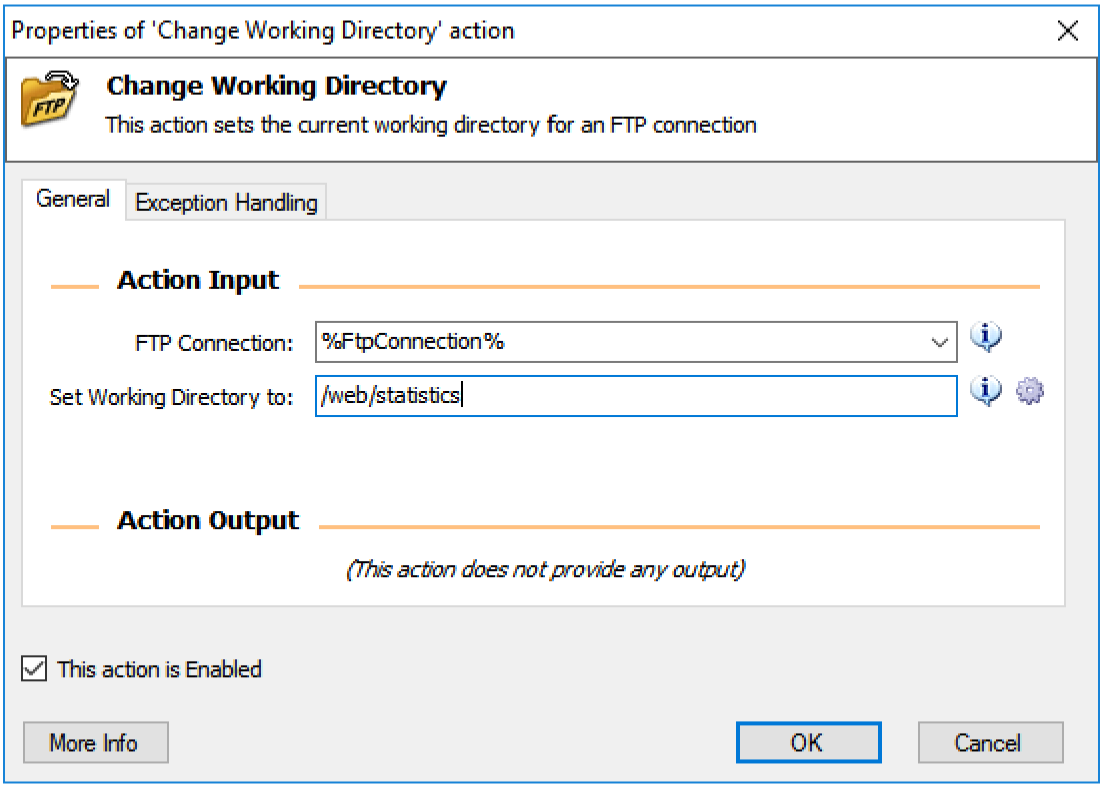
Store Files into:

Enter a name to be the variable that will store the list of FTP files in the current FTP location.

5.14.5 Change Working Directory Action

Description:

This action sets the current working directory for an FTP connection



Properties of 'Change Working Directory' action

Change Working Directory

This action sets the current working directory for an FTP connection

Action Input

FTP Connection: %FtpConnection%

Set Working Directory to: /web/statistics

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to alter. You must have previously specified this variable in an Open FTP Connection action.

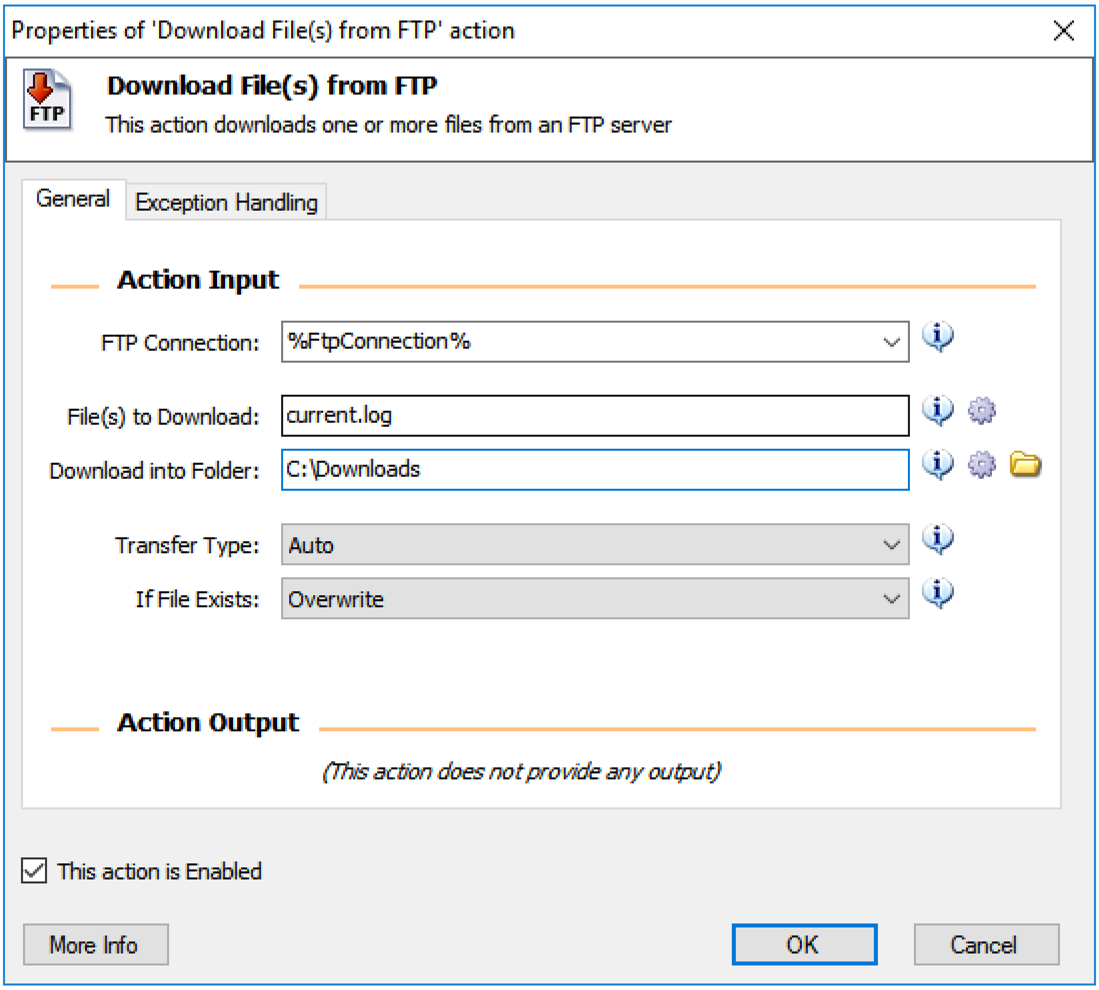
Set Working Directory to:

Enter the path, or a variable containing the path, that you want to set as the new directory you are working from. When you first connect to an FTP Server, you are always in the root directory. This allows you to work with files and folders in a different directory without specifying a path each time.

5.14.6 Download File(s) from FTP Action

Description:

This action downloads one or more files from an FTP server



Properties of 'Download File(s) from FTP' action

Download File(s) from FTP

This action downloads one or more files from an FTP server

Action Input

FTP Connection: %FtpConnection%

File(s) to Download: current.log

Download into Folder: C:\Downloads

Transfer Type: Auto

If File Exists: Overwrite

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to download from. You must have previously specified this variable in an Open FTP Connection action.

File(s) to Download:

Enter the name of the file(s), filepath(s), or a variable containing the file(s), that you wish to download.

Download into Folder:

Enter the full path of a folder, or the name of a variable containing a folder, to be the destination of the file(s) you are downloading.

Transfer Type:

Enter ASCII or binary if you wish to specify the method for downloading a single file. If you're not sure what type the file will be, or if you are downloading more than one, choose Auto so WinAutomation will follow the transfer rules specified in Tools -> Options -> FTP from the WinAutomation Console.

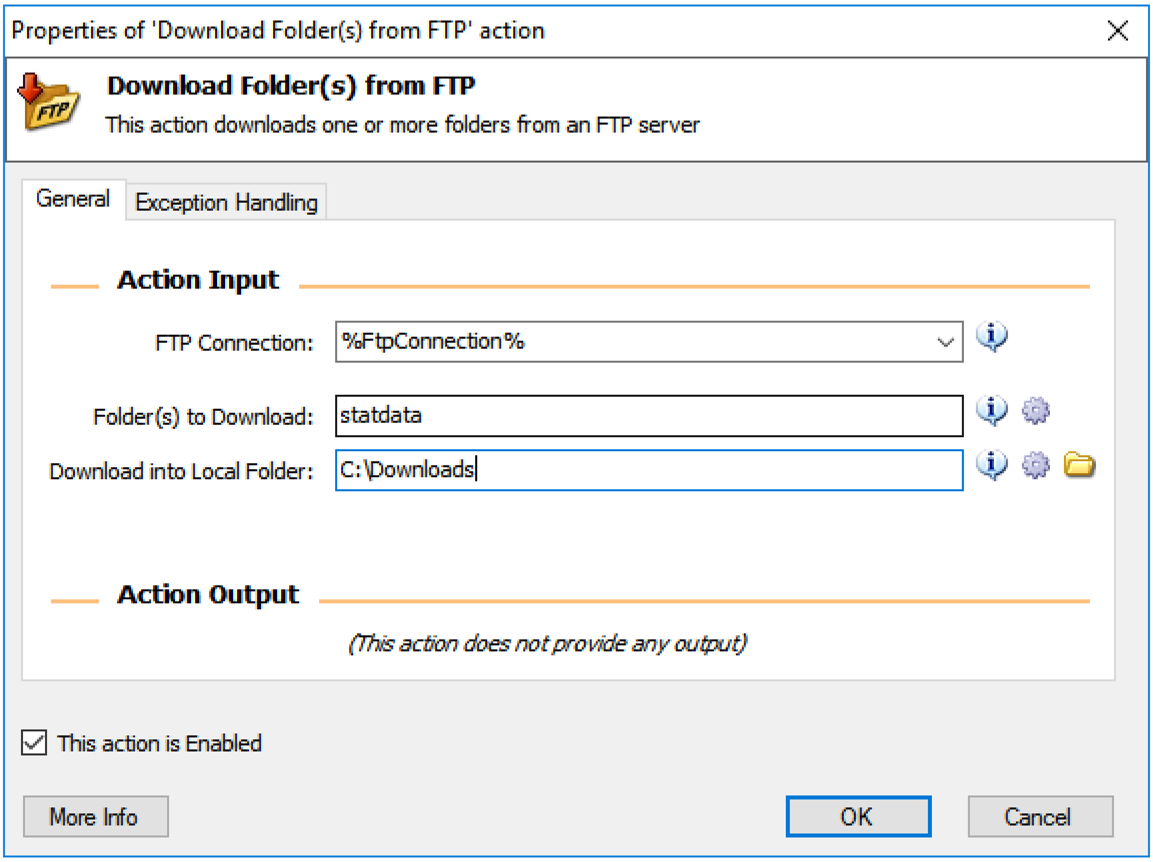
If File Exists:

Choose what you want to do if the file already exists. Overwrite writes over the original file so you can't access it any more, and Download with Unique Name adds an underscore and a sequential number to the end.

5.14.7 Download Folder(s) from FTP Action

Description:

This action downloads one or more folders from an FTP server



Properties of 'Download Folder(s) from FTP' action

Download Folder(s) from FTP

This action downloads one or more folders from an FTP server

Action Input

FTP Connection: %FtpConnection%

Folder(s) to Download: statdata

Download into Local Folder: C:\Downloads

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to download from. You must have previously specified this variable in an Open FTP Connection action.

File to Download:

Enter the name of the folder(s) path(s), or a variable containing the FTP folder(s), that you wish to download.

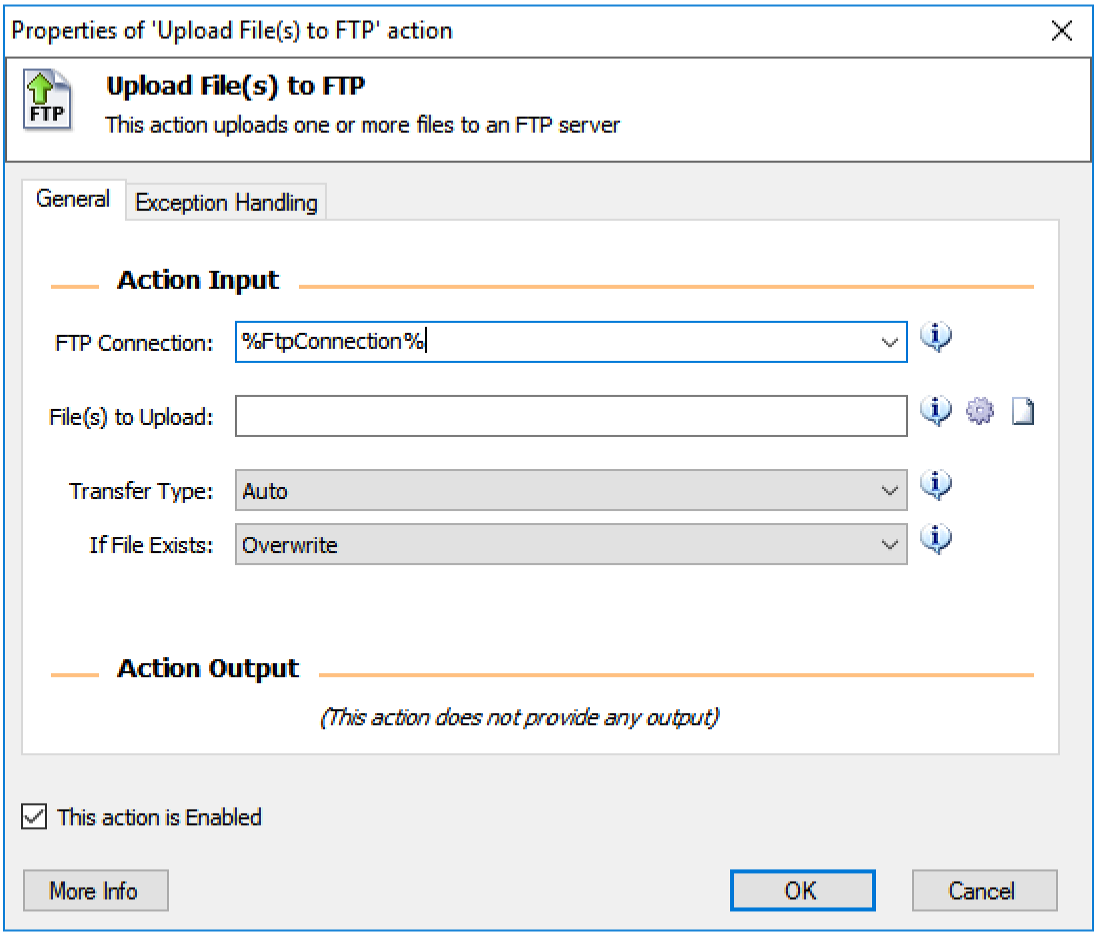
Download into Folder:

Enter the full path of a folder, or the name of a variable containing a folder, to be the destination of the FTP Folder(s) you are downloading.

5.14.8 Upload File(s) to FTP Action

Description:

This action uploads one or more files to an FTP server


Properties of 'Upload File(s) to FTP' action

Upload File(s) to FTP

This action uploads one or more files to an FTP server

Action Input

FTP Connection: %FtpConnection%

File(s) to Upload:

Transfer Type: Auto

If File Exists: Overwrite

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to upload to. You must have previously specified this variable in an Open FTP Connection action.

File to Upload:

Enter the full path of the file(s), or a variable containing file(s), to upload.

Transfer Type:

Enter ASCII or binary if you wish to specify the method for downloading a single file. If you're not sure what type the file will be, or if you are downloading more than one, choose Auto so WinAutomation will follow the transfer rules specified in Tools -> Options -> FTP from the WinAutomation Console.

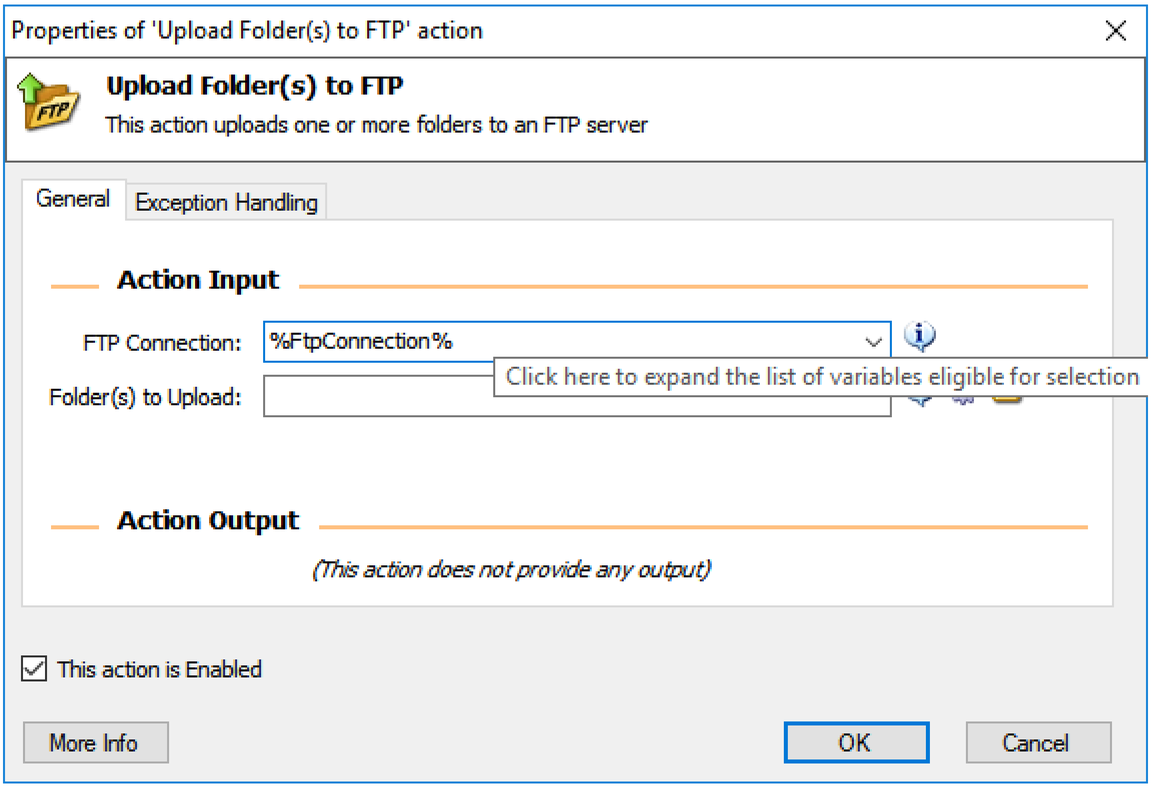
If File Exists:

Choose what you want to do if the file already exists. Overwrite writes over the original file so you can't access it any more, and Download with Unique Name adds an underscore and a sequential number to the end.

5.14.9 Upload Folder(s) to FTP Action

Description:

This action uploads one or more folders to an FTP server



Properties of 'Upload Folder(s) to FTP' action

Upload Folder(s) to FTP

This action uploads one or more folders to an FTP server

General | Exception Handling

Action Input

FTP Connection: %FtpConnection%

Click here to expand the list of variables eligible for selection

Folder(s) to Upload:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to upload to. You must have previously specified this variable in an Open FTP Connection action.

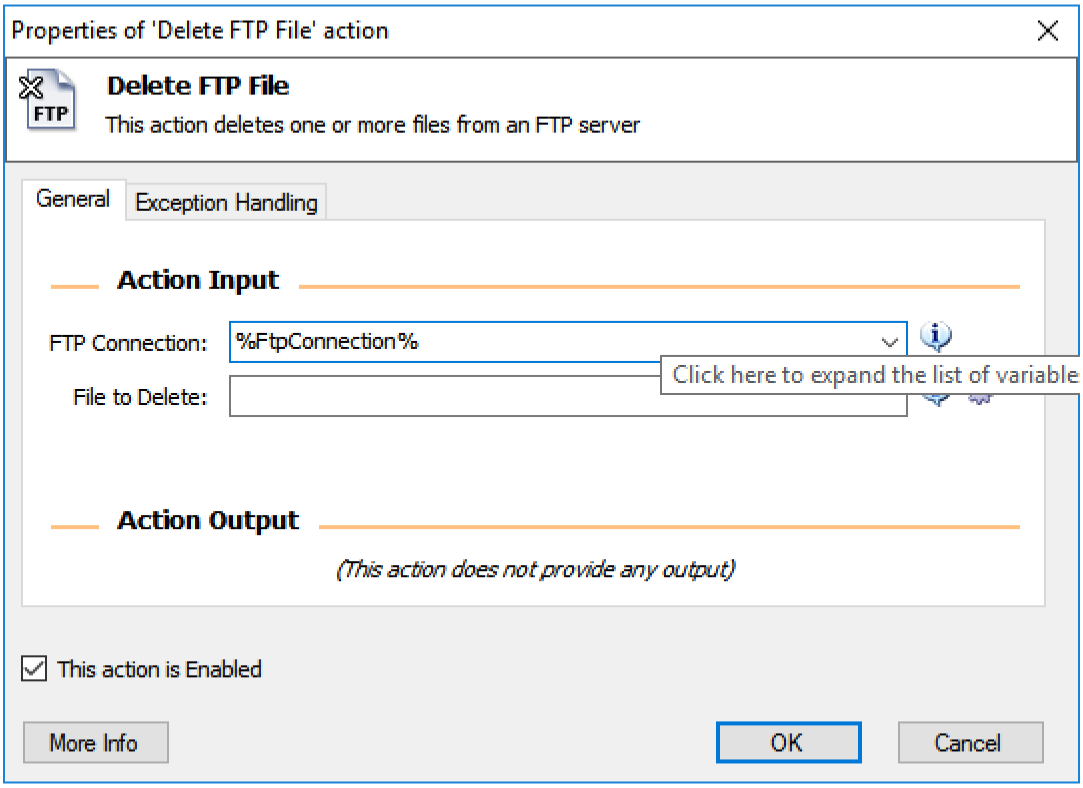
Folder(s) to Upload:

Enter the full path of the folder(s), or a variable containing folder(s), to upload.

5.14.10 Delete FTP File Action

Description:

This action deletes one or more files from an FTP server



Properties of 'Delete FTP File' action

Delete FTP File

This action deletes one or more files from an FTP server

General | Exception Handling

Action Input

FTP Connection: %FtpConnection%

Click here to expand the list of variable

File to Delete:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to work in. You must have previously specified this variable in an Open FTP Connection action.

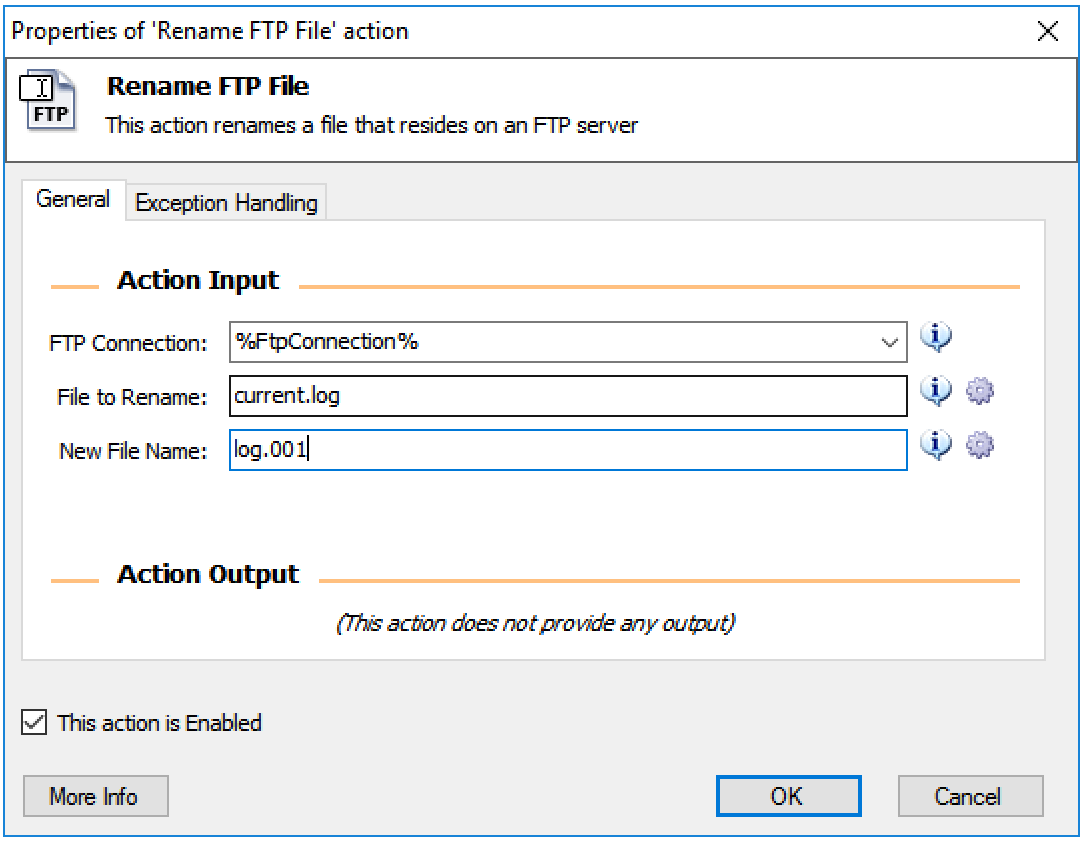
File to Delete:

Enter the name of the file, filepath, or a variable containing a file, that you wish to delete.

5.14.11 Rename FTP File Action

Description:

This action renames a file that resides on an FTP server



Properties of 'Rename FTP File' action

Rename FTP File

This action renames a file that resides on an FTP server

General | Exception Handling

Action Input

FTP Connection: %FtpConnection%

File to Rename: current.log

New File Name: log.001

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Ftp Connection:

Enter the variable containing the previously opened FTP Connection you wish to work in. You must have previously specified this variable in an Open FTP Connection action.

File to Rename:

Enter the name of the file, filepath, or a variable containing a file, that you wish to rename.

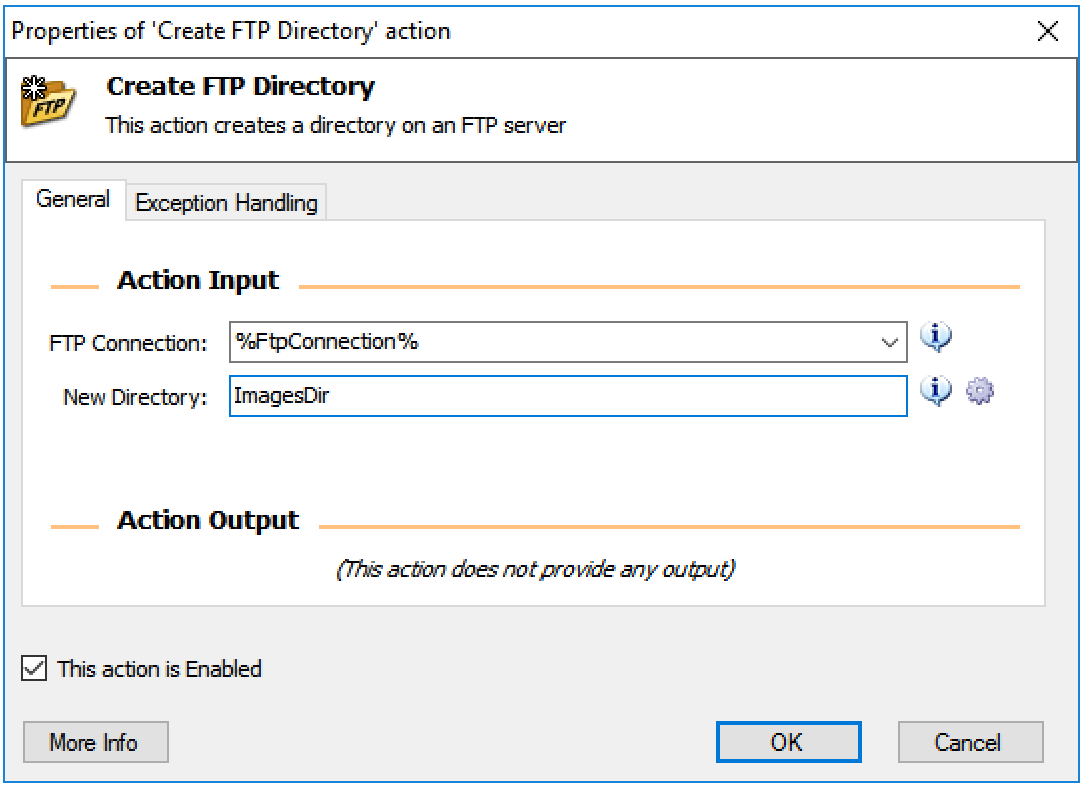
New File Name:

Enter a new name for the file, or a variable containing the new name of the file. If you enter a name with a path, the file will also be moved to that location. If the location doesn't exist, it will throw an exception.

5.14.12 Create FTP Directory Action

Description:

This action creates a directory on an FTP server


Properties of 'Create FTP Directory' action

Create FTP Directory

This action creates a directory on an FTP server

Action Input

FTP Connection: %FtpConnection%

New Directory: ImagesDir

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to work in. You must have previously specified this variable in an Open FTP Connection action.

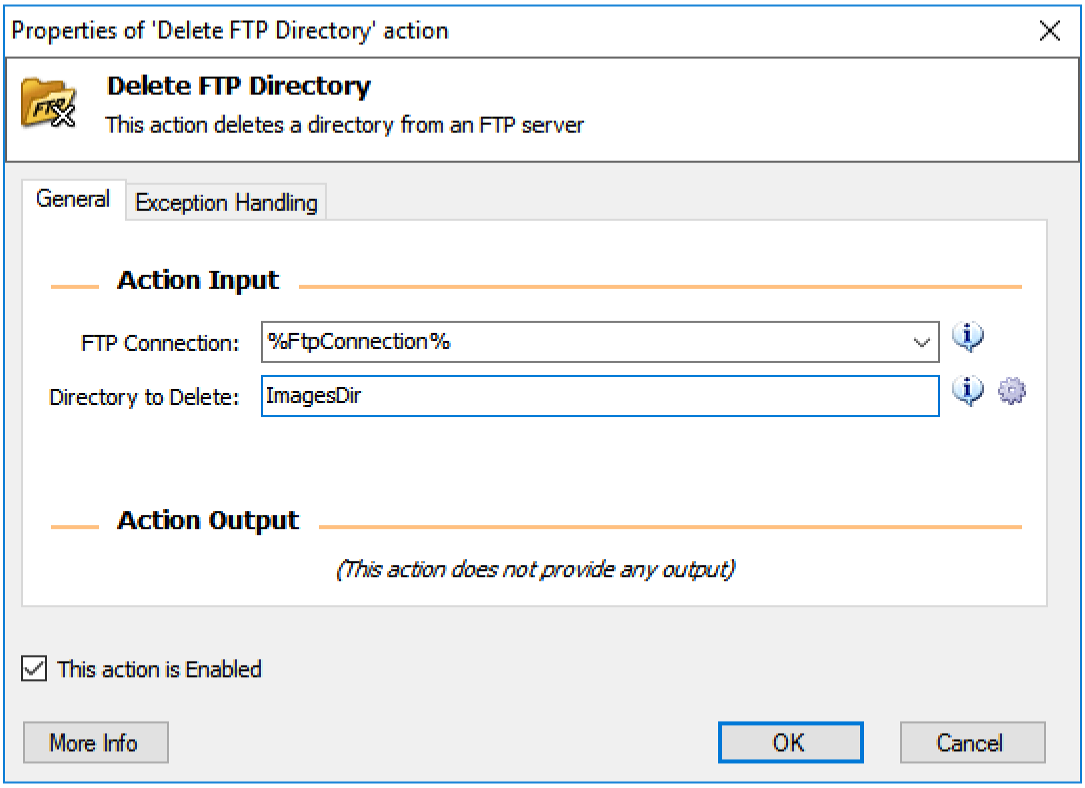
New Directory:

Enter a name, or a variable containing a name, to be the new directory. If this directory already exists, nothing will happen. If you specify a path, all of the new folders leading to the new directory will be created.

5.14.13 Delete FTP Directory Action

Description:

This action deletes a directory from an FTP server



Properties of 'Delete FTP Directory' action

Delete FTP Directory

This action deletes a directory from an FTP server

Action Input

FTP Connection: %FtpConnection%

Directory to Delete: ImagesDir

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to work in. You must have previously specified this variable in an Open FTP Connection action.

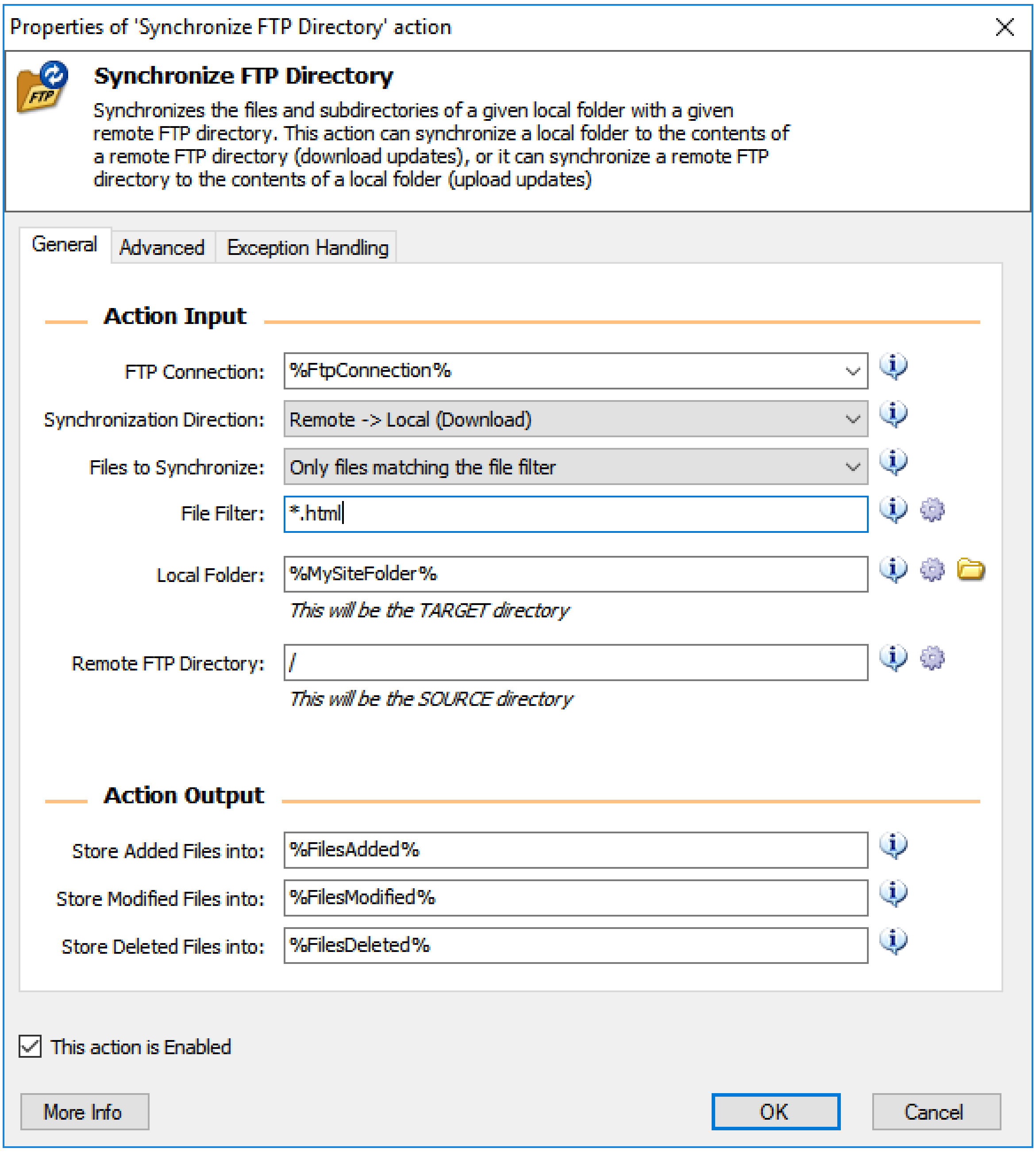
Directory to Delete:

Enter the name, or a variable containing the name, of a folder to be deleted. Everything in the folder will be deleted as well.

5.14.14 Synchronize FTP Directory Action

Description:

Synchronizes the files and subdirectories of a given local folder with a given remote FTP directory. This action can synchronize a local folder to the contents of a remote FTP directory (download updates), or it can synchronize a remote FTP directory to the contents of a local folder (upload updates).



Properties of 'Synchronize FTP Directory' action

Synchronize FTP Directory

Synchronizes the files and subdirectories of a given local folder with a given remote FTP directory. This action can synchronize a local folder to the contents of a remote FTP directory (download updates), or it can synchronize a remote FTP directory to the contents of a local folder (upload updates)

Action Input

FTP Connection: %FtpConnection%

Synchronization Direction: Remote -> Local (Download)

Files to Synchronize: Only files matching the file filter

File Filter: *.html

Local Folder: %MySiteFolder%

This will be the TARGET directory

Remote FTP Directory: /

This will be the SOURCE directory

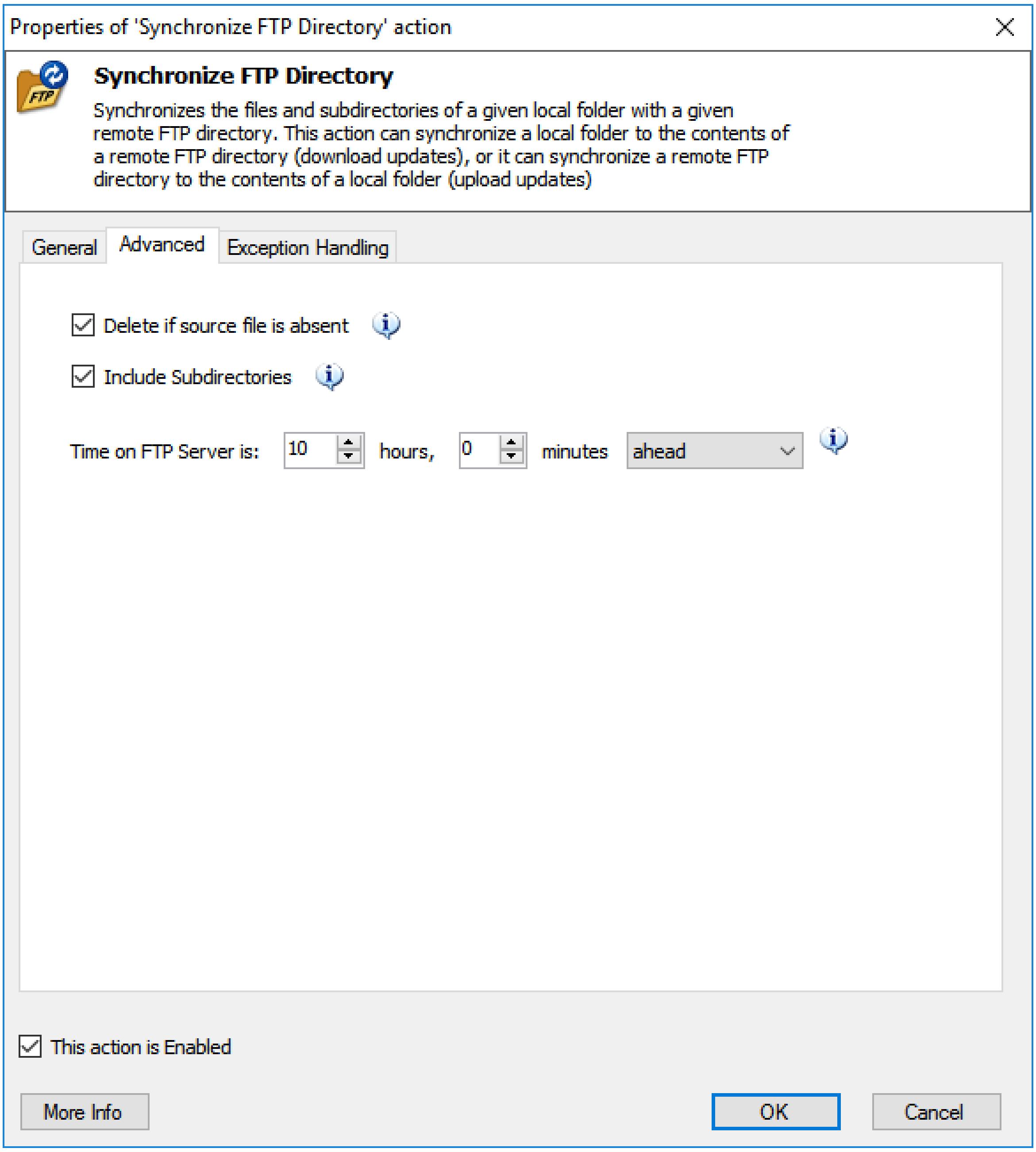
Action Output

Store Added Files into: %FilesAdded%

Store Modified Files into: %FilesModified%

Store Deleted Files into: %FilesDeleted%

☑ This action is Enabled



Properties of 'Synchronize FTP Directory' action

Synchronize FTP Directory

Synchronizes the files and subdirectories of a given local folder with a given remote FTP directory. This action can synchronize a local folder to the contents of a remote FTP directory (download updates), or it can synchronize a remote FTP directory to the contents of a local folder (upload updates)

☑ Delete if source file is absent

☑ Include Subdirectories

Time on FTP Server is: 10 hours, 0 minutes ahead

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to work in. You must have previously specified this variable in an Open FTP Connection action.

Synchronization Direction:

Choose the direction of synchronization, i.e., whether the local folder will be synchronized to the remote directory (DOWNLOAD) or the remote directory will be synchronized to the local folder (UPLOAD).

Files to Synchronize:

Choose whether you want to synchronize all files, or you want to use a file filter to include or exclude a specific set of files.

File Filter:

Enter the File-name pattern that controls which files will be included to, or excluded from the synchronization (depending on the setting of the 'Files to Synchronize' property). This allows wild cards, for example "*.txt" or "document?.doc" (without the quotes). If you want to allow for multiple file filters, separate your choices with comma, for example, "*.txt,*.exe".

Local Folder:

Enter the name (or a variable) of the local folder to be synchronized. Depending on the synchronization 'Direction' property, this will be either the source or the target directory.

Remote FTP Directory:

Enter the name (or a variable) of the remote FTP directory to be synchronized. Depending on the synchronization 'Direction' property this will be either the source or the target directory.

Delete if source is absent:

Choose whether you want a file that exists only in the target directory and not in the source directory to be deleted from the target directory during synchronization.

Include Subdirectories:

Choose whether you want the subdirectories of the specified directories to be included in the synchronization process.

Time on FTP Server is:

Enter here the time difference between the FTP server and the local computer. Very often FTP servers are located in different time zones to their clients. The time difference should be used to ensure correct date matching, so that the action will be able to detect which files are out of date and should be synchronized.

Store Added Files into:

Enter the name to be the variable that will hold the list of files that initially existed only in the source directory and after the synchronization were added to the target directory.

If the target directory is the local folder (download direction selected), this variable will hold a list of Files, otherwise, if the target directory is the remote FTP directory (upload direction selected), this variable will hold a list of FTP Files.

Store Modified Files into:

Enter the name to be the variable that will hold the list of files that initially existed in both the source and target directory and were transferred from source to target during synchronization.

If the target directory is the local folder (download direction selected), this variable will hold a list of Files, otherwise, if the target directory is the remote FTP directory (upload direction selected), this variable will hold a list of FTP Files.

Store Deleted Files into:

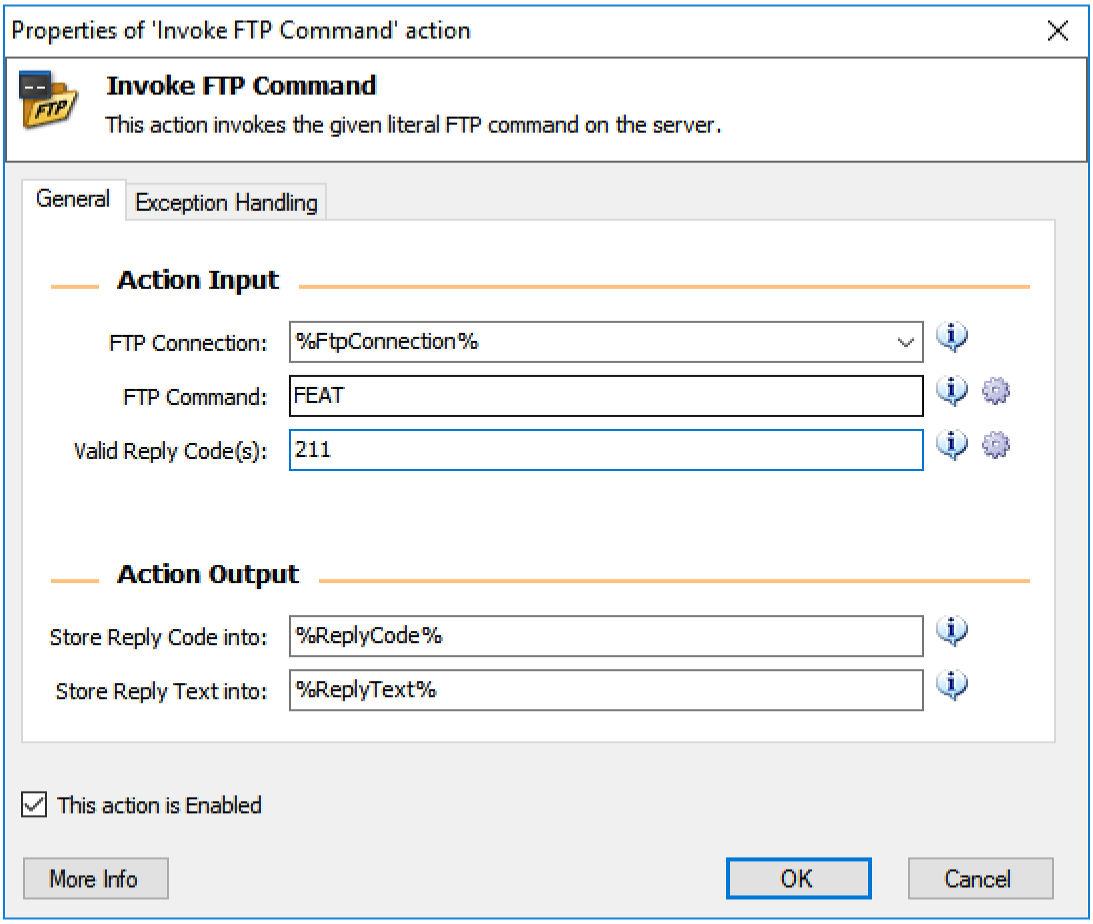
Enter the name to be the variable that will hold the list of files that initially existed only in the target directory and were deleted during synchronization. Note that files that appear only in the target directory are deleted only if the 'Delete if source file is absent' property is checked.

If the target directory is the local folder (download direction selected), this variable will hold a list of Files, otherwise, if the target directory is the remote FTP directory (upload direction selected), this variable will hold a list of FTP Files.

5.14.15 Invoke FTP Command Action

Description:

This action invokes the given literal FTP command on the server.



Properties of 'Invoke FTP Command' action

Invoke FTP Command

This action invokes the given literal FTP command on the server.

Action Input

FTP Connection: %FtpConnection%

FTP Command: FEAT

Valid Reply Code(s): 211

Action Output

Store Reply Code into: %ReplyCode%

Store Reply Text into: %ReplyText%

☑ This action is Enabled

Properties:

FTP Connection:

Enter the variable containing the previously opened FTP Connection you wish to work in. You must have previously specified this variable in an Open FTP Connection action.

FTP Command:

Enter the command, or a variable containing the command, that you wish to run along with any arguments. For example, you could run FEAT, or CHMOD here.

Valid Reply Code(s):

Enter the code(s) that could be returned by the Command, separated by semi-colon. If the FTP Command returns a code that was not entered here, this action will throw an exception.

Store Reply Code into:

Enter a name to be the Variable that will contain the actual code that was returned.

Store Reply Text into:

Enter a name to be the Variable that will contain any text returned by the FTP Server.

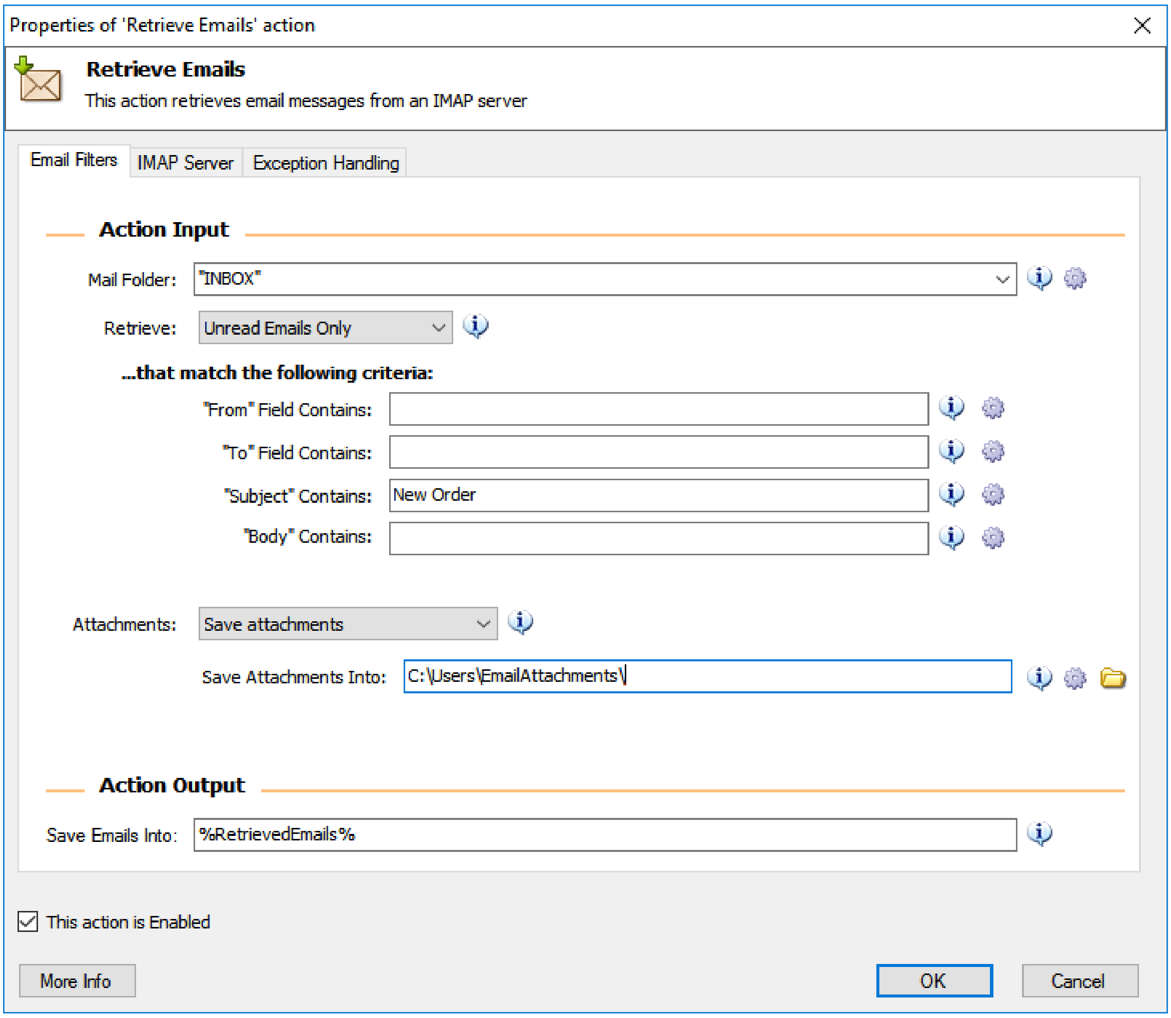
5.15 Email

5.15.1 Retrieve Emails Action

Description:

This action retrieves email messages from an IMAP server.

Messages can be filtered based on various criteria, such as the sender's address, the IMAP folder (location on server) or even the existence of specific keywords in the body, subject or other fields of the email.



Properties of 'Retrieve Emails' action

Retrieve Emails

This action retrieves email messages from an IMAP server

Action Input

Mail Folder: "INBOX"

Retrieve: Unread Emails Only

...that match the following criteria:

"From" Field Contains:

"To" Field Contains:

"Subject" Contains: New Order

"Body" Contains:

Attachments: Save attachments

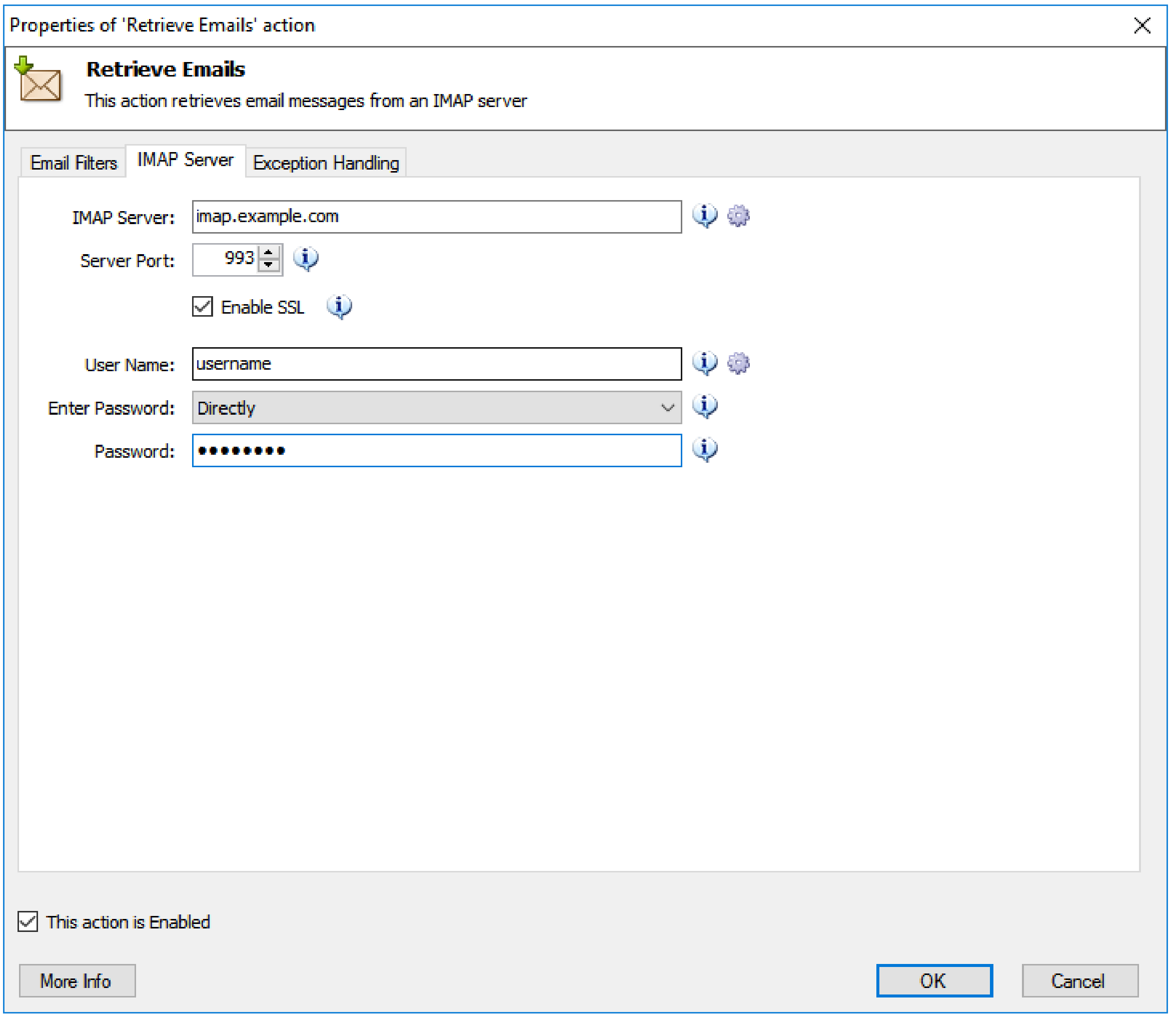
Save Attachments Into: C:\Users\EmailAttachments\

Action Output

Save Emails Into: %RetrievedEmails%

☑ This action is Enabled

Note that this action will mark the retrieved emails as read on the server. If you wish to keep the emails marked as unread you can change their state back to unread through the Process Emails Action. Only the messages that match **all** of the filters set in the action will be included in the retrieval and marking.


Properties of 'Retrieve Emails' action

Retrieve Emails

This action retrieves email messages from an IMAP server

IMAP Server: imap.example.com

Server Port: 993

☑ Enable SSL

User Name: username

Enter Password: Directly

Password: ••••••••

☑ This action is Enabled

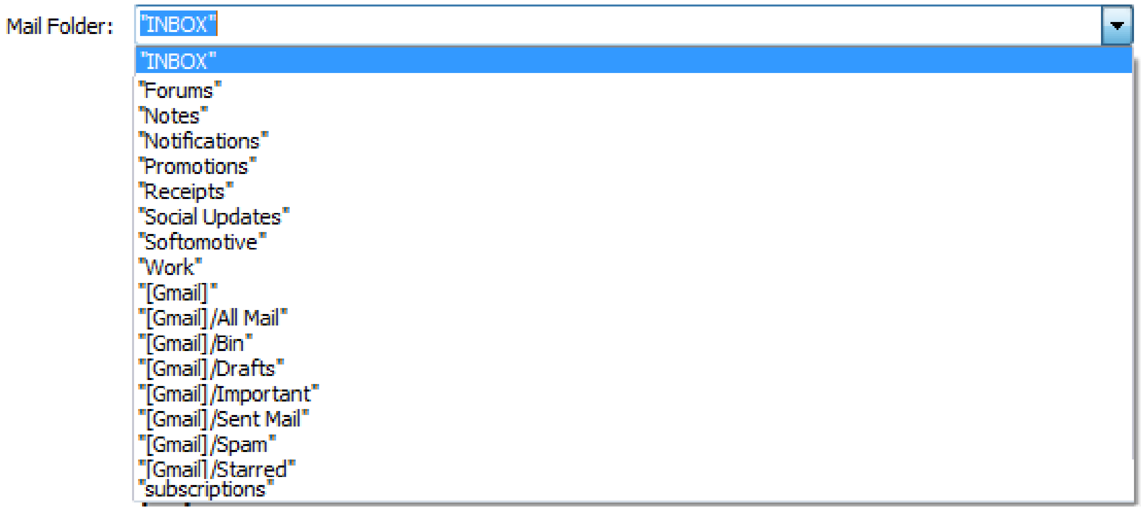
Properties:

Mail Folder:

In the Mail Folder property you can enter the name of the mail folder (also known as `Mailbox') that you want to retrieve messages from.

You can select to retrieve emails from your INBOX or from any other folder of your email account. To avoid confusion, you should keep in mind that in this action, by using the term "Mail Folder", we refer to the folders of your email server and not to the folders where you store your files locally, in your PC.

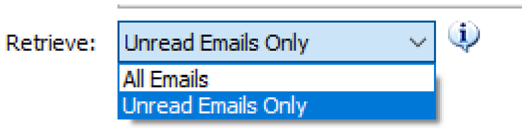
If you have already set some values in the IMAP Server Properties Tab for this or a previous Retrieve Emails action in the Process, the drop-down menu will load and present you all the available folders from your email server. However, even if you have not already set IMAP Server properties, you can specify your preferred Mail Folder by just typing its name in the Mail Folder property (provided that when you execute this Process, the specified folder will exist in the email server).



Mail Folder: "INBOX"

Retrieve:

In the Retrieve property you can specify whether you want to retrieve all messages from the Mail Folder, or only the unread ones. This could be important especially when the Retrieve Emails Action is to be performed periodically and you want to get feedback on only the updated conversations and unread emails from your mailbox.



Retrieve: Unread Emails Only

From Contains:

Enter the full e-mail address of the Sender whose messages you want to retrieve. Leave this field blank to retrieve all messages regardless of the sender.

To Contains:

Enter the full e-mail address(es) of the Receipient(s) (separated by space if more than one) for the messages you want to retrieve. Leave this field blank to retrieve all messages regardless of the recipient(s).

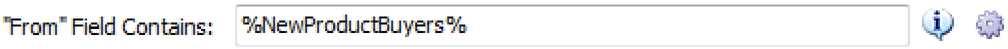
Subject Contains:

Enter the keywords to be found within the email Subject. Leave this field blank to retrieve all emails regardless of the their subject.

Body Contains:

Enter the keywords to be found within the email Body. Leave this field blank to retrieve all emails regardless of the their content.

Of course, as with any other property in WinAutomation, you have the option to define your criteria on all "Contains" properties using Process Variables. You can, for example, set the “From Contains” property to get its value from a variable where you have stored email address information of the customers that bought a specific product and you want to retrieve any feedback provided by them:

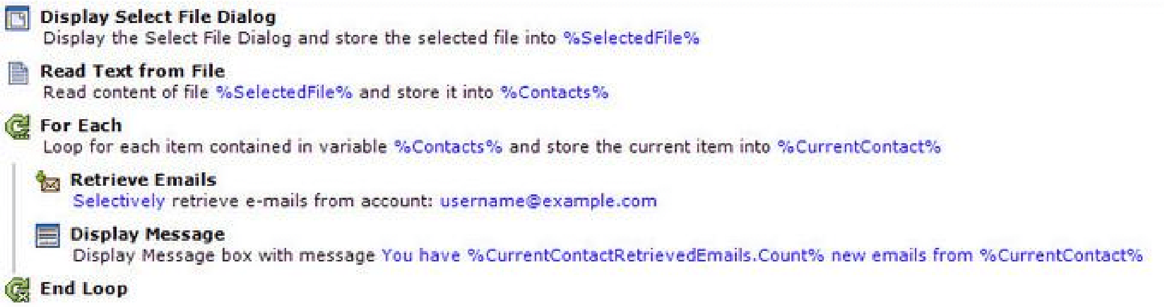


"From" Field Contains: %NewProductBuyers%

With this setting the Retrieve Emails Action will search your specified Mailbox (or your email server inbox if not otherwise specified) for any emails sent by any of the email addresses stored as the values of this Variable (unread or all according to your preference) and retrieve them.

The use of Variables as the values of the Sender’s and/or Receiver’s properties also gives you the option to include the Retrieve Emails Action in a Loop Section of a Process and iteratively check and retrieve emails for each one of this group of email addresses.

Below we present you a part of a script that uses a variable (here named %Contacts %) as that input of "From Field Contains" property of Retrieve Emails Action, in order to retrieve emails sent by each one of a group of contacts and display a message informing you about the number of the unread messages you have from each one of them.



Display Select File Dialog
Display the Select File Dialog and store the selected file into %SelectedFile%

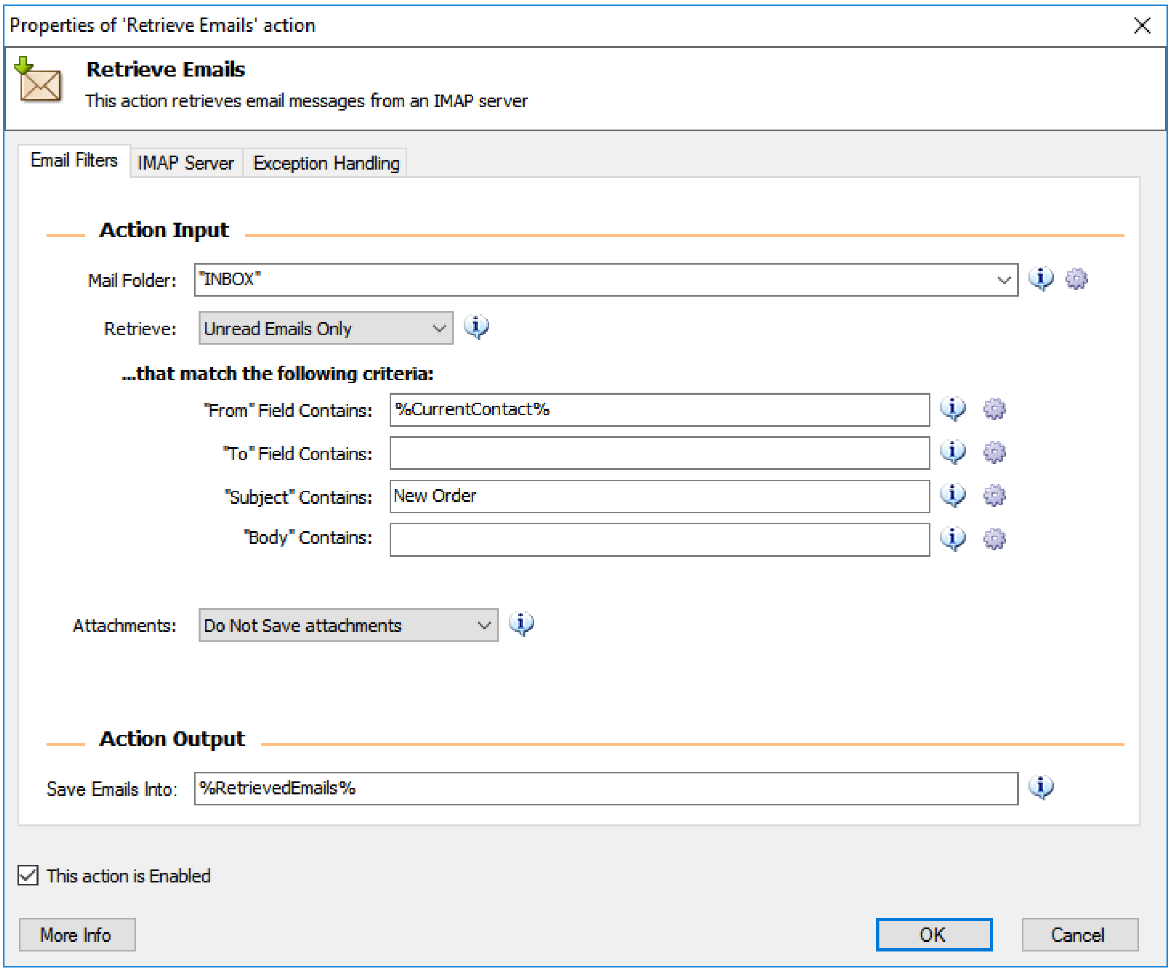
Read Text from File
Read content of file %SelectedFile% and store it into %Contacts%

For Each
Loop for each item contained in variable %Contacts% and store the current item into %CurrentContact%

Retrieve Emails
Selectively retrieve e-mails from account: username@example.com

Display Message
Display Message box with message You have %CurrentContactRetrievedEmails.Count% new emails from %CurrentContact%

End Loop



Properties of 'Retrieve Emails' action

Retrieve Emails

This action retrieves email messages from an IMAP server

Action Input

Mail Folder: "INBOX"

Retrieve: Unread Emails Only

...that match the following criteria:

"From" Field Contains: %CurrentContact%

"To" Field Contains:

"Subject" Contains: New Order

"Body" Contains:

Attachments: Do Not Save attachments

Action Output

Save Emails Into: %RetrievedEmails%

☑ This action is Enabled

Attachments:

Specify whether you want to save the attachments of the emails retrieved or not.

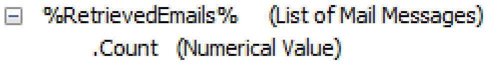
Save attachments into:

Enter here the folder in which you want the attachments to be saved. WinAutomation will save all the attachments of the retrieved emails to the same (specified) local folder. In the case that more than one emails have the same name, WinAutomation will rename them by appending a 4-digit suffix. For example, if there is already a file named *OrderForm.doc* in the destination folder, the next attachment of a retrieved email also named *OrderForm.doc* that is to be saved, will eventually be saved as *OrderForm_0001.doc.*

Furthermore, as you may see below in the Mail Message Variable Properties, each retrieved email variable is accompanied by a list of its attachments that are saved locally (represented by the attachments property) to which you can refer in order to track the email to which each file was attached to.

Save Emails into:

Enter a name to be the variable that will store the retrieved e-mails for later processing. The outcome of the Retrieved Email Action (%RetrievedEmails%) will be a **List of Mail Messages** variable. As every list variable[289], its only property is "Count" that has as value the number of the retrieved emails according to our selections in the Retrieve Emails Action properties fields:



⊟ %RetrievedEmails% (List of Mail Messages)
.Count (Numerical Value)

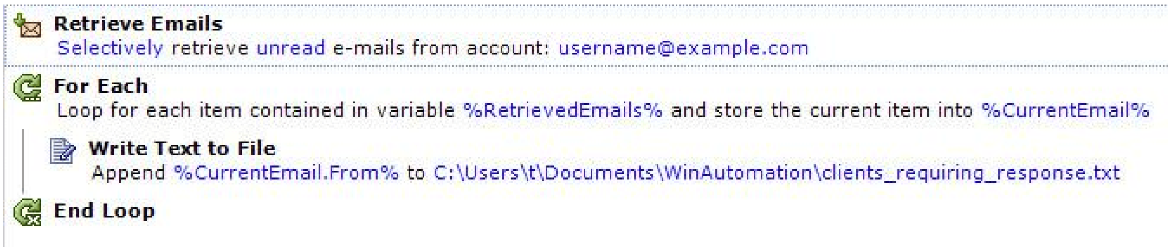
Each item of this list will be a Mail Message[291] object. Since *%RetrievedEmails%* Variable is a list type variable, each item of the list (i.e. each email) can be described by the following notation:
%RetrievedEmails[n]%
with *n* referring to the index of each retrieved email of our action (e.g. 0 for the first retrieved email, 1, for second).

Each **Mail Message** (included as an item in the **List of Mail Messages**) is itself a variable with the respective properties[290] (populated by the Retrieve Emails action).

You can retrieve any of each email's properties and use it as input in an action's properties by following the general notation:
%VariableName.PropertyName%
For example if you want to retrieve the Subject of the third retrieved email from you action, you should use the notation:
%RetrievedEmails[2].Subject%

Below you can see an example of how the Retrieve Emails Action can be used inside a loop. This section of the Process's script will search and retrieve all unread emails from your Inbox that their subject contains the subtext "*Order Form*" (as specified in the Retrieve Emails Action Properties window). If any of the retrieved emails has attachments, those will be saved locally, inside the specified folder. For every matching email, this Process will append the corresponding emails of the sender(s) to a specific text file.

In other words, the final outcome of this Process will be a text file containing all the sender addresses of messages with a subject containing the text "Order Form"

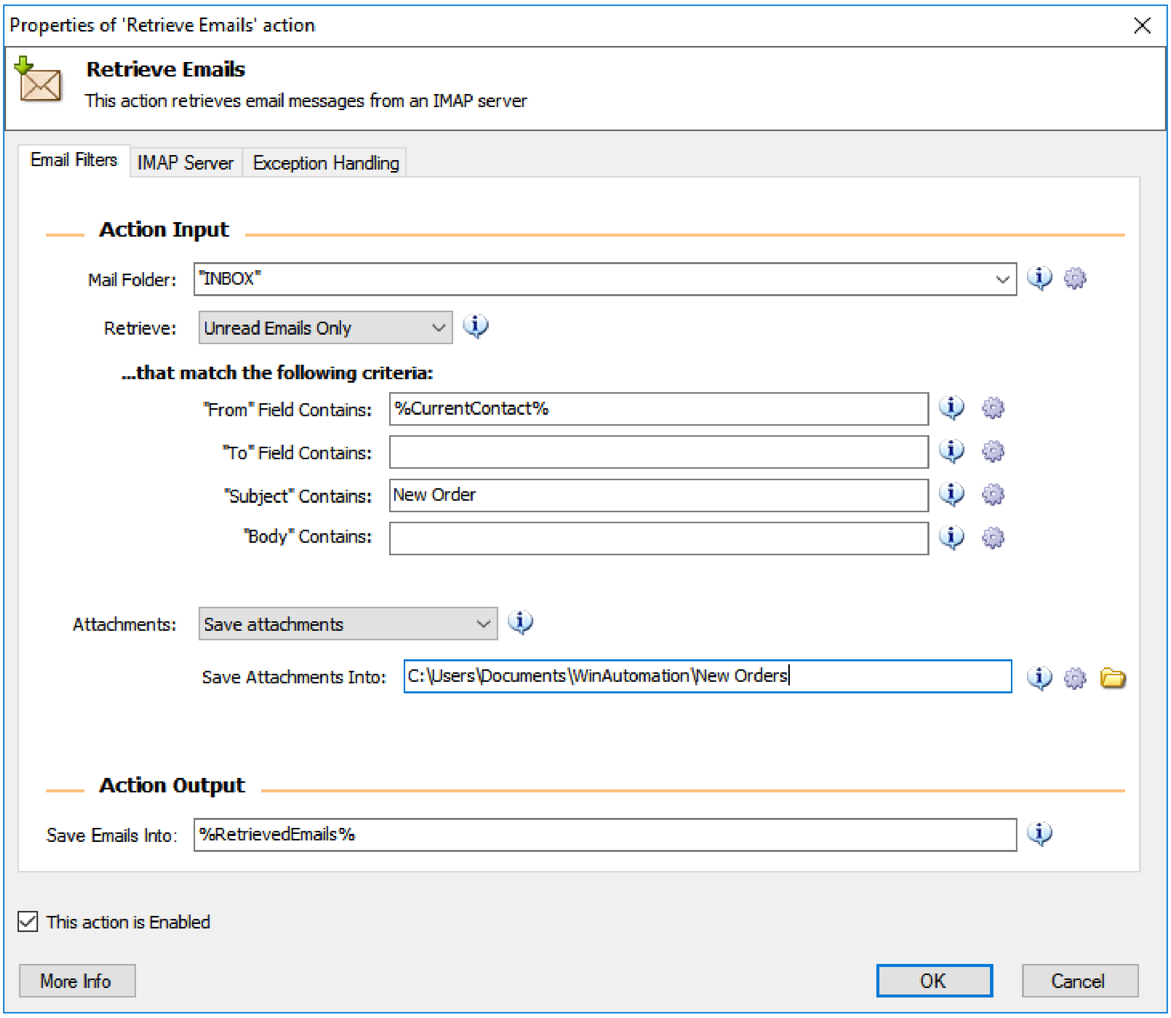


Retrieve Emails
Selectively retrieve unread e-mails from account: username@example.com

For Each
Loop for each item contained in variable %RetrievedEmails% and store the current item into %CurrentEmail%

Write Text to File
Append %CurrentEmail.From% to C:\Users\t\Documents\WinAutomation\clients_requiring_response.txt

End Loop



Properties of 'Retrieve Emails' action

Retrieve Emails

This action retrieves email messages from an IMAP server

Action Input

Mail Folder: "INBOX"

Retrieve: Unread Emails Only

...that match the following criteria:

"From" Field Contains: %CurrentContact%

"To" Field Contains:

"Subject" Contains: New Order

"Body" Contains:

Attachments: Save attachments

Save Attachments Into: C:\Users\Documents\WinAutomation\New Orders

Action Output

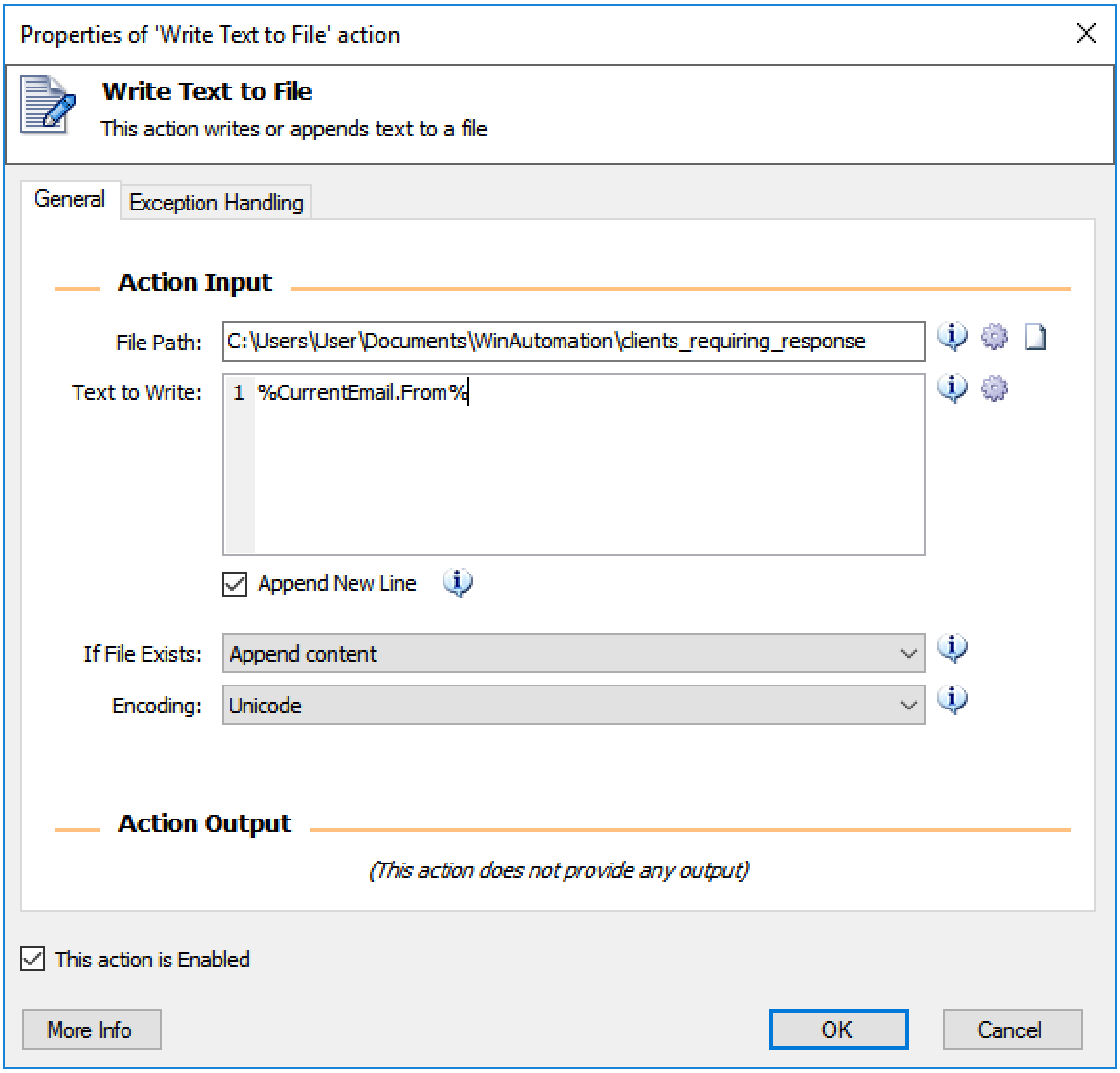
Save Emails Into: %RetrievedEmails%

☑ This action is Enabled

Note that in order to record only the Sender's address for each of the retrieved emails we used (as presented in the Properties of "Write Text to File" action window below) the notation :

%CurrentEmail.From%

requesting from this action to retrieve the value of the "From" property of the retrieved email used as iterative variable (%CurrentItem%) in each loop.


Properties of 'Write Text to File' action

Write Text to File

This action writes or appends text to a file

Action Input

File Path: C:\Users\User\Documents\WinAutomation\clients_requiring_response

Text to Write: %CurrentEmail.From%

☑ Append New Line

If File Exists: Append content

Encoding: Unicode

Action Output

(This action does not provide any output)

☑ This action is Enabled

IMAP Server:

Enter the IMAP Server address here (e.g., imap.gmail.com).

Port:

Specify the port to be used for the IMAP Server. Usually, this is Port 993.

Enable SSL:

Specify whether you need to use a secure connection to communicate with the IMAP Server.

User Name:

Enter the User Name of the e-mail account you want to access.

Enter Password:

If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' you must enter a variable containing the password and the '%' character will be treated as an indicator of a variable, not part of the password.

Password:

Enter the Password here. You may enter either a text, or a variable containing the password depending on the selection of the previous property (Enter Password).

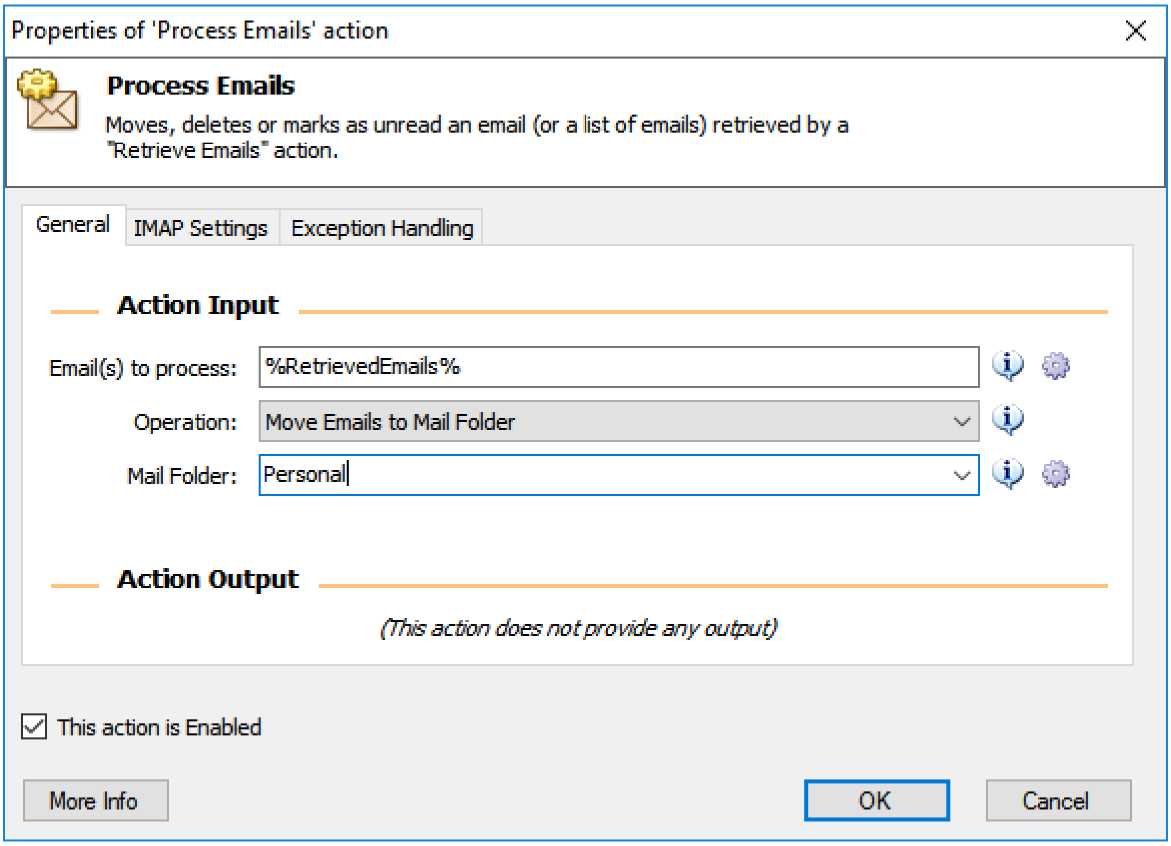
5.15.2 Process Emails Action

Description:

Moves, deletes or marks as unread an email (or a list of emails) retrieved by a "Retrieve Emails 645" action.

Process Emails Action is one of the three actions under the Email Actions category (the other two being the Send Email 657 and Retrieve Emails 645). This particular group of actions provides WinAutomation with the ability of automating any task typically performed by email clients. With the Process Email Action you can manipulate the retrieved emails from a previous Retrieve Emails action. You may delete the emails from your Server, mark them as (un)read or move them to different folders inside your Mailbox.

Note that when retrieved, messages are automatically marked as "read" on the server.



Properties of 'Process Emails' action

Process Emails

Moves, deletes or marks as unread an email (or a list of emails) retrieved by a "Retrieve Emails" action.

Action Input

Email(s) to process: %RetrievedEmails%

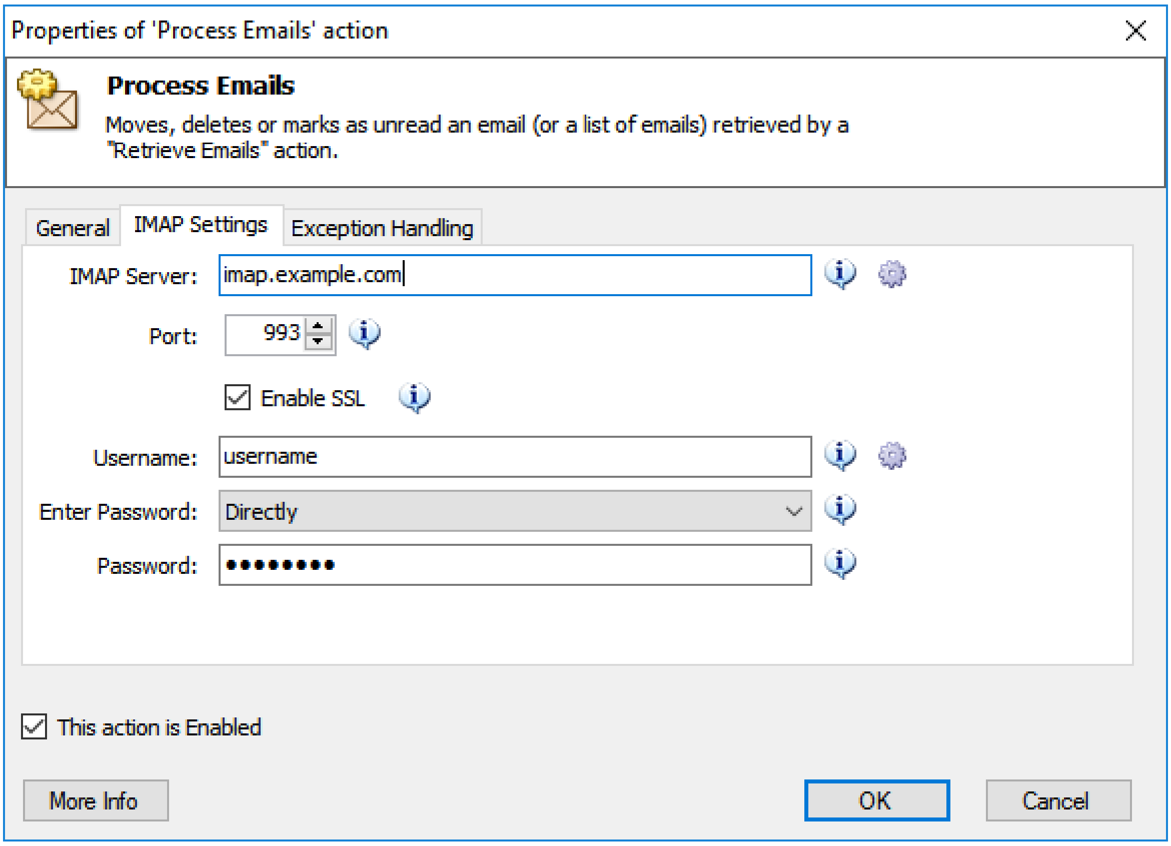
Operation: Move Emails to Mail Folder

Mail Folder: Personal

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Process Emails' action

Process Emails

Moves, deletes or marks as unread an email (or a list of emails) retrieved by a "Retrieve Emails" action.

IMAP Server: imap.example.com

Port: 993

☑ Enable SSL

Username: username

Enter Password: Directly

Password: ••••••••

☑ This action is Enabled

Properties:

Email(s) to process:

Enter a variable containing the email or list of emails to be processed. This should be a variable populated by a "Retrieve Emails 645" action.

Operation:

Specify which operation you want to perform on the specified email messages.

Mail Folder:

Enter the name of the mail folder you want to move the emails to.

IMAP Server:

Enter the IMAP Server address here (e.g., imap.gmail.com).

Port:

Specify the port to be used for the IMAP Server. Usually, this is Port 993.

Enable SSL:

Specify whether you need to use a secure connection to communicate with the IMAP Server.

User Name:

Enter the User Name of the e-mail account you want to access.

Enter Password:

If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' you must enter a variable containing the password and the '%' character will be treated as an indicator of a variable, not part of the password.

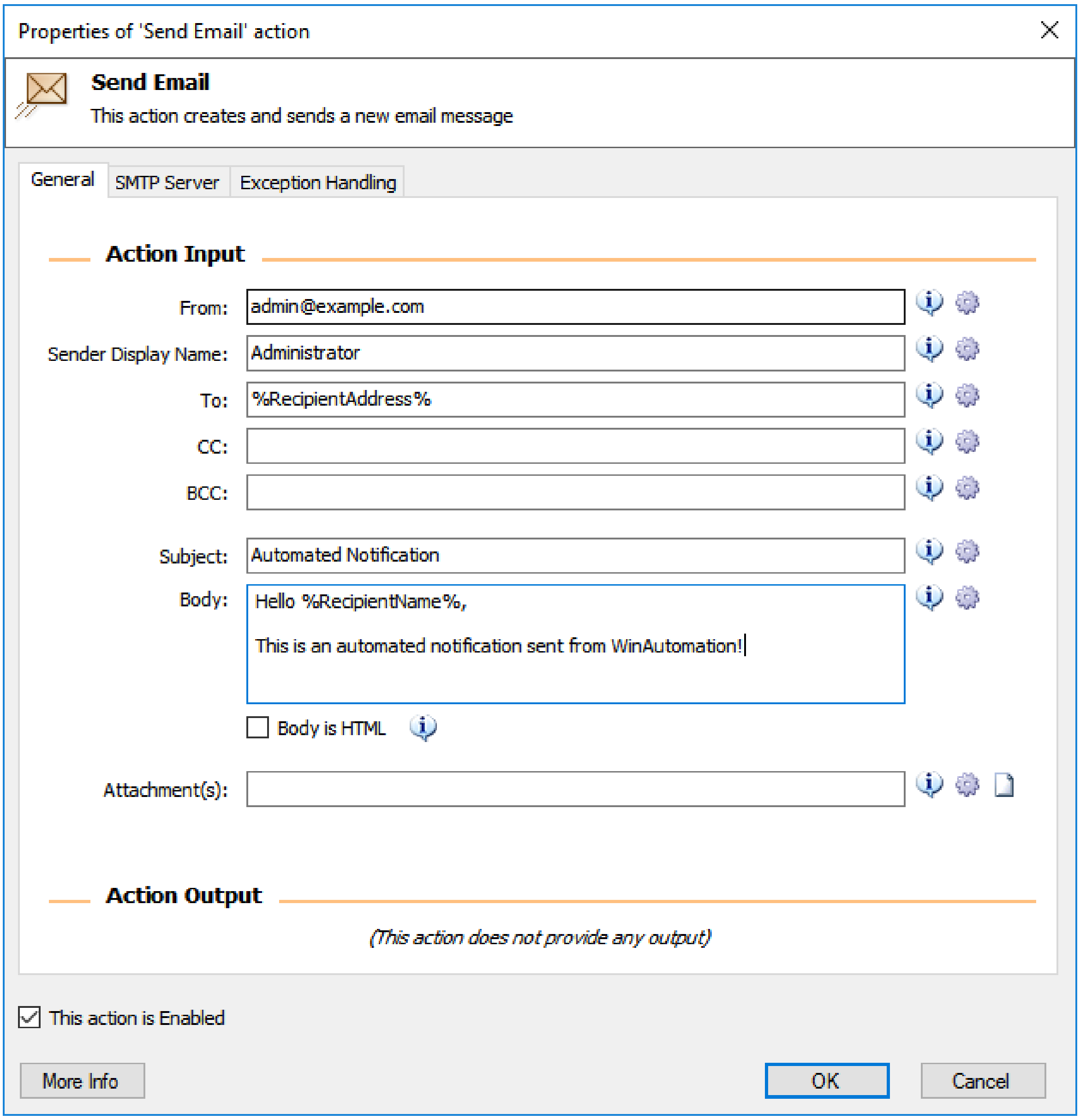
Password:

Enter the Password here. You may enter either a text, or a variable containing the password depending on the selection of the previous property (Enter Password).

5.15.3 Send Email Action

Description:

This action creates and sends a new email message



Properties of 'Send Email' action

Send Email

This action creates and sends a new email message

Action Input

From: admin@example.com

Sender Display Name: Administrator

To: %RecipientAddress%

CC:

BCC:

Subject: Automated Notification

Body: Hello %RecipientName%,

This is an automated notification sent from WinAutomation!

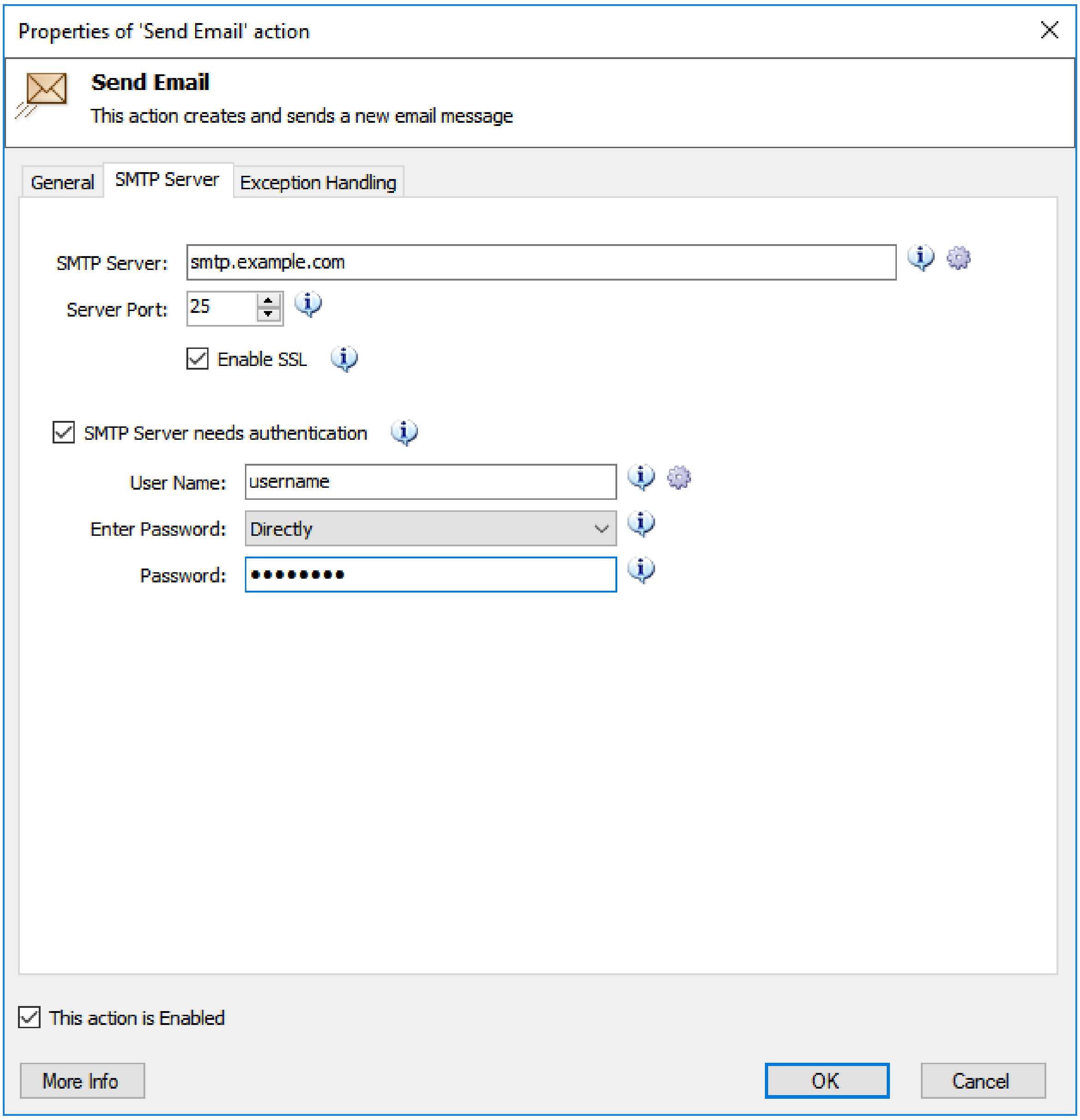
☐ Body is HTML

Attachment(s):

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Send Email' action

Send Email

This action creates and sends a new email message

SMTP Server: smtp.example.com

Server Port: 25

☑ Enable SSL

☑ SMTP Server needs authentication

User Name: username

Enter Password: Directly

Password: •••••••••

☑ This action is Enabled

The Send Email Action can be useful in a number of situations, such as:

1. Sending to a large number of recipients (and even personalize each message)

2. Sending emails in specific time intervals

3. Sending messages triggered by specific events, etc.

Properties:

From:

Enter the Sender's email address.

Sender Display Name:

Enter the Sender's display name.

To:

Enter the email(s) of the recipient(s). If you enter more than one email, the list of addresses should be separated by semi-colons.

CC:

Enter the email(s) of the CC recipient(s). If you enter more than one email, the list of addresses should be separated by semi-colons.

BCC:

Enter the email(s) of the BCC (hidden) recipient(s). If you enter more than one email, the list of addresses should be separated by semi-colons.

Subject:

Enter the subject of the email.

Body:

Enter the text of the body.

Body Is HTML:

Choose whether the body of the email is interpreted as HTML coding.

Attachment(s):

Enter or choose the full path of any attachment(s), or choose a variable that contains a file or a list of files. Multiple files should be enclosed in double quotes (") and separated by a space character.

SMTP Server:

Enter the SMTP Server address here.

Server Port:

Choose which port to use for the Server. Usually, this is Port 25.

Enable SSL:

Choose whether or not to communicate with the Server through a secure connection.

SMTP Server need authentication:

Specify whether or not the server requires authentication.

User Name:

Enter the User Name.

Password:

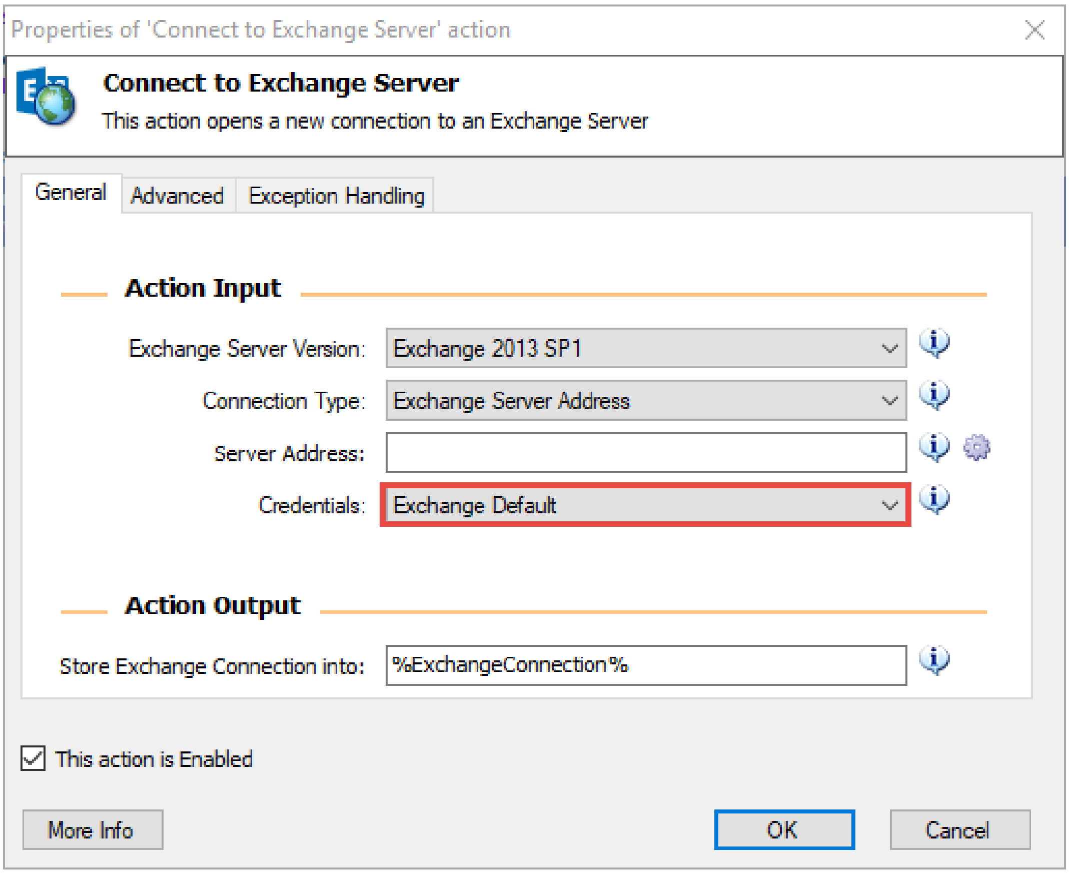
Enter the Password. This entry will be hidden.

5.16 Exchange

5.16.1 Connect to Exchange Server

Description:

This action opens a new connection to an Exchange Server:



Properties of 'Connect to Exchange Server' action

Connect to Exchange Server

This action opens a new connection to an Exchange Server

Action Input

Exchange Server Version: Exchange 2013 SP1

Connection Type: Exchange Server Address

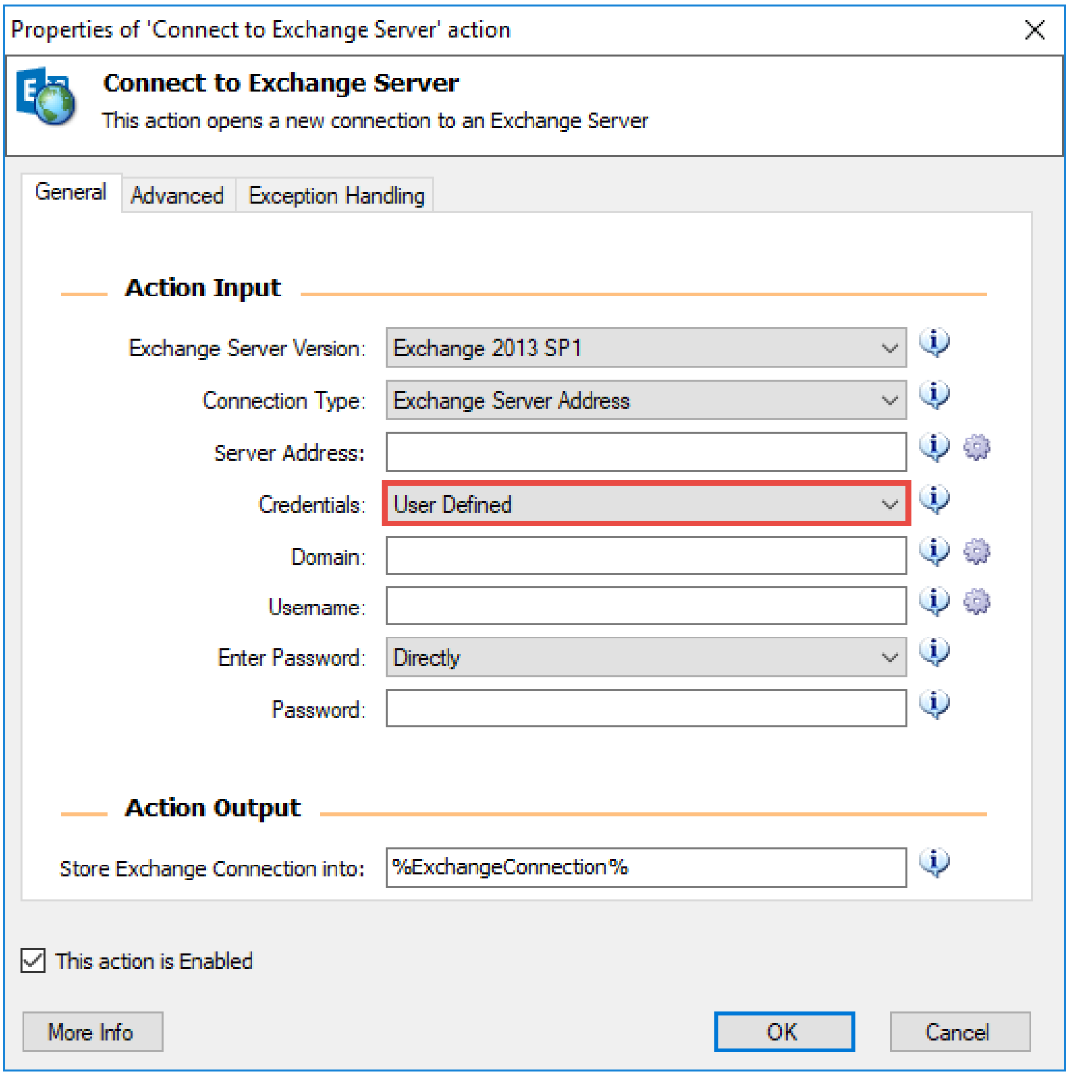
Server Address:

Credentials: Exchange Default

Action Output

Store Exchange Connection into: %ExchangeConnection%

☑ This action is Enabled



Properties of 'Connect to Exchange Server' action

Connect to Exchange Server

This action opens a new connection to an Exchange Server

Action Input

Exchange Server Version: Exchange 2013 SP1

Connection Type: Exchange Server Address

Server Address:

Credentials: User Defined

Domain:

Username:

Enter Password: Directly

Password:

Action Output

Store Exchange Connection into: %ExchangeConnection%

☑ This action is Enabled

Properties:

Exchange Server Version:

Select the version of the Exchange server that you are using

Connection Type:

Select the way that you want to connect to your Exchange server

Server Address:

Enter your Exchange Server Address

Credentials:

Choose the way that the user's Exchange credentials will be provided to the action

Domain:

Enter your Exchange account Domain. If you leave it empty, action will extract it from the username

Username:

Enter your Exchange account username

Enter Password:

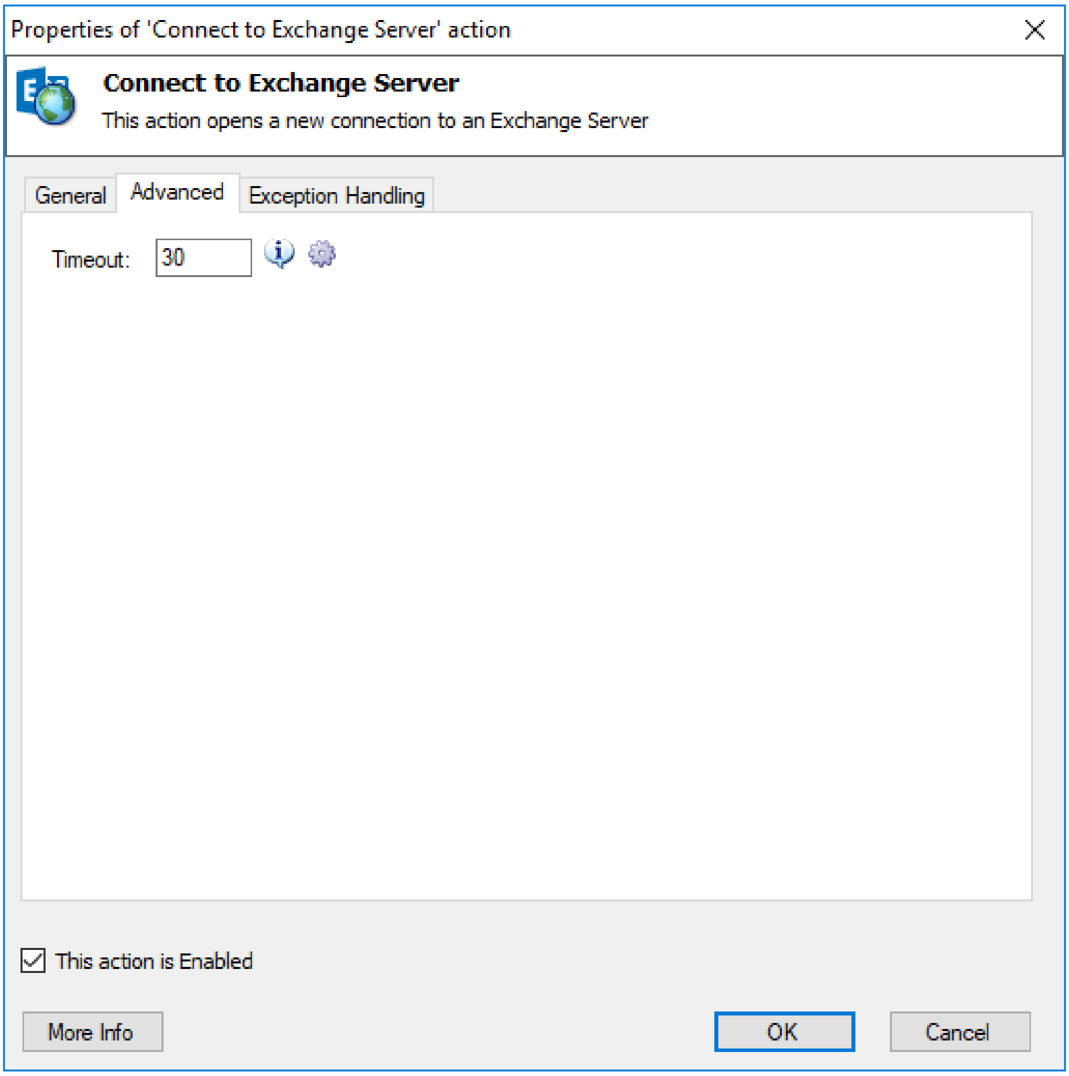
Select the way that you will provide your password.

Password:

Enter your Exchange account password directly

Store Exchange Connection into:

Enter a name to be the variable that will store the specific Exchange Connection for use with later Exchange Actions



Properties of 'Connect to Exchange Server' action

Connect to Exchange Server

This action opens a new connection to an Exchange Server

Timeout: 30

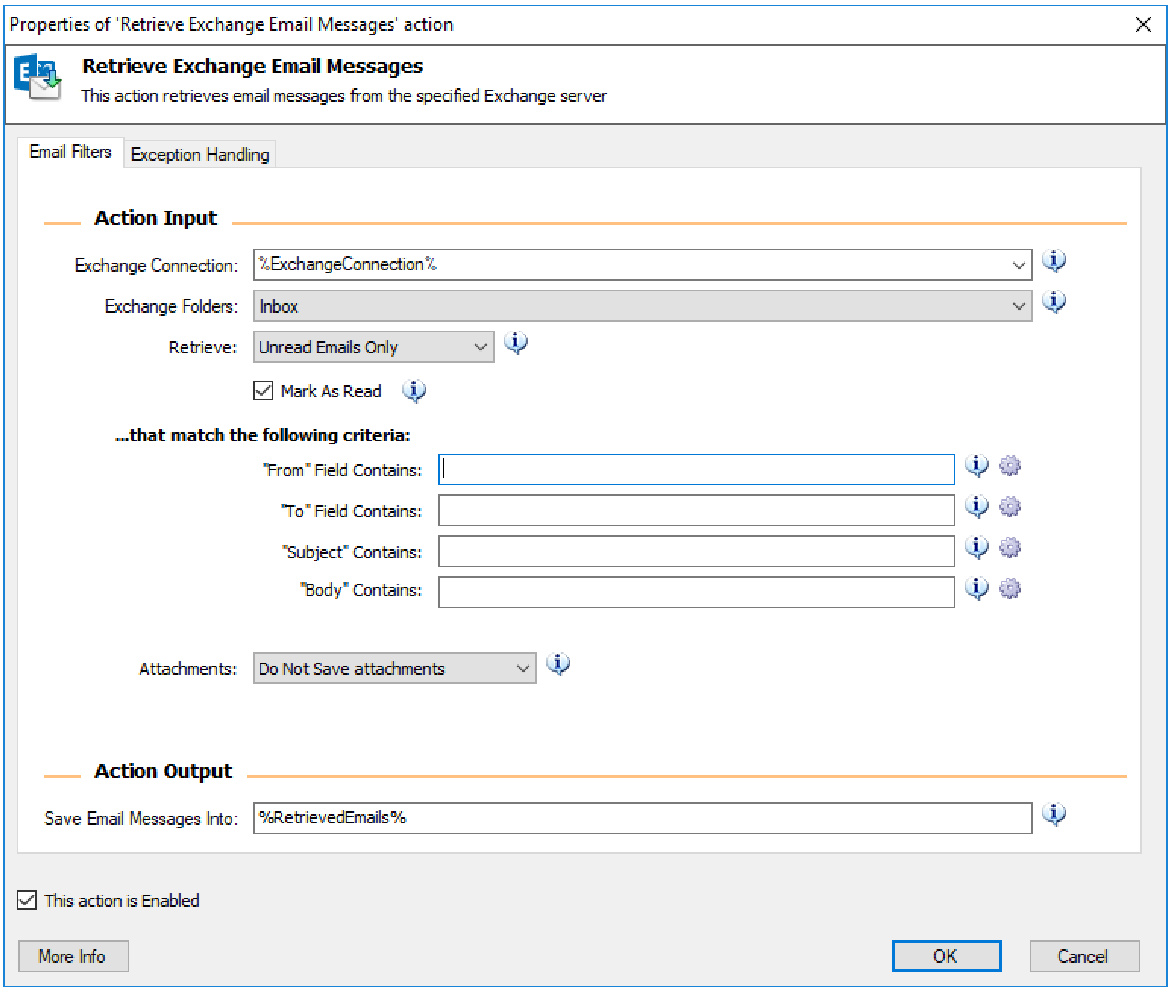
☑ This action is Enabled

Timeout: Set the time in seconds that you want to wait for the connection to be established before the action fails

5.16.2 Retrieve Exchange Email Messages

Description:

This action retrieves email messages from an Exchange server.



Properties of 'Retrieve Exchange Email Messages' action

Retrieve Exchange Email Messages

This action retrieves email messages from the specified Exchange server

Action Input

Exchange Connection: %ExchangeConnection%

Exchange Folders: Inbox

Retrieve: Unread Emails Only

☑ Mark As Read

...that match the following criteria:

"From" Field Contains:

"To" Field Contains:

"Subject" Contains:

"Body" Contains:

Attachments: Do Not Save attachments

Action Output

Save Email Messages Into: %RetrievedEmails%

☑ This action is Enabled

Messages can be filtered based on various criteria, such as the sender's address, the Exchange folder or even the existence of specific keywords in the body, subject or other fields of the email.

Note that this action will mark the retrieved emails as read on the server. If you wish to keep the emails marked as unread you can change their state back to unread through the "Process Exchange Email Messages" Action. Only the messages that match **all** of the filters set in the action will be included in the retrieval and marking.

Properties:

Exchange Connection:

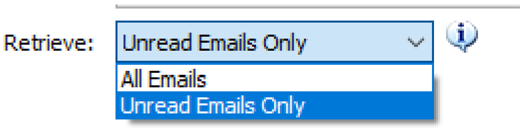
Enter the variable that holds your exchange connection. Exchange connection can be created from \"Connect To Exchange Server\" action.

Exchange Folders:

Select a predefined Exchange Folder to retrieve email messages from or add a custom one.

Retrieve:

In the Retrieve property you can specify whether you want to retrieve all messages from the Mail Folder, or only the unread ones. This could be important especially when the Retrieve Emails Action is to be performed periodically and you want to get feedback on only the updated conversations and unread emails from your mailbox.



Retrieve: Unread Emails Only

From Contains:

Enter the full e-mail address of the Sender whose messages you want to retrieve. Leave this field blank to retrieve all messages regardless of the sender.

To Contains:

Enter the full e-mail address(es) of the Receipient(s) (separated by space if more than one) for the messages you want to retrieve. Leave this field blank to retrieve all messages regardless of the recipient(s).

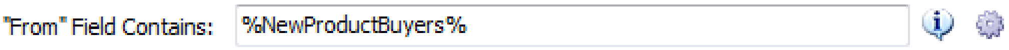
Subject Contains:

Enter the key phrase to be found within the email Subject. Leave this field blank to retrieve all email messages regardless of the their subject.

Body Contains:

Enter the key phrase to be found within the email Body. Leave this field blank to retrieve all email messages regardless of the their content.

Of course, as with any other property in WinAutomation, you have the option to define your criteria on all "Contains" properties using Process Variables. You can, for example, set the “From Contains” property to get its value from a variable where you have stored email address information of the customers that bought a specific product and you want to retrieve any feedback provided by them:


"From" Field Contains: %NewProductBuyers%

With this setting the Retrieve Action will search your specified Mailbox (or your email server inbox if not otherwise specified) for any emails sent by any of the email addresses stored as the values of this Variable (unread or all according to your preference) and retrieve them.

The use of Variables as the values of the Sender's and/or Receiver's properties also gives you the option to include the Retrieve Email Messages Action in a Loop Section of a Process and iteratively check and retrieve emails for each one of this group of email addresses.

Attachments:

Specify whether you want to save the attachments of the emails retrieved or not.

Save attachments into:

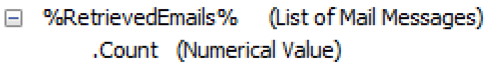
Enter here the folder in which you want the attachments to be saved. WinAutomation will save all the attachments of the retrieved emails to the same (specified) local folder. In the case that more than one emails have the same name, WinAutomation will rename them by appending a 4-digit suffix. For example, if there is already a file named *OrderForm.doc* in the destination folder, the next attachment of a retrieved email also named *OrderForm.doc* that is to be saved, will eventually be saved as *OrderForm_0001.doc.*

Furthermore, as you may see below in the Mail Message Variable Properties, each retrieved email variable is accompanied by a list of its attachments that are saved locally (represented by the attachments property) to which you can refer in order to track the email to which each file was attached to.

Save Emails into:

Enter a name to be the variable that will store the retrieved email messages for later processing. The variable will contain a List of Exchange Mail Messages objects.

The outcome of the Retrieved Emails Action (%RetrievedEmails%) will be a **List of Mail Messages** variable. As every list variable289, its only property is "Count" that has as value the number of the retrieved emails according to our selections in the Retrieve Emails Action properties fields:


⊟ %RetrievedEmails% (List of Mail Messages)
.Count (Numerical Value)

Each item of this list will be a Mail Message 291 object. Since *%RetrievedEmails%* Variable is a list type variable, each item of the list (i.e. each email) can be described by the following notation:
%RetrievedEmails[n]%
with *n* referring to the index of each retrieved email of our action (e.g. 0 for the first retrieved email, 1, for second).

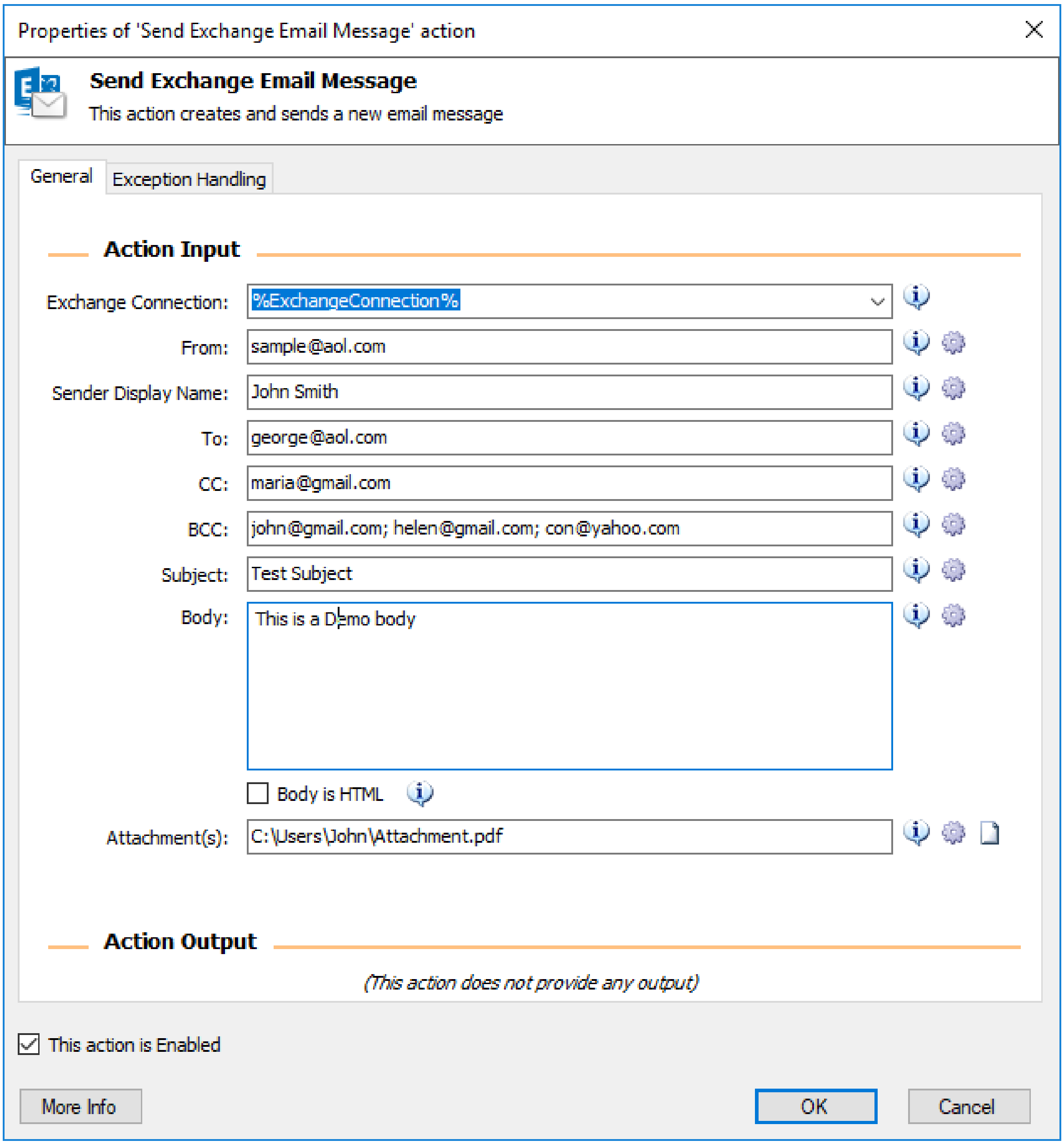
Each **Mail Message** (included as an item in the **List of Mail Messages**) is itself a variable with the respective properties 290 (populated by the Retrieve Emails action).

You can retrieve any of each email’s properties and use it as input in an action’s properties by following the general notation:
%VariableName.PropertyName%
For example if you want to retrieve the Subject of the third retrieved email from you action, you should use the notation:
%RetrievedEmails[2].Subject%

5.16.3 Send Exchange Email Messages

Description:

This action creates and sends a new email message


Properties of 'Send Exchange Email Message' action

Send Exchange Email Message

This action creates and sends a new email message

Action Input

Exchange Connection: %ExchangeConnection%

From: sample@aol.com

Sender Display Name: John Smith

To: george@aol.com

CC: maria@gmail.com

BCC: john@gmail.com; helen@gmail.com; con@yahoo.com

Subject: Test Subject

Body: This is a Demo body

□ Body is HTML

Attachment(s): C:\Users\John\Attachment.pdf

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Exchange Connection:

Enter the variable that holds your exchange connection. Exchange connection can be created from \"Connect To Exchange Server\" action.

From:

Enter the Sender's email address.

Sender Display Name:

Enter the Sender's display name.

To:

Enter the email(s) of the recipient(s). If you enter more than one email, the list of addresses should be separated by semi-colons.

CC:

Enter the email(s) of the CC recipient(s). If you enter more than one email, the list of addresses should be separated by semi-colons.

BCC:

Enter the email(s) of the BCC (hidden) recipient(s). If you enter more than one email, the list of addresses should be separated by semi-colons.

Subject:

Enter the subject of the email.

Body:

Enter the text of the body.

Body Is HTML:

Choose whether the body of the email is interpreted as HTML coding.

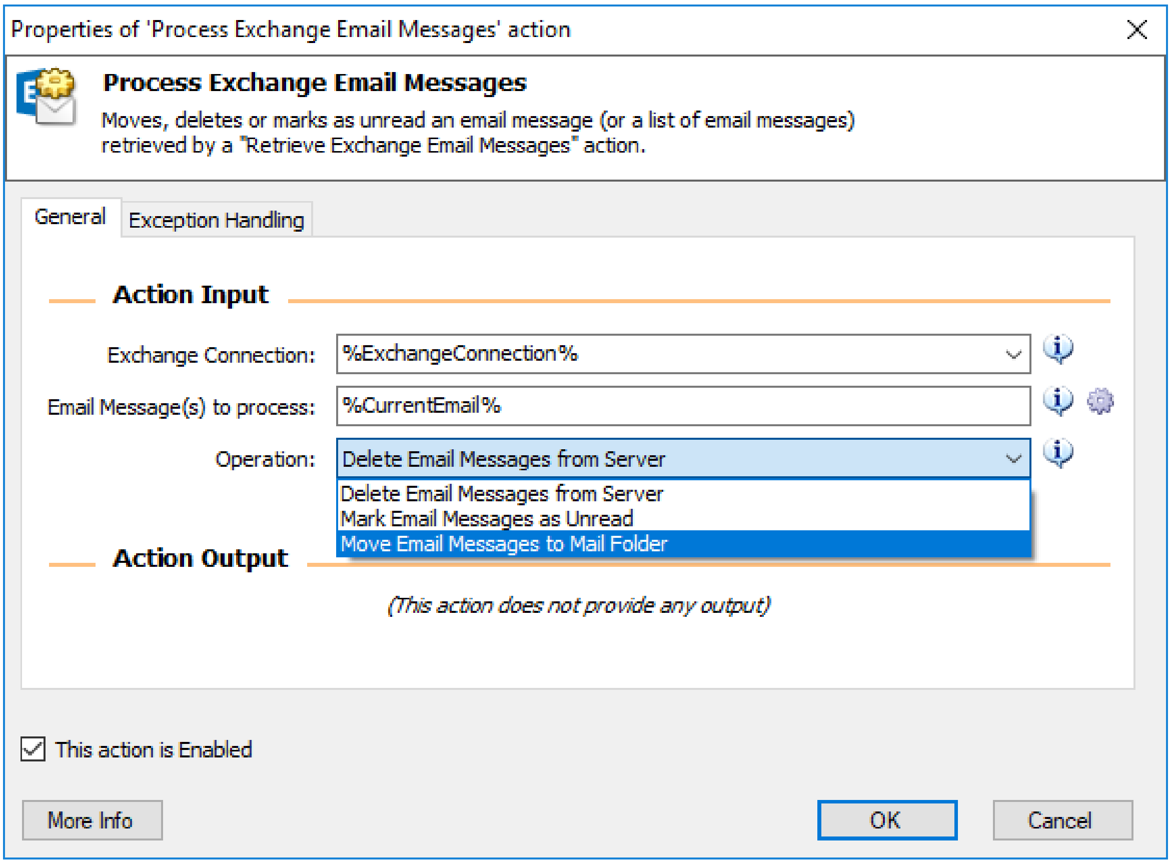
Attachment(s):

Enter or choose the full path of any attachment(s), or choose a variable that contains a file or a list of files. Multiple files should be enclosed in double quotes (") and separated by a space character.

5.16.4 Process Exchange Email Messages

Description:

Moves, deletes or marks as unread an email (or a list of emails) retrieved by a "Retrieve Exchange Email Messages 665" action.



Properties of 'Process Exchange Email Messages' action

Process Exchange Email Messages

Moves, deletes or marks as unread an email message (or a list of email messages) retrieved by a "Retrieve Exchange Email Messages" action.

Action Input

Exchange Connection: %ExchangeConnection%

Email Message(s) to process: %CurrentEmail%

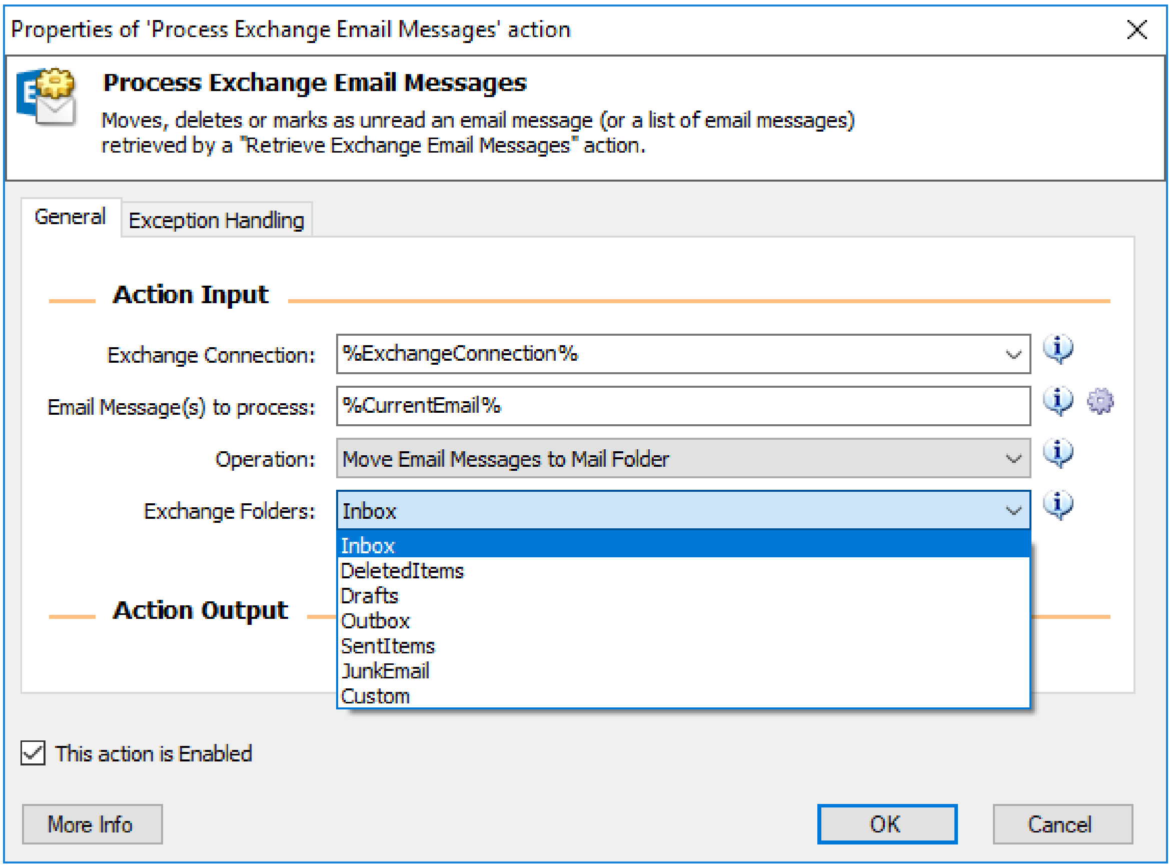
Operation: Delete Email Messages from Server

- Delete Email Messages from Server
- Mark Email Messages as Unread
- Move Email Messages to Mail Folder

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Process Exchange Email Messages' action

Process Exchange Email Messages

Moves, deletes or marks as unread an email message (or a list of email messages) retrieved by a "Retrieve Exchange Email Messages" action.

Exchange Connection: %ExchangeConnection%

Email Message(s) to process: %CurrentEmail%

Operation: Move Email Messages to Mail Folder

Exchange Folders: Inbox

☑ This action is Enabled

Properties:

Exchange Connection:

Enter the variable that holds your exchange connection. Exchange connection can be created from \"Connect To Exchange Server\" action.

Email Message(s) to process:

Enter a variable containing the email or list of emails to be processed. This should be a variable populated by a "Retrieve Exchange Email Messages" action.

Operation:

Specify which operation you want to perform on the specified email messages between:

1. Delete Email Messages from Server

2. Mark Email Messages as Unread

3. Move Email Messages to Mail Folder

If the selected Operation is "Move" then you will also get the...

Exchange Folders:

Enter the name or the path (e.g.folder1\\folder2) of the Mail-folder that you want to move email messages to.

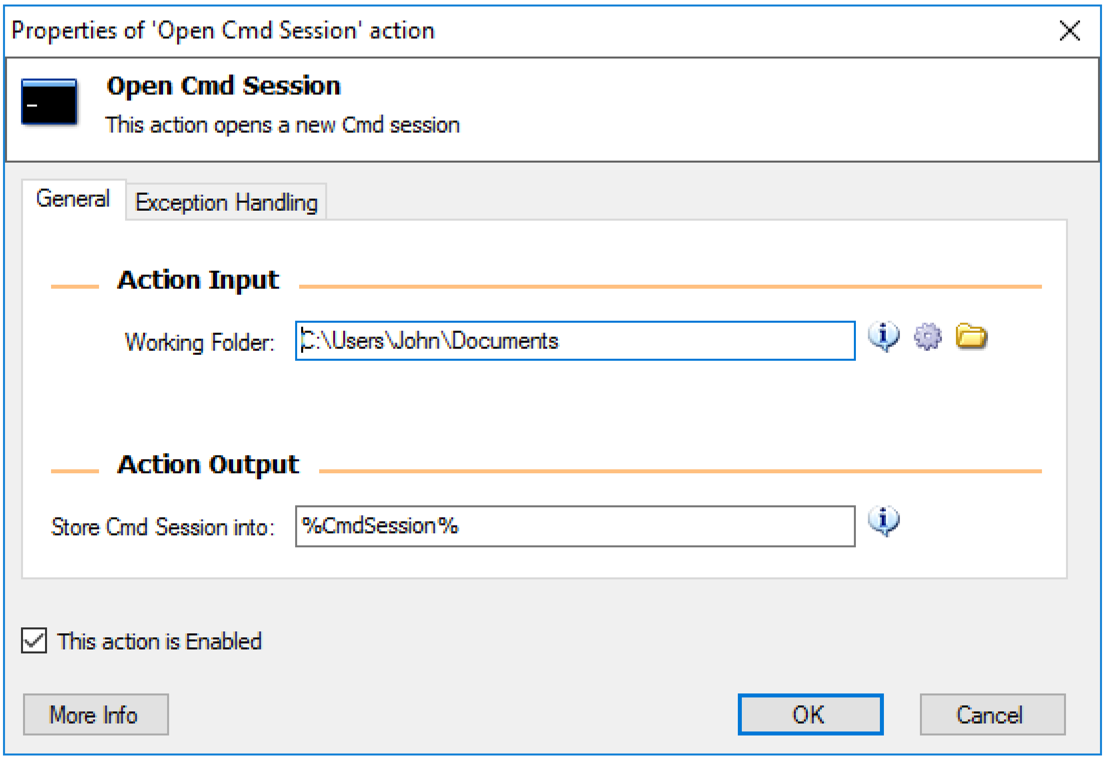
5.17 Cmd Session

5.17.1 Open Cmd Session

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action opens a new command line session. This session will remain open until you close it with a "Close Cmd Session". In the meantime you can write commands or read ouput from the Cmd session. This will be extremely usefully in cases where user input is required on the Cmd or in case that you wish to run something like a batch file.



Properties of 'Open Cmd Session' action

Open Cmd Session

This action opens a new Cmd session

Action Input

Working Folder: C:\Users\John\Documents

Action Output

Store Cmd Session into: %CmdSession%

☑ This action is Enabled

Properties:

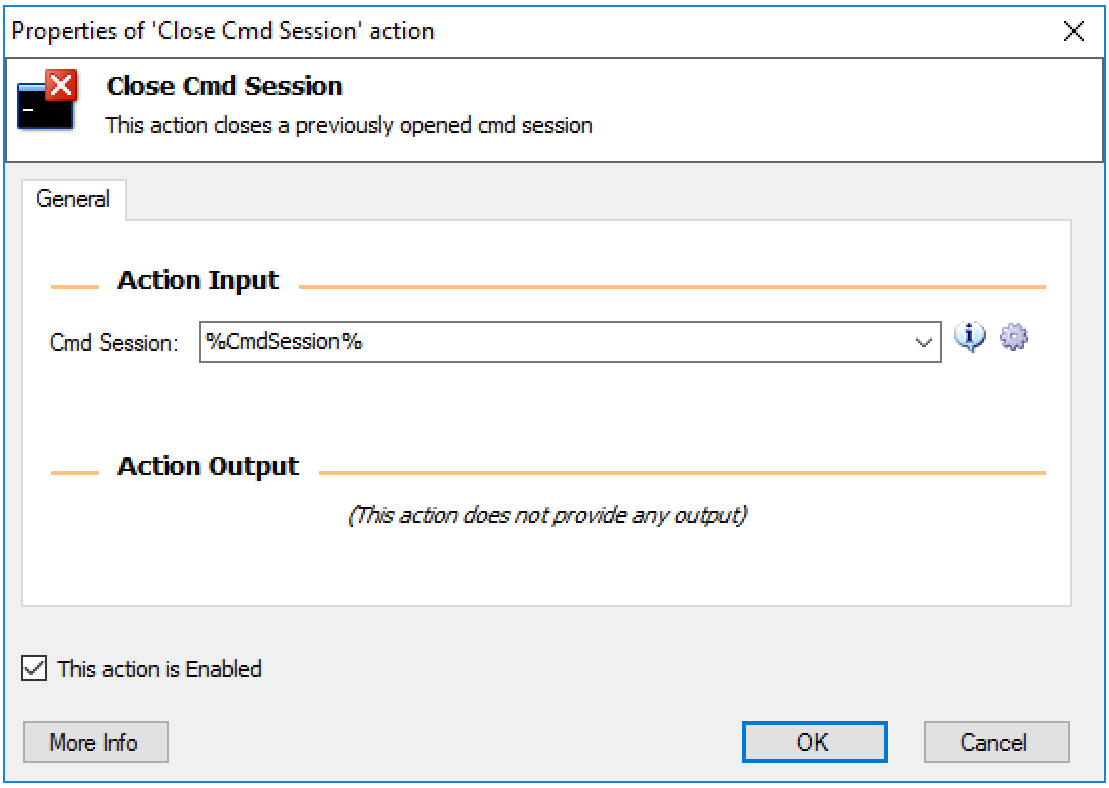
Working Folder: Enter the full path of the folder to work out of, if applicable

Store Cmd Session into: Enter a variable name that will hold the Cmd session, for use in later Cmd Session actions.

5.17.2 Close Cmd Session

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description: This action closes a previously opened Cmd session.



Properties of 'Close Cmd Session' action

Close Cmd Session

This action closes a previously opened cmd session

Action Input

Cmd Session: %CmdSession%

Action Output

(This action does not provide any output)

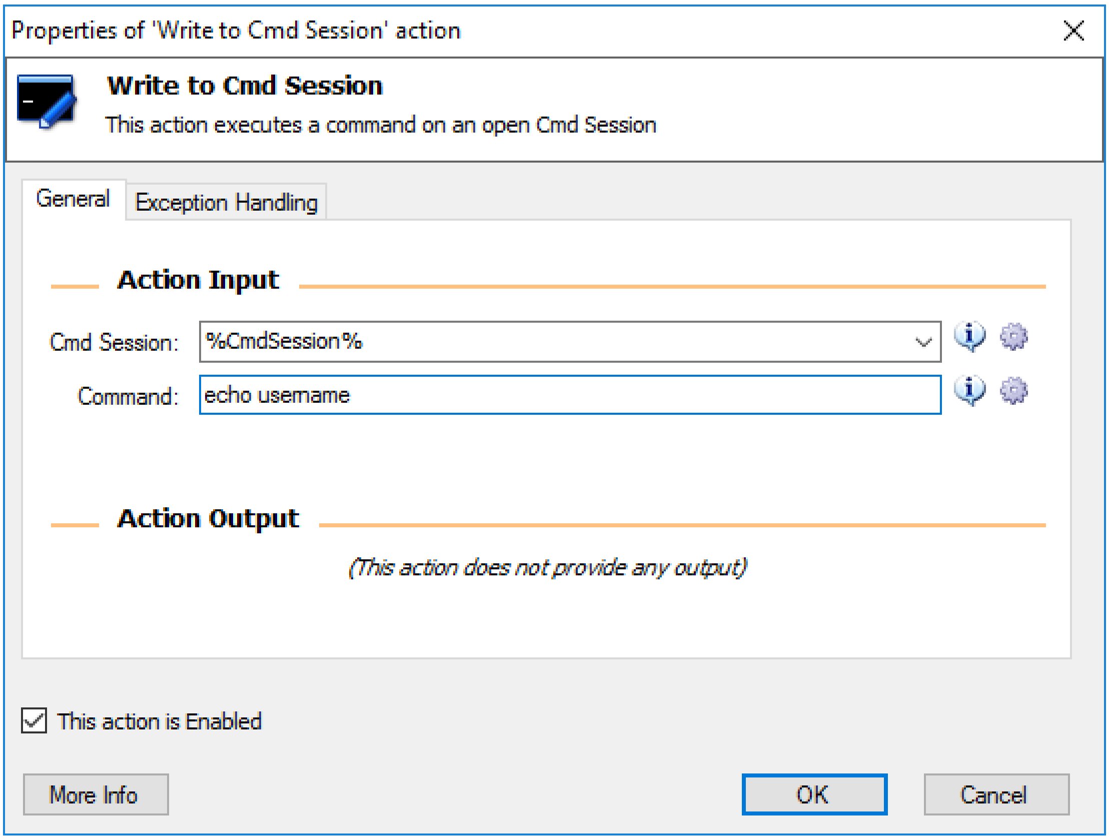
☑ This action is Enabled

Properties: Enter the variable containing the previously opened Cmd Session you wish to close. You must have previously specified this variable in an "Open Cmd Session" action.

5.17.3 Write to Cmd Session

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description: This action executes a command in an open Cmd Action.



Properties of 'Write to Cmd Session' action

Write to Cmd Session

This action executes a command on an open Cmd Session

Action Input

Cmd Session: %CmdSession%

Command: echo username

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

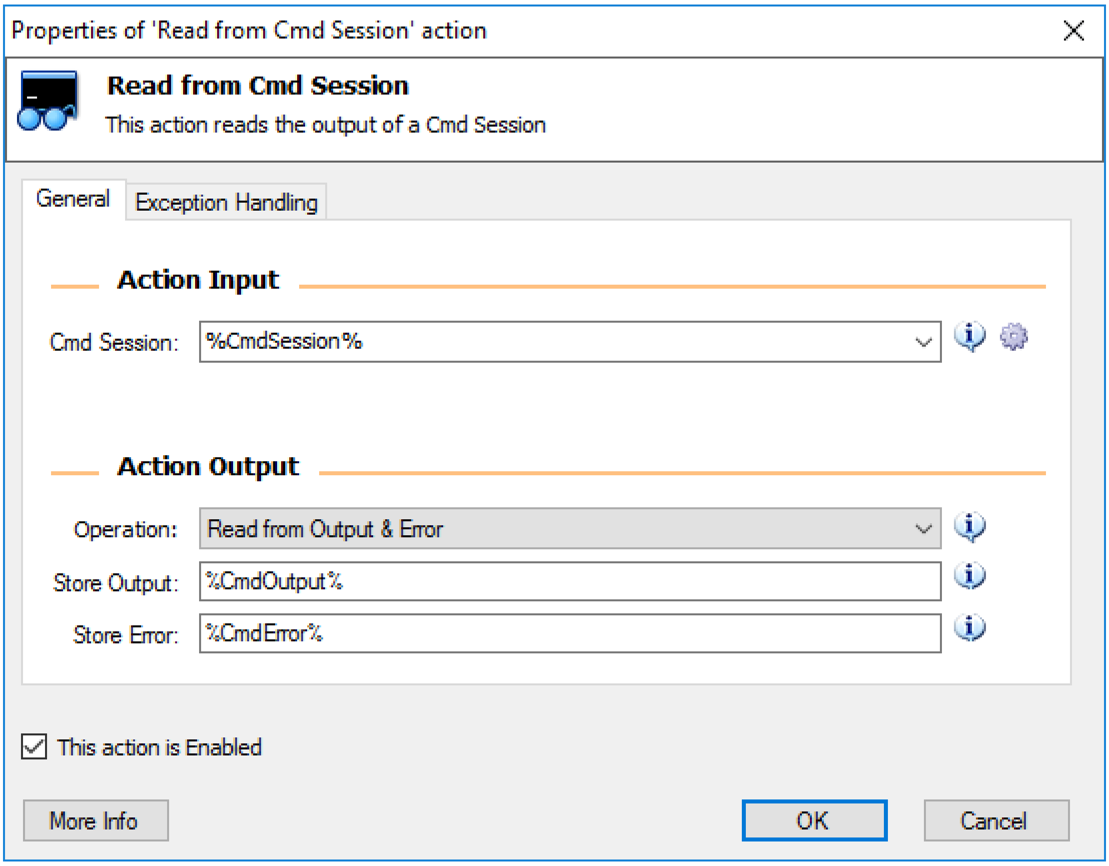
Cmd Session: Enter the variable that will contain a previously opened Cmd Session.

Command: Enter the command that you want to execute.

5.17.4 Read from Cmd Session

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description: This action read the output of a Cmd Session.



Properties of 'Read from Cmd Session' action

Read from Cmd Session

This action reads the output of a Cmd Session

Action Input

Cmd Session: %CmdSession%

Action Output

Operation: Read from Output & Error

Store Output: %CmdOutput%

Store Error: %CmdError%

☑ This action is Enabled

Properties:

Operation: Specify which Read operation you wish to perform on the specified Cmd session.

There are three operations that you can choose from. Depending on the operation chosen based on the output that you wish to have, the output variables may be %CMdOutput%, %CmdError%.

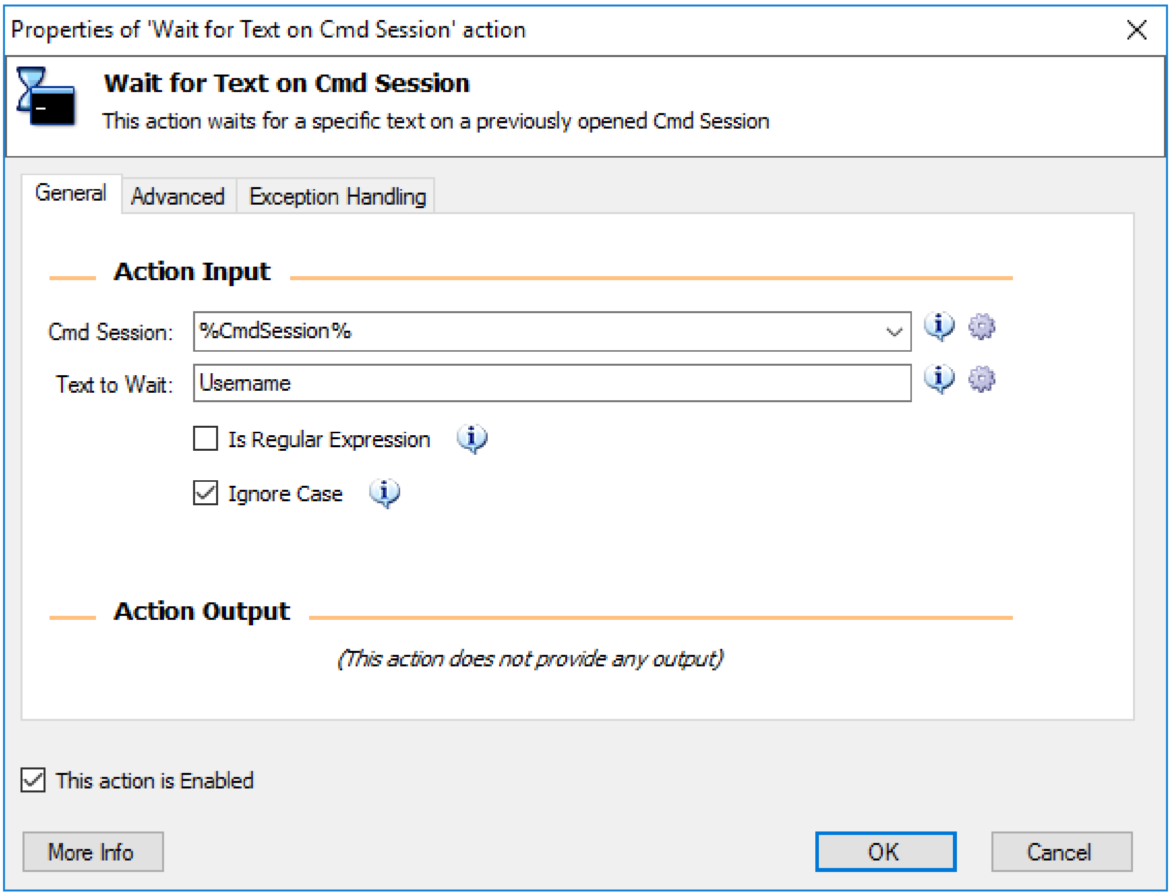
Store output: Enter a name to be the variable that will store the Cmd session's standard output

Store Error: Enter a name to be the variable that will store the Cmd session's standard error

5.17.5 Wait for Text on Cmd Session

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description: This action waits for a specific text on a previously opened Cmd Session.



Properties of 'Wait for Text on Cmd Session' action

Wait for Text on Cmd Session

This action waits for a specific text on a previously opened Cmd Session

Action Input

Cmd Session: %CmdSession%

Text to Wait: Username

□ Is Regular Expression

☑ Ignore Case

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Cmd Session: Enter the variable that will contain a previously opened Cmd Session.

Text to Wait: Enter the text or the Regular Expression that you want to wait to appear on standard output or on standard error

Is Regular Expression: Check this box if you want to wait for for a regular expression match instead of a plain text.

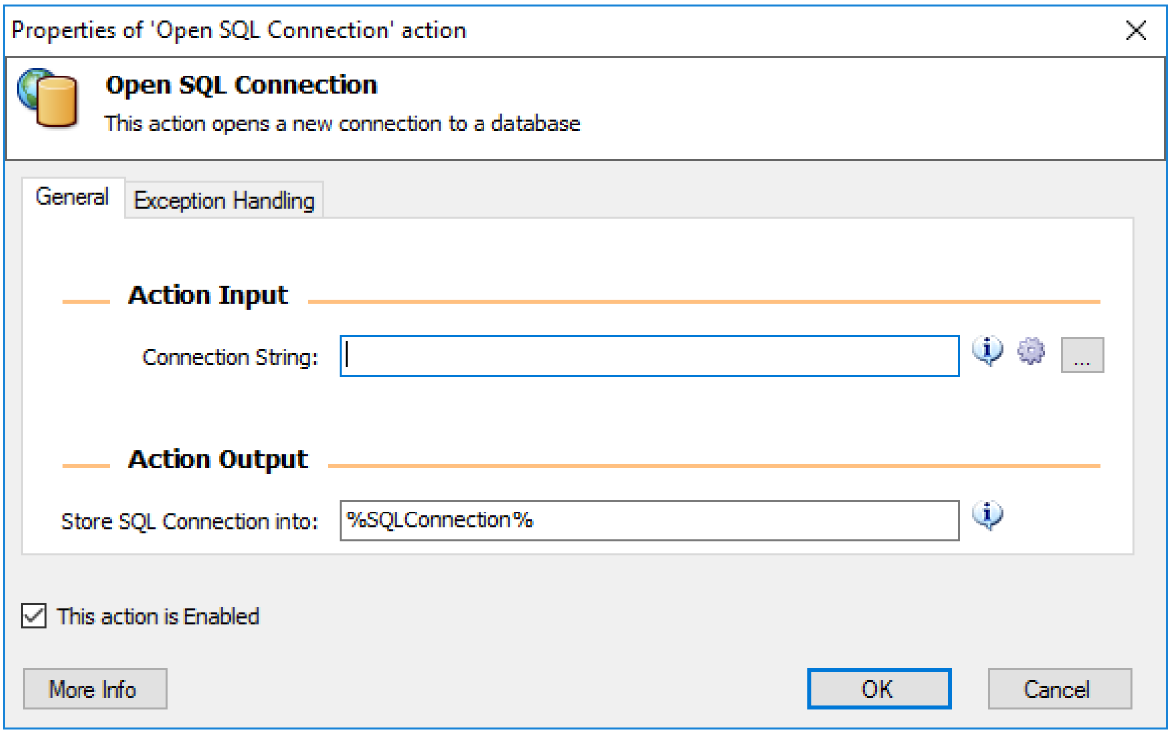
Ingore Case: Check this box if you wish to ingore the case of the text to wait.

5.18 Database

5.18.1 Open SQL Connection

Description:

This action opens a new connection to a database.



Properties of 'Open SQL Connection' action

Open SQL Connection

This action opens a new connection to a database

General | Exception Handling

Action Input

Connection String:

Action Output

Store SQL Connection into: %SQLConnection%

☑ This action is Enabled

Properties:

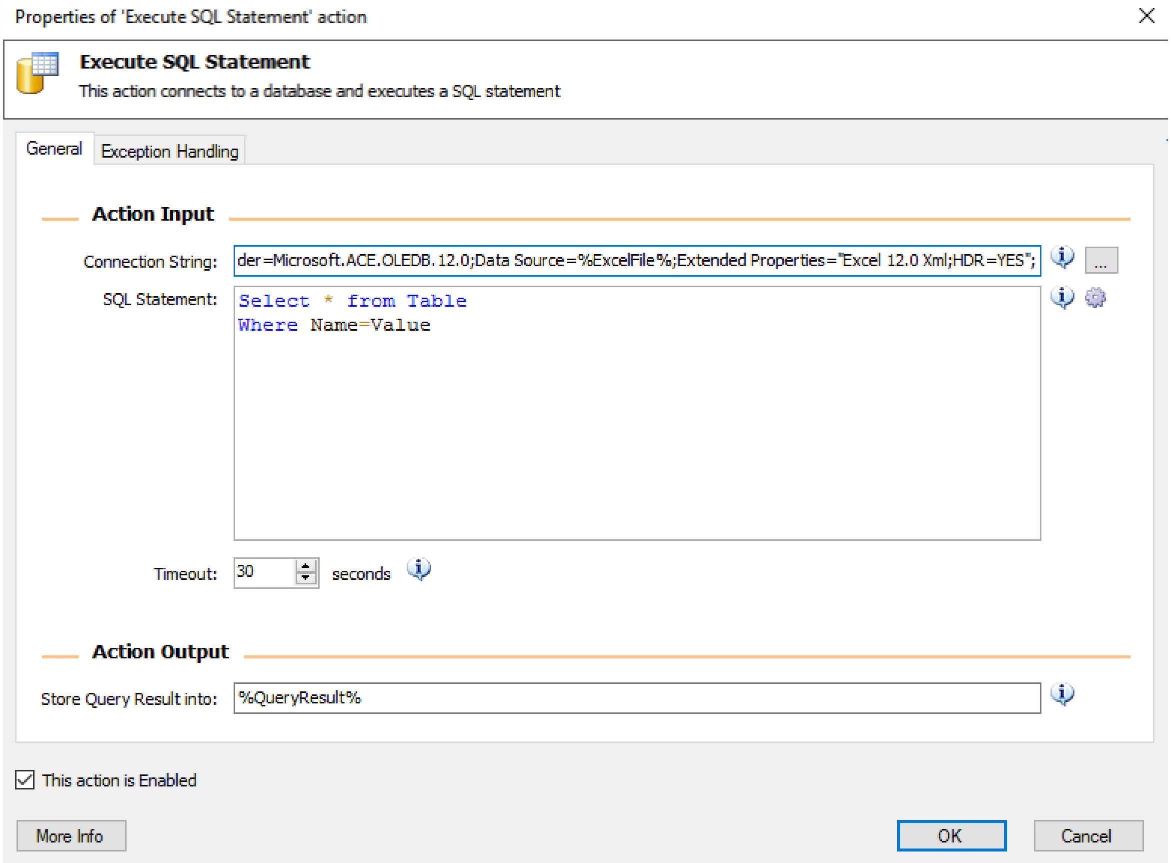
Connection String: Enter how to connect with the database. The button on the right (with ellipses) will allow you to build the connection string.

Store SQL Connection into: Enter a name to be the variable that will store the specific SQL connection for use with later SQL statements.

5.18.2 Execute SQL Statement Action

Description:

This action connects to a database and executes a SQL statement



Properties of 'Execute SQL Statement' action

Execute SQL Statement

This action connects to a database and executes a SQL statement

Action Input

Connection String: der=Microsoft.ACE.OLEDB.12.0;Data Source=%ExcelFile%;Extended Properties="Excel 12.0 Xml;HDR=YES";

SQL Statement:

```
Select * from Table
Where Name=Value
```

Timeout: 30 seconds

Action Output

Store Query Result into: %QueryResult%

☑ This action is Enabled

Properties:

Connection String:

Enter how to connect with the database. The button on the right (with ellipses) will allow you to build the connection string.

SQL Statement:

Enter the SQL Statement to be issued to the database here.

Timeout:

The Execute SQL Statement action waits for a result from the database. Choose a maximum amount of time that the action will wait.

Store Query Result into:

Enter a name to be the variable that will store the result from the database in the form of a data table, with rows and columns.

More about connecting to a database and executing SQL Queries on it, please visit:

Connecting to a Database 308

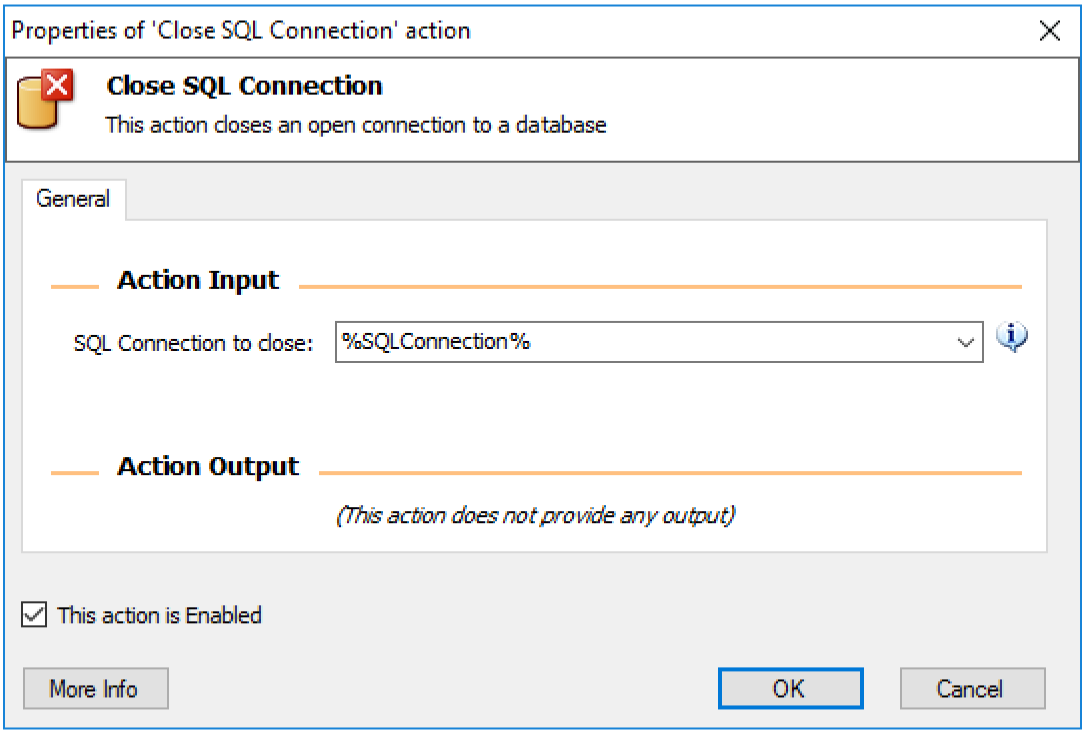
Connect to Excel or Access Database 308

Connection Strings and Drivers 309

5.18.3 Close SQL Connection

Description:

This action closes an open connection to a database.



Properties of 'Close SQL Connection' action

Close SQL Connection

This action closes an open connection to a database

Action Input

SQL Connection to close: %SQLConnection%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

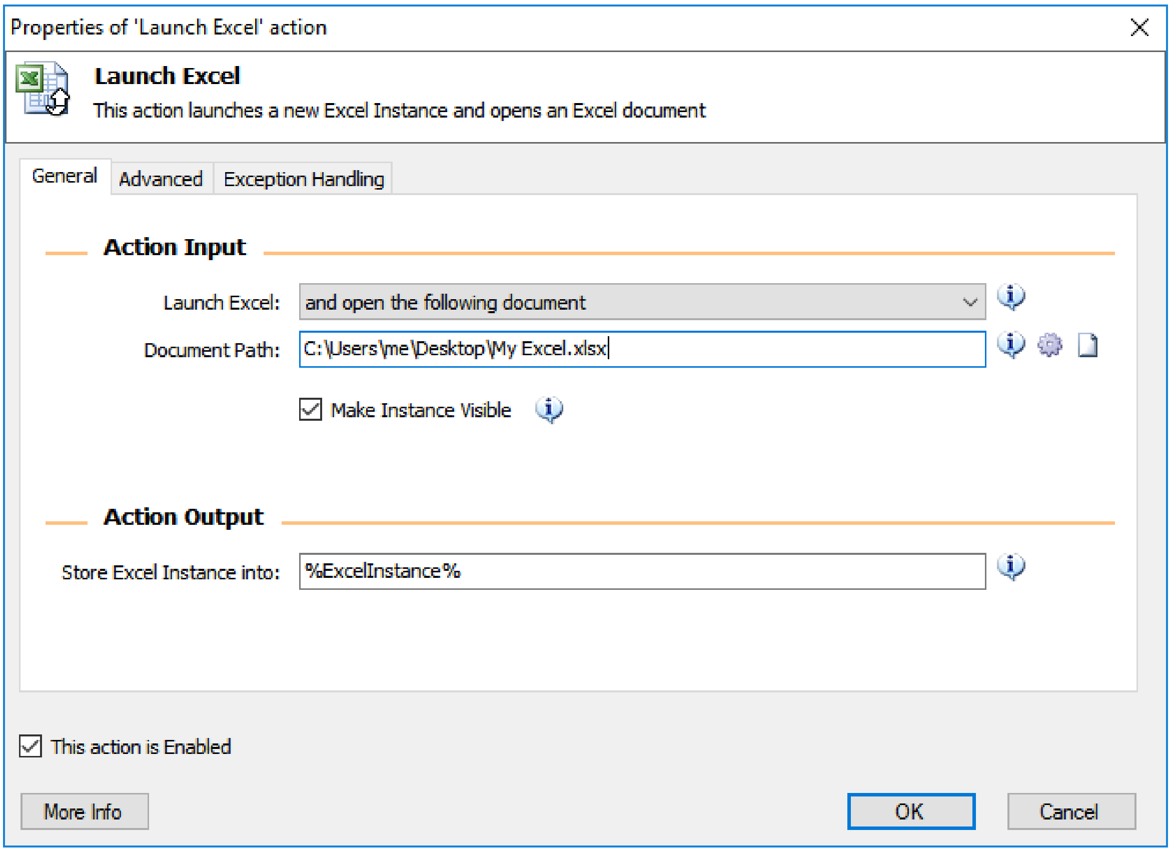
SQL Connection to close: Enter the variable containing the previously opened SQL connection you wish to close. You must have previously specified this variable in an Open SQL connection action.

5.19 Excel

5.19.1 Launch Excel Action

Description:

This action launches a new Excel Instance and opens an Excel document



Properties of 'Launch Excel' action

Launch Excel

This action launches a new Excel Instance and opens an Excel document

Action Input

Launch Excel: and open the following document

Document Path: C:\Users\me\Desktop\My Excel.xlsx

☑ Make Instance Visible

Action Output

Store Excel Instance into: %ExcelInstance%

☑ This action is Enabled

Properties:

Launch Excel:

Choose whether you want to open a New Excel document, or an existing one.

Document Path:

Enter the full path of the existing Excel document you wish to open

Make Instance Visible:

Choose whether you want to make the Excel Window visible, or hide it. This doesn't limit WinAutomation's ability to use Excel, just the whether the user sees it.

Store Excel Instance into:

Enter a name to be the variable that will store the specific Excel Instance for use with later Excel actions. This allows you to specify which, of possibly several, Excel spreadsheet to access.

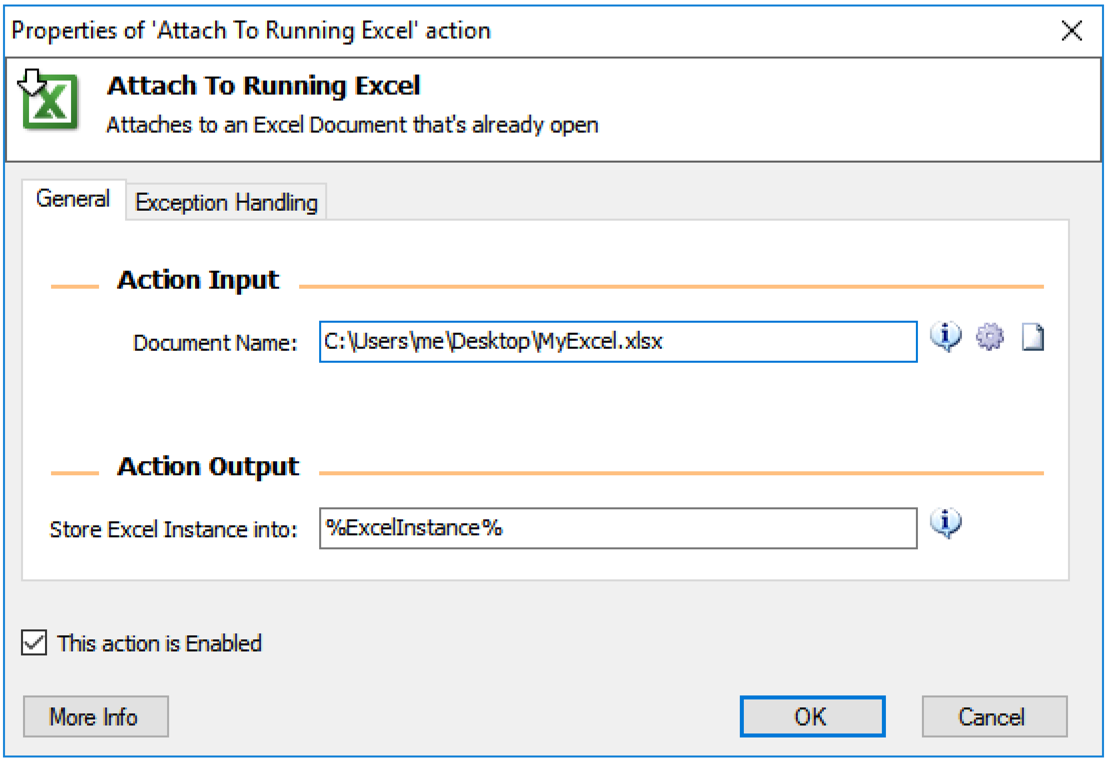
Cautions:

For any Excel-related action to work correctly, Microsoft Excel must be installed on the computer where the process will run.

5.19.2 Attach to Running Excel Action

Description:

Attached to an Excel Document that's already open.



Properties of 'Attach To Running Excel' action

Attach To Running Excel

Attaches to an Excel Document that's already open

Action Input

Document Name: C:\Users\me\Desktop\MyExcel.xlsx

Action Output

Store Excel Instance into: %ExcelInstance%

☑ This action is Enabled

Properties:

Document Name:

Enter either the name or the path of the Excel file you wish to attach to.

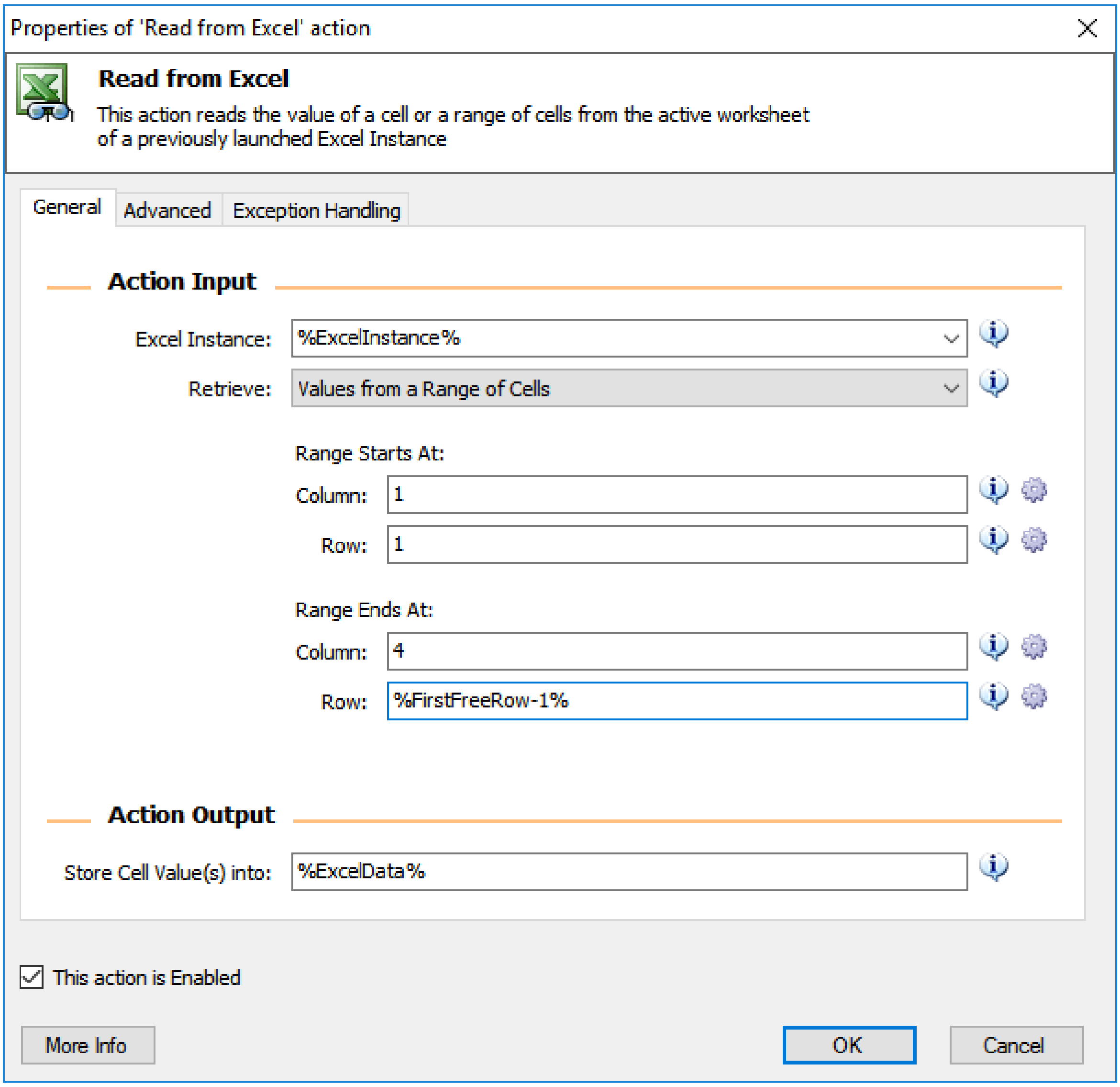
Store Excel Instance into:

Enter the name to be the variable that will hold the Excel Instance this action has attached to, for use with later Excel actions.

5.19.3 Read from Excel Action

Description:

This action reads the value of a cell or a range of cells from the active worksheet of a previously launched Excel Instance



Properties of 'Read from Excel' action

Read from Excel

This action reads the value of a cell or a range of cells from the active worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Retrieve: Values from a Range of Cells

Range Starts At:

Column: 1

Row: 1

Range Ends At:

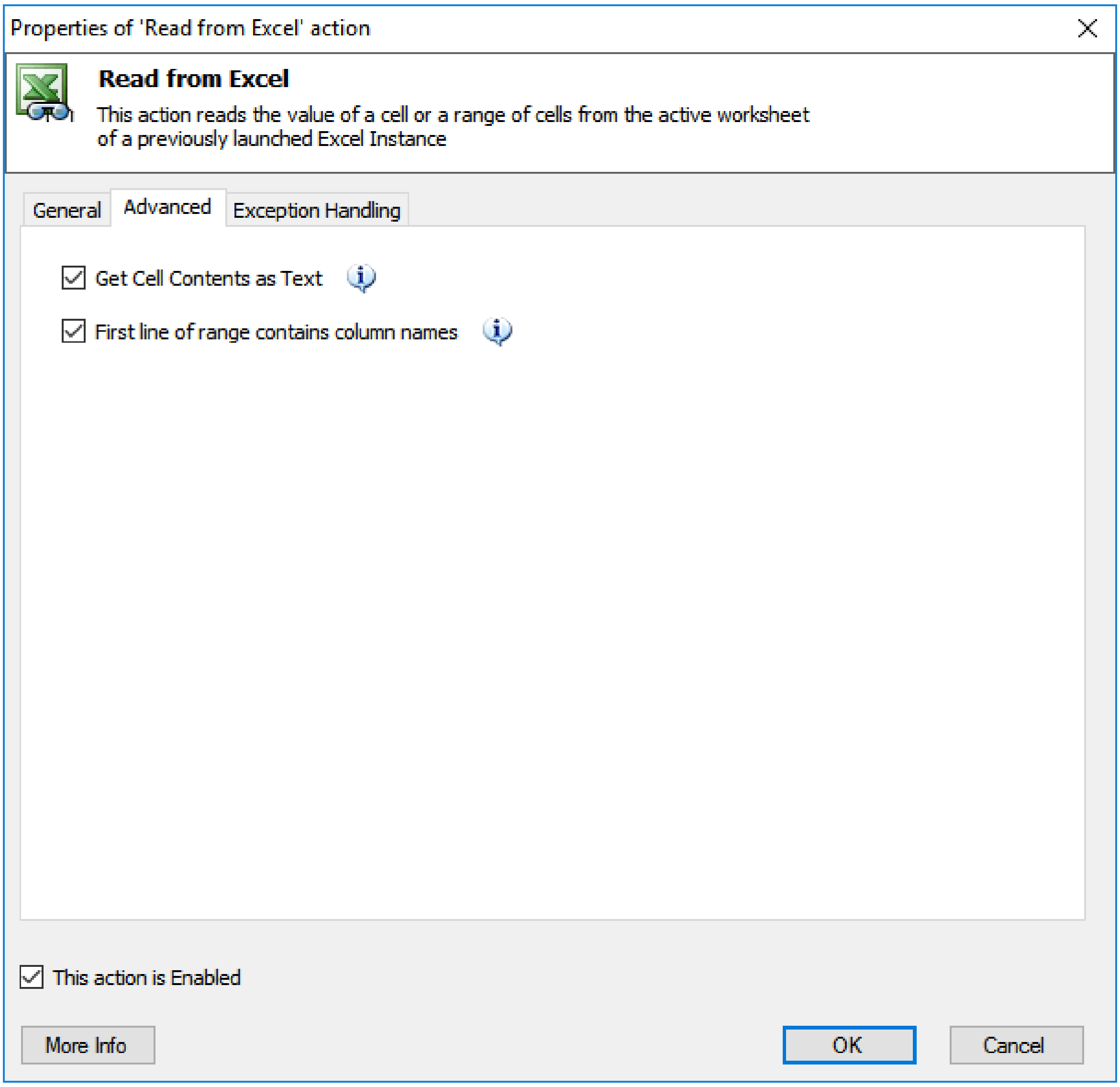
Column: 4

Row: %FirstFreeRow-1%

Action Output

Store Cell Value(s) into: %ExcelData%

☑ This action is Enabled



Properties of 'Read from Excel' action

Read from Excel

This action reads the value of a cell or a range of cells from the active worksheet of a previously launched Excel Instance

☑ Get Cell Contents as Text

☑ First line of range contains column names

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Retrieve:

Choose whether to retrieve the value of a single cell or a table from a range of cells.

Start Column:

Enter a numeric value to be the cell column or starting column number. This must be a number. For example, Column F requires the entry of '6'.

Start Row:

Enter a numeric value to be the cell row or starting row number.

End Column:

Enter a numeric value to be the ending column number. This must be a number. For example, Column J requires the entry of '10'.

End Row:

Enter a numeric value to be the ending row number.

Advanced Properties Tab - Get Cell Contents as Text:

Check this to retrieve the content of the cell(s) purely as text. Leave this option unchecked if you want the action's output variable type to match (as closely as possible) the source cell's data type. In that case, a date in Excel will be stored as DateTime variable in WinAutomation, numbers as numeric variables etc.

Advanced Properties Tab - First line of range contains column names:

Choose whether this action considers the first row as column names. If it does, the names won't be read as data into the table, and later actions can search the data by column names.

Store Cell Value(s) into:

Enter a name to be the variable that will store the value of the single cell or a table from the range of cells.

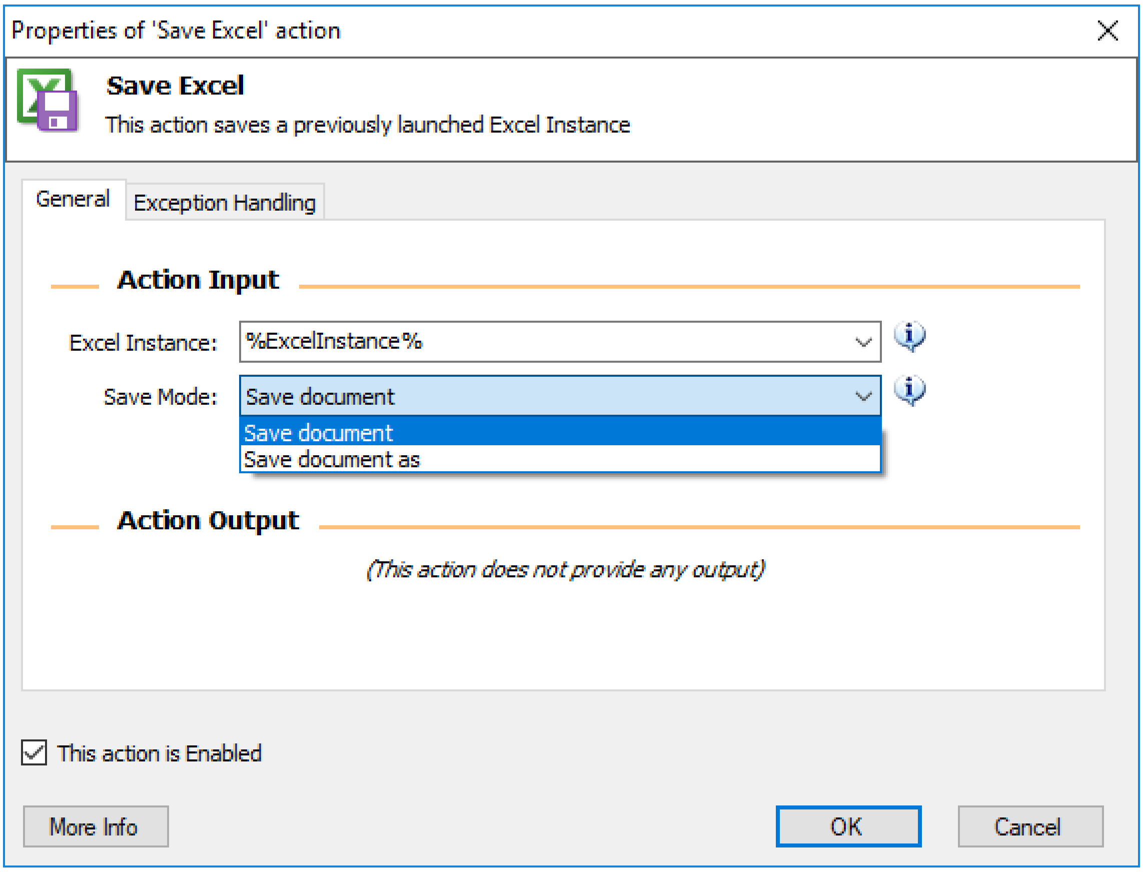
Cautions:

For any Excel-related action to work correctly, Microsoft Excel must be installed on the computer where the process will run.

5.19.4 Save Excel

(Available with the Professional and Professional Plus Edition. N/A to the Basic Edition)

This action saves a previously launched Excel Instance



Properties of 'Save Excel' action

Save Excel

This action saves a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Save Mode: Save document

Action Output

(This action does not provide any output)

☑ This action is Enabled

1. Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

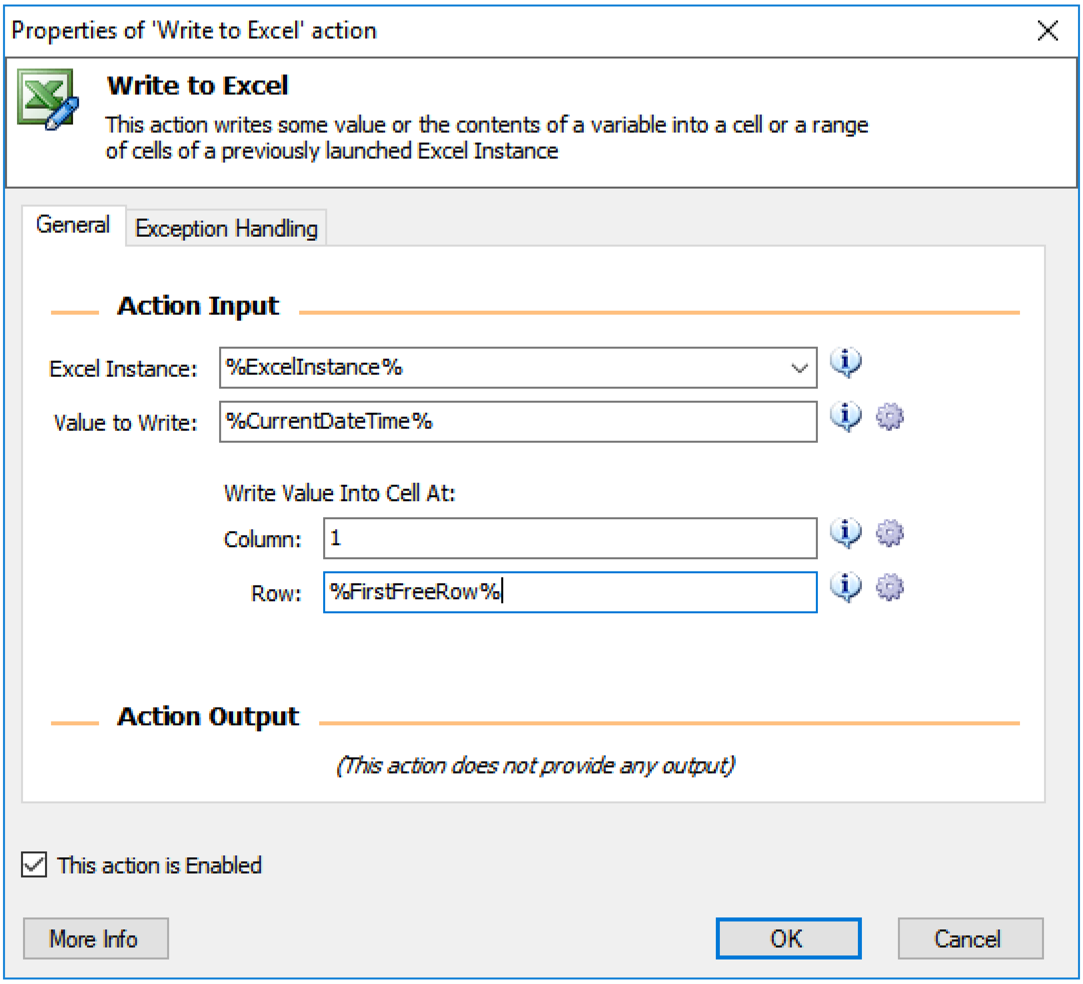
2. Save Mode:

Choose how to save the document of this instance.

5.19.5 Write to Excel Action

Description:

This action writes some value or the contents of a variable into a cell or a range of cells of a previously launched Excel Instance



Properties of 'Write to Excel' action

Write to Excel

This action writes some value or the contents of a variable into a cell or a range of cells of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Value to Write: %CurrentDateTime%

Write Value Into Cell At:

Column: 1

Row: %FirstFreeRow%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Value to Write:

Enter the text, number, or a previously stored variable, to be inserted. If the variable contains a table, it will fill in cells to the right and below, writing over other cell data if need be, and a list will fill in cells below.

Cell Column:

Enter a numeric value to be the column number for the cell this action will write to. This must be a number. For example, Column F requires the entry of '6'.

Cell Row:

Enter a number to be the row for the cell this action will write to.

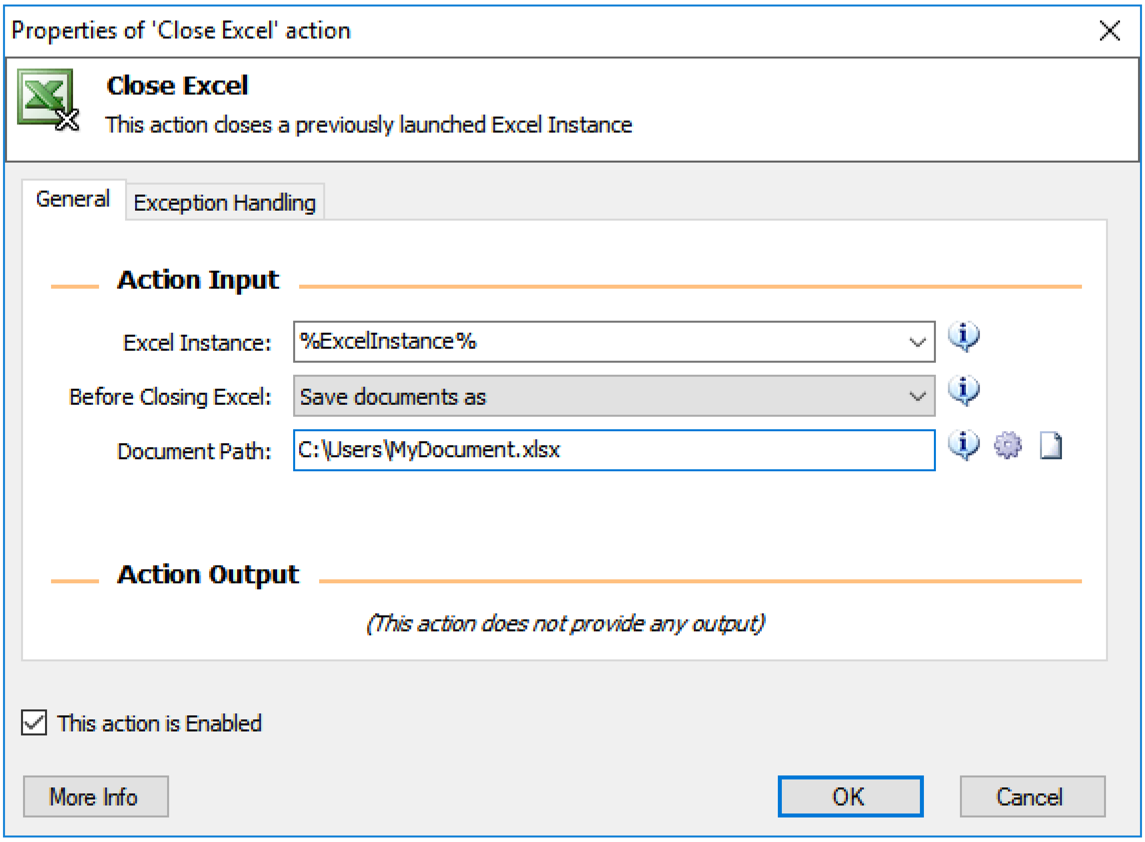
Cautions:

For any Excel-related action to work correctly, Microsoft Excel must be installed on the computer where the process will run.

5.19.6 Close Excel Action

Description:

This action closes a previously launched Excel Instance



Properties of 'Close Excel' action

Close Excel

This action closes a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Before Closing Excel: Save documents as

Document Path: C:\Users\MyDocument.xlsx

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to close. You must have previously specified this variable in a Launch Excel action.

Before Closing Excel:

Choose whether and how to save the document of this Instance before closing that Instance.

Document Path:

Enter or choose the full path you want to save the document as.

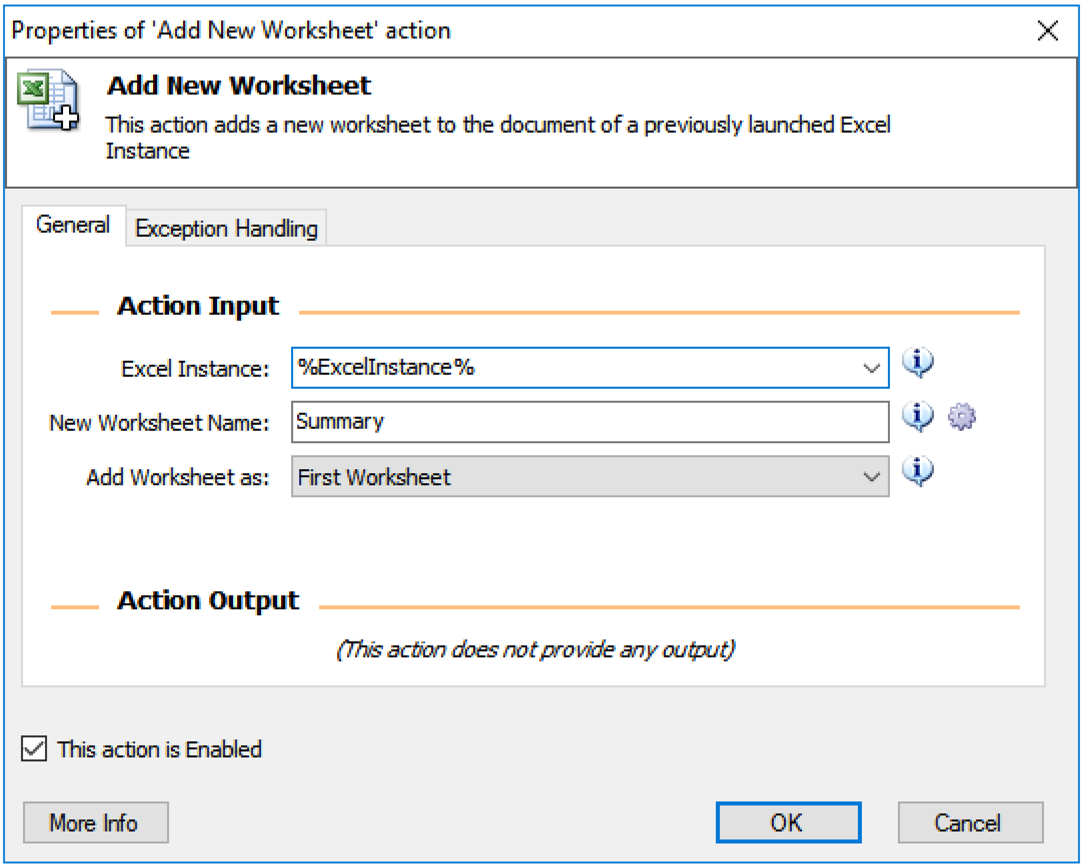
Cautions:

For any Excel-related action to work correctly, Microsoft Excel must be installed on the computer where the process will run.

5.19.7 Add New Worksheet Action

Description:

This action adds a new worksheet to the document of a previously launched Excel Instance



Properties of 'Add New Worksheet' action

Add New Worksheet

This action adds a new worksheet to the document of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

New Worksheet Name: Summary

Add Worksheet as: First Worksheet

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

New Worksheet Name:

Enter the text, or a previously defined text variable, to be used as the name of the new Worksheet.

Add Worksheet As:

Choose whether the new Excel Worksheet will be added before or after the existing Worksheets.

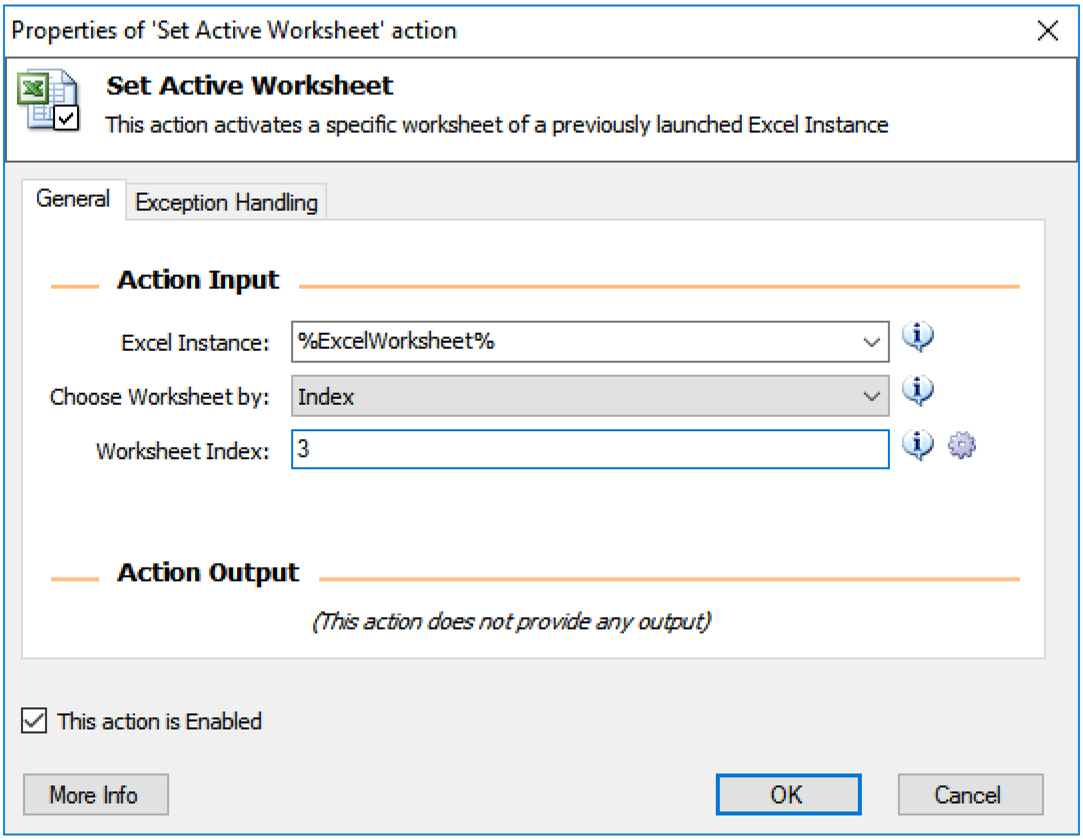
Cautions:

For any Excel-related action to work correctly, Microsoft Excel must be installed on the computer where the process will run.

5.19.8 Set Active Worksheet Action

Description:

This action activates a specific worksheet of a previously launched Excel Instance



Properties of 'Set Active Worksheet' action

Set Active Worksheet

This action activates a specific worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelWorksheet%

Choose Worksheet by: Index

Worksheet Index: 3

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Choose Worksheet by:

Choose to find the worksheet by name or index.

Worksheet Index:

Enter the Index number of the Worksheet you wish to make active. The numbering starts from 1, meaning that the index of the fist worksheet is 1, of the second is 2, etc.

Worksheet Name:

Enter the name of the Worksheet you wish to make active.

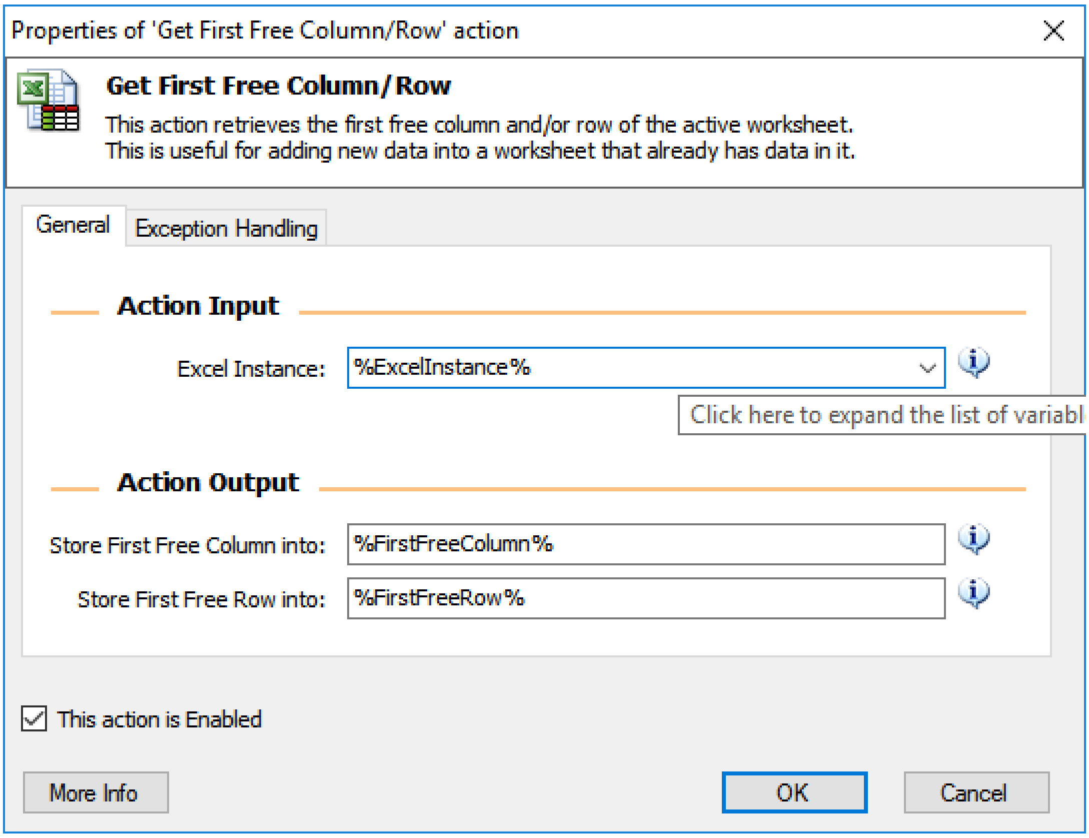
Cautions:

For any Excel-related action to work correctly, Microsoft Excel must be installed on the computer where the process will run.

5.19.9 Get First Free Column/Row Action

Description:

This action retrieves the first free column and/or row of the active worksheet. This is useful for adding new data into a worksheet that already has data in it.



Properties of 'Get First Free Column/Row' action

Get First Free Column/Row

This action retrieves the first free column and/or row of the active worksheet.
This is useful for adding new data into a worksheet that already has data in it.

Excel Instance: %ExcelInstance%

Store First Free Column into: %FirstFreeColumn%

Store First Free Row into: %FirstFreeRow%

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Store First Free Column into:

Enter a name to be the variable that will store the numeric value of the first fully empty column. This will be a number. For example, if column F is the first empty column, it will be stored as '6'.

Store First Free Row into:

Enter a name to be the variable that will store the numeric value of the first fully empty row.

Cautions:

For any Excel-related action to work correctly, Microsoft Excel must be installed on the computer where the process will run.

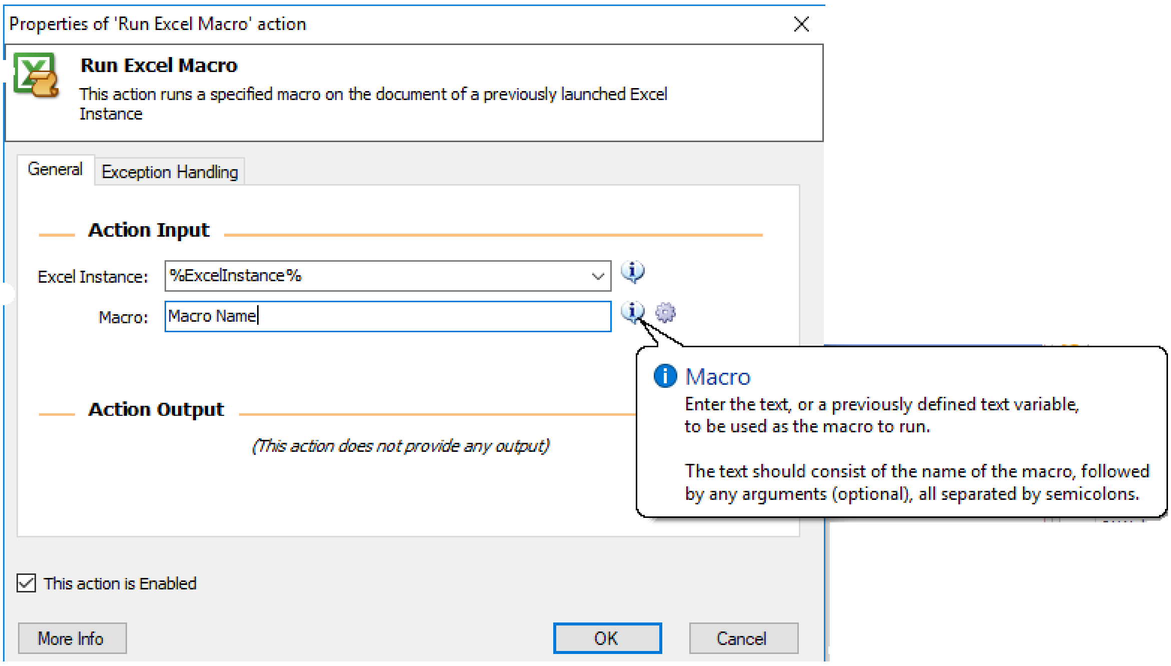
5.19.10 Advanced Excel

Enter topic text here.

5.19.10.1 Run Excel Macro

(Available with the Professional and Professional Plus Edition. N/A to the Basic Edition)

This action runs a specified macro [2] on the document of a previously launched [1] Excel Instance:



Properties of 'Run Excel Macro' action

Run Excel Macro

This action runs a specified macro on the document of a previously launched Excel Instance

Excel Instance: %ExcelInstance%

Macro: Macro Name

(This action does not provide any output)

Macro

Enter the text, or a previously defined text variable, to be used as the macro to run.

The text should consist of the name of the macro, followed by any arguments (optional), all separated by semicolons.

☑ This action is Enabled

1. Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

2. Macro:

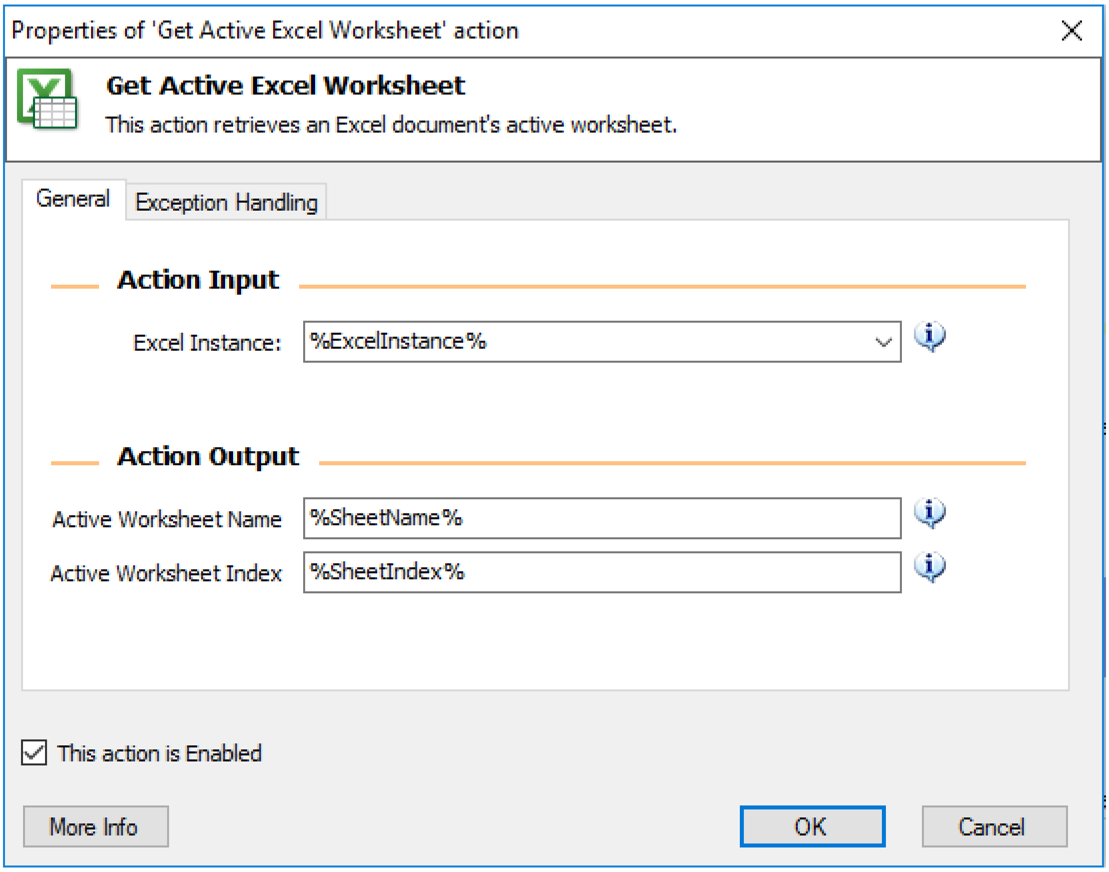
As the help bubble says, enter the text or a previously defined text variable, to be used as the macro to run. The text should consist of the name of the macro, followed by any arguments (optional), all separated by semicolons.

5.19.10.2 Get Active Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action retrieves an Excel document's active worksheet.



Properties of 'Get Active Excel Worksheet' action

Get Active Excel Worksheet

This action retrieves an Excel document's active worksheet.

Action Input

Excel Instance: %ExcelInstance%

Action Output

Active Worksheet Name: %SheetName%

Active Worksheet Index: %SheetIndex%

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with . You must have previously specified this variable in a Launch Excel action

Active Worksheet Name: Enter a name to be the variable that will store the name of the active worksheet

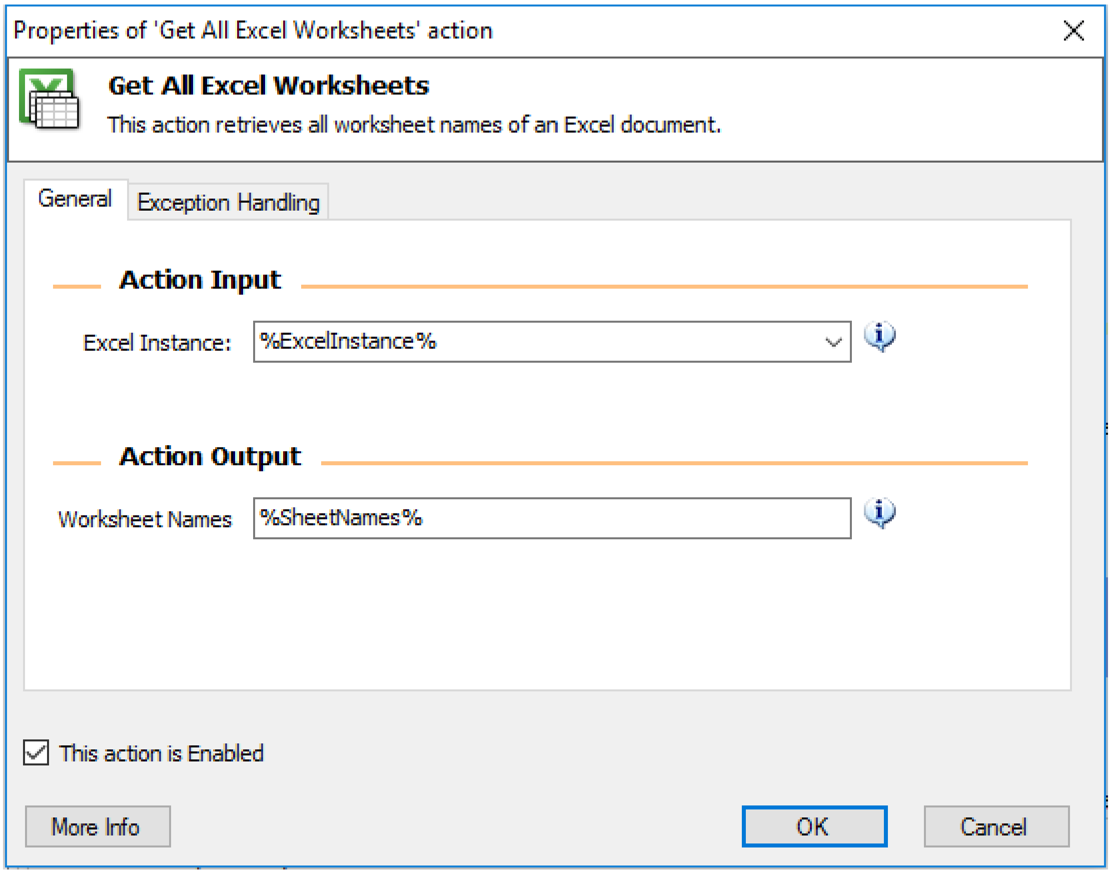
Active Worksheet Index: Enter a name to be the variable that will store the index of the active worksheet

5.19.10.3 Get All Excel Worksheets Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action retrieves all worksheet names of an Excel document.



Properties of 'Get All Excel Worksheets' action

Get All Excel Worksheets

This action retrieves all worksheet names of an Excel document.

Excel Instance: %ExcelInstance%

Worksheet Names %SheetNames%

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with . You must have previously specified this variable in a Launch Excel action

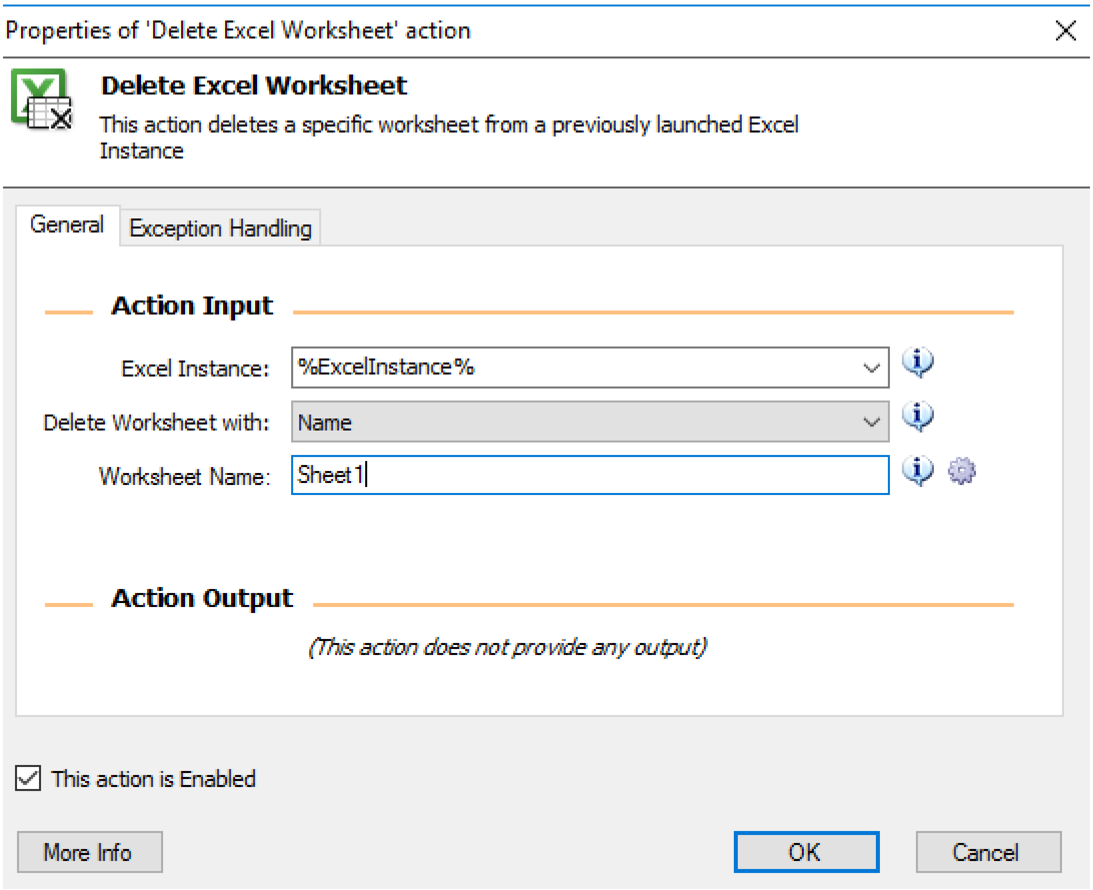
Worksheet Names: Enter a name to be the variable that will store the name of the all worksheets

5.19.10.4 Delete Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action deletes a specific worksheet from a previously launched excel Instance.



Properties of 'Delete Excel Worksheet' action

Delete Excel Worksheet

This action deletes a specific worksheet from a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Delete Worksheet with: Name

Worksheet Name: Sheet1

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with . You must have previously specified this variable in a Launch Excel action.

Delete Worksheet with: Choose whether you want to find the worksheet by Name or Index

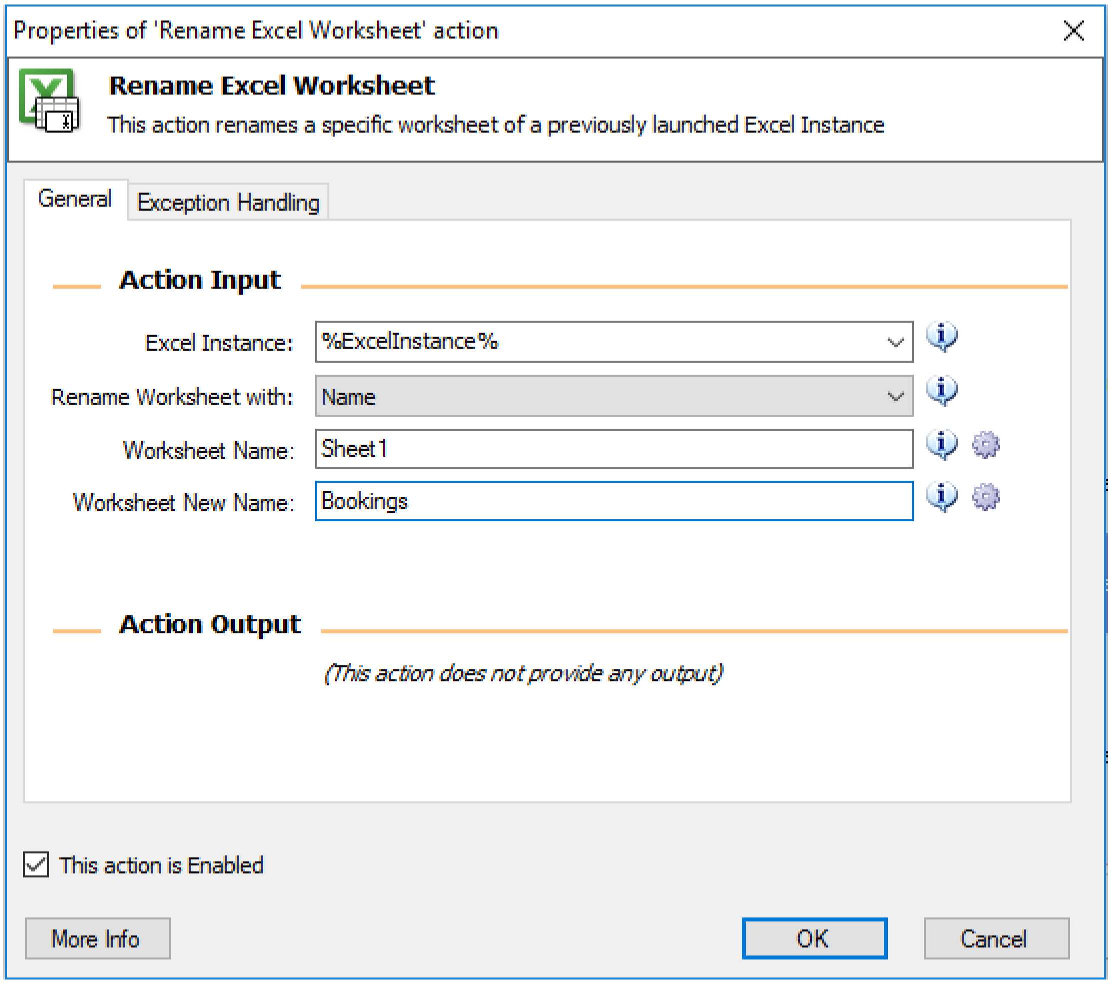
Worksheet Name/Index: Enter the Name/Index of the worksheet you wish to delete.

5.19.10.5 Rename Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action renames a specific worksheet from a previously launched excel Instance.



Properties of 'Rename Excel Worksheet' action

Rename Excel Worksheet

This action renames a specific worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Rename Worksheet with: Name

Worksheet Name: Sheet1

Worksheet New Name: Bookings

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with . You must have previously specified this variable in a Launch Excel action.

Rename Worksheet with: Choose whether you want to find the worksheet by Name or Index

Worksheet Name/Index: Enter the Name/Index of the worksheet you wish to delete. (this will depend on what you selected int he previous option)

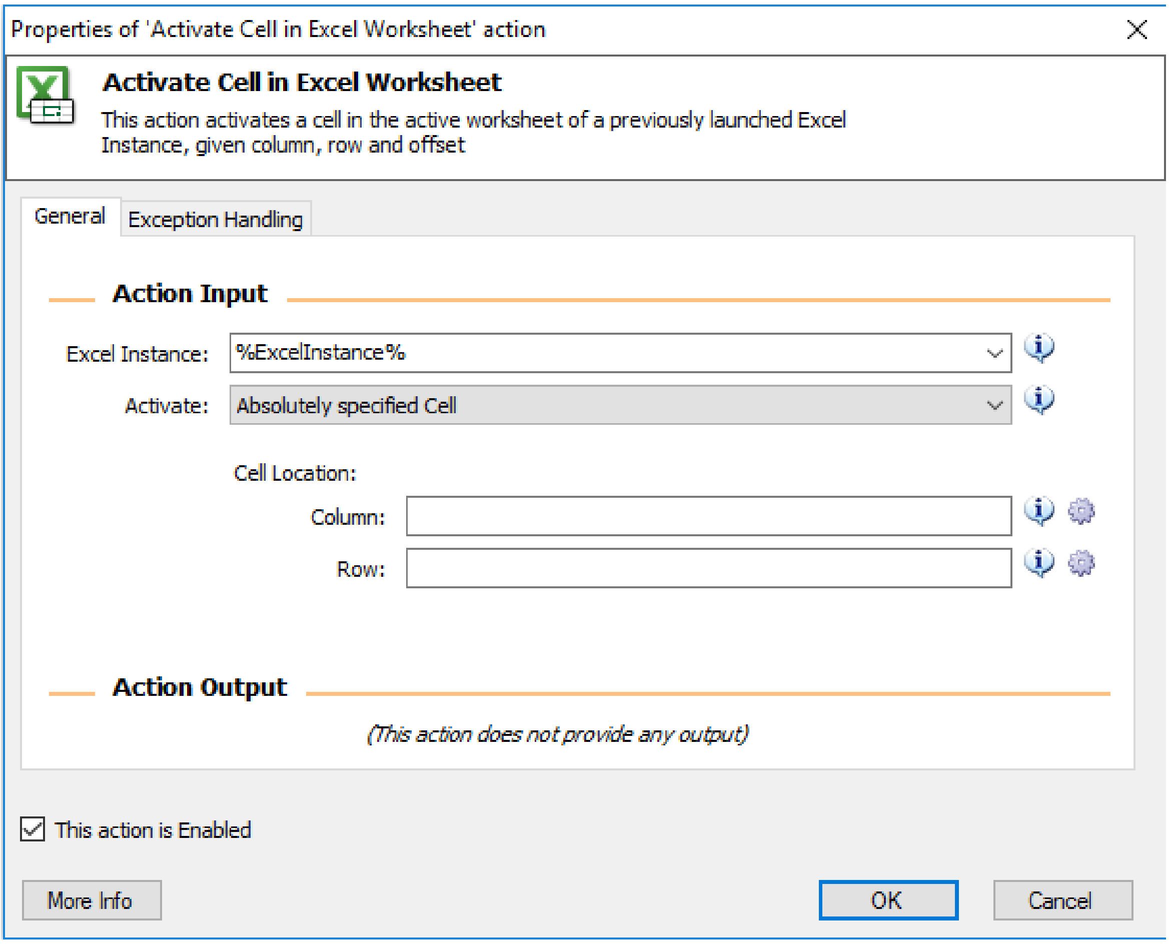
Worksheet New Name: Enter the new name of the worksheet

5.19.10.6 Activate Cell in Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action activates a cell in the active worksheet of a previously launched Excel Instance, given column, row and offset.



Properties of 'Activate Cell in Excel Worksheet' action

Activate Cell in Excel Worksheet

This action activates a cell in the active worksheet of a previously launched Excel Instance, given column, row and offset

Action Input

Excel Instance: %ExcelInstance%

Activate: Absolutely specified Cell

Cell Location:

Column:

Row:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Activate:

Enter a name to be the variable that will store the numeric value of the first fully empty column. This will be a number. For example, if column F is the first empty column, it will be stored as '6'.

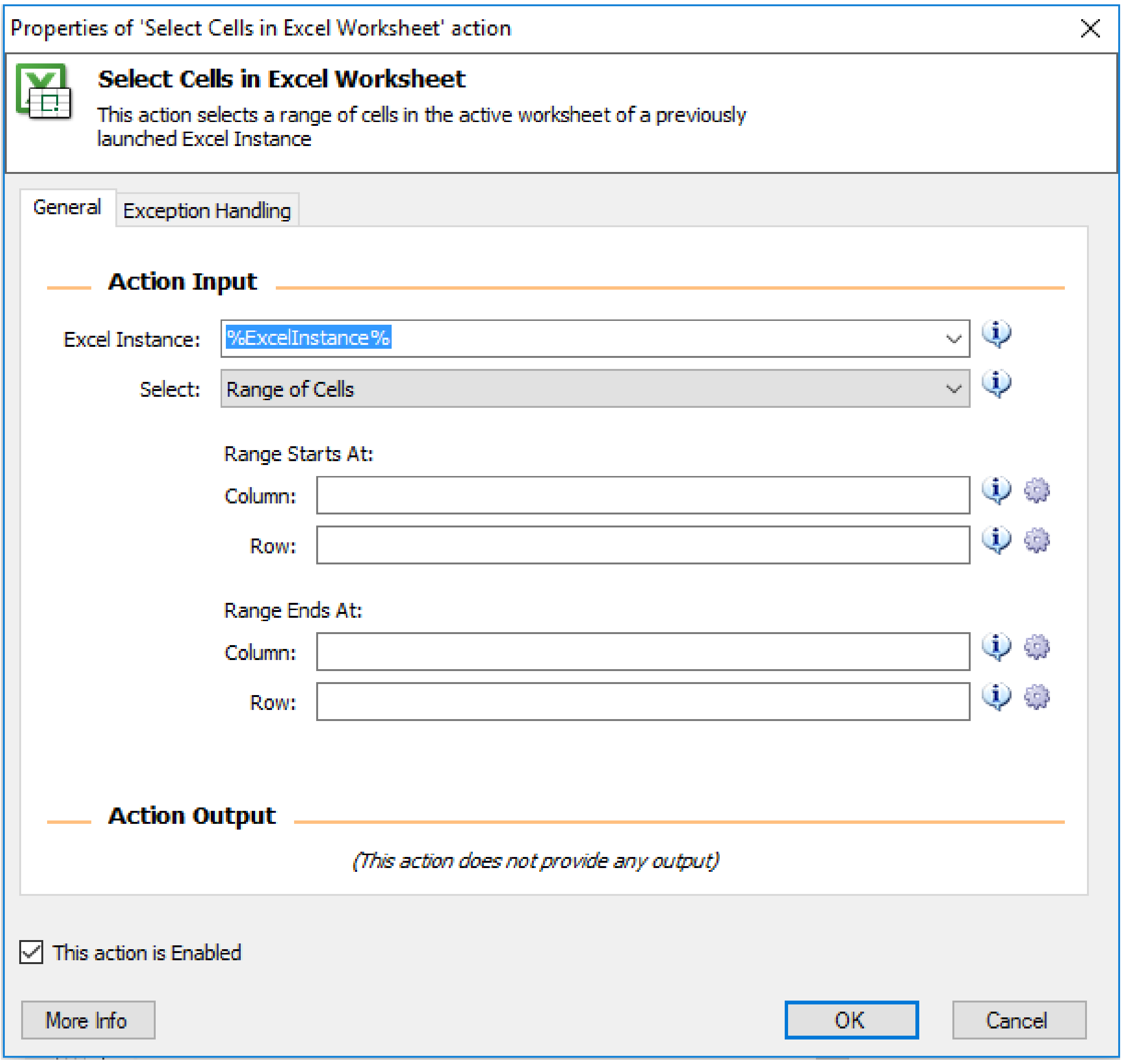
Cell Location Column: Enter a numeric value or letter to be the cell column.

Cell Location Row: Enter a numeric value to be the cell row. The numbering starts from 1.

5.19.10.7 Select Cells in Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description: This action selects a range of cells in the active worksheet of a previously launched Excel Instance



Properties of 'Select Cells in Excel Worksheet' action

Select Cells in Excel Worksheet

This action selects a range of cells in the active worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Select: Range of Cells

Range Starts At:

Column:

Row:

Range Ends At:

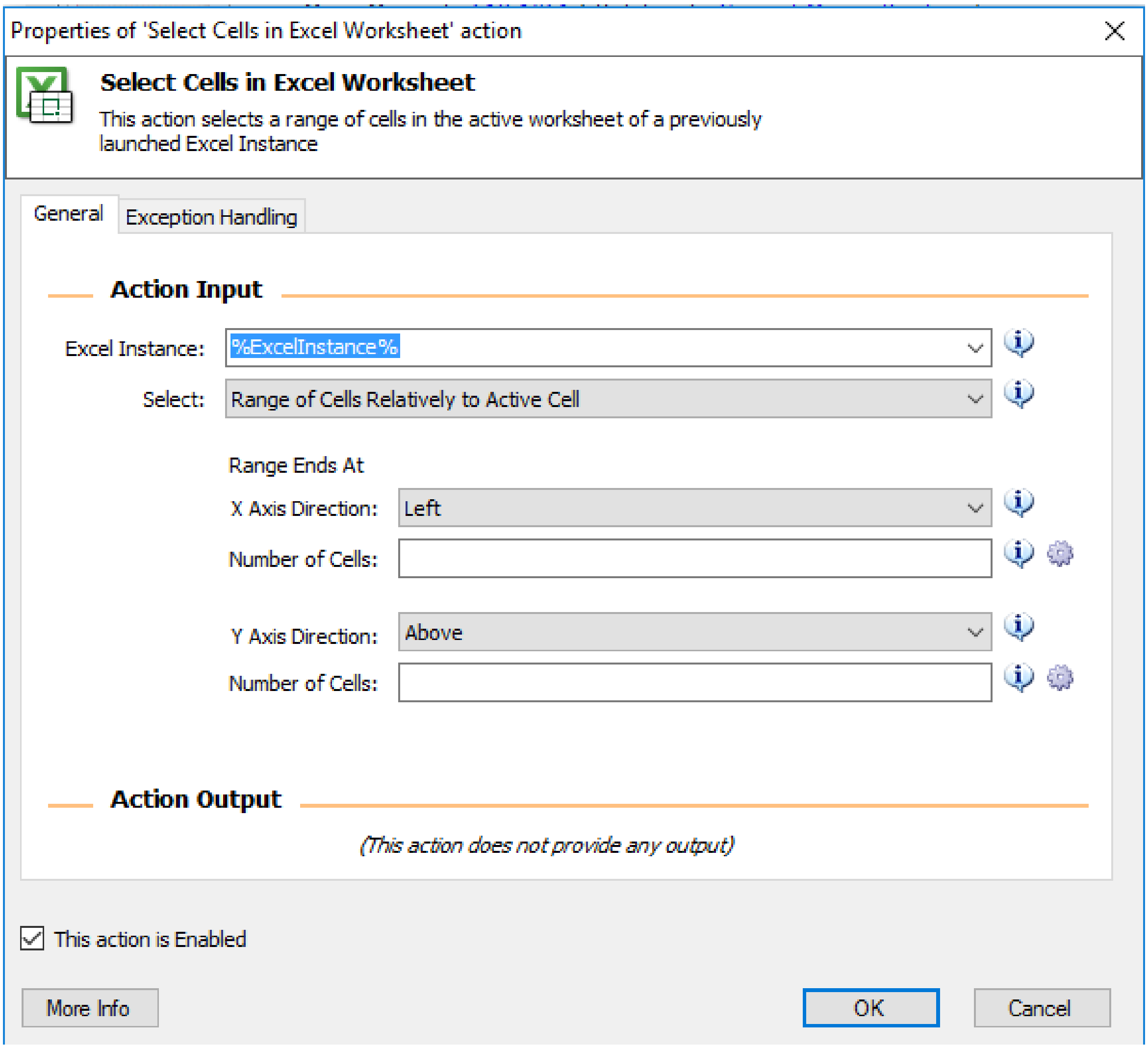
Column:

Row:

Action Output

(This action does not provide any output)

☑ This action is Enabled



Properties of 'Select Cells in Excel Worksheet' action

Select Cells in Excel Worksheet

This action selects a range of cells in the active worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Select: Range of Cells Relatively to Active Cell

Range Ends At

X Axis Direction: Left

Number of Cells:

Y Axis Direction: Above

Number of Cells:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Select: Choose whether to select an explicitly specified range of cells or a range of cells relatively to the currently active cell.

Range Start at Column: Enter a numeric value or letter to be the first column.

Range Starts at Row: Enter a numeric value to be the first row number.

Range Ends at Column: Enter a numeric value or letter to be the last column.

Range Ends at Row: Enter a numeric value or letter to be the last row. The numbering starts from 1.

Range Ends at X Axis direction: Select x-axis offset direction. Select where to look along the horizontal axis, based on currently activated cell's position.

Number of Cells: Enter a numeric value to be the X axis offset

Range Ends at Y Axis direction: Select y-axis offset direction. Select where to look along the vertical axis, based on currently activated cell's position.

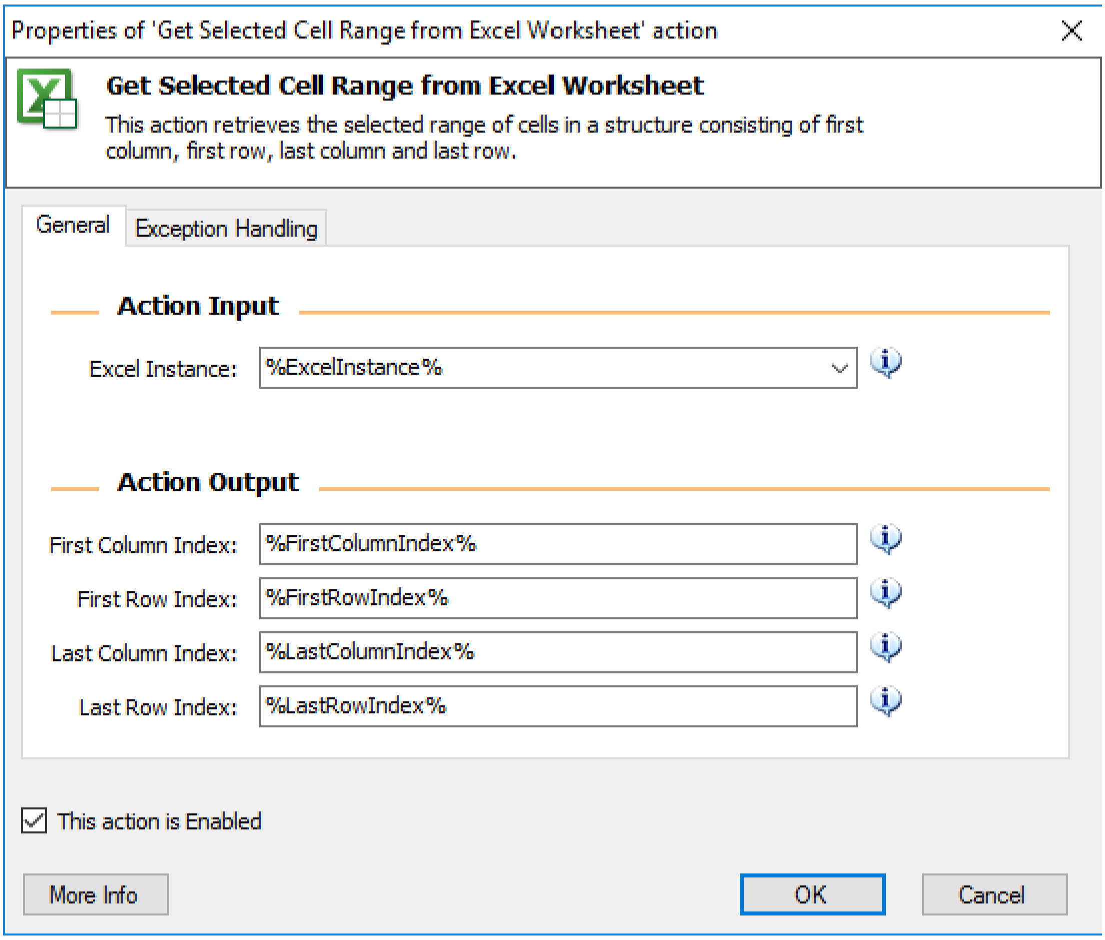
Number of Cells: Enter a numeric value to be the Y axis offset

5.19.10.8 Get Selected Cell Range From Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action retrieves the selected range of cells in a structure consisting of first column, first row, last column and last row.



Properties of 'Get Selected Cell Range from Excel Worksheet' action

Get Selected Cell Range from Excel Worksheet

This action retrieves the selected range of cells in a structure consisting of first column, first row, last column and last row.

Action Input

Excel Instance: %ExcelInstance%

Action Output

First Column Index: %FirstColumnIndex%

First Row Index: %FirstRowIndex%

Last Column Index: %LastColumnIndex%

Last Row Index: %LastRowIndex%

☑ This action is Enabled

Properties:

First Column Index: Enter a name to be the variable that will store the numeric value of the range's first column.

First Row Index: Enter a name to be the variable that will store the numeric value of the range's first row.

Last Column Index: Enter a name to be the variable that will store the numeric value of the range's last column.

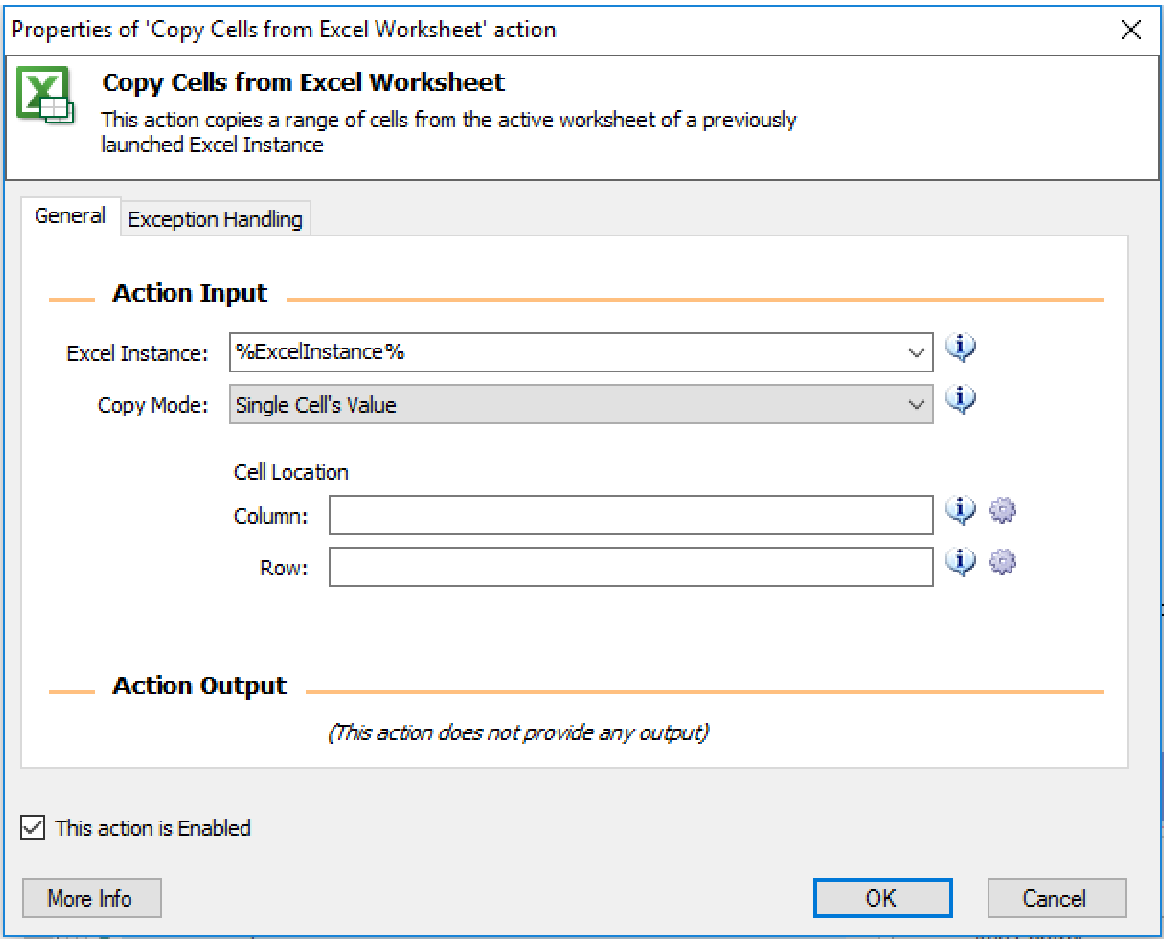
Last Row Index: Enter a name to be the variable that will store the numeric value of the range's last row.

5.19.10.9 Copy Cells in Exel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action copies a range of cells from the active worksheet of a previously launched Excel Instance



Properties of 'Copy Cells from Excel Worksheet' action

Copy Cells from Excel Worksheet

This action copies a range of cells from the active worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Copy Mode: Single Cell's Value

Cell Location

Column:

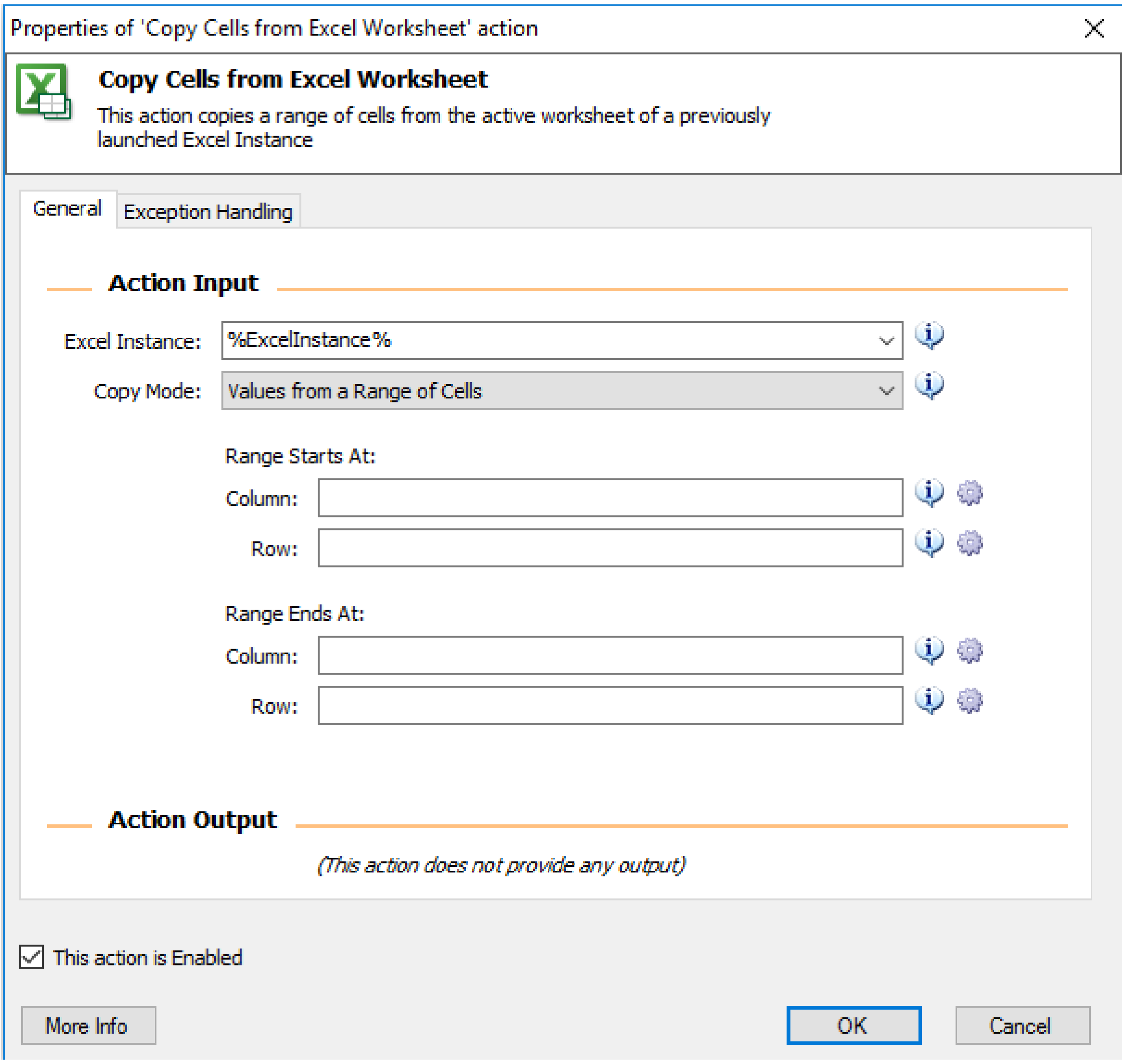
Row:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Operation: Single Cell Value



Properties of 'Copy Cells from Excel Worksheet' action

Copy Cells from Excel Worksheet

This action copies a range of cells from the active worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Copy Mode: Values from a Range of Cells

Range Starts At:

Column:

Row:

Range Ends At:

Column:

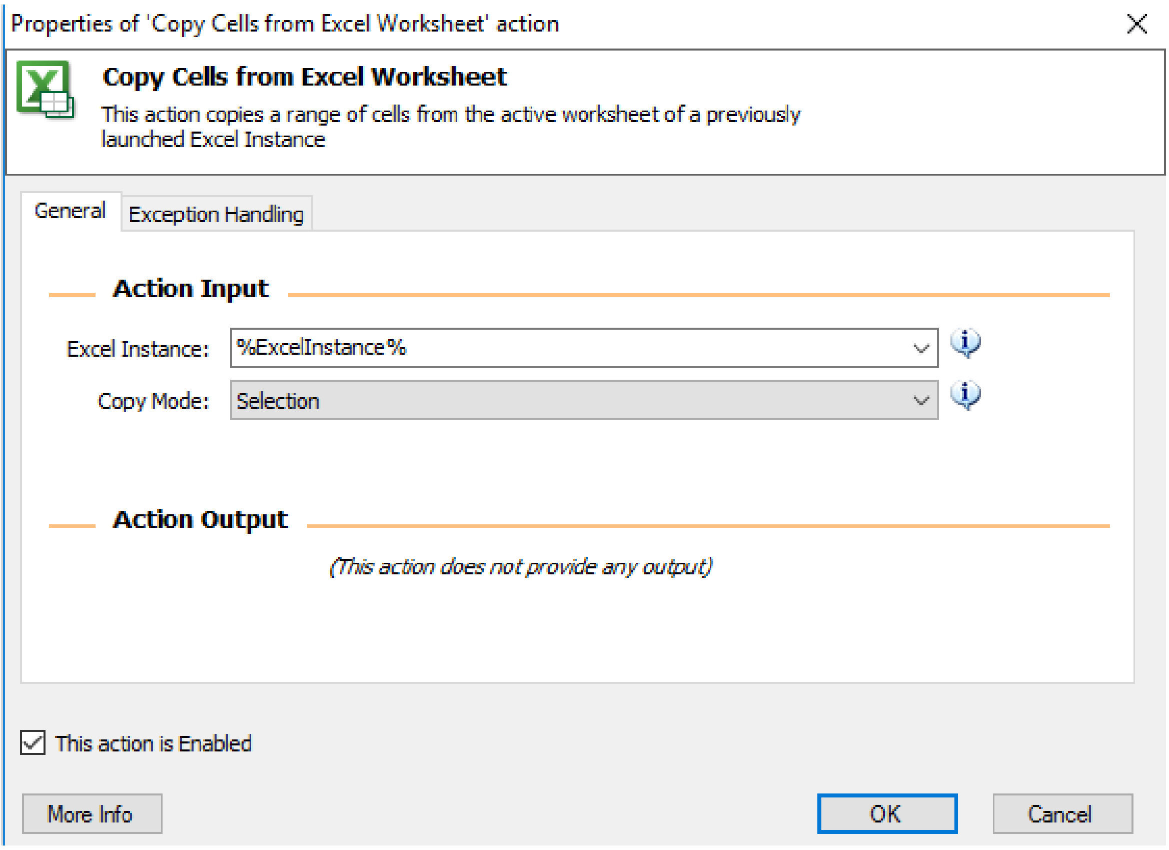
Row:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Operation: Value from a Range of Cells



Properties of 'Copy Cells from Excel Worksheet' action

Copy Cells from Excel Worksheet

This action copies a range of cells from the active worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Copy Mode: Selection

Action Output

(This action does not provide any output)

☑ This action is Enabled

Operation: Selection

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Copy Mode: Choose whether to copy a single cell, a range of cells or the current selection of cells.

(The screenshots above show how the actions properties change depending on the operation that you will choose.)

Column: Enter a numeric value or letter to be the cell column.

Row: Enter a numeric value to be the cell row.

First Column: Enter a numeric value or letter to be the cell column or first column.

First Row: Enter a numeric value to be the cell row or first row number.

Last Column: Enter a numeric value or letter to be the last column.

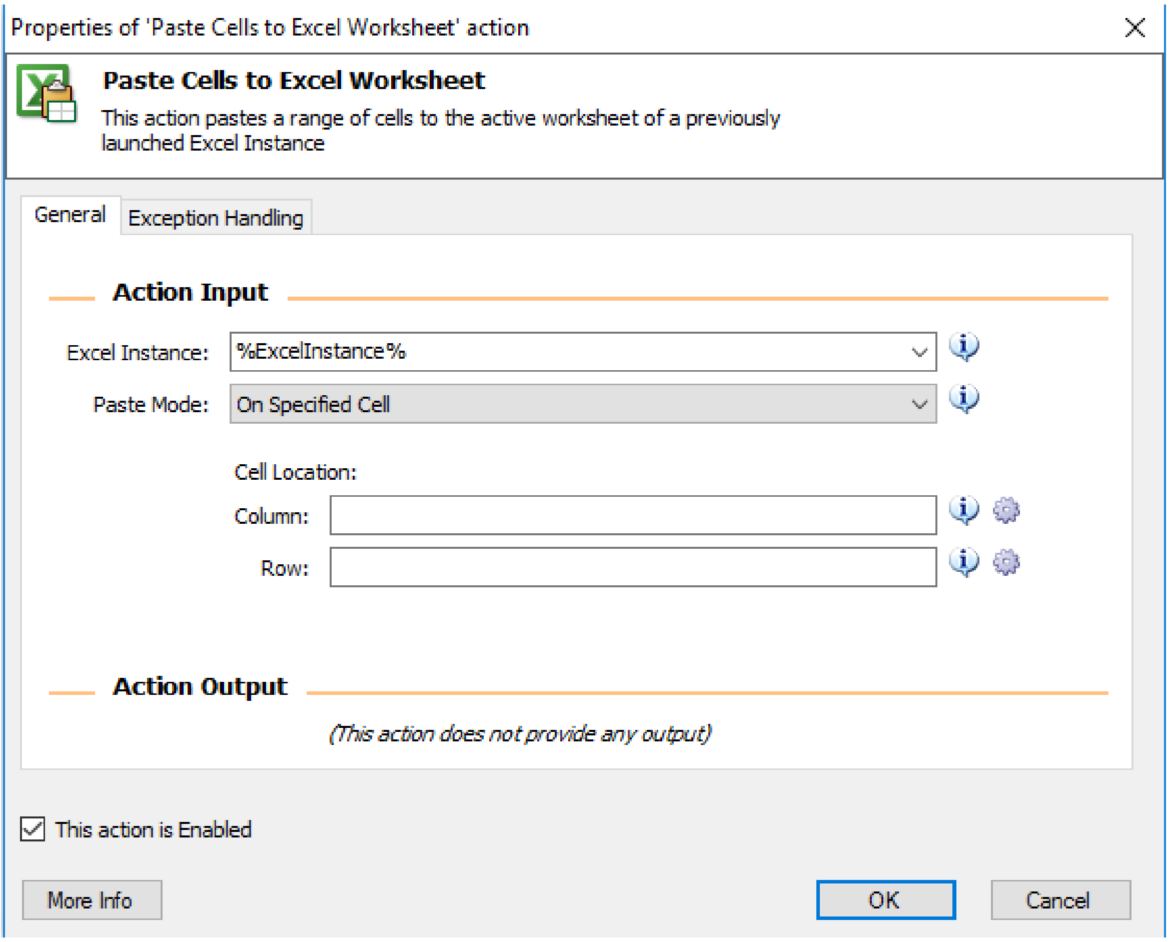
Last Row: Enter a numeric value to be the last row number.

5.19.10.10 Paste Cells to Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action pastes a range of cells to the active worksheet of a previously launched Excel Instance



Properties of 'Paste Cells to Excel Worksheet' action

Paste Cells to Excel Worksheet

This action pastes a range of cells to the active worksheet of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Paste Mode: On Specified Cell

Cell Location:

Column:

Row:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Paste Mode: Choose whether to paste on a specified cell or the currently active cell.

Column: Enter a numeric value or letter to be the cell column.

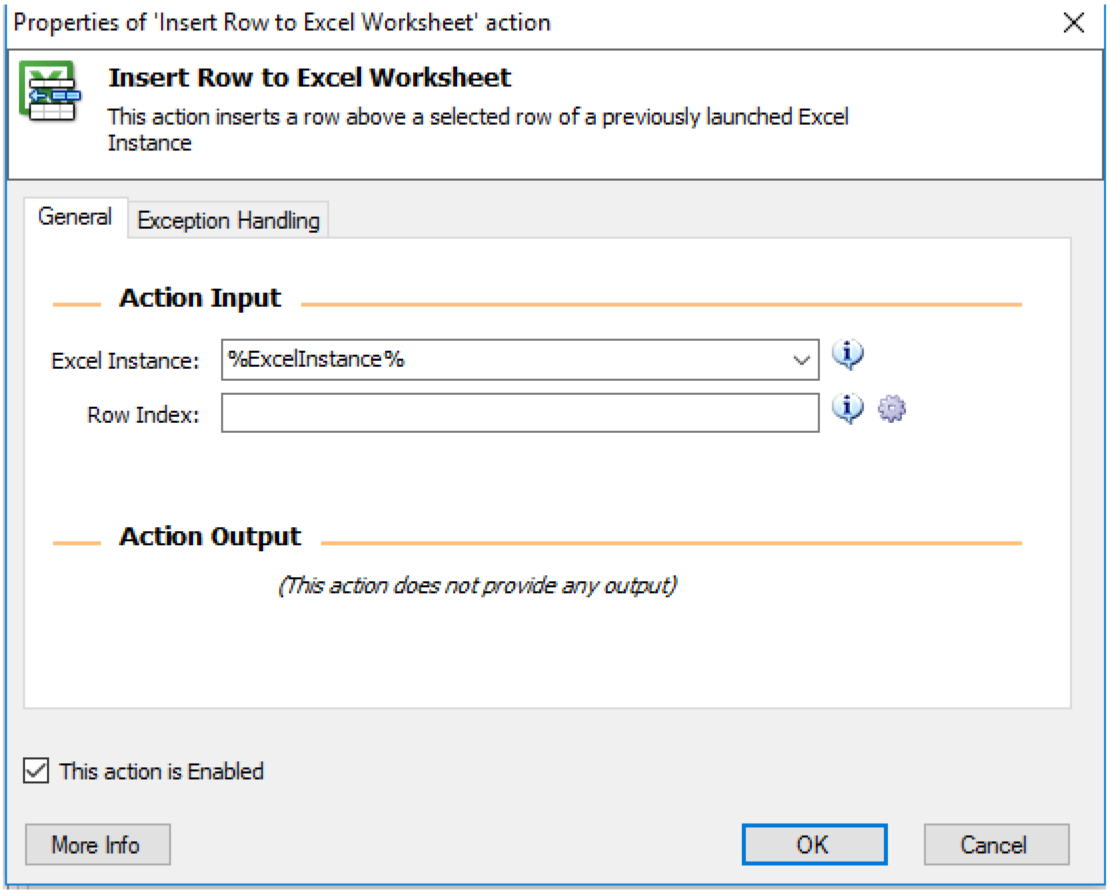
Row: Enter a numeric value to be the row number.

5.19.10.11 Insert Row in Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action inserts a row above a selected row of a previously launched Excel Instance



Properties of 'Insert Row to Excel Worksheet' action

Insert Row to Excel Worksheet

This action inserts a row above a selected row of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Row Index:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

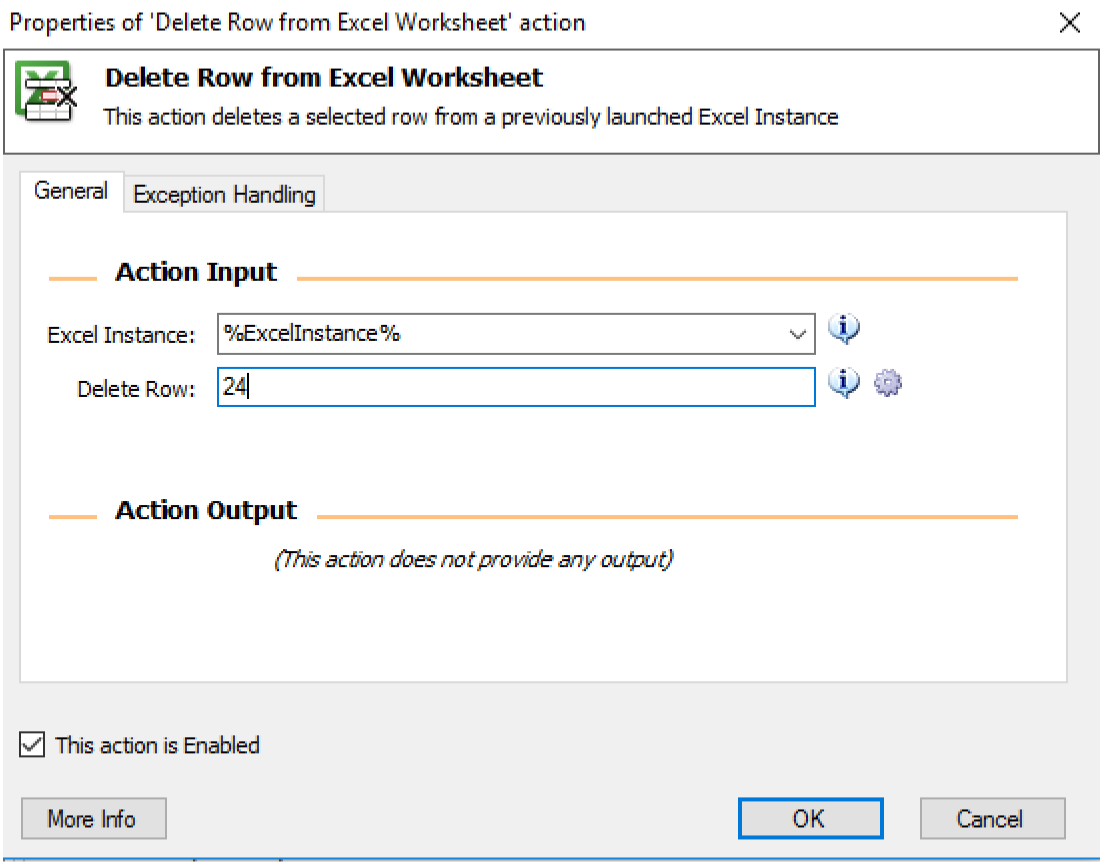
Row Index: Enter the Index number of the row you wish to add a new row above. The numbering starts from 1.

5.19.10.1: Delete Row from Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action inserts a row above a selected row of a previously launched Excel Instance



Properties of 'Delete Row from Excel Worksheet' action

Delete Row from Excel Worksheet

This action deletes a selected row from a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Delete Row: 24

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

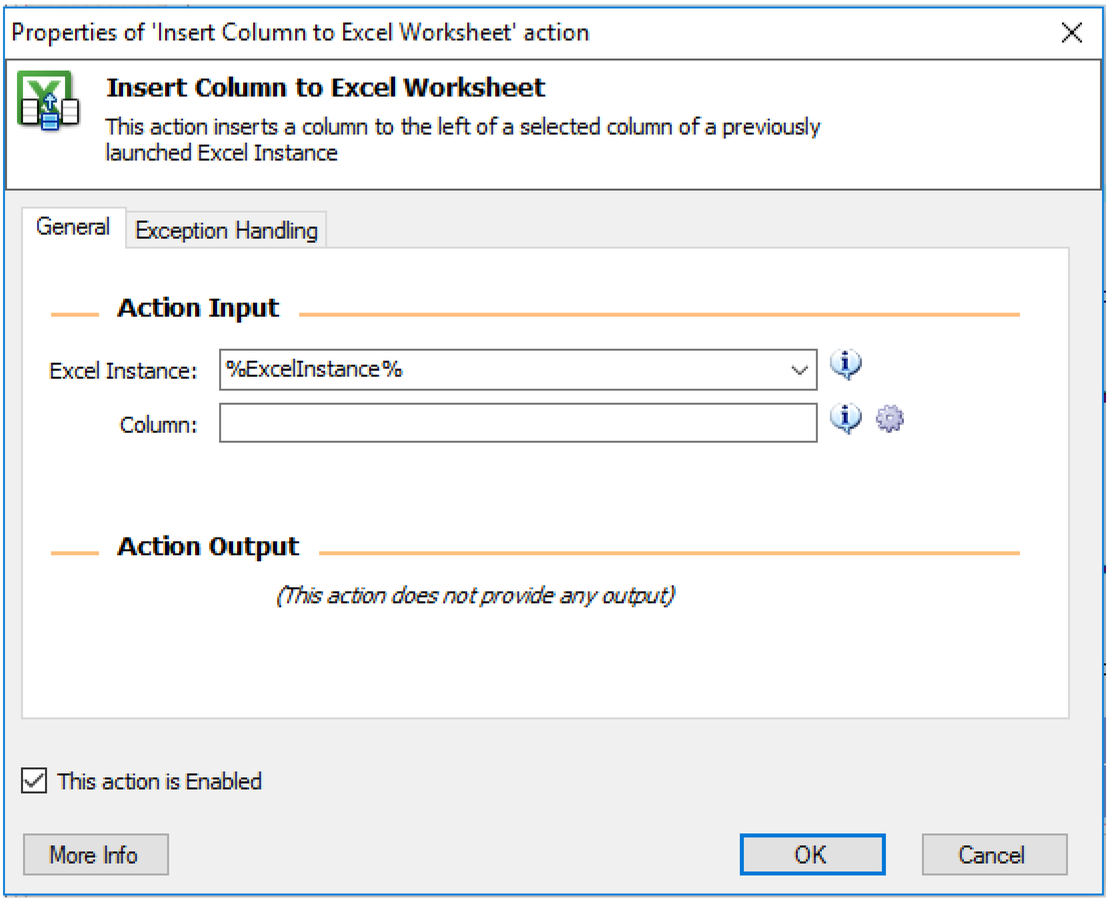
Row Index: Enter the Index number of the row you wish to delete. The numbering starts from 1.

5.19.10.1:Insert Column to Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action inserts a column to the left of a selected column of a previously launched Excel Instance


Properties of 'Insert Column to Excel Worksheet' action

Insert Column to Excel Worksheet

This action inserts a column to the left of a selected column of a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Column:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

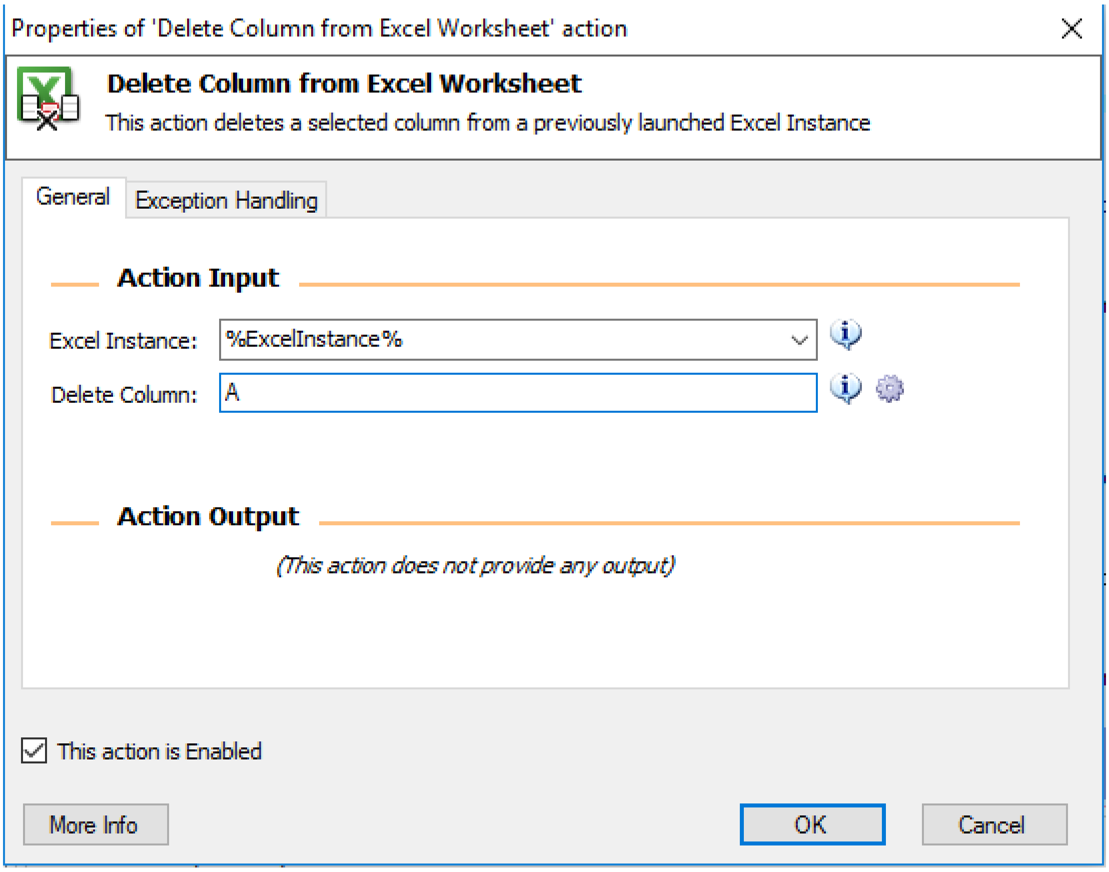
Column: Enter a column's index number or letter. A new column will appear on the left side of the column indicated.

5.19.10.14 Delete Column from Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action deletes a selected column from a previously launched Excel Instance



Properties of 'Delete Column from Excel Worksheet' action

Delete Column from Excel Worksheet

This action deletes a selected column from a previously launched Excel Instance

Action Input

Excel Instance: %ExcelInstance%

Delete Column: A

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Excel Instance: Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

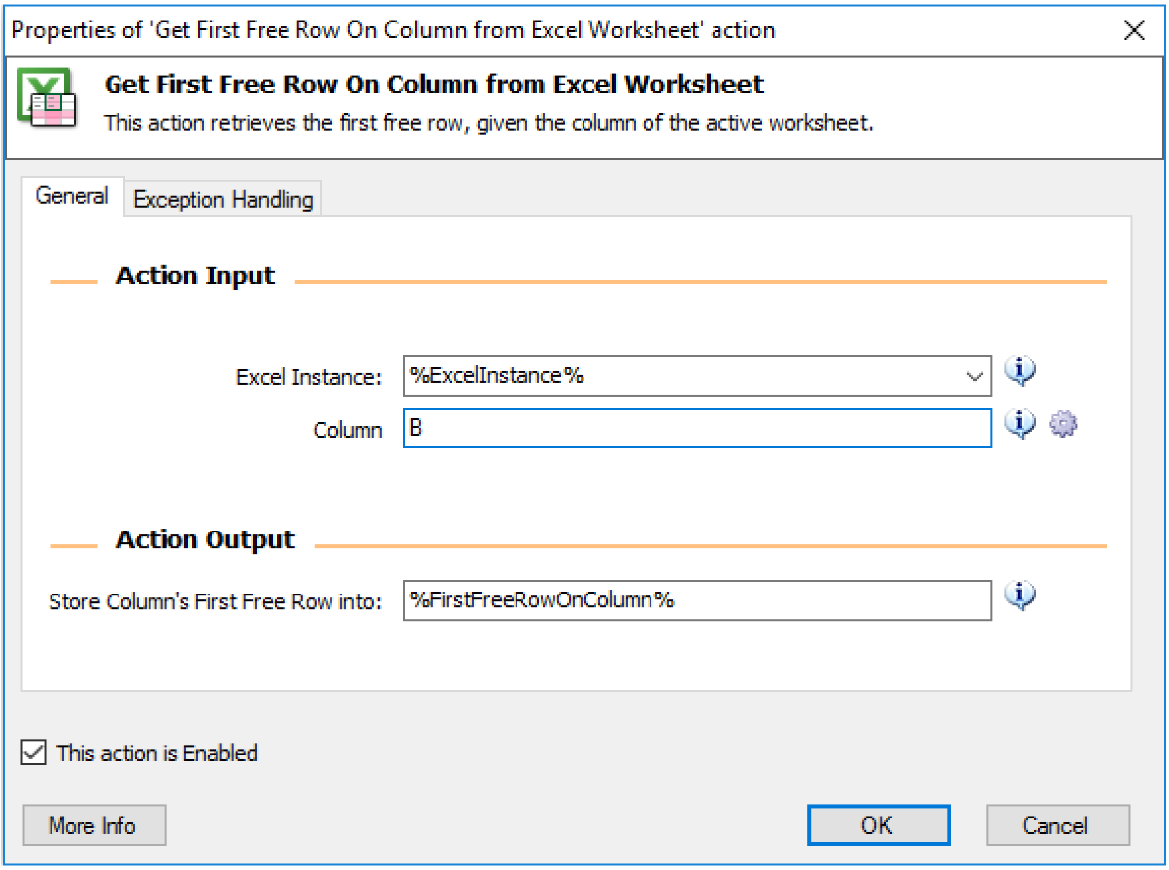
Delete Column: Enter the Index number or letter of the column you wish to delete.

5.19.10.15 Get First Free Row on Column from Excel Worksheet Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action retrieves the first free row, given the column of the active worksheet.



Properties of 'Get First Free Row On Column from Excel Worksheet' action

Get First Free Row On Column from Excel Worksheet

This action retrieves the first free row, given the column of the active worksheet.

Action Input

Excel Instance: %ExcelInstance%

Column B

Action Output

Store Column's First Free Row into: %FirstFreeRowOnColumn%

☑ This action is Enabled

Properties:

Excel Instance:

Enter the variable that contains the Excel Instance you want to work with. You must have previously specified this variable in a Launch Excel action.

Column: Enter the index or the letter that identifies the column. Column numbering starts from index 1.

Store Column's First Free Row into: Enter a name to be the variable that will store the numeric value of the given column's first fully empty row.

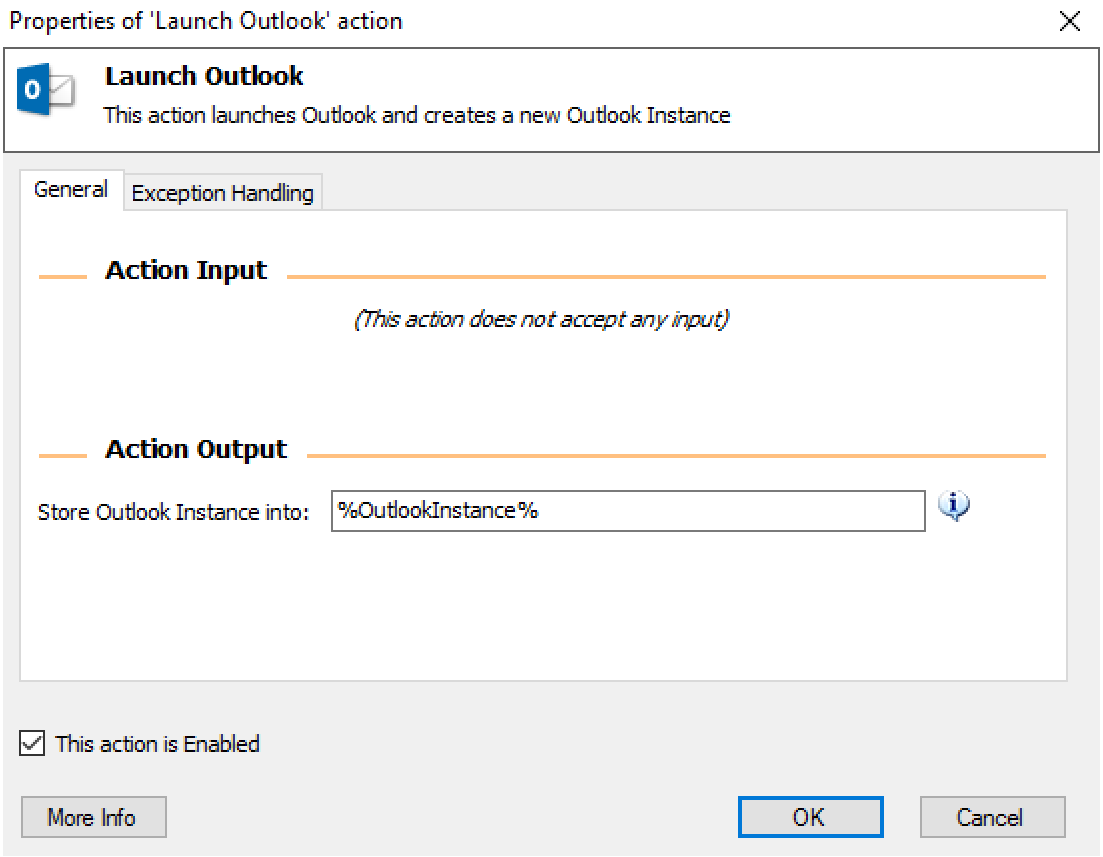
5.20 Outlook

5.20.1 Launch Outlook Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action launches Outlook and creates a new Outlook Instance



Properties of 'Launch Outlook' action

Launch Outlook

This action launches Outlook and creates a new Outlook Instance

Action Input

(This action does not accept any input)

Action Output

Store Outlook Instance into: %OutlookInstance%

☑ This action is Enabled

Properties:

Store Outlook Instance into:

Enter a name to be the variable that will store the specific Outlook Instance for use with later Outlook actions.

Cautions:

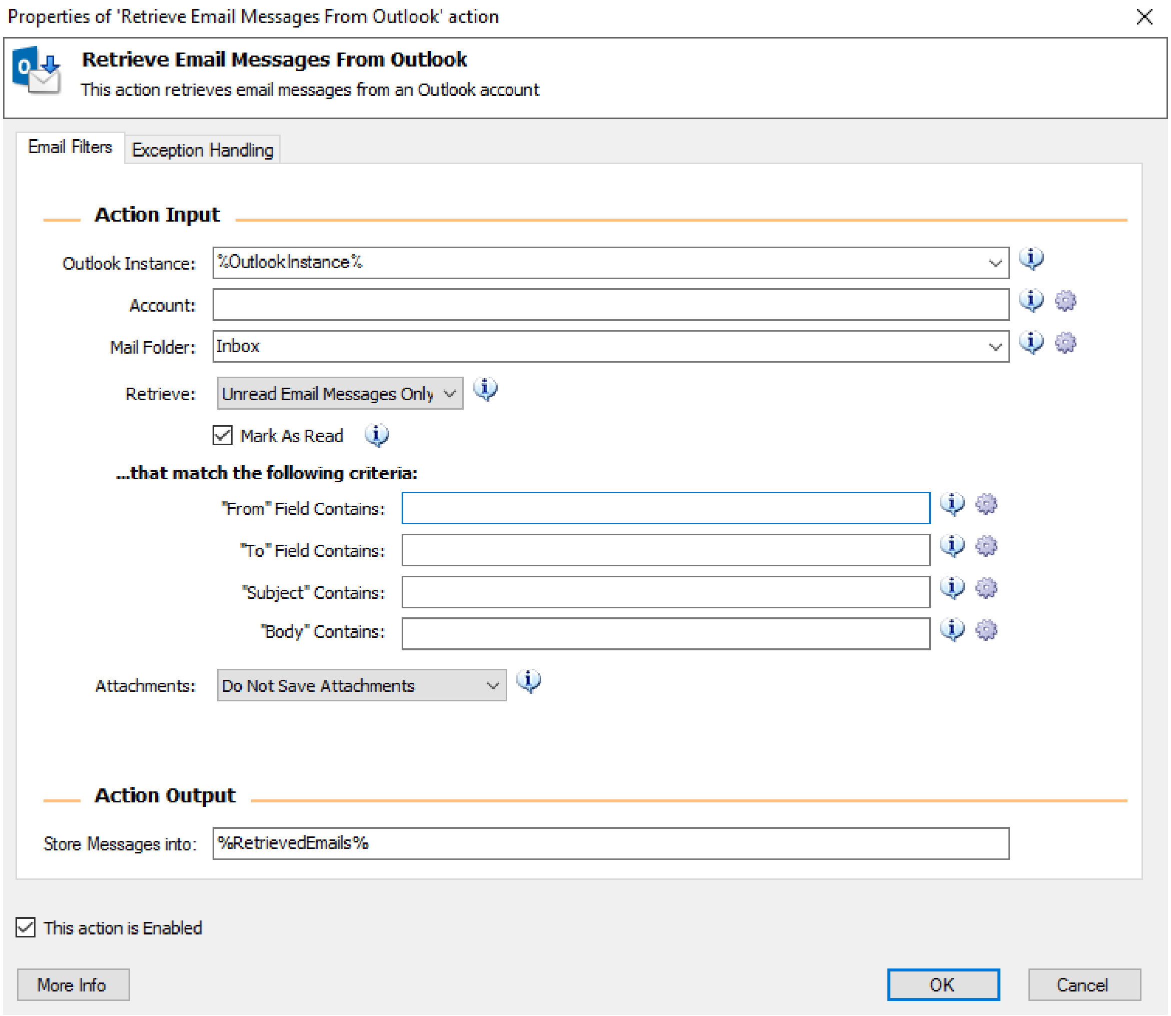
For any Outlook-related action to work correctly, Microsoft Outlook must be installed on the computer where the process will run.

5.20.2 Retrieve Email Messages From Outlook Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action retrieves email messages from an Outlook account



Properties of 'Retrieve Email Messages From Outlook' action

Retrieve Email Messages From Outlook

This action retrieves email messages from an Outlook account

Action Input

Outlook Instance: %OutlookInstance%

Account:

Mail Folder: Inbox

Retrieve: Unread Email Messages Only

☑ Mark As Read

...that match the following criteria:

"From" Field Contains:

"To" Field Contains:

"Subject" Contains:

"Body" Contains:

Attachments: Do Not Save Attachments

Action Output

Store Messages into: %RetrievedEmails%

☑ This action is Enabled

Properties:

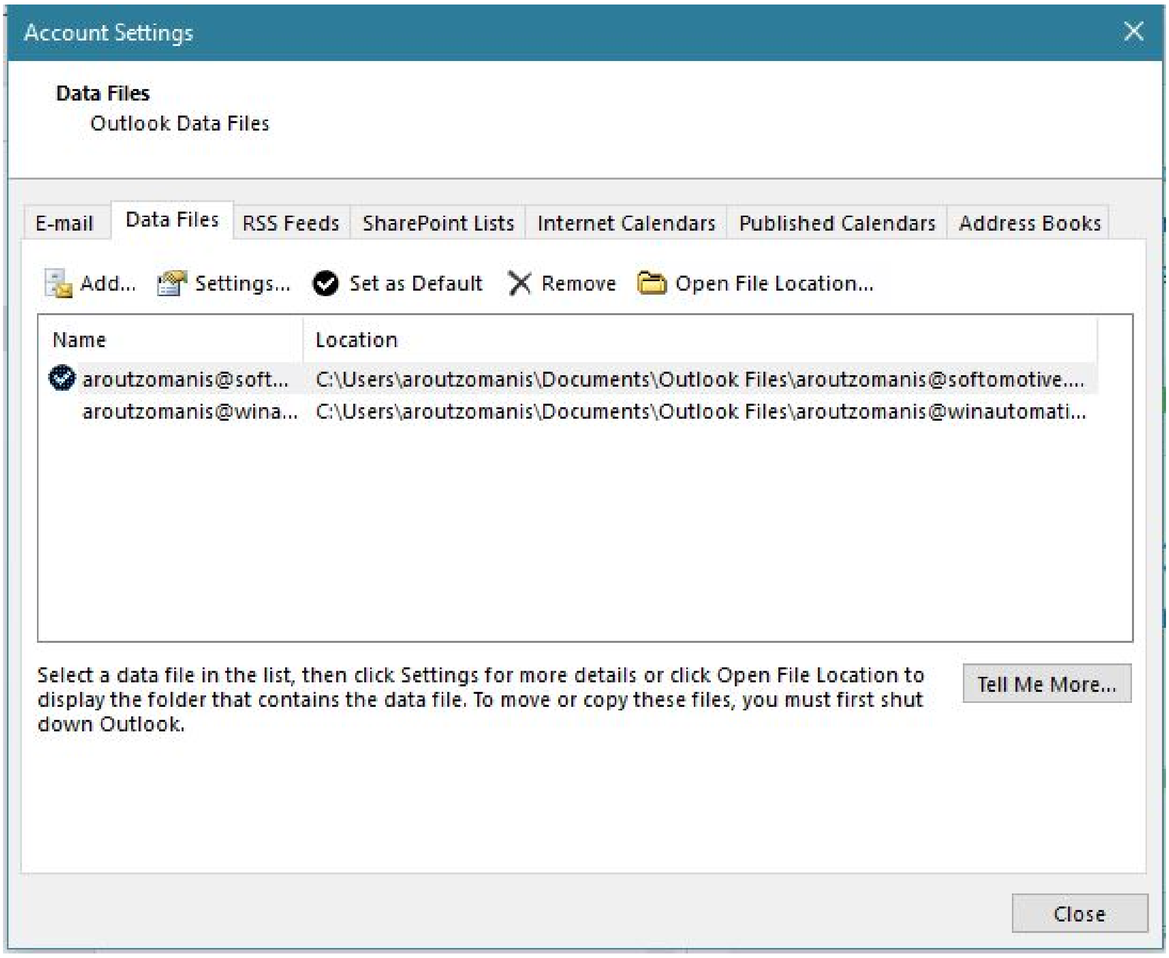
Outlook Instance:

Enter the variable that contains the Outlook Instance you want to work with. You must have previously specified this variable in a "Launch Outlook" action.

Account:

Enter the name of the Outlook account (Data File name) you wish to work with (ex: john@mail.com, John Tyler, Personal Folders).

Please find the name of your account by navigating to your Account Settings Data Files Tab.



Name	Location
aroutzomanis@soft...	C:\Users\aroutzomanis\Documents\Outlook Files\aroutzomanis@softomotive....
aroutzomanis@wina...	C:\Users\aroutzomanis\Documents\Outlook Files\aroutzomanis@winautomati...

Select a data file in the list, then click Settings for more details or click Open File Location to display the folder that contains the data file. To move or copy these files, you must first shut down Outlook.

Mail Folder:

Enter the name of the folder that you want to retrieve messages from. Enter the full folder path for subfolders (ex. Inbox\Work).

Retrieve:

Specify whether you want to retrieve all messages in the folder, or only the unread ones.

Mark As Read:

Specify whether you want to mark as read all the unread messages retrieved.

"From" Field Contains:

Enter the full e-mail address of the Sender whose messages you want to retrieve. Leave this field blank to retrieve all messages regardless of the sender.

"To" Field Contains:

Enter the full e-mail address(es) of the Receipient(s) (separated by space or semicolon if more than one) for the messages you want to retrieve. Leave this field blank to retrieve all messages regardless of the recipient(s).

"Subject" Contains:

Enter the key phrase to be found within the email Subject. Leave this field blank to retrieve all email messages regardless of the their subject.

"Body" Contains:

Enter the key phrase to be found within the email Body. Leave this field blank to retrieve all email messages regardless of the their content.

Attachments:

Specify whether you want to save the attachments of the email messages retrieved or not.

Save Attachments into:

Enter here the folder in which you want the attachments to be saved.

Store Messages into:

Enter a name to be the variable that will store the retrieved email messages for later processing. The variable will contain a List of Outlook Message objects.

Cautions:

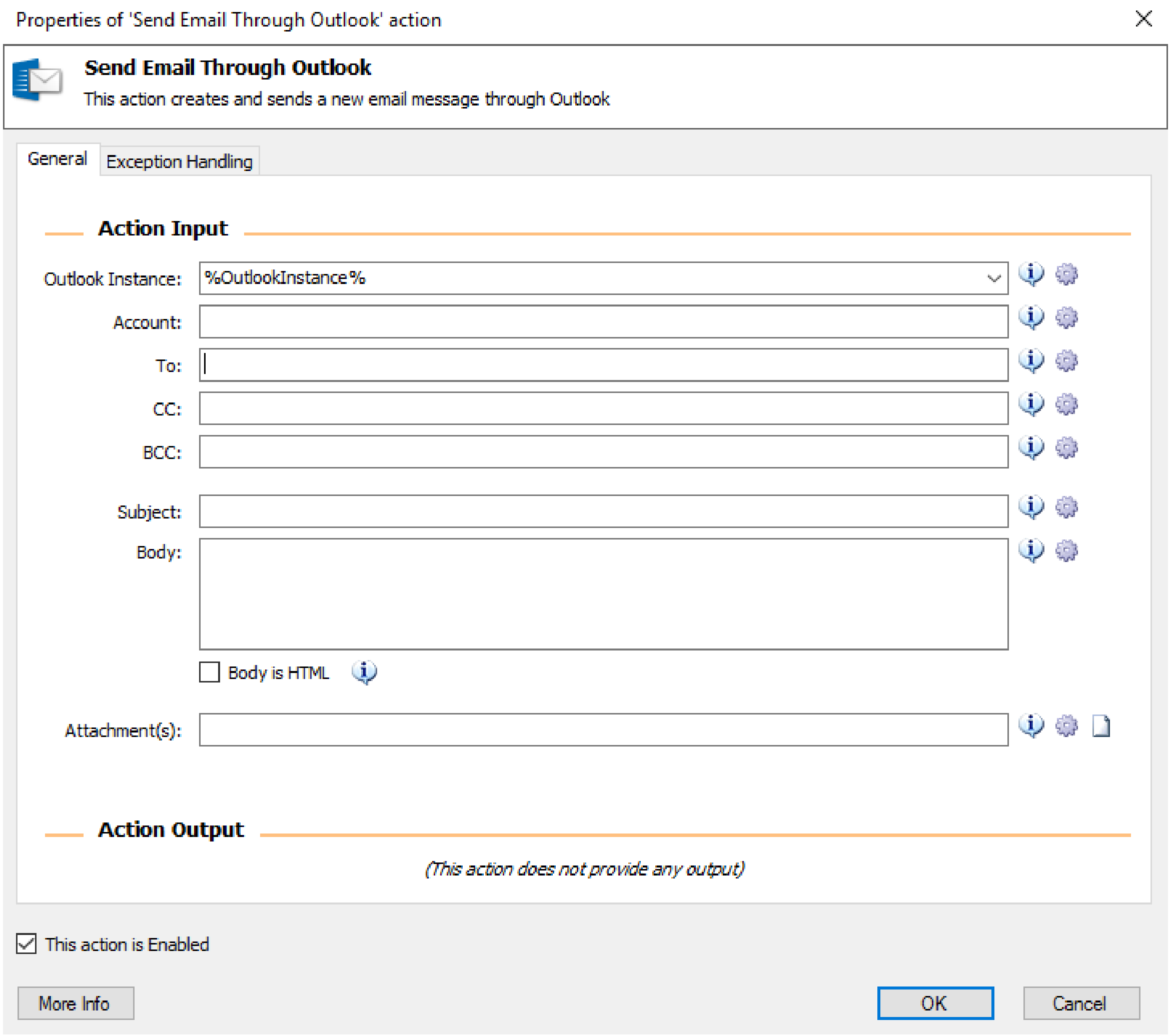
For any Outlook-related action to work correctly, Microsoft Outlook must be installed on the computer where the process will run.

5.20.3 Send Email Through Outlook Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action creates and sends a new email message through Outlook



Properties of 'Send Email Through Outlook' action

Send Email Through Outlook

This action creates and sends a new email message through Outlook

Outlook Instance: %OutlookInstance%

Account:

To:

CC:

BCC:

Subject:

Body:

□ Body is HTML

Attachment(s):

(This action does not provide any output)

☑ This action is Enabled

Properties:

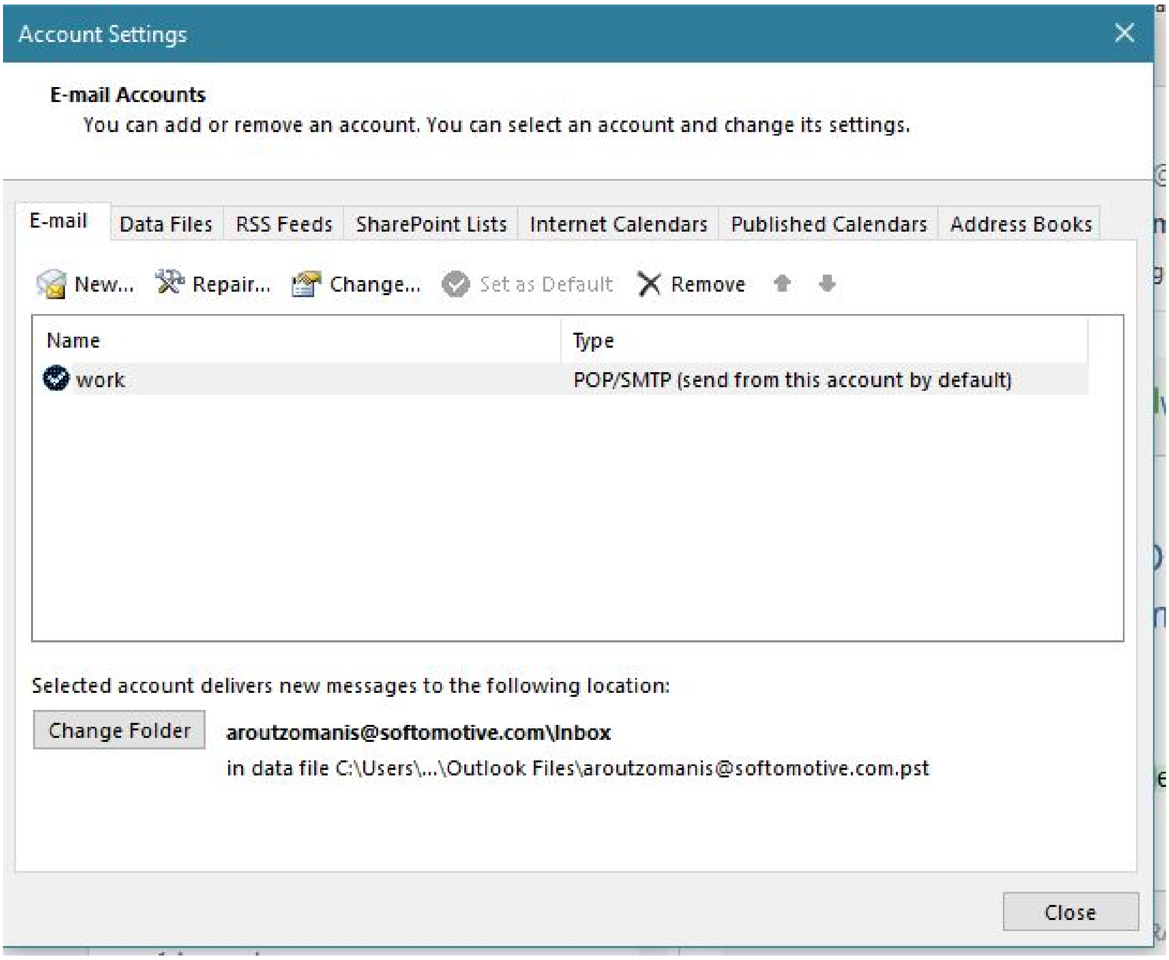
Outlook Instance:

Enter the variable that contains the Outlook Instance you want to work with. You must have previously specified this variable in a "Launch Outlook" action.

Account:

Enter the name of the Outlook account (E-mail Account name) you wish to work with (ex: john@mail.com, John Tyler, work, home).

Please find the name of your account by navigating to your Account Settings E-mail Tab.



You can add or remove an account. You can select an account and change its settings.

Name	Type
work	POP/SMTP (send from this account by default)

Selected account delivers new messages to the following location:

aroutzomanis@softomotive.com\Inbox

in data file C:\Users\...\Outlook Files\aroutzomanis@softomotive.com.pst

To:

Enter the email address(es) of the recipient(s). If you enter more than one email address, the list of addresses should be separated by spaces or semicolons.

CC:

Enter the email address(es) of the CC recipient(s). If you enter more than one email address, the list of addresses should be separated by spaces or semicolons.

BCC:

Enter the email address(es) of the BCC (hidden) recipient(s). If you enter more than one email address, the list of addresses should be separated by spaces or semicolons.

Subject:

Enter the subject of the email.

Body:

Enter the text of the body.

Body is HTML:

Choose whether the body of the email is interpreted as HTML coding.

Attachment(s):

Enter or choose the full path of any attachment(s), or choose a variable that contains a file or a list of files. Multiple files should be enclosed in double quotes (") and separated by a space character.

Cautions:

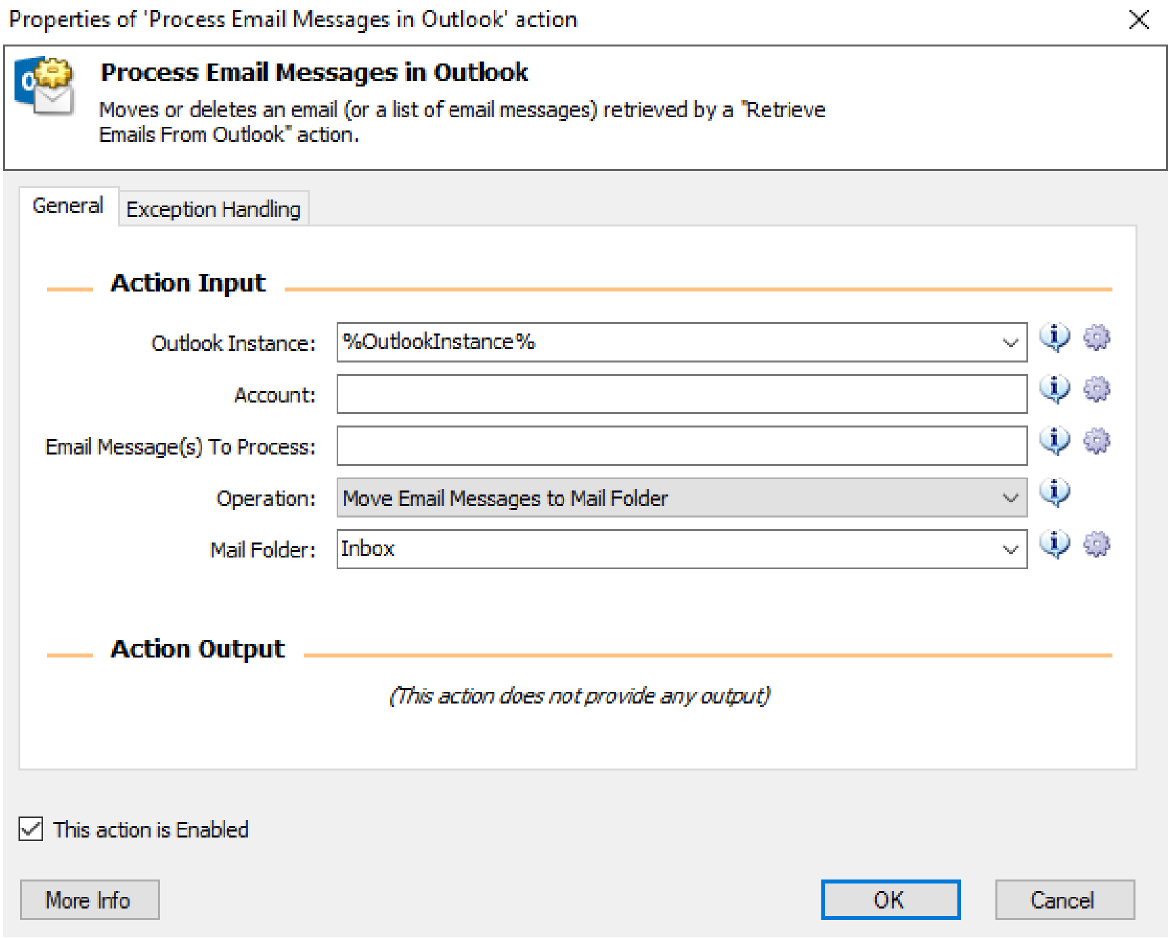
For any Outlook-related action to work correctly, Microsoft Outlook must be installed on the computer where the process will run.

5.20.4 Process Email Messages in Outlook Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

Moves or deletes an email (or a list of email messages) retrieved by a "Retrieve Emails From Outlook" action.


Properties of 'Process Email Messages in Outlook' action

Process Email Messages in Outlook

Moves or deletes an email (or a list of email messages) retrieved by a "Retrieve Emails From Outlook" action.

Action Input

Outlook Instance: %OutlookInstance%

Account:

Email Message(s) To Process:

Operation: Move Email Messages to Mail Folder

Mail Folder: Inbox

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

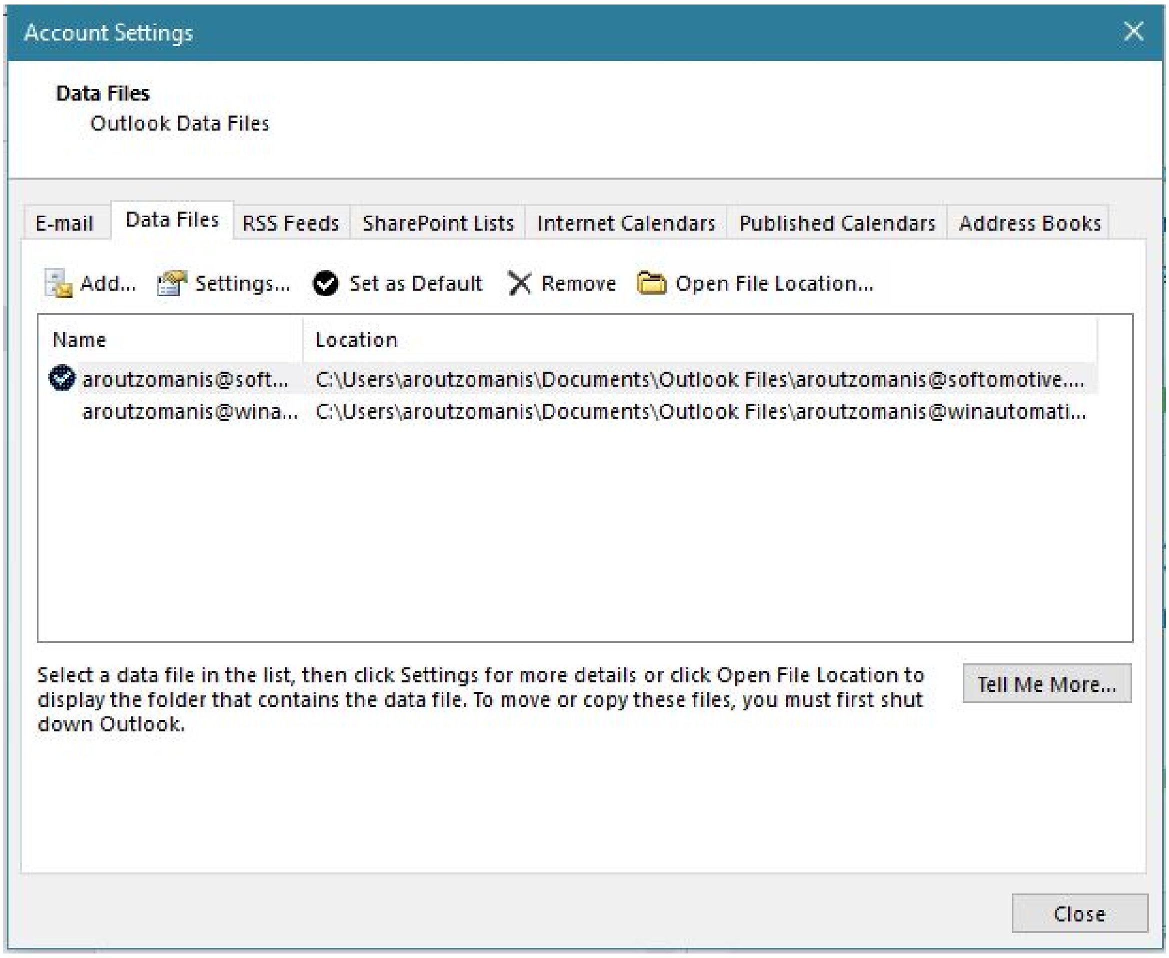
Outlook Instance:

Enter the variable that contains the Outlook Instance you want to work with. You must have previously specified this variable in a "Launch Outlook" action.

Account:

Enter the name of the Outlook account (Data File name) you wish to work with (ex: john@mail.com, John Tyler, Personal Folders).

Please find the name of your account by navigating to your Account Settings Data Files Tab.



Name	Location
aroutzomanis@soft...	C:\Users\aroutzomanis\Documents\Outlook Files\aroutzomanis@softomotive....
aroutzomanis@wina...	C:\Users\aroutzomanis\Documents\Outlook Files\aroutzomanis@winautomati...

Select a data file in the list, then click Settings for more details or click Open File Location to display the folder that contains the data file. To move or copy these files, you must first shut down Outlook.

Email Message(s) to Process:

Enter a variable containing the email or list of email messages to be processed. This should be a variable populated by a "Retrieve Email Messages From Outlook" action.

Operation:

Specify which operation you want to perform on the specified email messages.

Mail Folder:

Enter the name of the folder that you want to move e-mail messages to. Enter the full folder path for subfolders (ex. Inbox\Work).

Cautions:

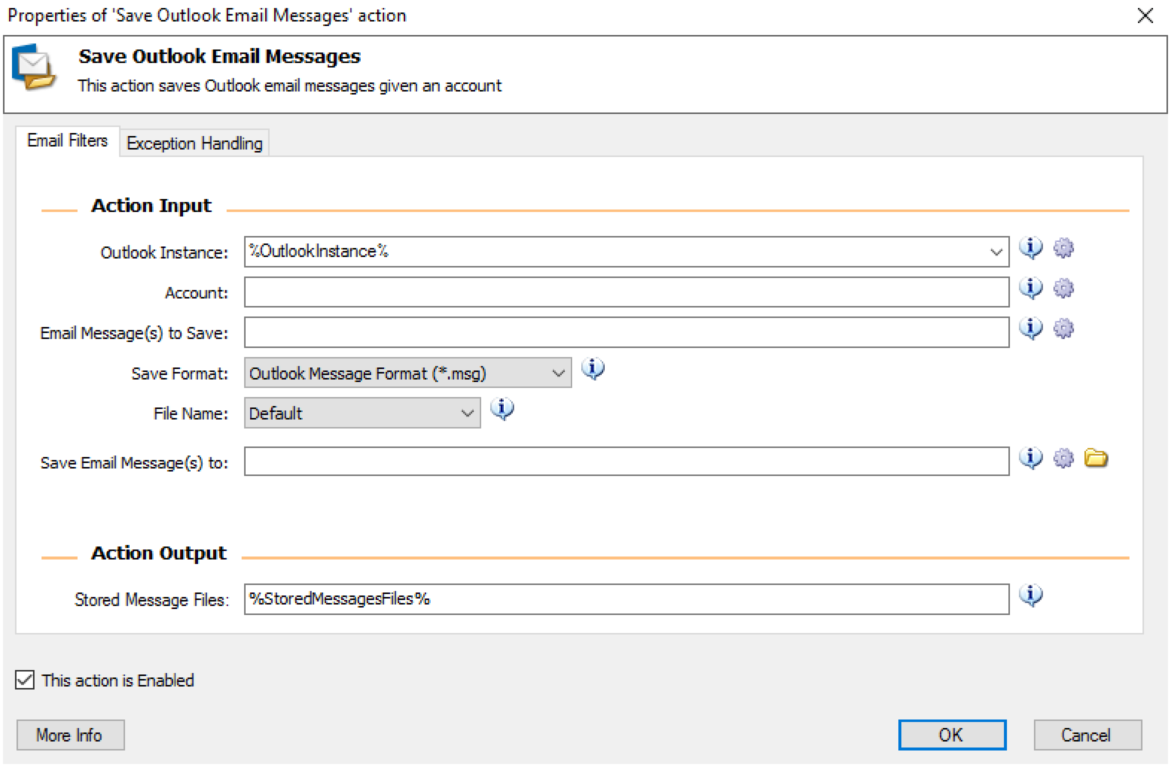
For any Outlook-related action to work correctly, Microsoft Outlook must be installed on the computer where the process will run.

5.20.5 Save Outlook Email Messages Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action saves Outlook email messages given an account



Properties of 'Save Outlook Email Messages' action

Save Outlook Email Messages

This action saves Outlook email messages given an account

Action Input

Outlook Instance: %OutlookInstance%

Account:

Email Message(s) to Save:

Save Format: Outlook Message Format (*.msg)

File Name: Default

Save Email Message(s) to:

Action Output

Stored Message Files: %StoredMessagesFiles%

☑ This action is Enabled

Properties:

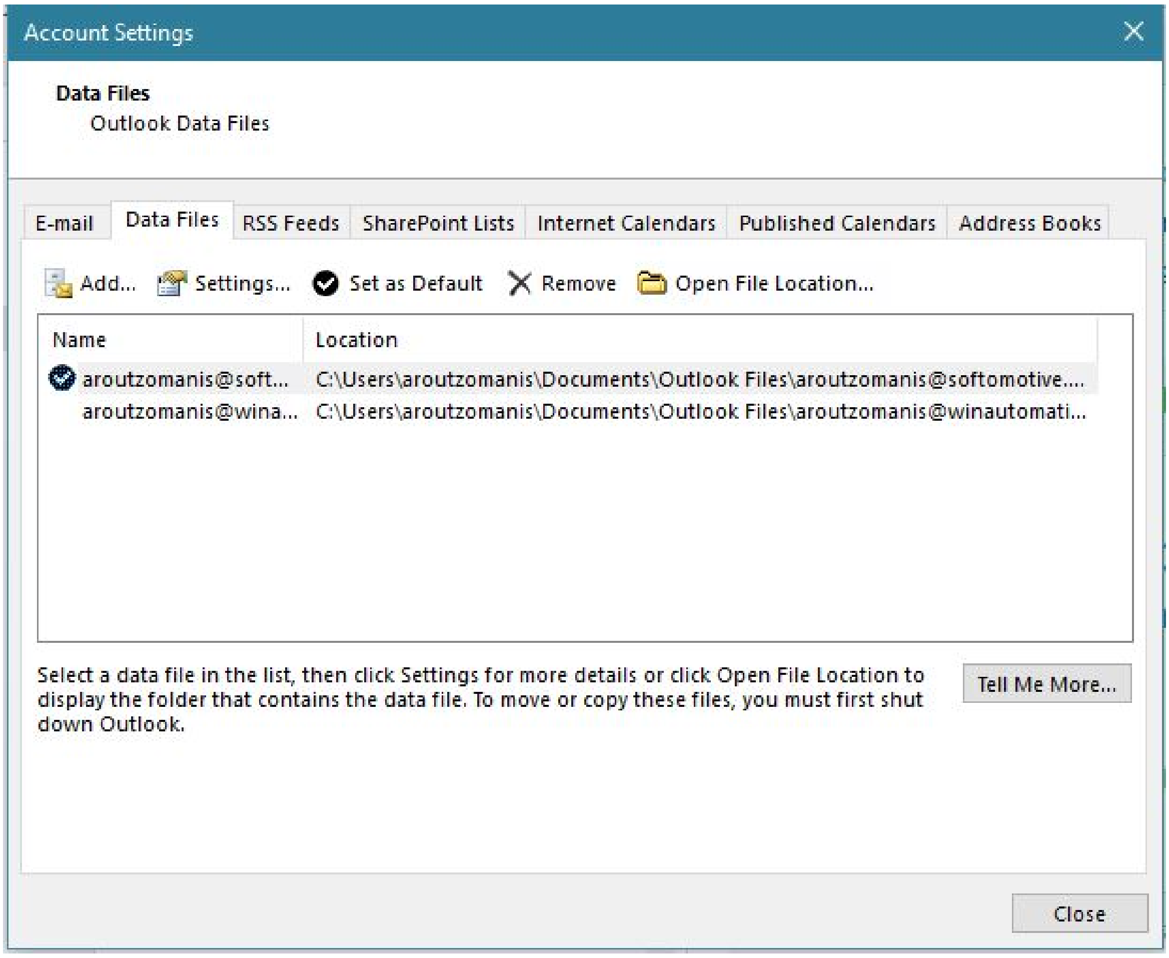
Outlook Instance:

Enter the variable that contains the Outlook Instance you want to work with. You must have previously specified this variable in a "Launch Outlook" action.

Account:

Enter the name of the Outlook account (Data File name) you wish to work with (ex: john@mail.com, John Tyler, Personal Folders).

Please find the name of your account by navigating to your Account Settings Data Files Tab.



Name	Location
aroutzomanis@soft...	C:\Users\aroutzomanis\Documents\Outlook Files\aroutzomanis@softomotive....
aroutzomanis@wina...	C:\Users\aroutzomanis\Documents\Outlook Files\aroutzomanis@winautomati...

Select a data file in the list, then click Settings for more details or click Open File Location to display the folder that contains the data file. To move or copy these files, you must first shut down Outlook.

Email Message(s) to Save:

Enter a variable containing the email message or list of email messages to be saved. This should be a variable populated by a "Retrieve Email Messages From Outlook" action.

File Name:

Specify whether you want to save the mssages using the default name (Subject) or provide your own.

Save Format:

Specify the format by which to save the messages.

Save As:

Specify custom name for messages' name which will differ from message to message by an automatically added suffix.

Save Email Message(s) to:

Enter here the folder to which you want the messages to be saved.

Stored Message(s) Files:

Enter a name to be the variable that will store the file paths of the saved email messages for later processing.

Cautions:

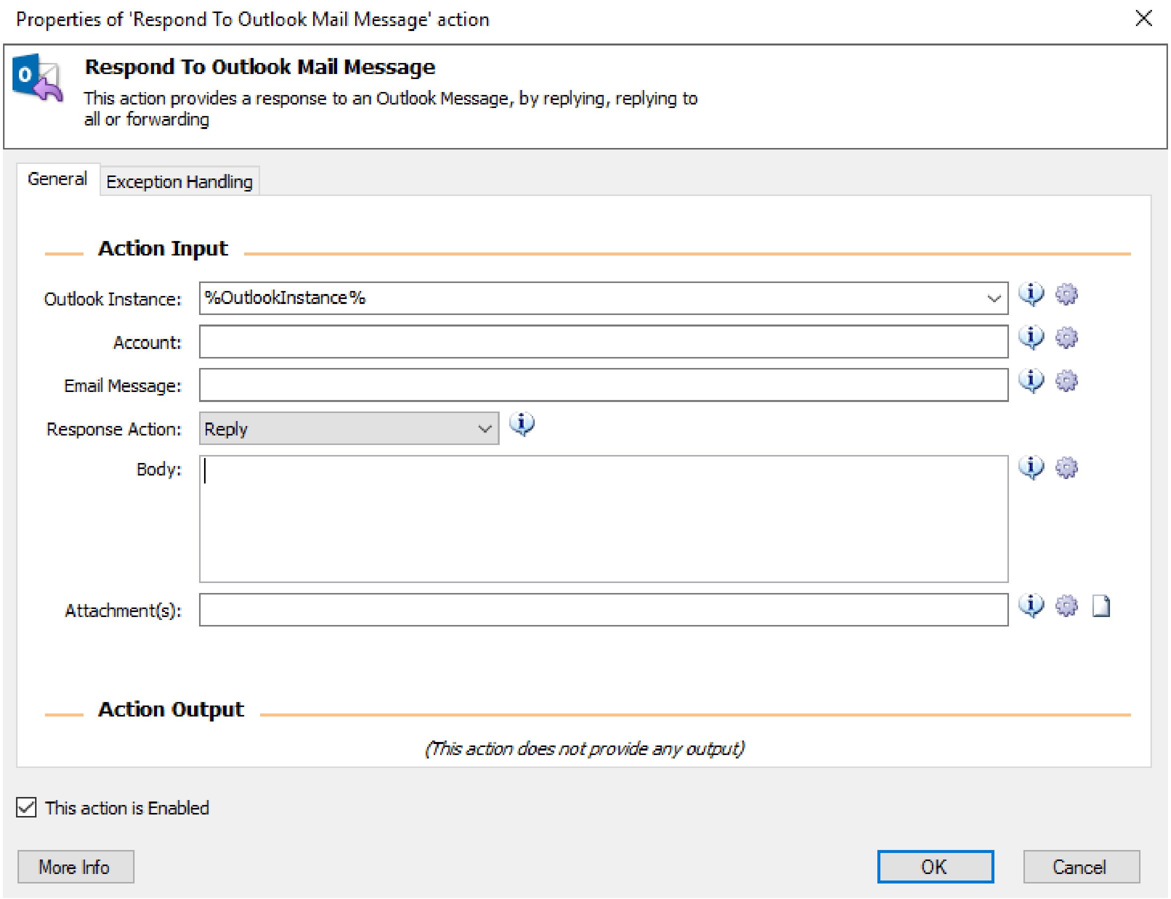
For any Outlook-related action to work correctly, Microsoft Outlook must be installed on the computer where the process will run.

5.20.6 Respond To Outlook Email Message Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action provides a response to an Outlook Message, by replying, replying to all or forwarding



Properties of 'Respond To Outlook Mail Message' action

Respond To Outlook Mail Message

This action provides a response to an Outlook Message, by replying, replying to all or forwarding

Action Input

Outlook Instance: %OutlookInstance%

Account:

Email Message:

Response Action: Reply

Body:

Attachment(s):

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

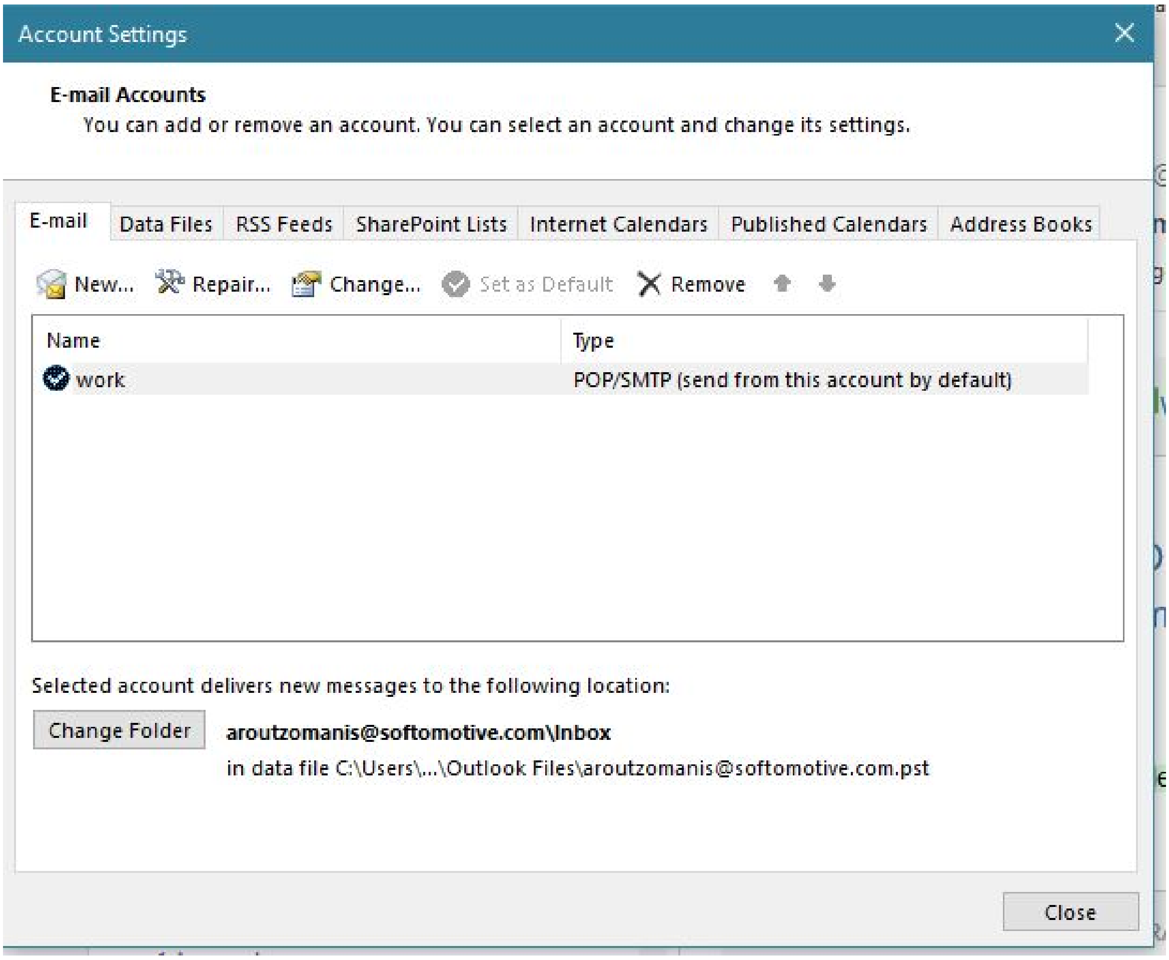
Outlook Instance:

Enter the variable that contains the Outlook Instance you want to work with. You must have previously specified this variable in a "Launch Outlook" action.

Account:

Enter the name of the Outlook account (E-mail Account name) you wish to work with (ex: john@mail.com, John Tyler, work, home).

Please find the name of your account by navigating to your Account Settings E-mail Tab.



E-mail Accounts

You can add or remove an account. You can select an account and change its settings.

Name	Type
work	POP/SMTP (send from this account by default)

Selected account delivers new messages to the following location:

aroutzomanis@softomotive.com\Inbox

in data file C:\Users\...\Outlook Files\aroutzomanis@softomotive.com.pst

Response Action:

Choose whether to reply (to sender or all) with a message or forward the received message.

To:

Enter the email address(es) of the recipient(s). If you enter more than one email address, the list of addresses should be separated by spaces or semicolons.

CC:

Enter the email address(es) of the CC recipient(s). If you enter more than one email address, the list of addresses should be separated by spaces or semicolons.

BCC:

Enter the email address(es) of the BCC (hidden) recipient(s). If you enter more than one email address, the list of addresses should be separated by spaces or semicolons.

Mail Message:

Enter the variable that holds the mail message you wish to act upon. This should be a variable populated by a "Retrieve Email Messages From Outlook" action.

Body:

Enter the HTML text of the body.

Attachment(s):

Enter or choose the full path of any attachment(s), or choose a variable that contains a file or a list of files. Multiple files should be enclosed in double quotes (") and separated by a space character.

Cautions:

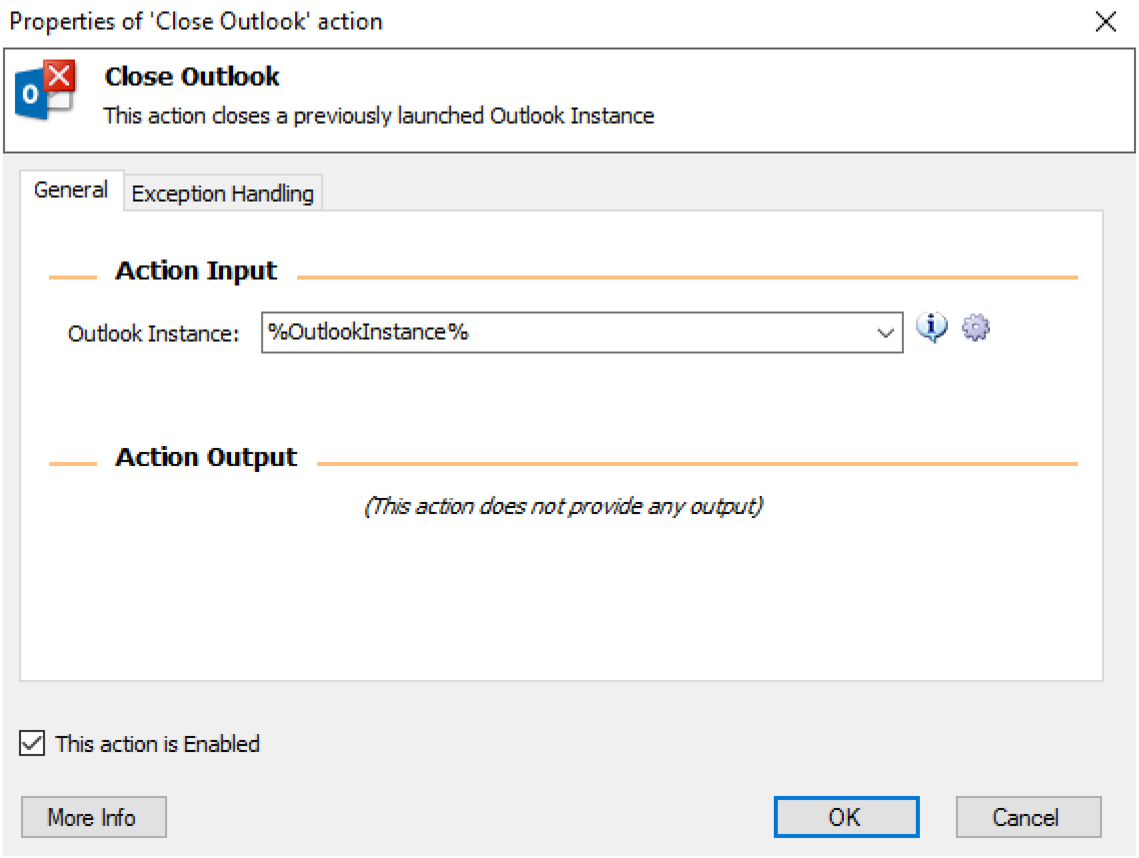
For any Outlook-related action to work correctly, Microsoft Outlook must be installed on the computer where the process will run.

5.20.7 Close Outlook Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action closes a previously launched Outlook Instance



Properties of 'Close Outlook' action

Close Outlook

This action closes a previously launched Outlook Instance

Action Input

Outlook Instance: %OutlookInstance%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Outlook Instance:

Enter the variable that contains the Outlook Instance you want to close. You must have previously specified this variable in a "Launch Outlook" action.

Cautions:

For any Outlook-related action to work correctly, Microsoft Outlook must be installed on the computer where the process will run.

5.21 OCR Actions

5.21.1 Create Tesseract OCR Engine

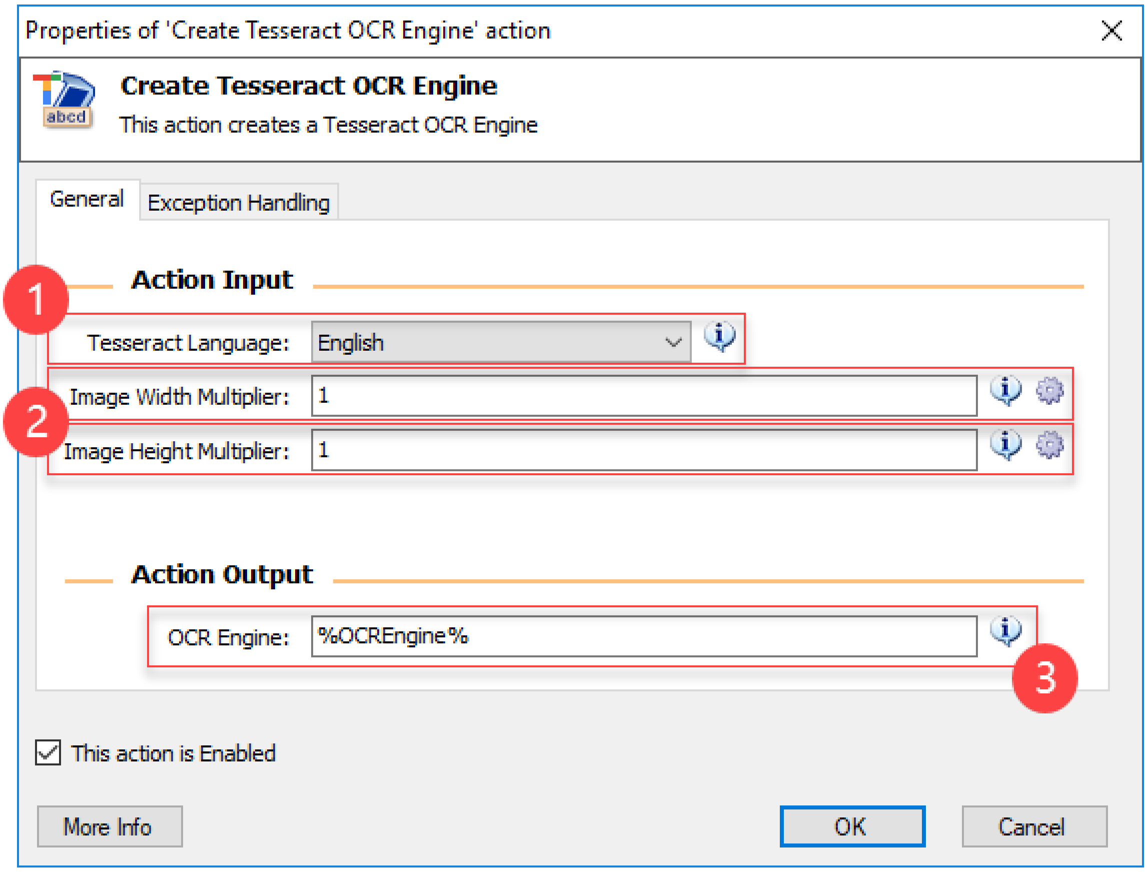
(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

WinAutomation allows you to work with a number of different OCR Engines through an equal number of different actions 737. Each of these actions has different Properties and property Values according to each respective Engine's capabilities.

This action allows you to work with the Tesseract OCR Engine in order to extract text from Image Files, in combination with the Extract Text With OCR 742 action.

Please Note: Tesseract is the only OCR Engine that it comes ready to use with WinAutomation without the need to install it.

Tesseract Engine allows you to detect a number of different languages [1] and this Action is giving you the option to select any of them. It also allows you to rescale your image; you can resize width and height [2] of your image independently from one another through the use of multipliers, since Tesseract works best on images which have a DPI (Dots Per Inch) of at least 300. The Action returns an Ocr Engine Data Type [3] stored within a variable:



Properties of 'Create Tesseract OCR Engine' action

Create Tesseract OCR Engine

This action creates a Tesseract OCR Engine

Action Input

Tesseract Language: English

Image Width Multiplier: 1

Image Height Multiplier: 1

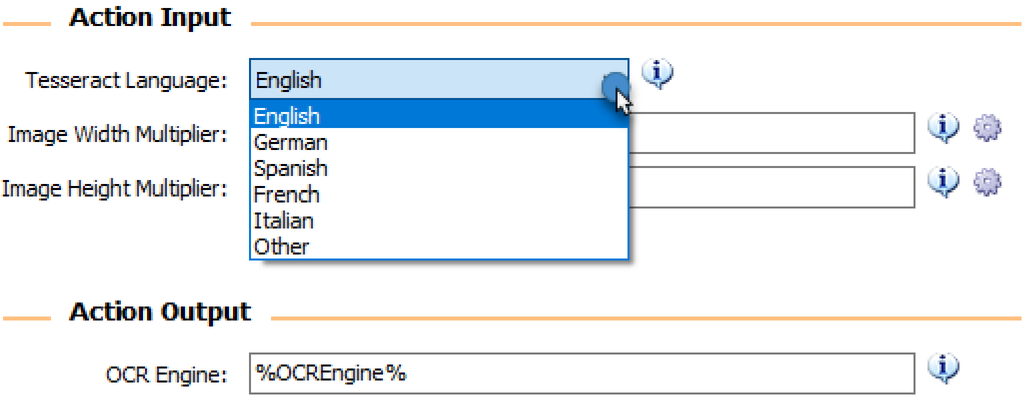
Action Output

OCR Engine: %OCREngine%

☑ This action is Enabled

1. Tesseract Language:

This drop down menu allows you to select the language of the image's text that Tesseract will detect:



Action Input

Tesseract Language: English

Image Width Multiplier:

Image Height Multiplier:

Action Output

OCR Engine: %OCREngine%

2. Width & Height Multipliers:

These multipliers allow you to rescale an image in order to help the OCR Engine read the text in it. Tesseract is known to require a DPI of at least 300 in order to work, however since there is plenty of confusion among non-experts regarding DPI, PPI and optimal Image settings for OCR Text Extraction we invite you to feel comfortable to experiment/play with the available options (try for example 2, 3 or 4).

3. OCR Engine:

This text field invites you to set the variable that will hold the value of the Ocr Engine Data Type 286 produced from this action.

5.21.2 Create MODI OCR Engine

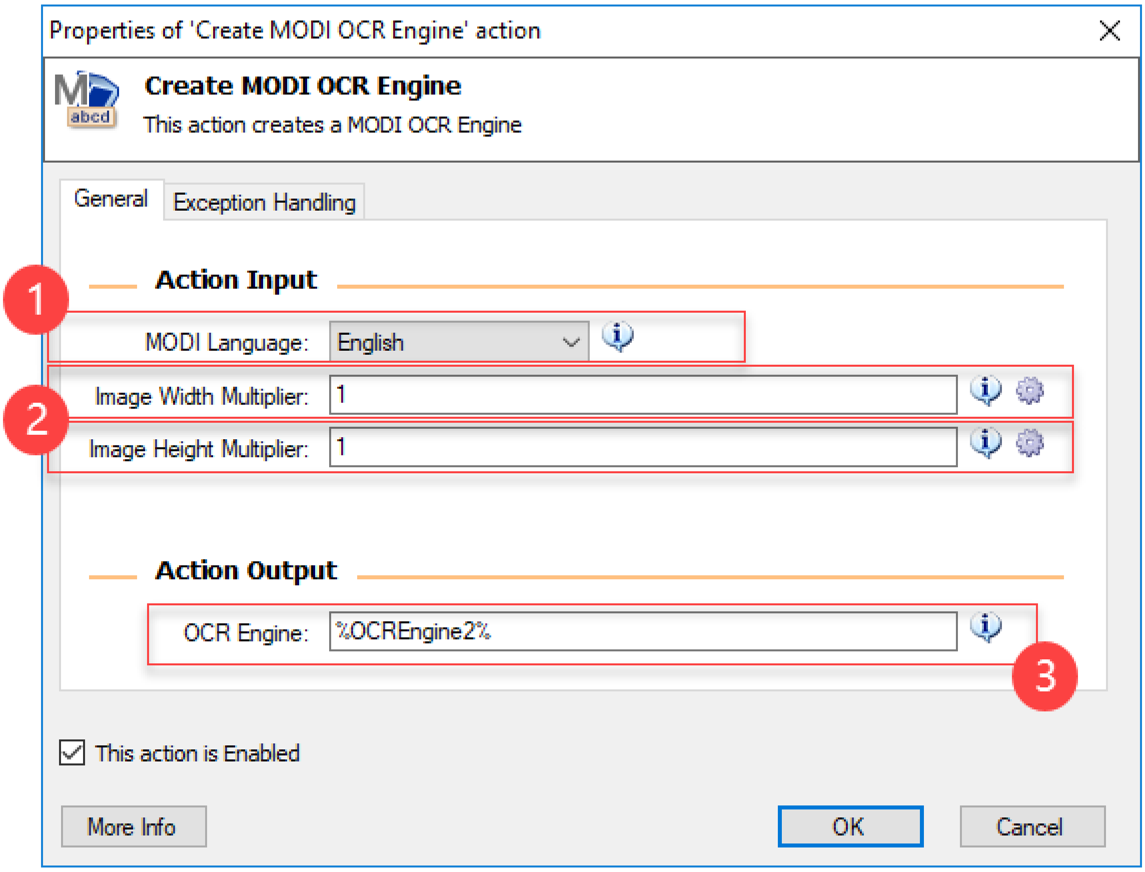
(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

WinAutomation allows you to work with a number of different OCR Engines through an equal number of different actions 737. Each of these actions has different Properties and property Values according to each respective Engine's capabilities.

This action allows you to work with the MODI (Microsoft Office Document Imaging) OCR Engine in order to extract text from Image Files, in combination with the Extract Text With OCR 742 action.

Please Note: MODI requires additional installations. Tesseract 738 is the only OCR Engine that it comes ready to use with WinAutomation without the need to install it.

MODI allows you to detect a number of different languages [1] and this Action is giving you the option to select any of them. It also allows you to rescale your image; you can resize width and height [2] of your image independently from one another through the use of multipliers, since that might help MODI read the text we want to extract. The Action returns an Ocr Engine Data Type [3] stored within a variable:



Properties of 'Create MODI OCR Engine' action

Create MODI OCR Engine

This action creates a MODI OCR Engine

Action Input

MODI Language: English

Image Width Multiplier: 1

Image Height Multiplier: 1

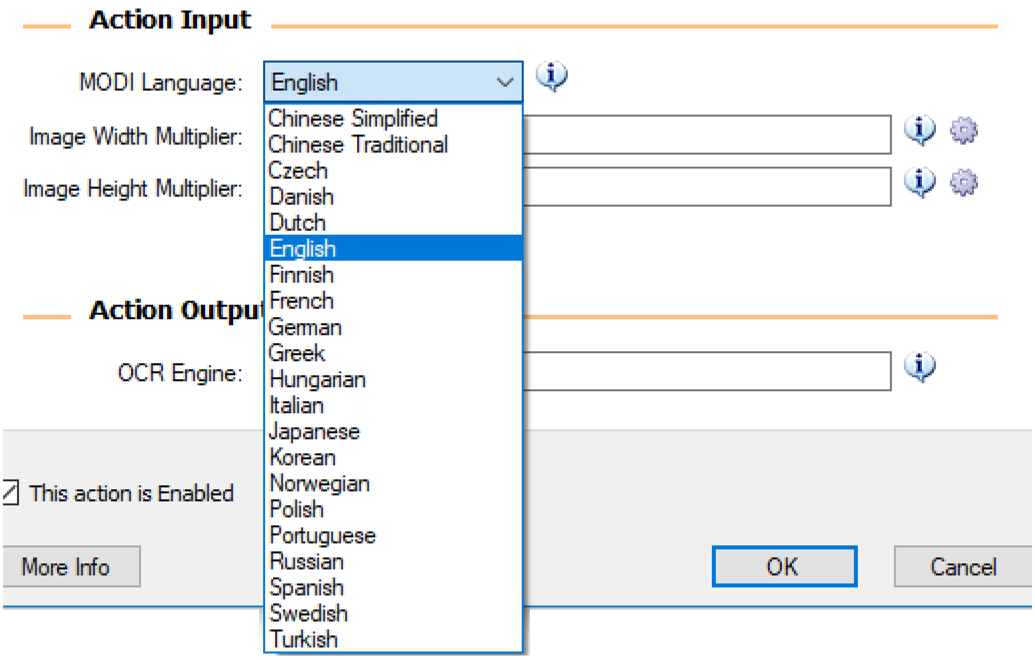
Action Output

OCR Engine: %OCREngine2%

☑ This action is Enabled

1. MODI Language:

This drop down menu allows you to select the language of the image's text that MODI will detect:



2. Width & Height Multipliers:

These multipliers allow you to rescale an image in order to help the OCR Engine read the text in it. Resizing an Image is known to help OCR read text in them and since there is plenty of confusion among non-experts regarding DPI, PPI and optimal Image settings for OCR Text Extraction we invite you to feel comfortable to experiment/play with the available options (try for example 2, 3 or 4).

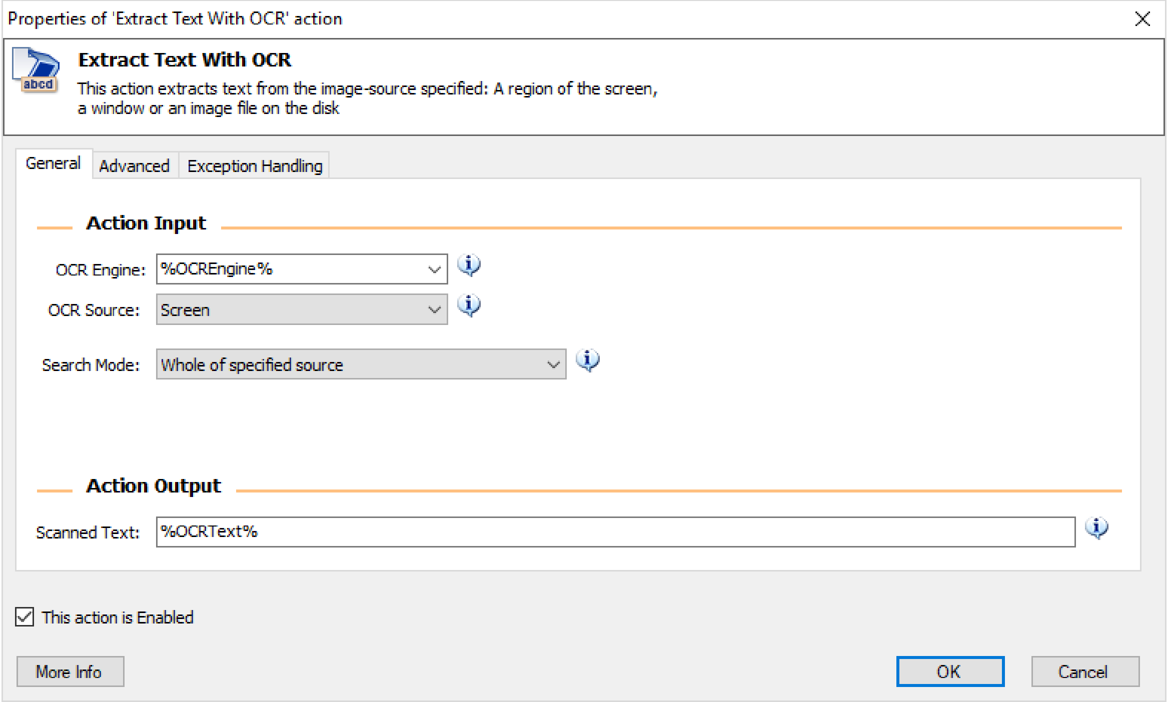
3. OCR Engine:

This text field invites you to set the variable that will hold the value of the Ocr Engine Data Type 286 produced from this action.

5.21.3 Extract Text With OCR

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description: This action extracts text from the image-source specified: A region of the screen, a window, an image file on the disk and so on.



Properties of 'Extract Text With OCR' action

Extract Text With OCR

This action extracts text from the image-source specified: A region of the screen, a window or an image file on the disk

Action Input

OCR Engine: %OCREngine%

OCR Source: Screen

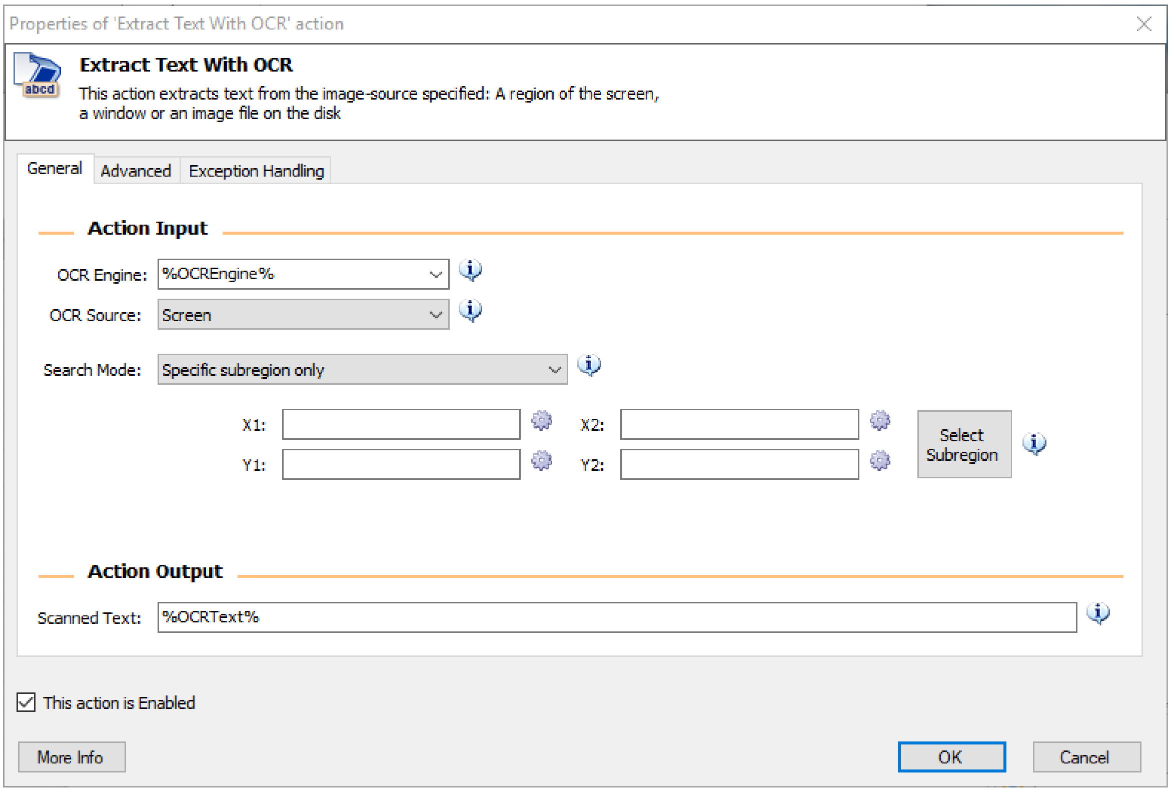
Search Mode: Whole of specified source

Action Output

Scanned Text: %OCRText%

☑ This action is Enabled

Search Mode: Whole of specified source



Properties of 'Extract Text With OCR' action

Extract Text With OCR

This action extracts text from the image-source specified: A region of the screen, a window or an image file on the disk

Action Input

OCR Engine: %OCREngine%

OCR Source: Screen

Search Mode: Specific subregion only

X1:

X2:

Y1:

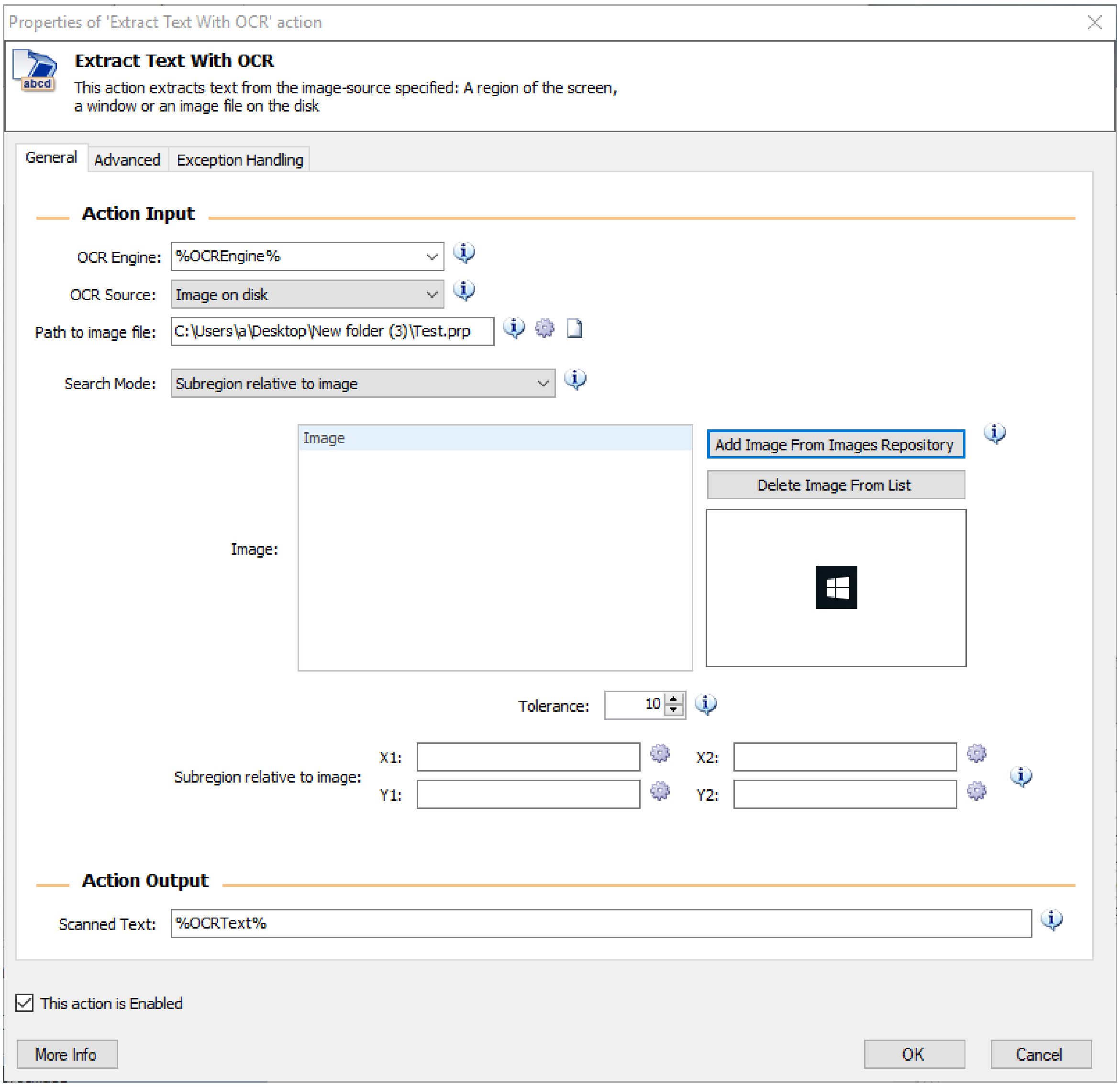
Y2:

Action Output

Scanned Text: %OCRText%

☑ This action is Enabled

Search Mode: Specific Subregion only



Properties of 'Extract Text With OCR' action

Extract Text With OCR

This action extracts text from the image-source specified: A region of the screen, a window or an image file on the disk

Action Input

OCR Engine: %OCREngine%

OCR Source: Image on disk

Path to image file: C:\Users\a\Desktop\New folder (3)\Test.prp

Search Mode: Subregion relative to image

Image:

Tolerance: 10

Subregion relative to image: X1: X2: Y1: Y2:

Action Output

Scanned Text: %OCRText%

☑ This action is Enabled

Search Mode: Subregion relative to image

Properties:

OCR Engine: Select the Engine you want to use for the OCR operation.

OCR Source: Choose whether you want to search for the specified Image in the foremost Window only, or the entire visible screen. Neither choice will find the Image if it is not clearly visible on the screen.

Search Mode: Specify whether you want to scan the entire screen (or window) to find the supplied image or only a narrowed down subregion of it.

X1 Y1 X2 Y2: Specify the subregion of the screen/window/image to narrow down the scan to.

Image: Specify the image to use as a Image for narrowing the scan down to a subregion which is positionally relative to said Image.

Tolerance: Specify a value for how much the Image searched for can differ from the originally chosen Image.

Sub-region relative to Image: Specify the subregion (relative to the top left corner of the Image image you've specified) which you would like to have it scanned for its text.

Scanned Text: Enter a name to be the variable that will store the text which got extracted using OCR.

OCR Language: Select the language of the image that the OCR will be performed

Wait for image to appear: Choose whether you want the action to wait if the image is not found on the screen or foreground window. If this property is not checked and the image is not found the action will through an exception, otherwise the action will wait until the image appears. In the next property you can specify the maximum number of seconds (timeout) to wait.

Fail if image does not appear within x seconds: Specify whether the action should wait indefinitely for the image to appear or throw an exception after a set number of seconds (if the specified Image does not get found).

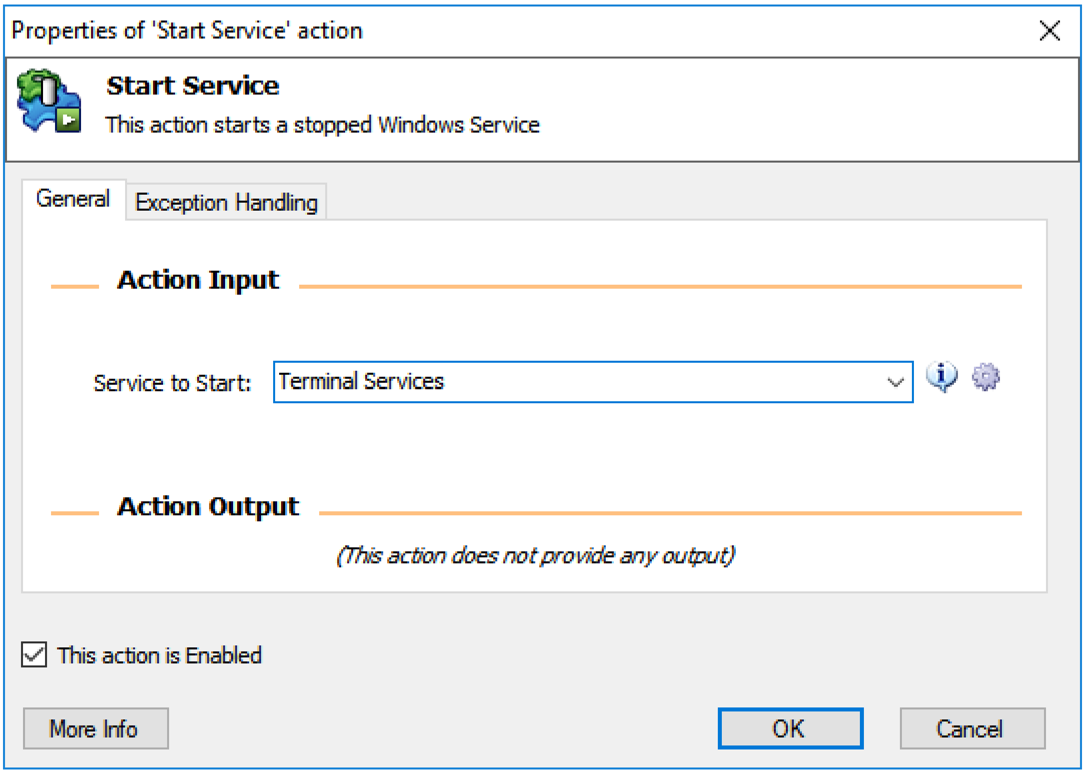
5.22 Services

5.22.1 Start Service Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action starts a stopped Windows Service



Properties of 'Start Service' action

Start Service

This action starts a stopped Windows Service

Service to Start: Terminal Services

(This action does not provide any output)

☑ This action is Enabled

Properties:

Service to Start:

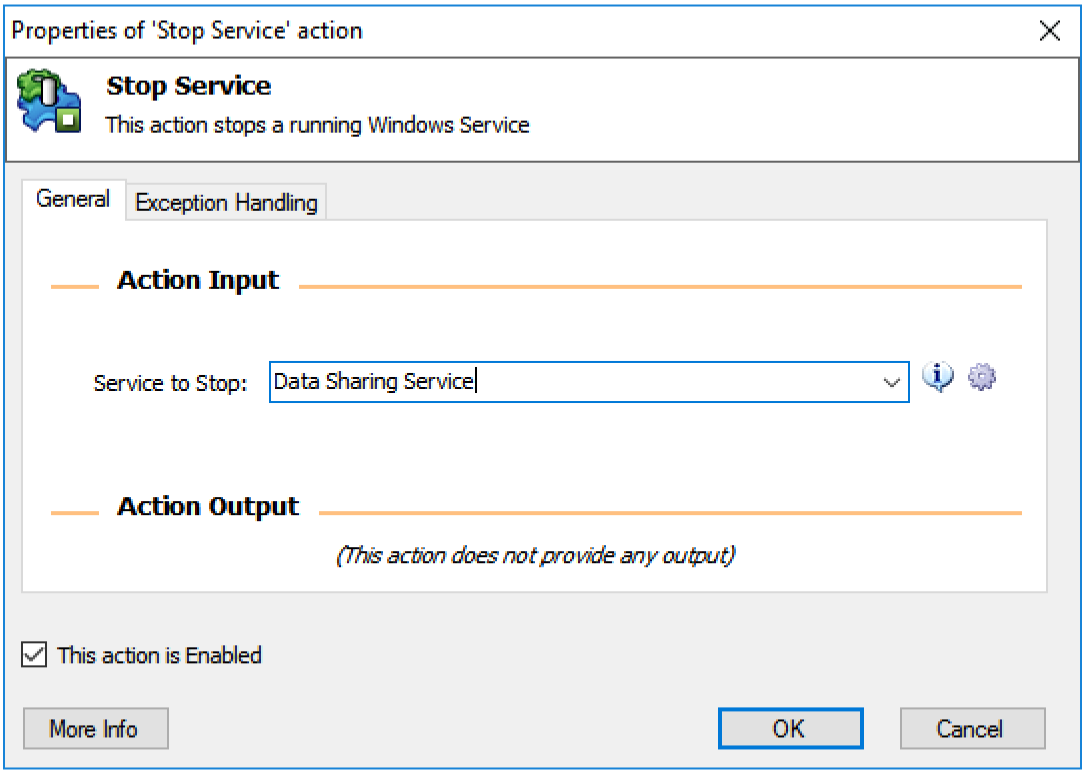
Choose or enter the name of a Service to start.

5.22.2 Stop Service Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action stops a running Windows Service



Properties of 'Stop Service' action

Stop Service

This action stops a running Windows Service

Action Input

Service to Stop: Data Sharing Service

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Service to Stop:

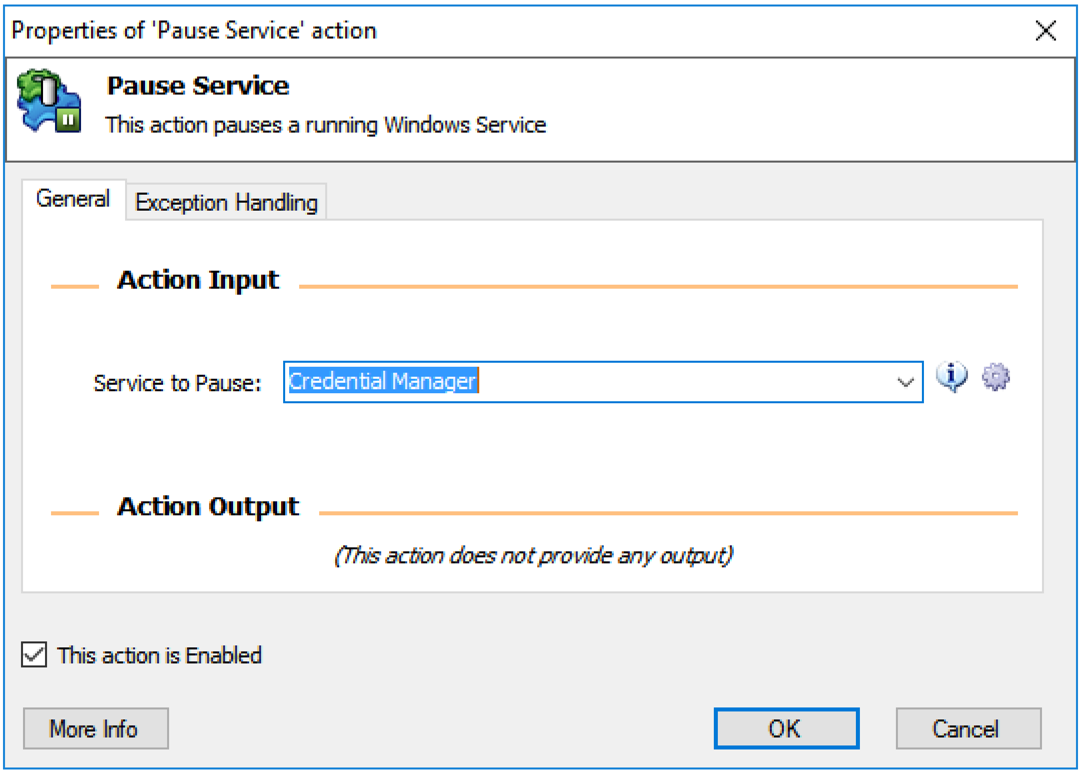
Choose or enter the name of a Service to stop.

5.22.3 Pause Service Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action pauses a running Windows Service


Properties of 'Pause Service' action

Pause Service

This action pauses a running Windows Service

Action Input

Service to Pause: Credential Manager

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Service to Pause:

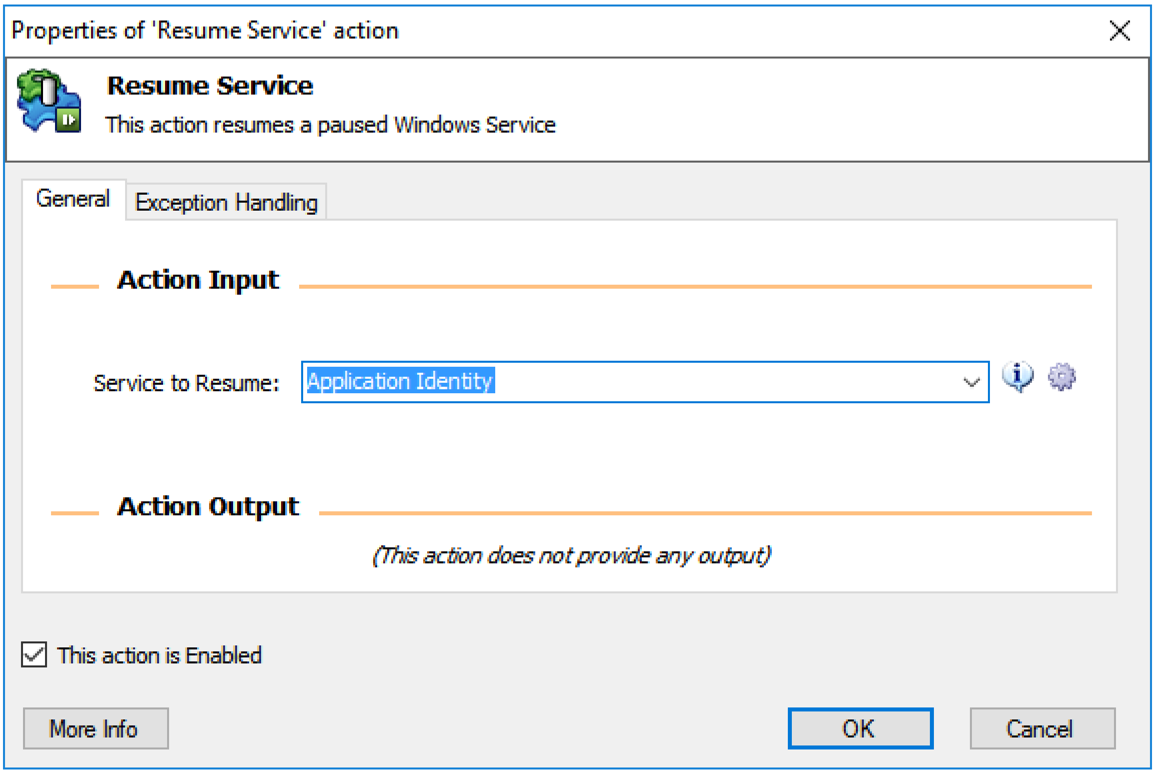
Choose or enter the name of a Service to pause.

5.22.4 Resume Service Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action resumes a paused Windows Service



Properties of 'Resume Service' action

Resume Service

This action resumes a paused Windows Service

Service to Resume: Application Identity

(This action does not provide any output)

☑ This action is Enabled

Properties:

Service to Resume:

Choose or enter the name of a paused Service to resume.

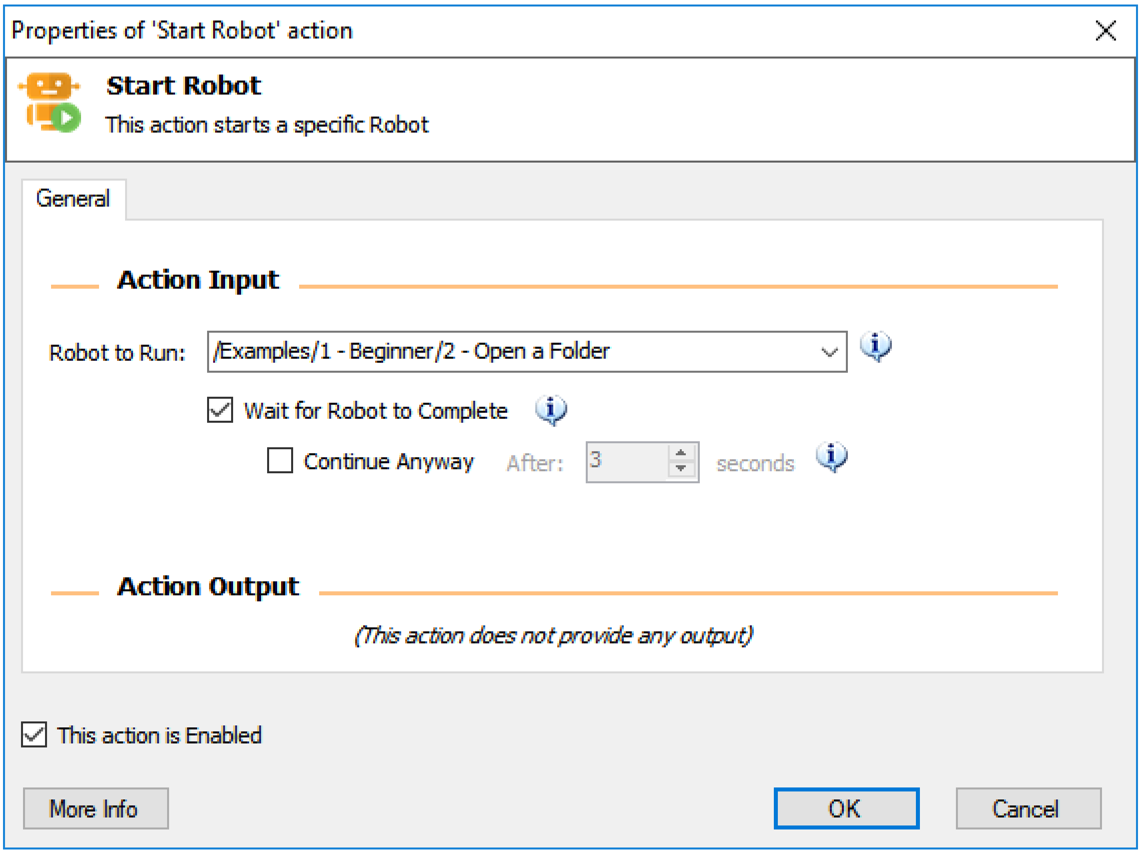
5.23 WinAutomation Actions

5.23.1 Start Process Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action executes a specific Process



Properties of 'Start Robot' action

Start Robot

This action starts a specific Robot

General

Action Input

Robot to Run: /Examples/1 - Beginner/2 - Open a Folder

☑ Wait for Robot to Complete

□ Continue Anyway After: 3 seconds

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Process to Run:

Choose or enter the name of a WinAutomation Process. Usually, it will be a Process other than the current one.

Wait for Process to Complete:

Check this box if you want to pause this Process until the called Process is complete. Otherwise both will run simultaneously.

Continue Anyway:

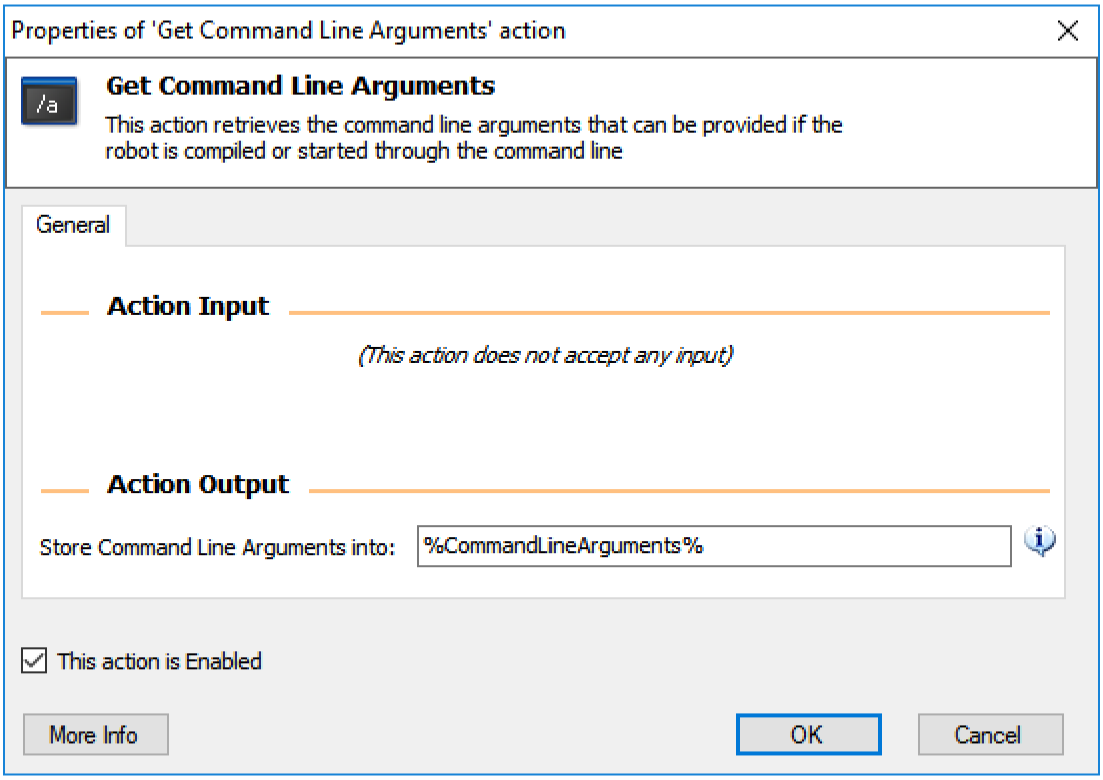
Choose whether the Process continues after a set number of seconds, regardless of whether the called Process has finished or not.

5.23.2 Get Command Line Arguments Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action retrieves the command line arguments that can be provided if the process is compiled or started through the command line



Properties of 'Get Command Line Arguments' action

Get Command Line Arguments

This action retrieves the command line arguments that can be provided if the robot is compiled or started through the command line

Action Input

(This action does not accept any input)

Action Output

Store Command Line Arguments into: %CommandLineArguments%

☑ This action is Enabled

Properties:

Store Command Line Arguments into:

Enter a name to be the variable that will store the Command Line Arguments entered by the user. This will be a list of text values.

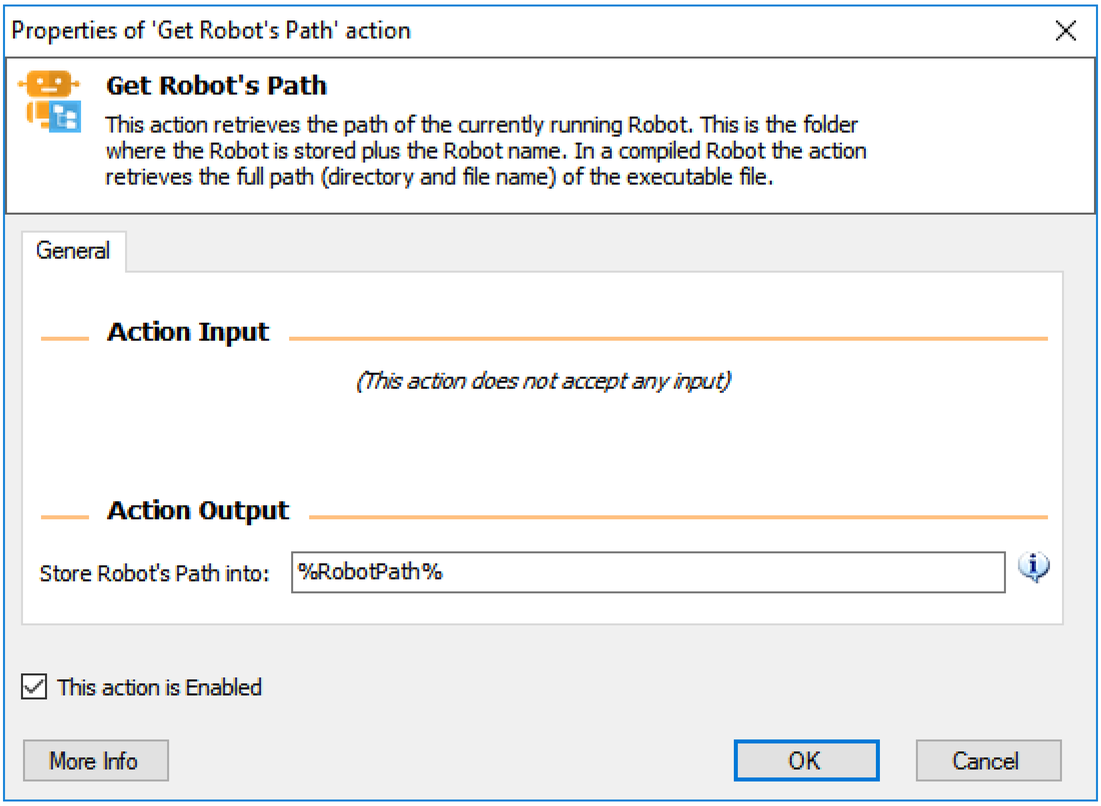
Note: A backslash (\) character will "escape" the next control character, including quotes ("") and itself. Therefore, when you need to include literal backslashes into one of the parameters (e.g. "C:\My Data\etc\"), please remember to escape them first ("C:\\My Data\\etc\\").

5.23.3 Get Process' Path Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action retrieves the path of the currently running Process. This is the folder where the Process is stored plus the Process name. In a compiled Process the action retrieves the full path (directory and file name) of the executable file.



Properties of 'Get Robot's Path' action

Get Robot's Path

This action retrieves the path of the currently running Robot. This is the folder where the Robot is stored plus the Robot name. In a compiled Robot the action retrieves the full path (directory and file name) of the executable file.

Action Input

(This action does not accept any input)

Action Output

Store Robot's Path into: %RobotPath%

☑ This action is Enabled

Properties:

Store Process's Path into:

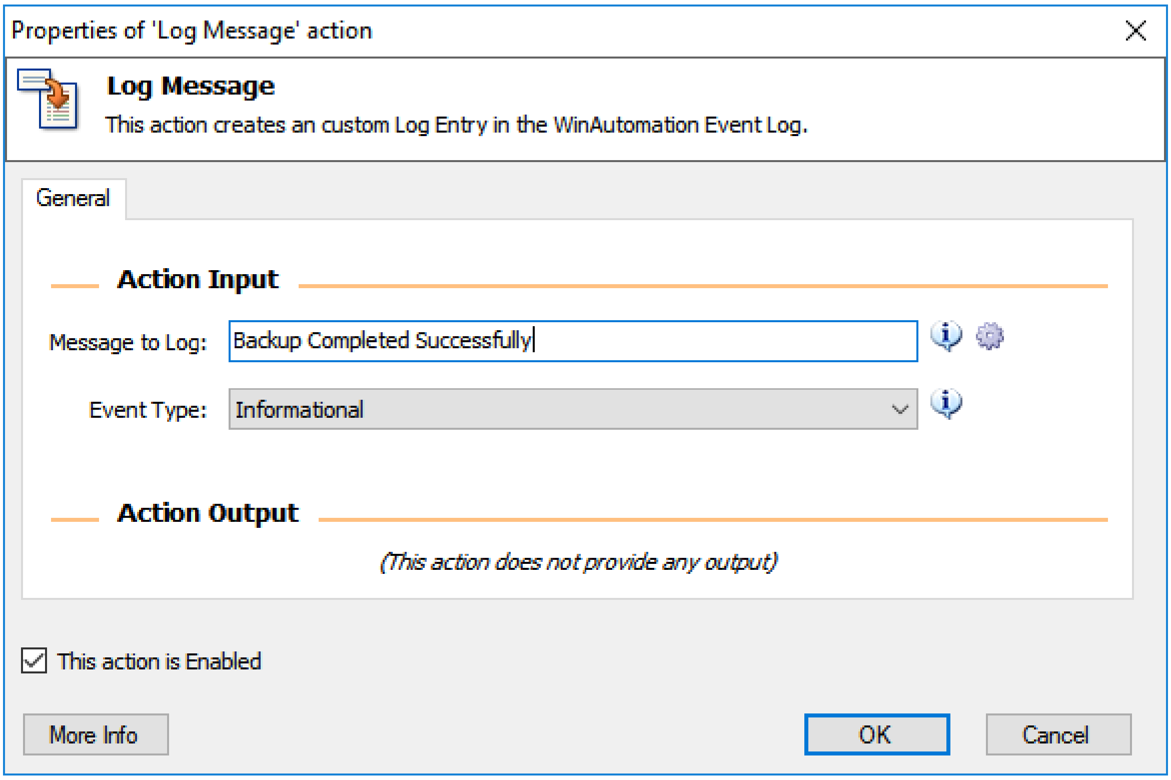
Enter a name to be the variable that will store the path of the current Process.

5.23.4 Log Message Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action creates a custom Log Entry in the WinAutomation Event Log 114.



Properties of 'Log Message' action

Log Message

This action creates an custom Log Entry in the WinAutomation Event Log.

Action Input

Message to Log: Backup Completed Successfully

Event Type: Informational

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Message to Log:

Enter the message you want to log.

Event Type:

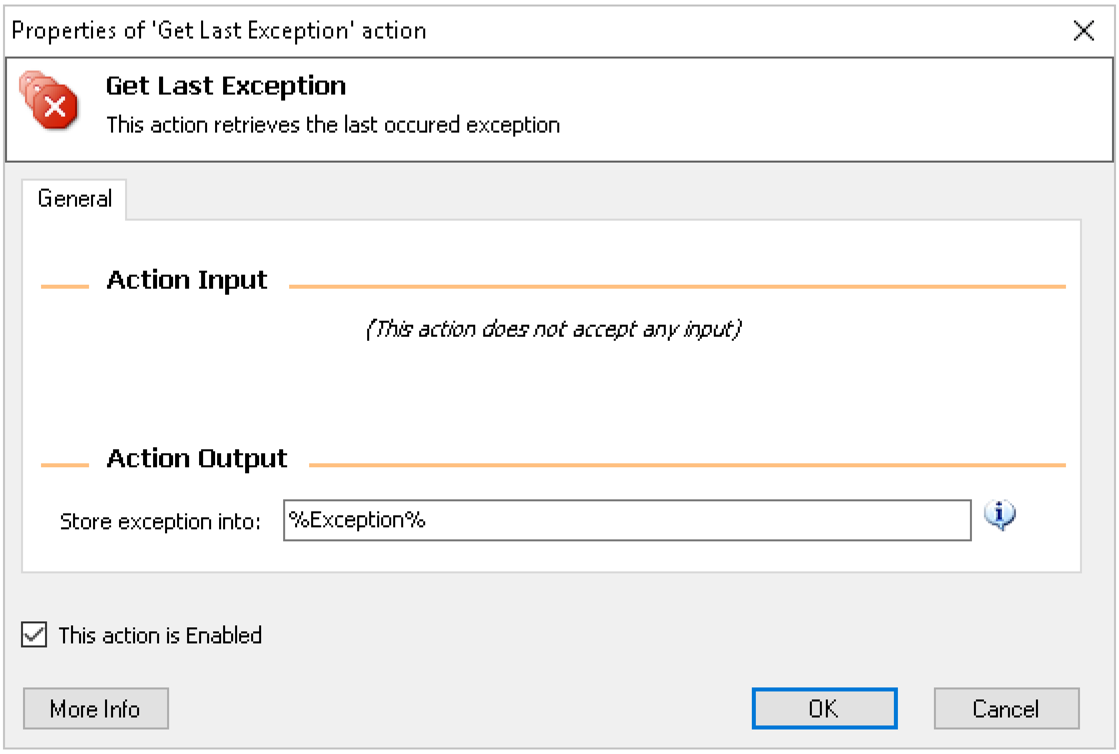
Specify the event type that will be logged (informational, warning or error).

5.23.5 Get Last Exception Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action retrieves the last occurred exception.



Properties of 'Get Last Exception' action

Get Last Exception

This action retrieves the last occured exception

(This action does not accept any input)

Store exception into: %Exception%

☑ This action is Enabled

Properties:

Store Exception into:

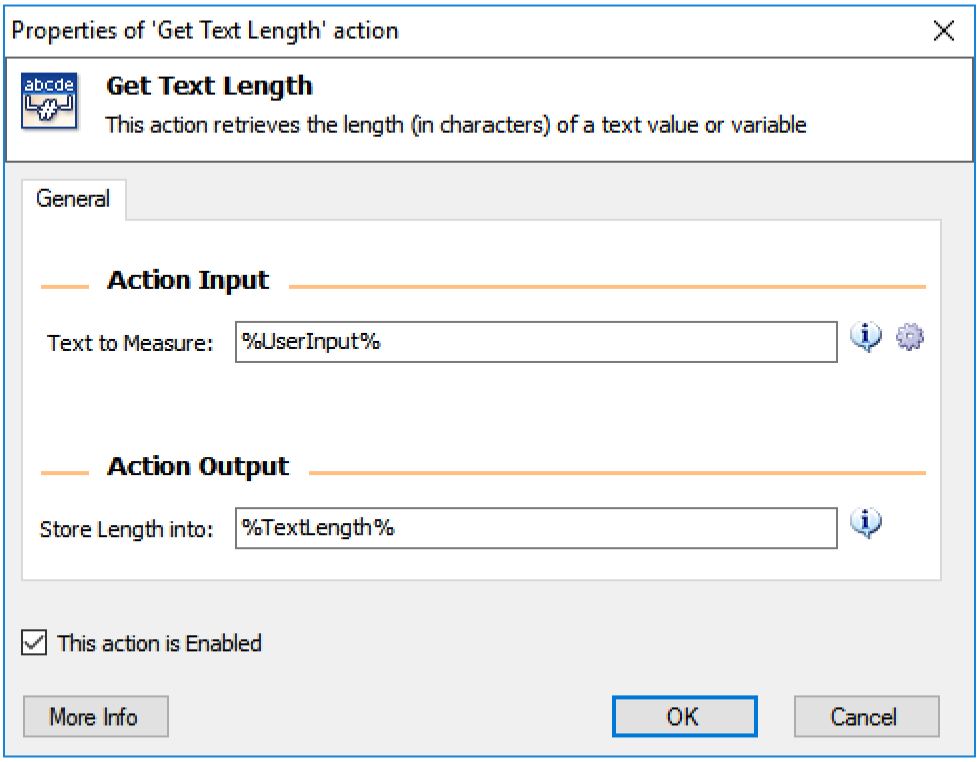
Enter a name to be the variable that will store the last exception occurred and its relevant info.

5.24 Text Actions

5.24.1 Get Text Length Action

Description:

This action retrieves the length (in characters) of a text value or variable



Properties of 'Get Text Length' action

Get Text Length

This action retrieves the length (in characters) of a text value or variable

Action Input

Text to Measure: %UserInput%

Action Output

Store Length into: %TextLength%

☑ This action is Enabled

Properties:

Text to Measure:

Enter the text, or a previously stored text variable, to be measured.

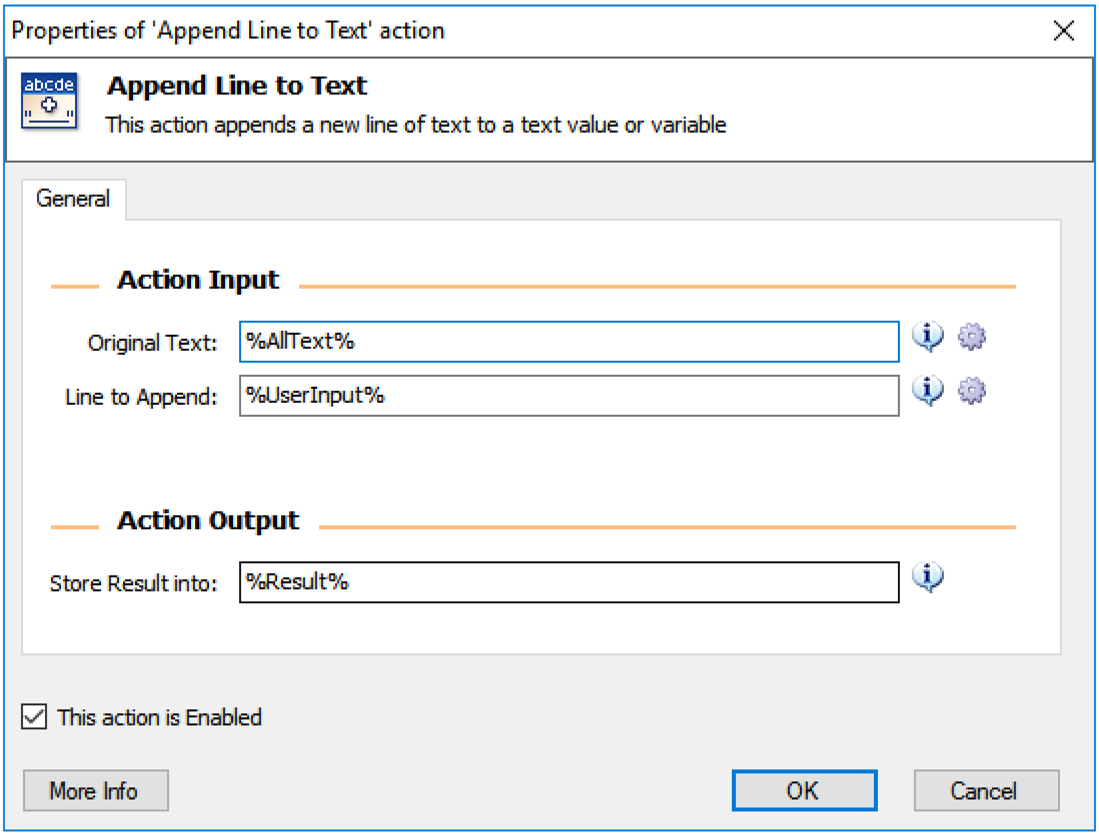
Store Length into:

Enter a name to be the variable that will store the text's length as a number.

5.24.2 Append Line to Text Action

Description:

This action appends a new line of text to a text value or variable



Properties of 'Append Line to Text' action

Append Line to Text

This action appends a new line of text to a text value or variable

General

Action Input

Original Text: %AllText%

Line to Append: %UserInput%

Action Output

Store Result into: %Result%

☑ This action is Enabled

Properties:

Original Text:

Enter the original text or a previously stored text variable.

Line to Append:

Enter the text, or a previously stored text variable, to add on as a new line.

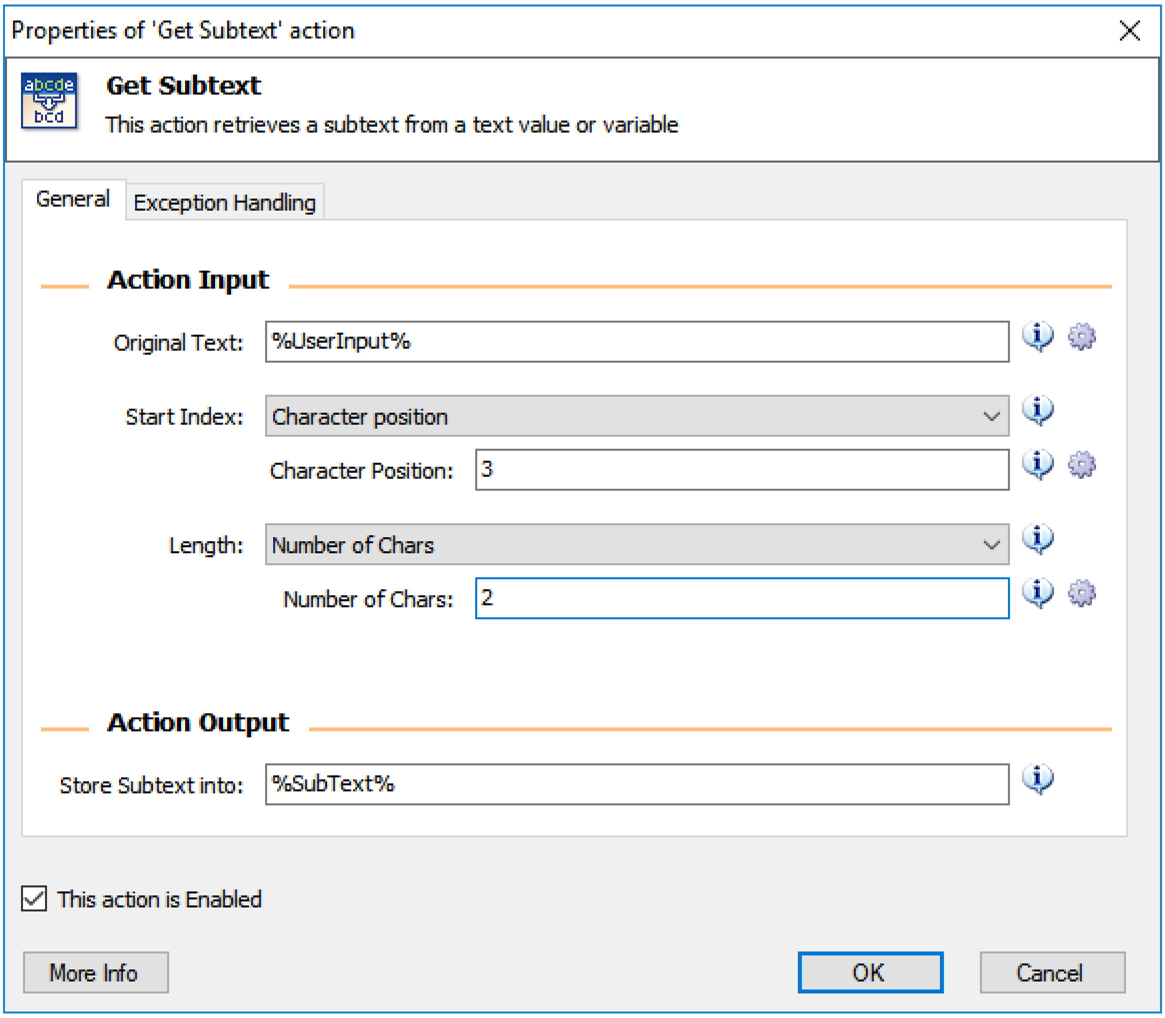
Store Result into:

Enter a name to be the variable that will store the new text. As elsewhere, this can be the name of the original variable, overwriting the original text with the new text.

5.24.3 Get Subtext Action

Description:

This action retrieves a subtext from a text value or variable



Properties of 'Get Subtext' action

Get Subtext

This action retrieves a subtext from a text value or variable

Action Input

Original Text: %UserInput%

Start Index: Character position

Character Position: 3

Length: Number of Chars

Number of Chars: 2

Action Output

Store Subtext into: %SubText%

☑ This action is Enabled

Properties:

Original Text:

Enter the text, or a previously stored text variable, that contains the section of text you want to retrieve.

Start Index:

Choose how you want to find the starting point for text retrieval.

Character Position:

Set the position of the first character you will retrieve. This is a zero-based index, counting from zero for the first character. For example, the tenth character would be 9.

Length:

Choose whether the subtext continues to the end of the text, or includes only a certain number of characters.

Number of Chars:

Set the number of characters to be retrieved.

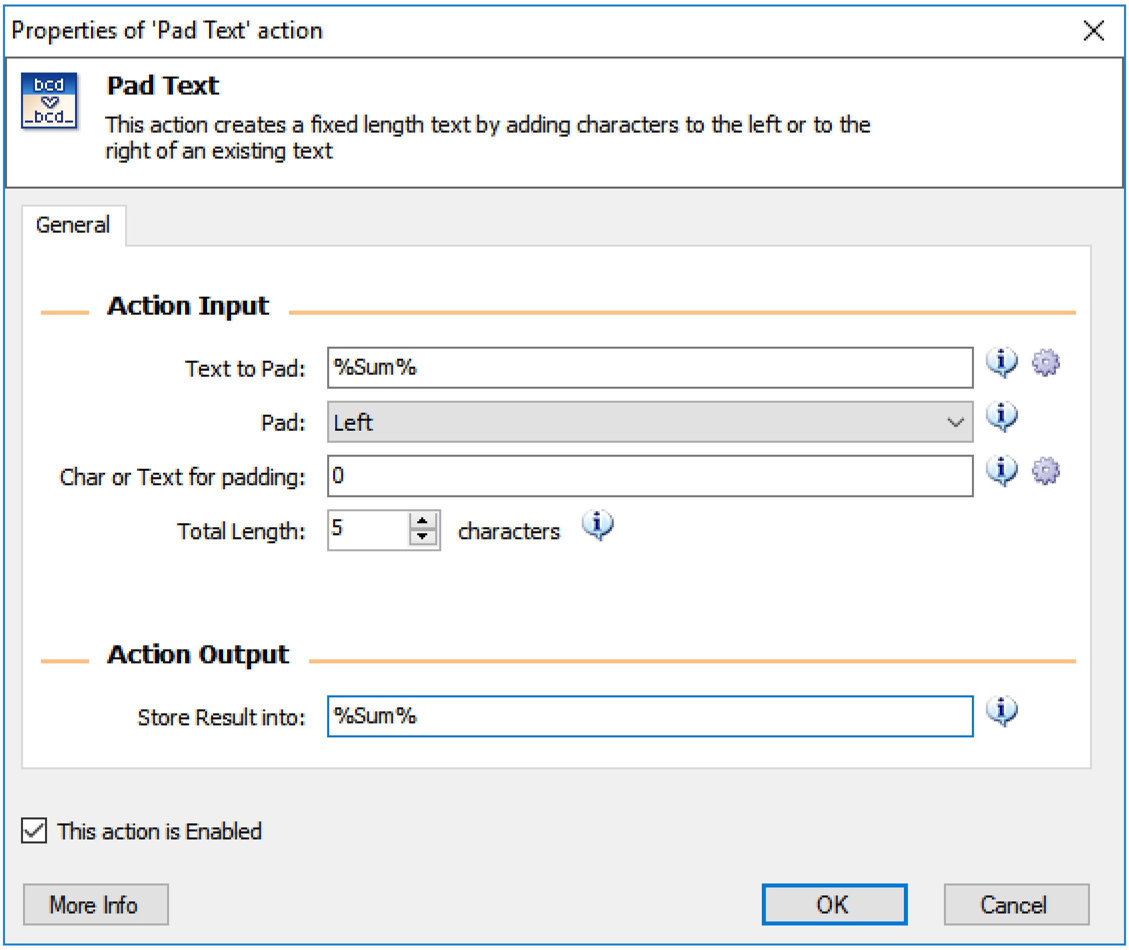
Store Subtext into:

Enter a name to be the variable where the subtext will be stored. As elsewhere, this can be the name of the original variable, overwriting the original text with the new text.

5.24.4 Pad Text Action

Description:

This action creates a fixed length text by adding characters to the left or to the right of an existing text



Properties of 'Pad Text' action

Pad Text

This action creates a fixed length text by adding characters to the left or to the right of an existing text

Action Input

Text to Pad: %Sum%

Pad: Left

Char or Text for padding: 0

Total Length: 5 characters

Action Output

Store Result into: %Sum%

☑ This action is Enabled

Properties:

Text to Pad:

Enter the text, or a previously stored text variable, to be lengthened.

Pad:

Choose whether to add characters to the left or right of the existing text.

Char or Text for Padding:

Enter the character or text that will be added to lengthen the original text.

Total Length:

Set the total character length of the final padded text. This means that the Char or Text for Padding will be repeatedly added until the final text is the right length. If it is already the right length, no characters will be added.

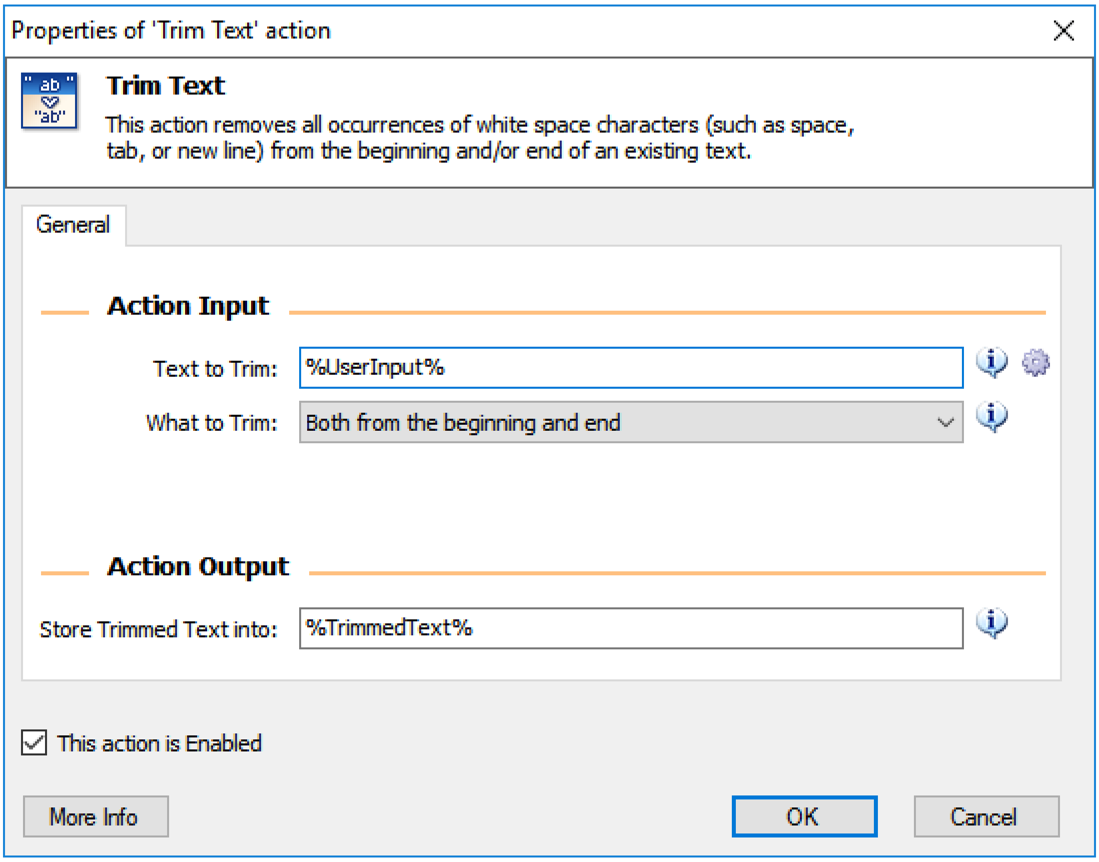
Store Result into:

Enter a name to be the variable that will store the new, padded Text. As elsewhere, this can be the name of the original variable, overwriting the original text with the new text.

5.24.5 Trim Text Action

Description:

This action removes all occurrences of white space characters (such as space, tab, or new line) from the beginning and/or end of an existing text.



Properties of 'Trim Text' action

Trim Text

This action removes all occurrences of white space characters (such as space, tab, or new line) from the beginning and/or end of an existing text.

General

Action Input

Text to Trim: %UserInput%

What to Trim: Both from the beginning and end

Action Output

Store Trimmed Text into: %TrimmedText%

☑ This action is Enabled

Properties:

Text to Trim:

Enter the text, or a previously stored text variable, that you want to have trimmed.

What to Trim:

Choose where white space characters will be removed from.

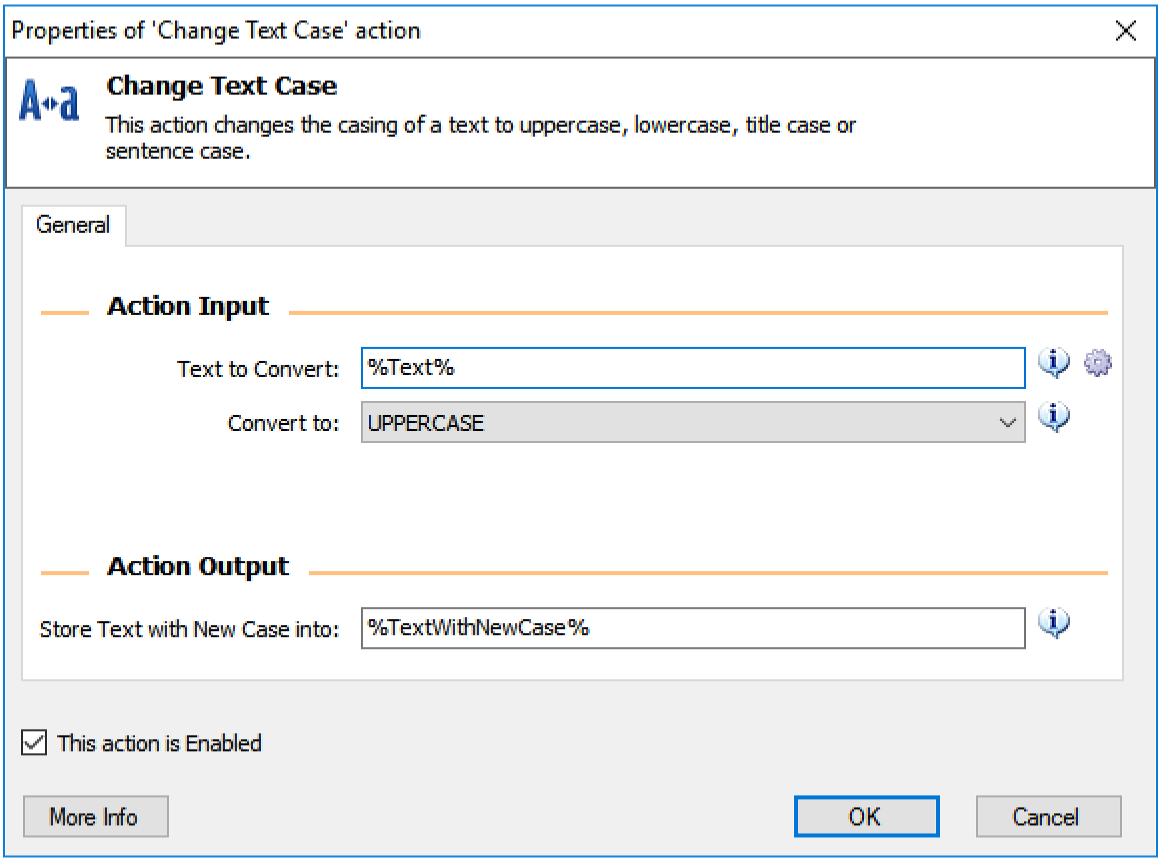
Store Trimmed Text into:

Enter a name to be the variable that will store the new, trimmed Text. As elsewhere, this can be the name of the original variable, overwriting the original text with the new text.

5.24.6 Change Text Case Action

Description:

This action changes the casing of a text to uppercase, lowercase, title case or sentence case.



Properties of 'Change Text Case' action

Change Text Case

This action changes the casing of a text to uppercase, lowercase, title case or sentence case.

Action Input

Text to Convert: %Text%

Convert to: UPPERCASE

Action Output

Store Text with New Case into: %TextWithNewCase%

☑ This action is Enabled

Properties:

Text to Convert:

Enter the text, or a previously stored text variable, that you want to convert.

Convert to:

Choose which text case style you want to use. Examples are given in their names.

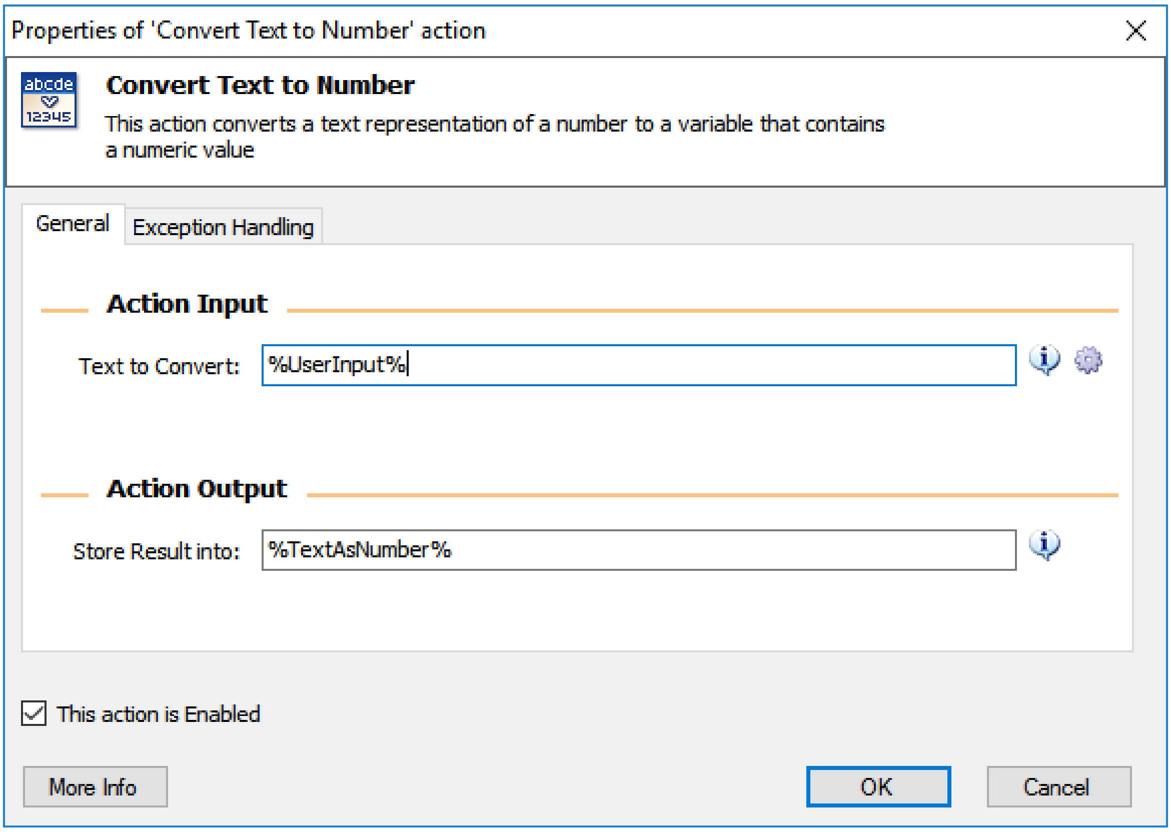
Store Text with New Case into:

Enter a name to be the variable that will store the new, converted Text. As elsewhere, this can be the name of the original variable, overwriting the original text with the new text.

5.24.7 Convert Text to Number Action

Description:

This action converts a text representation of a number to a variable that contains a numeric value



Properties of 'Convert Text to Number' action

Convert Text to Number

This action converts a text representation of a number to a variable that contains a numeric value

Action Input

Text to Convert: %UserInput%

Action Output

Store Result into: %TextAsNumber%

☑ This action is Enabled

Properties:

Text to Convert:

Enter a previously stored text variable containing only a number, that will be converted to a numeric value variable. Spaces will be ignored, but non-number text will throw an exception.

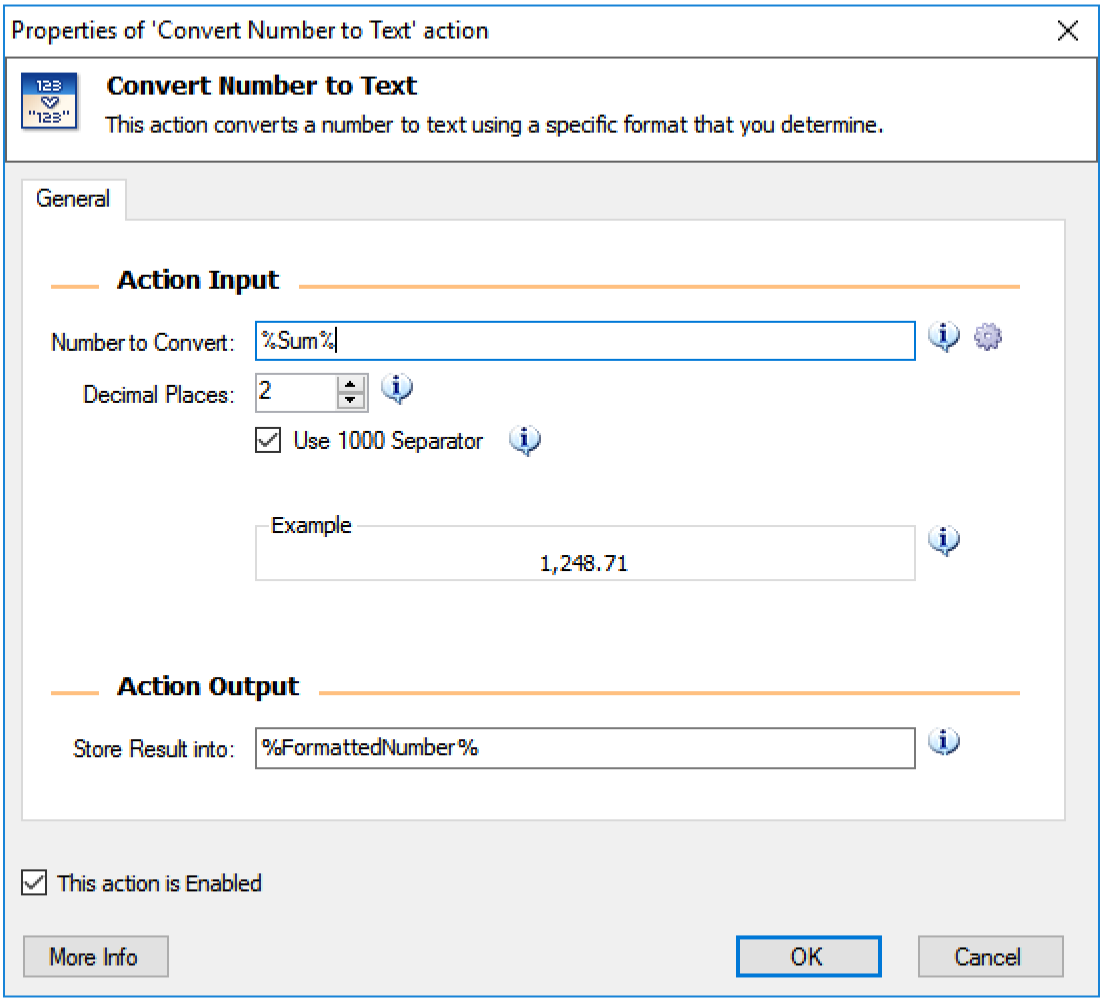
Store Result into:

Enter a name to be the variable that will store the new, numeric value.

5.24.8 Convert Number to Text Action

Description:

This action converts a number to text using a specific format that you determine.



Properties of 'Convert Number to Text' action

Convert Number to Text

This action converts a number to text using a specific format that you determine.

General

Action Input

Number to Convert: %Sum%

Decimal Places: 2

☑ Use 1000 Separator

Example: 1,248.71

Action Output

Store Result into: %FormattedNumber%

☑ This action is Enabled

Properties:

Number to Convert:

Enter a number, or a previously stored numeric variable, that will be converted to text.

Decimal Places:

Choose the number of decimal places that will be included before truncation. Zeros can also be added to the end to pad the text in this way.

Use 1000 Separator:

Choose whether or not to use punctuation as a 1000 separator.

Example:

Here you can see an example of what your textual number will look like.

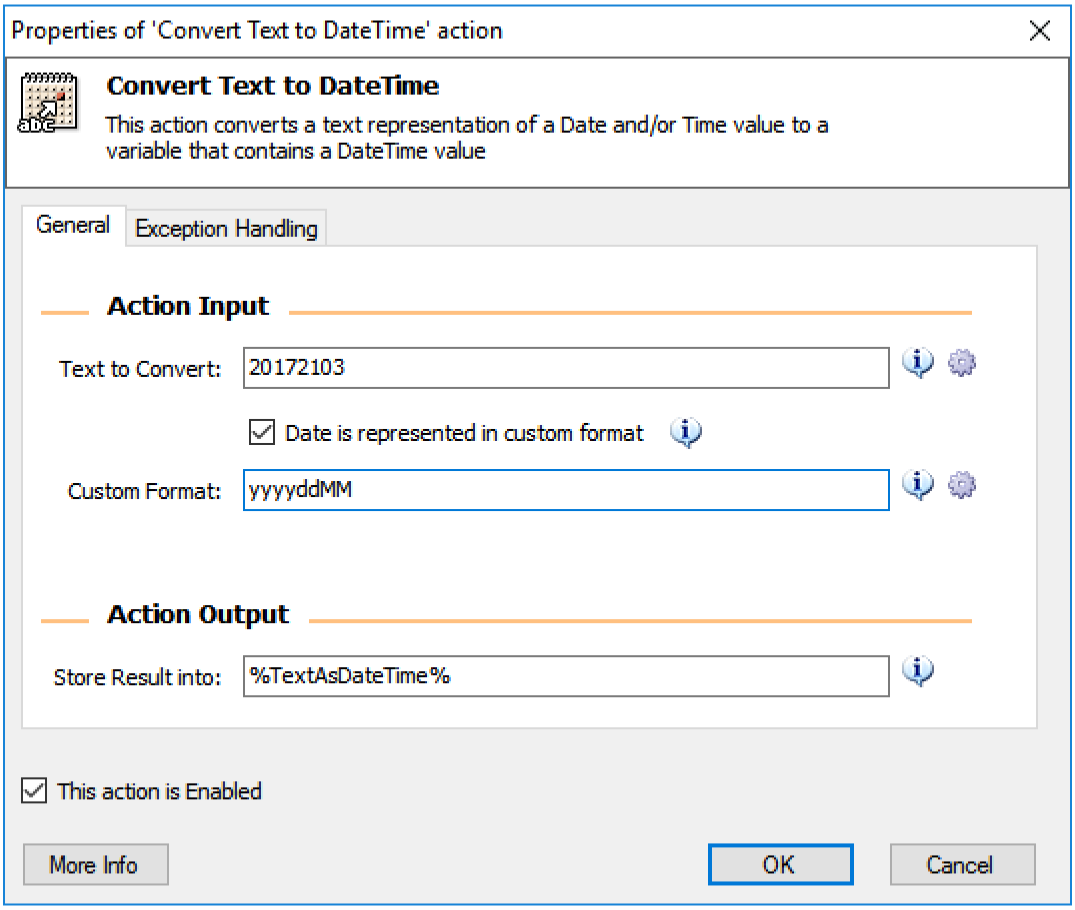
Store Result into:

Enter a name to be the variable that will store the formatted number as Text.

5.24.9 Convert Text to DateTime Action

Description:

This action converts a text representation of a Date and/or Time value to a variable that contains a DateTime value



Properties of 'Convert Text to DateTime' action

Convert Text to DateTime

This action converts a text representation of a Date and/or Time value to a variable that contains a DateTime value

Text to Convert: 20172103

☑ Date is represented in custom format

Custom Format: yyyyddMM

Store Result into: %TextAsDateTime%

☑ This action is Enabled

Properties:

Text to Convert:

Enter the text, or a previously stored text variable, to be converted to a DateTime value. This text must be in a recognizably DateTime value format.

Date is represented in custom format:

Use this option if the text to be converted contains a representation of the Date Time in a non-standard, non-recognizable format. In this case you will also need to provide the custom format in which the date is represented.

Custom Format:

Enter the format in which the date is stored in the text. You can express a custom format as, for example, yyyyMMdd for date, and hhmmss for time. For more information on how to specify a custom format see Custom Date Formats 296.

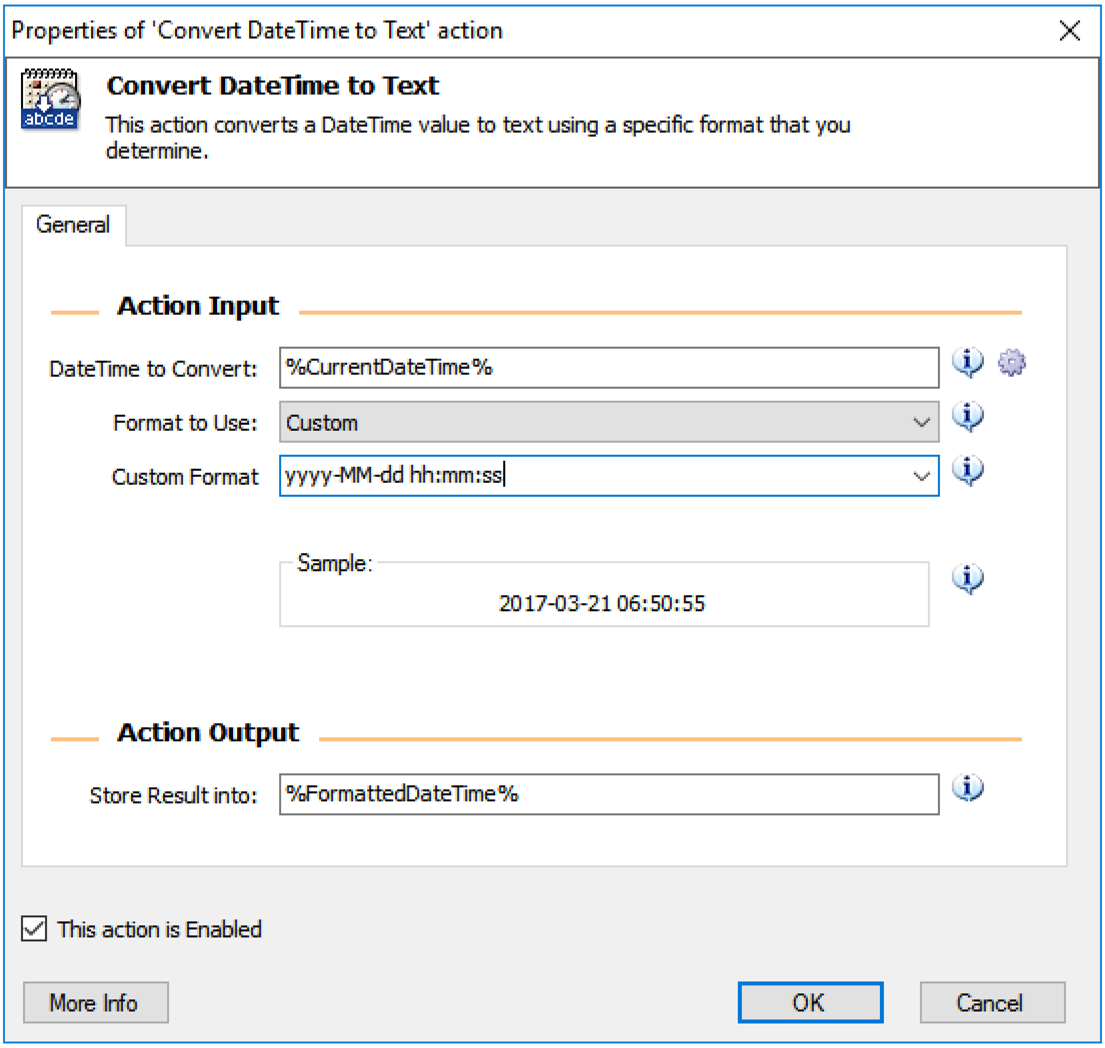
Store Result into:

Enter a name to be the variable that will store the DateTime value.

5.24.10 Convert DateTime to Text Action

Description:

This action converts a DateTime value to text using a specific format



Properties of 'Convert DateTime to Text' action

Convert DateTime to Text

This action converts a DateTime value to text using a specific format that you determine.

Action Input

DateTime to Convert: %CurrentDateTime%

Format to Use: Custom

Custom Format yyyy-MM-dd hh:mm:ss

Sample: 2017-03-21 06:50:55

Action Output

Store Result into: %FormattedDateTime%

☑ This action is Enabled

Properties:

DateTime to Convert:

Enter a DateTime value, or a previously stored DateTime variable, that will be converted to text.

Format to Use:

Choose whether to use a standard DateTime format, or create a custom one.

Standard Format:

Choose which standard DateTime format this action will use to display the DateTime value.

Custom Format:

Set the custom Format this action will use to display the DateTime value. You can express a DateTime as, for example, MM/dd/yyyy for date, and hh:mm:sstt for time. For more information, see the Custom Date Formats 296 topic.

Example:

This is an example of how the action will display the DateTime value.

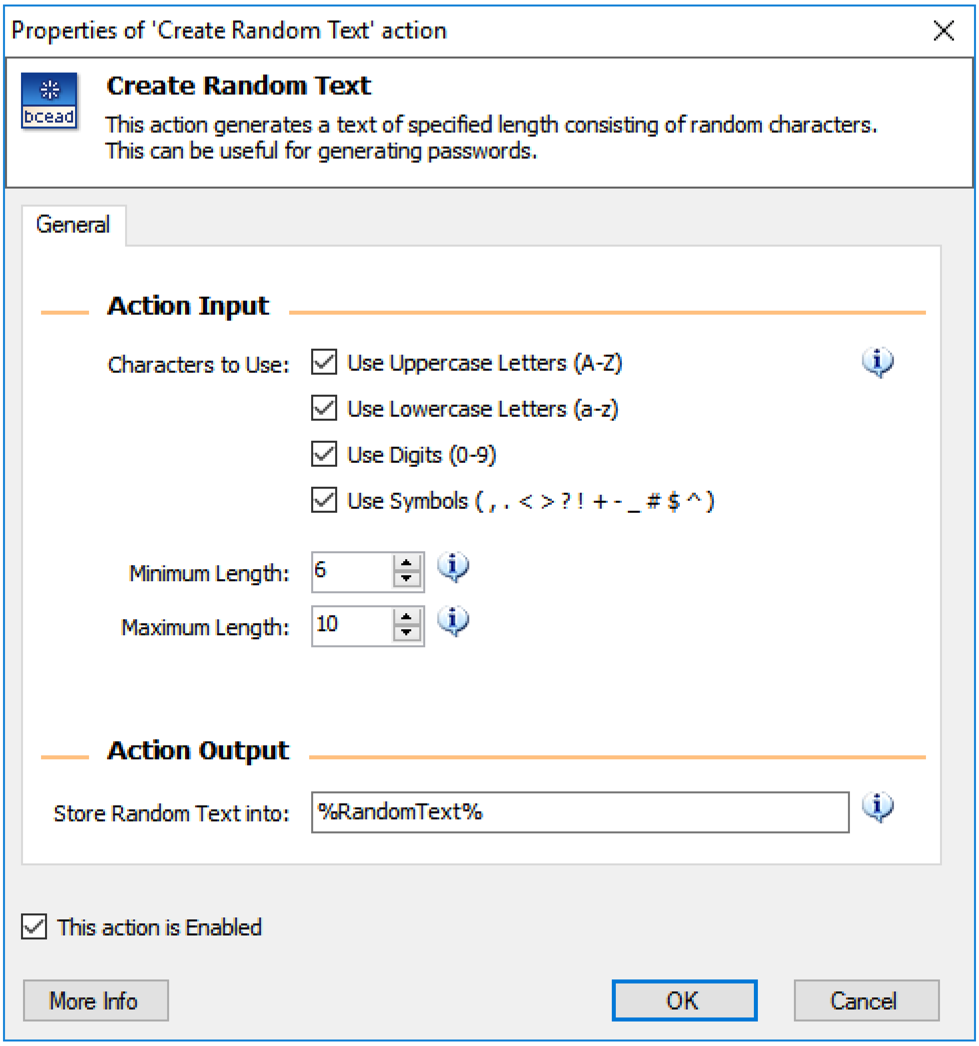
Store Result into:

Enter a name to be the variable that will store the formatted DateTime as a text value.

5.24.11 Create Random Text Action

Description:

This action generates a text of specified length consisting of random characters. This can be useful for generating passwords.



Properties of 'Create Random Text' action

Create Random Text

This action generates a text of specified length consisting of random characters. This can be useful for generating passwords.

General

Action Input

Characters to Use: ☑ Use Uppercase Letters (A-Z)
☑ Use Lowercase Letters (a-z)
☑ Use Digits (0-9)
☑ Use Symbols (, . < > ? ! + - _ # $ ^)

Minimum Length: 6

Maximum Length: 10

Action Output

Store Random Text into: %RandomText%

☑ This action is Enabled

Properties:

Characters to Use:

Choose which characters may be included in the generated Text.

Minimum Length:

Choose a minimum length for the random Text. If you want a certain length of Text, set the minimum and maximum values to that number.

Maximum Length:

Choose a maximum length for the random Text. If you want a certain length of Text, set the minimum and maximum values to that number.

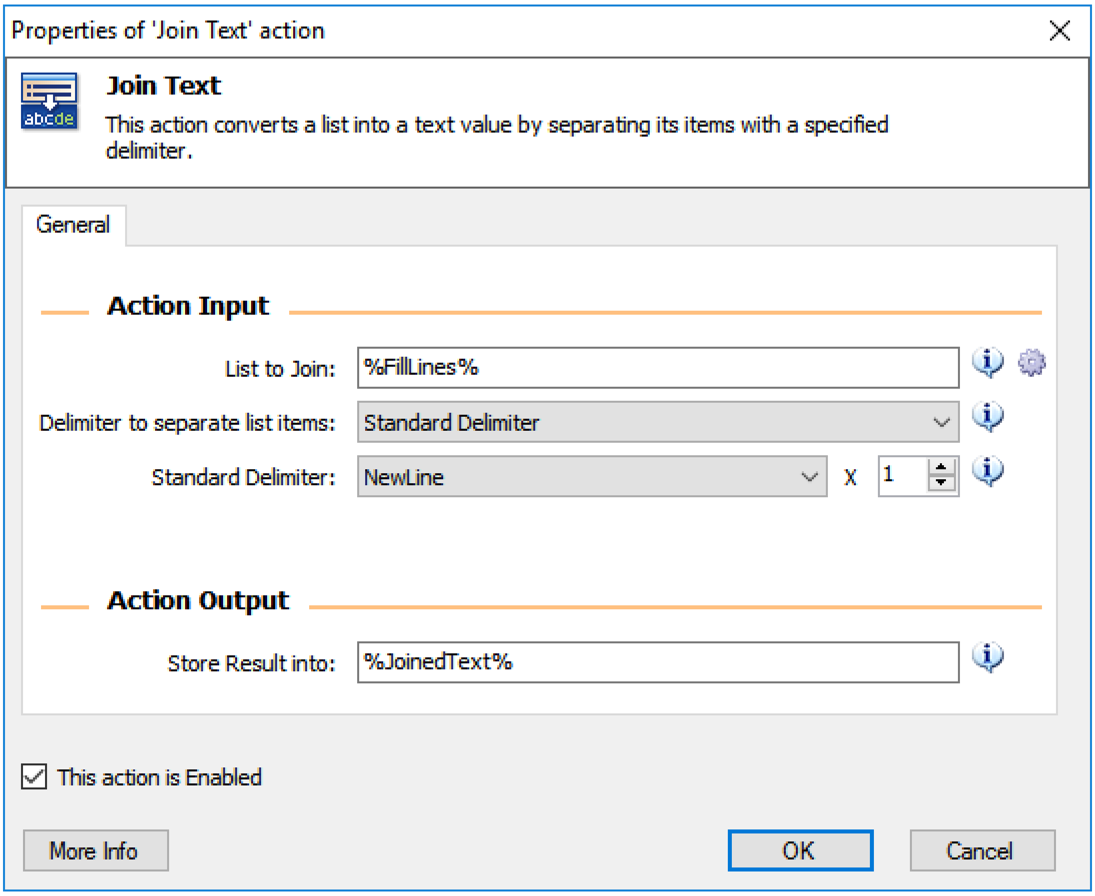
Store Random Text into:

Enter a name to be the variable that will store the random Text.

5.24.12 Join Text Action

Description:

This action converts a list into a text value by separating its items with a specified delimiter.



Properties of 'Join Text' action

Join Text

This action converts a list into a text value by separating its items with a specified delimiter.

General

Action Input

List to Join: %FillLines%

Delimiter to separate list items: Standard Delimiter

Standard Delimiter: NewLine x 1

Action Output

Store Result into: %JoinedText%

☑ This action is Enabled

Properties:

List to Join:

Enter a previously stored list variable, to be converted to Text.

Delimiter to separate list items:

Choose whether to use no Delimiter, a standard Delimiter or a custom one.

Standard Delimiter:

Choose the Delimiter and how many repetitions from the list.

Custom Delimiter:

Enter the character(s) to be used as Delimiter. Spaces at the beginning and the end will be trimmed, unless in the format of %"xxx"%, where xxx is the text, and can contain spaces anywhere.

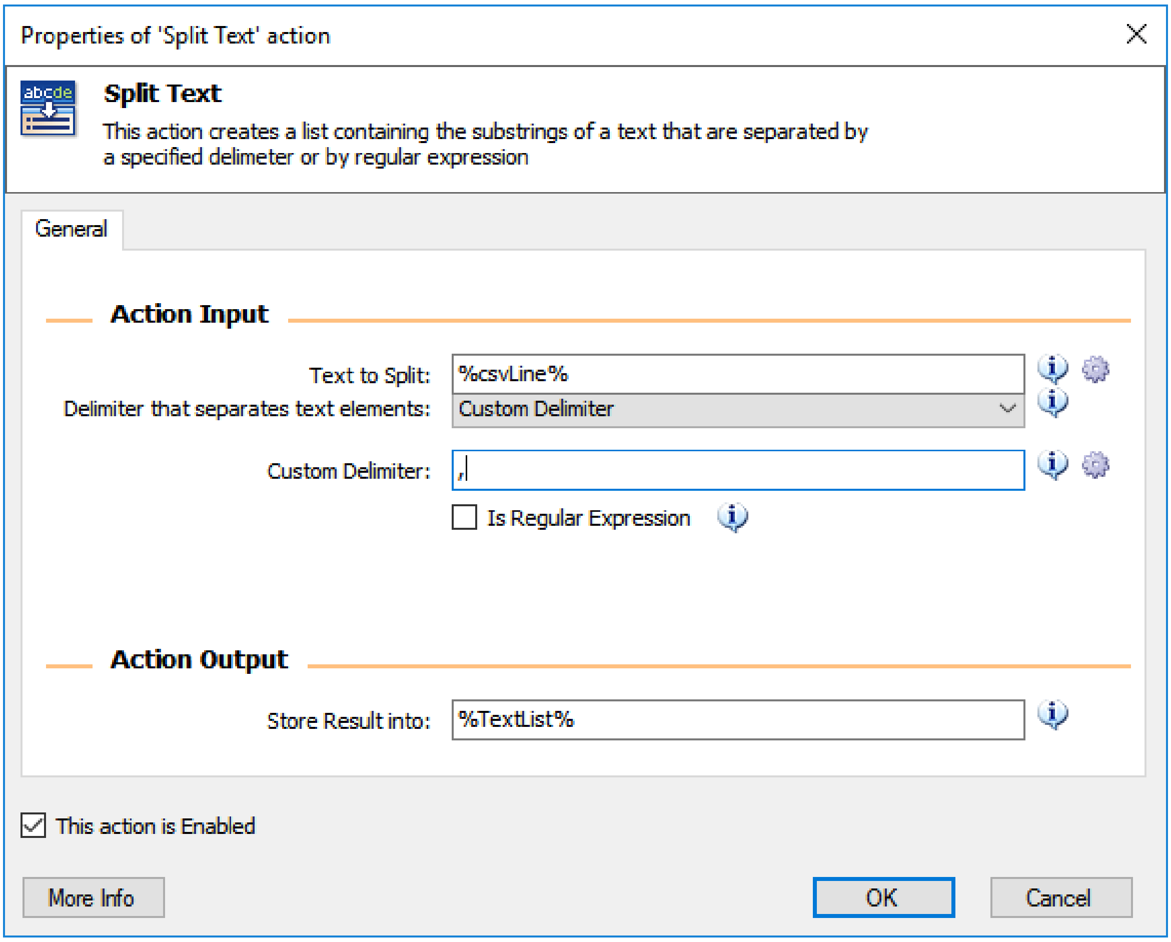
Store Result into:

Enter a name to be the variable that will store the new, delimited Text.

5.24.13 Split Text Action

Description:

This action creates a list containing the substrings of a text that are separated by a specified delimeter or by regular expression



Properties of 'Split Text' action

Split Text

This action creates a list containing the substrings of a text that are separated by a specified delimeter or by regular expression

General

Action Input

Text to Split: %csvLine%

Delimiter that separates text elements: Custom Delimiter

Custom Delimiter: ,

□ Is Regular Expression

Action Output

Store Result into: %TextList%

☑ This action is Enabled

Properties:

Text to Split:

Enter the text that contains delimiters, or a previously stored text variable, to be split.

Delimiter that separates text elements:

Choose whether the used Delimiter is of a standard or custom format.

Standard Delimiter:

Choose the Delimiter used from the list.

Custom Delimiter:

Enter the character(s) that were used as Delimiter.

Is Regular Expression:

Check this box if your Delimiter is a Regular Expression. A Regular Expression creates a range of possibilities for the Delimiter. For example \d means that the Delimiter could be any digit.

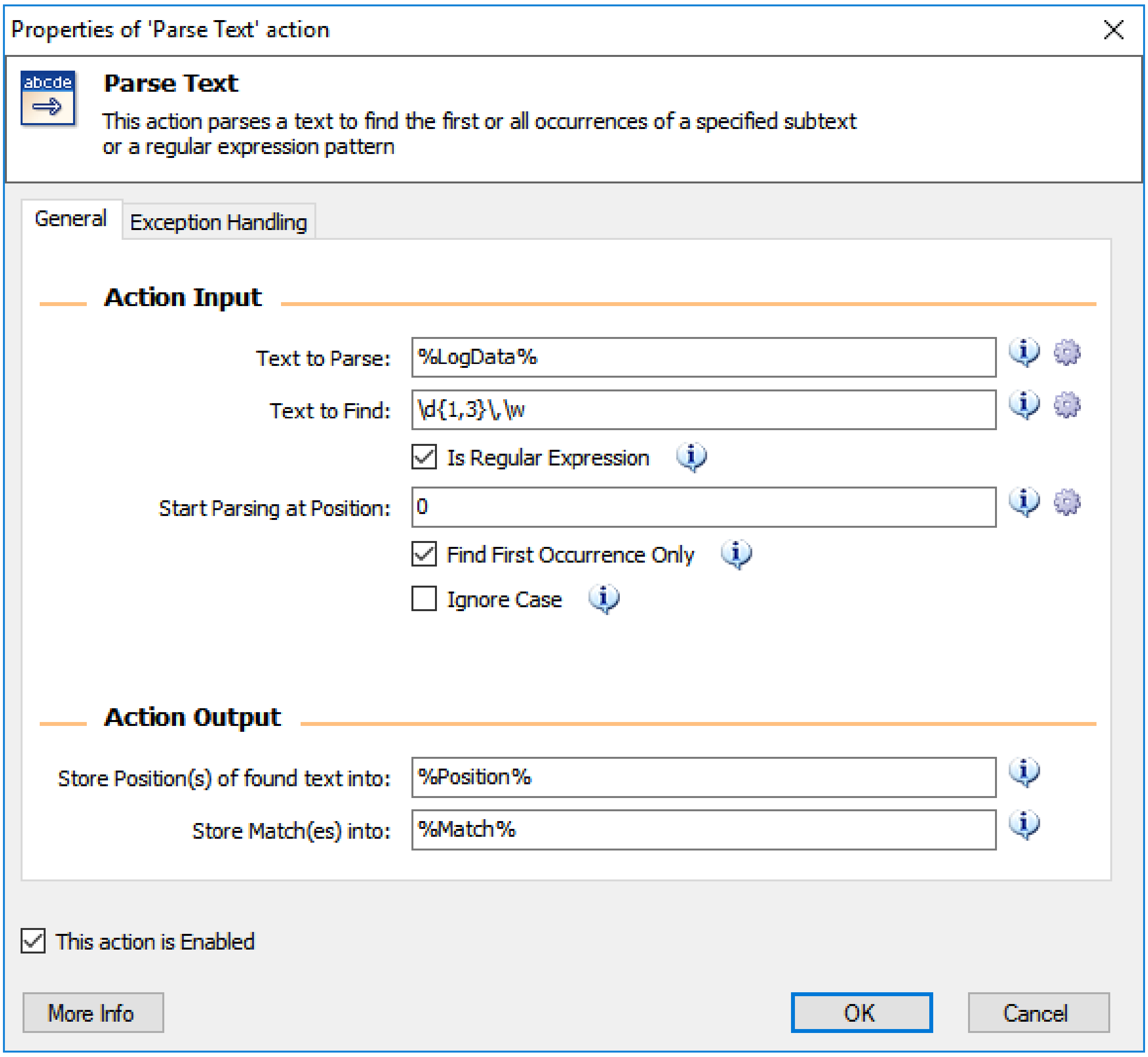
Store Result into:

Enter a name to be the variable that will store the new List.

5.24.14 Parse Text Action

Description:

This action parses a text to find the first or all occurrences of a specified subtext or a regular expression pattern



Properties of 'Parse Text' action

Parse Text

This action parses a text to find the first or all occurrences of a specified subtext or a regular expression pattern

Action Input

Text to Parse: %LogData%

Text to Find: \d{1,3}\,\w

☑ Is Regular Expression

Start Parsing at Position: 0

☑ Find First Occurrence Only

□ Ignore Case

Action Output

Store Position(s) of found text into: %Position%

Store Match(es) into: %Match%

☑ This action is Enabled

Properties:

Text to Parse:

Enter the text, or a previously stored text variable, to be parsed.

Text to Find:

Enter the subtext, a previously stored text variable, or a Regular Expression, to search for.

Is Regular Expression:

Check this box if your subtext is a Regular Expression. A Regular Expression creates a range of possibilities to be the subtext. For example \d means that the subtext could be any digit.

Start Parsing at Position:

Enter the position where this action will begin to look for the Text to Find. The first position is zero, so use 0 to start from the beginning.

First Occurrence Only:

Choose if you want this action to find the first occurrence only, or each occurrence of the Text to Find.

Ignore Case:

Choose whether you want this action to find the specified text using case-sensitive or case-insensitive matching.

Store Position(s) of found text into:

Enter a name to be the variable that will store the position(s) of the "Text to Find" into the "Text to Parse". If you have not checked Find First Occurrence, the result(s) will be a list of numerical values; otherwise it will be a single numerical value. If the text you are searching for is not found within the original text, this variable will hold the value -1.

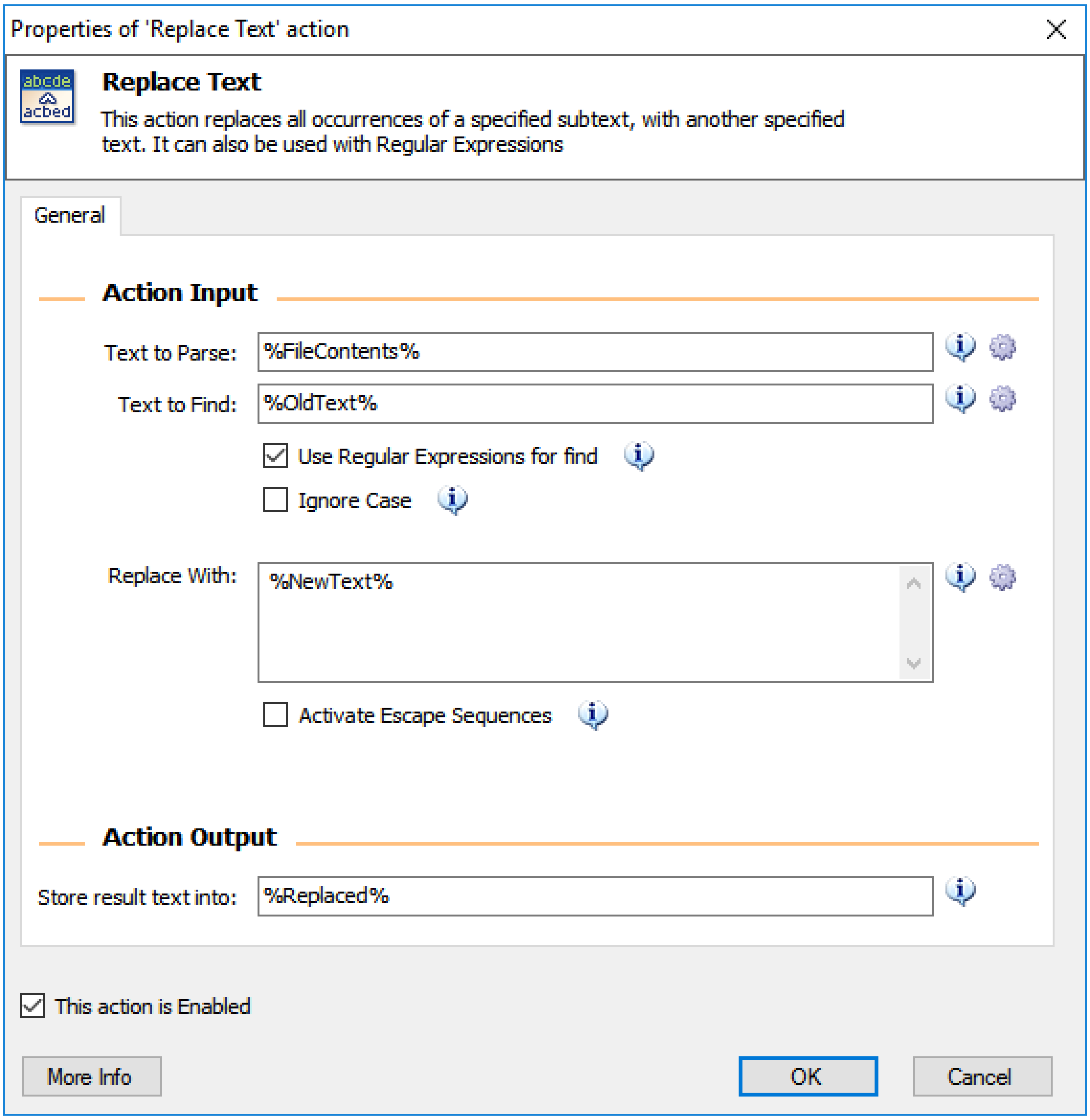
Store Match(es) into:

Enter a name to be the variable that will store the result(s) that match your Regular Expression. If you have not checked Find First Occurrence, the result(s) will be a list of text values; otherwise it will be a single text value.

5.24.15 Replace Text Action

Description:

This action replaces all occurrences of a specified subtext, with another specified text. It can also be used with Regular Expressions



Properties of 'Replace Text' action

Replace Text

This action replaces all occurrences of a specified subtext, with another specified text. It can also be used with Regular Expressions

General

Action Input

Text to Parse: %FileContents%

Text to Find: %OldText%

☑ Use Regular Expressions for find

☐ Ignore Case

Replace With: %NewText%

☐ Activate Escape Sequences

Action Output

Store result text into: %Replaced%

☑ This action is Enabled

Properties:

Text to Parse:

Enter the text, or a previously stored text variable, to be parsed.

Text to Find:

Enter the subtext, a previously stored text variable, or a Regular Expression, to search for.

Use Regular Expressions for find and replace:

Check this box if the subtexts are Regular Expressions. A Regular Expression creates a range of possibilities to be the subtext. For example \d means that the subtext could be any digit.

Ignore Case:

Choose whether you want this action to find the subtext to be replaced using case-sensitive or case-insensitive matching.

Replace With:

Enter the text, a previously stored text variable, or a Regular Expression, to replace found text. For example '\t' in the replacement text will be interpreted as a tab.

Activate Escape Sequences:

Check this box if you want special sequences.

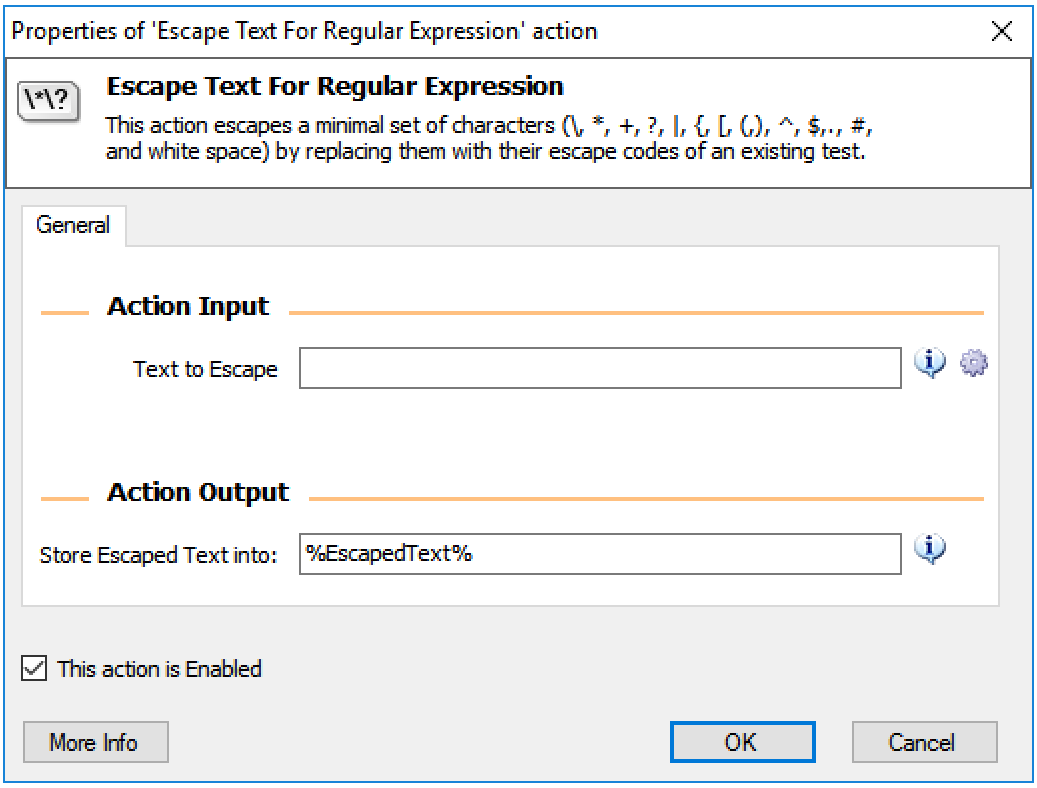
Store Result Text into:

Enter a name to be the variable that will store the new, updated Text.

5.24.16 Escape Text for Regular Expression Action

Description:

This action escapes a minimal set of characters (\,*,+,?,|,{,[,(,),^,$,.,# and white spaces) by replacing them with their escape codes of an existing test.



Properties of 'Escape Text For Regular Expression' action

Escape Text For Regular Expression

This action escapes a minimal set of characters (\, *, +, ?, |, {, [, (,), ^, $,., #, and white space) by replacing them with their escape codes of an existing test.

Text to Escape:

Store Escaped Text into: %EscapedText%

☑ This action is Enabled

Properties:

Text to Escape:

Enter the text, or a previously stored text variable, to be escaped.

Store Escaped Text into:

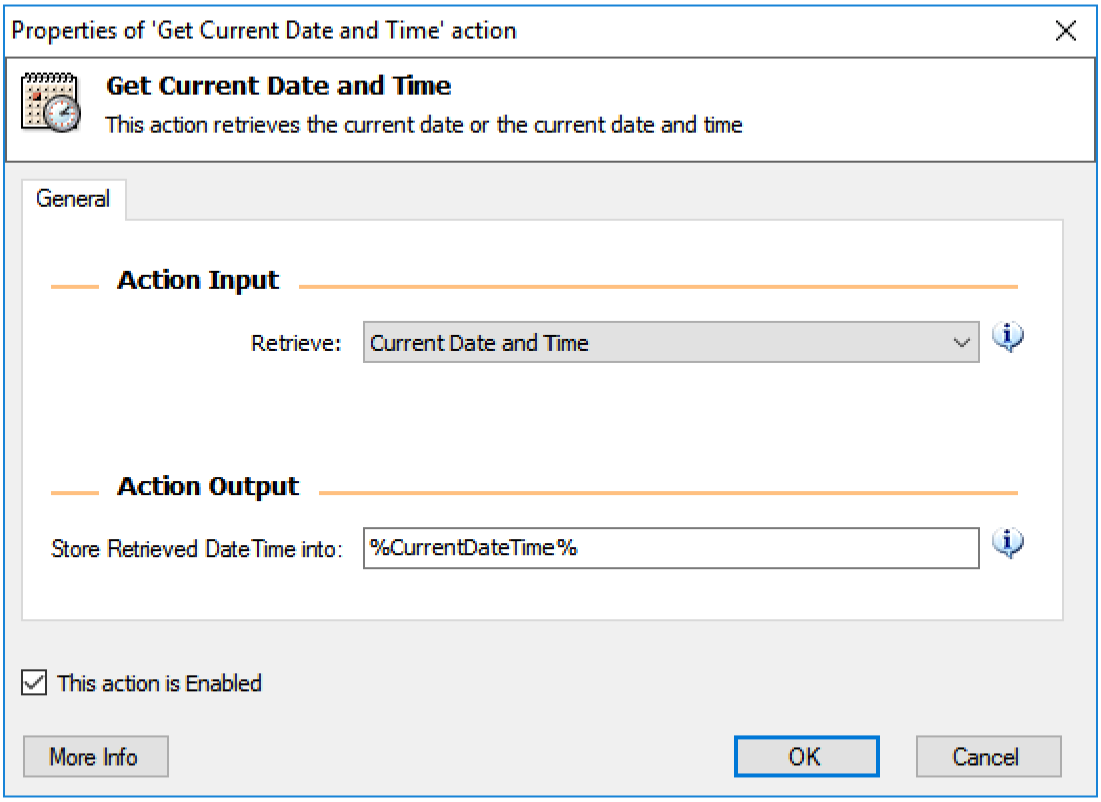
Enter a name to be the variable that will store the escaped text.

5.25 DateTime Actions

5.25.1 Get Current Date and Time Action

Description:

This action retrieves the current date or the current date and time



Properties of 'Get Current Date and Time' action

Get Current Date and Time

This action retrieves the current date or the current date and time

Action Input

Retrieve: Current Date and Time

Action Output

Store Retrieved DateTime into: %CurrentDateTime%

☑ This action is Enabled

Properties:

Retrieve:

Choose whether to gather the date and time, or just the date. If you choose to gather only the Date, the time value will be stored as midnight (0:00:00).

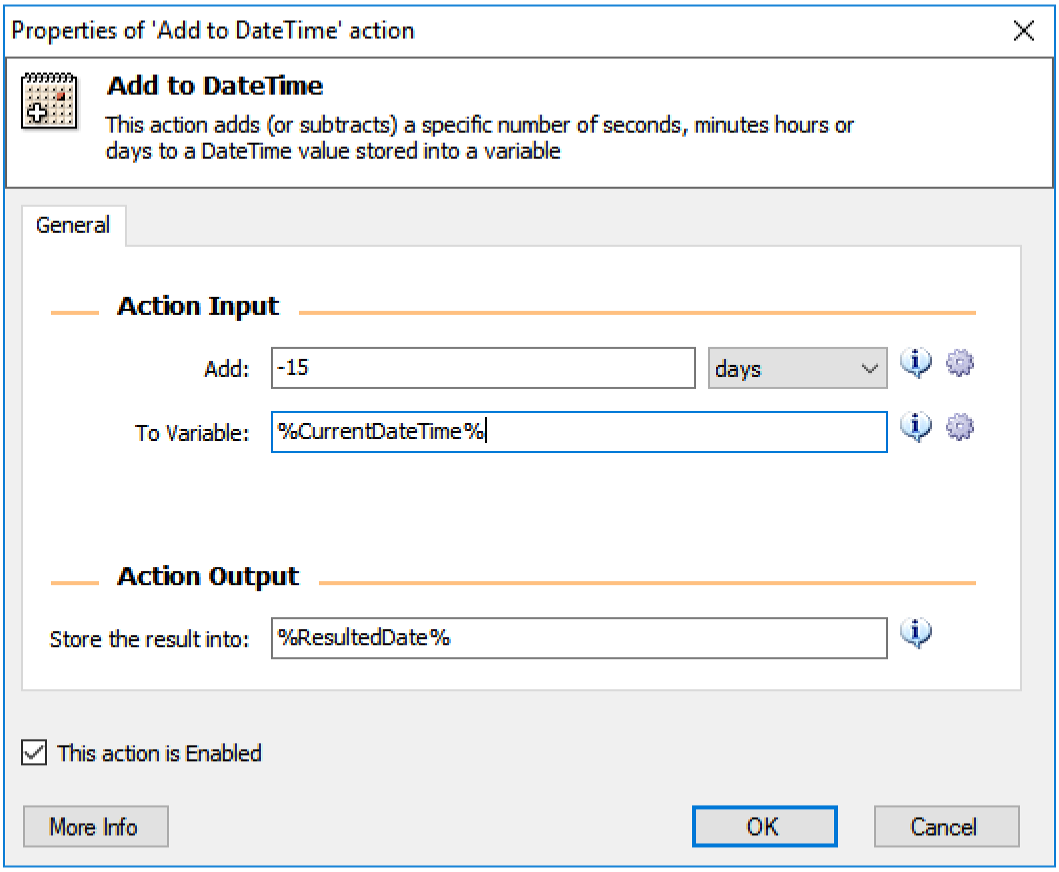
Store Retrieved DateTime into:

Enter a name to be the variable that will store the current DateTime value.

5.25.2 Add to DateTime Action

Description:

This action adds (or subtracts) a specific number of seconds, minutes hours or days to a DateTime value stored into a variable



Properties of 'Add to DateTime' action

Add to DateTime

This action adds (or subtracts) a specific number of seconds, minutes hours or days to a DateTime value stored into a variable

Action Input

Add: -15 days

To Variable: %CurrentDateTime%

Action Output

Store the result into: %ResultedDate%

☑ This action is Enabled

Properties:

Add:

Enter a numeric value, or a previously stored numeric variable, and choose the unit of time it represents. To subtract a time, this value would be negative. For example, add -7 days here to go back one week.

To Variable:

Enter the name of a variable with a DateTime value that you wish to alter.

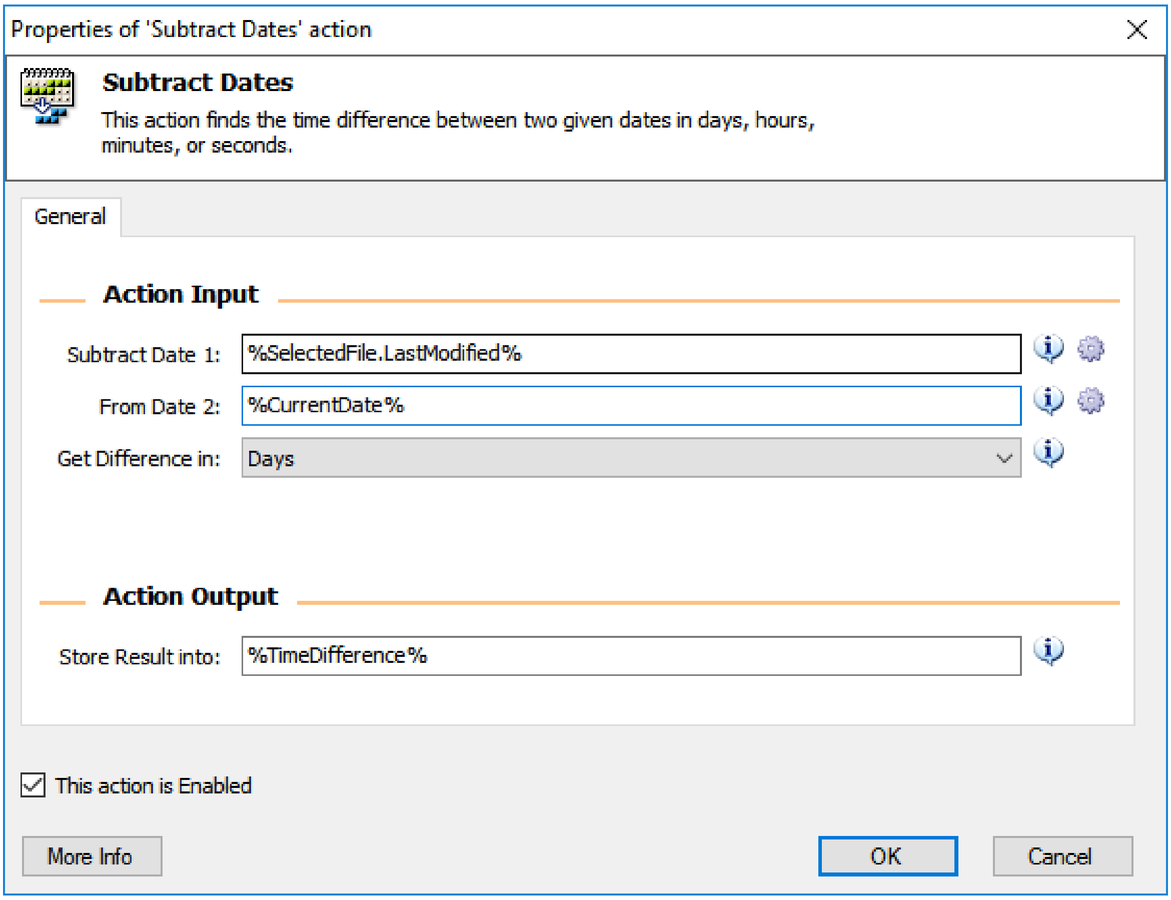
Store the result into:

Enter a name to be the variable that will store the new, altered DateTime value. As elsewhere, this can be the name of the original variable, overwriting the original DateTime with the new DateTime.

5.25.3 Subtract Dates Action

Description:

This action finds the time difference between two given dates in days, hours, minutes, or seconds.



Properties of 'Subtract Dates' action

Subtract Dates

This action finds the time difference between two given dates in days, hours, minutes, or seconds.

General

Action Input

Subtract Date 1: %SelectedFile.LastModified%

From Date 2: %CurrentDate%

Get Difference in: Days

Action Output

Store Result into: %TimeDifference%

☑ This action is Enabled

Properties:

Subtract Date 1:

Enter a DateTime or the name of a variable that holds a DateTime value.

From Date 2:

Enter a DateTime or the name of a variable that holds a DateTime value. This will be the base DateTime, so generally put the later date/time in this field.

Get Difference in:

Choose what unit of time to express the difference in.

Store Result into:

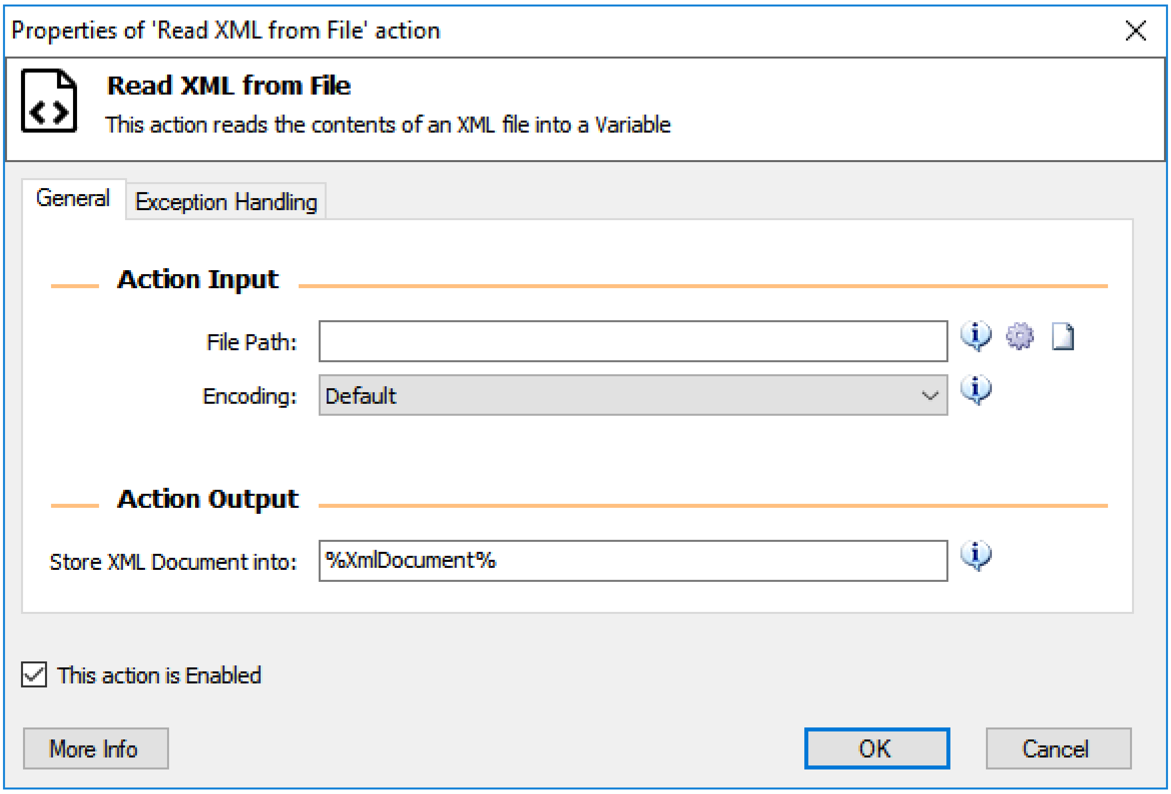
Enter a name to be the variable that will hold the difference in time as a numeric value.

5.26 XML Actions

5.26.1 Read XML from File Action

Description:

This action reads the contents of an XML file into a variable.



Properties of 'Read XML from File' action

Read XML from File

This action reads the contents of an XML file into a Variable

File Path:

Encoding: Default

Store XML Document into: %XmlDocument%

☑ This action is Enabled

Properties:

File path:

Enter or choose the XML document to be read. This can be a file path, or a variable containing a file or a textual path.

Encoding:

Select the encoding used for the specified file.

Store XML Document into:

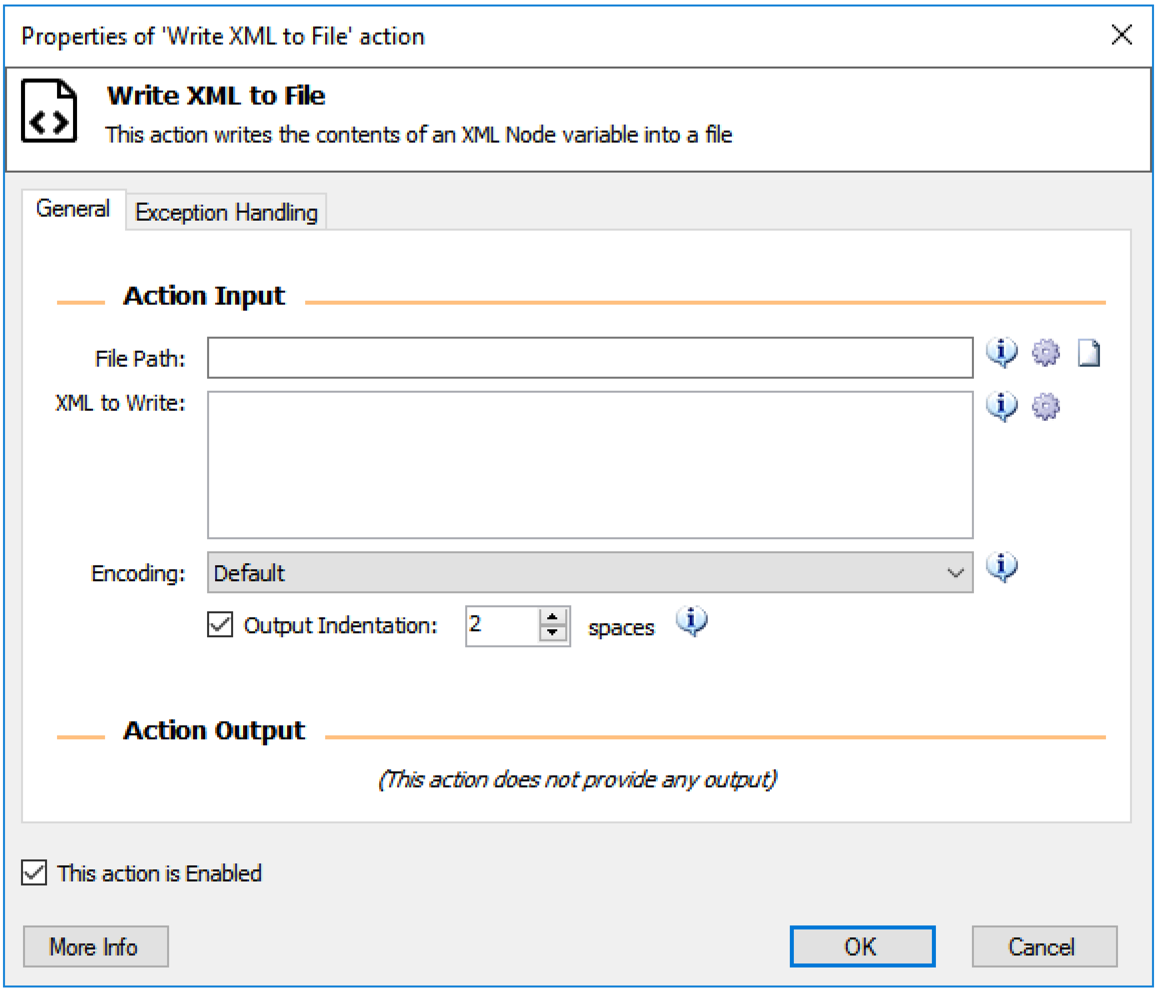
Enter the name of the variable that will store the XML Document read from the file.

5.26.2 Write XML to File Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action writes the contents of an XML Node variable into a file.



Properties of 'Write XML to File' action

Write XML to File

This action writes the contents of an XML Node variable into a file

Action Input

File Path:

XML to Write:

Encoding: Default

☑ Output Indentation: 2 spaces

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

File path:

Enter or choose the file where the XML document to be written into.

XML to write:

Enter the variable that contains the XML Node or document to be written that you want to write into the file.

Encoding:

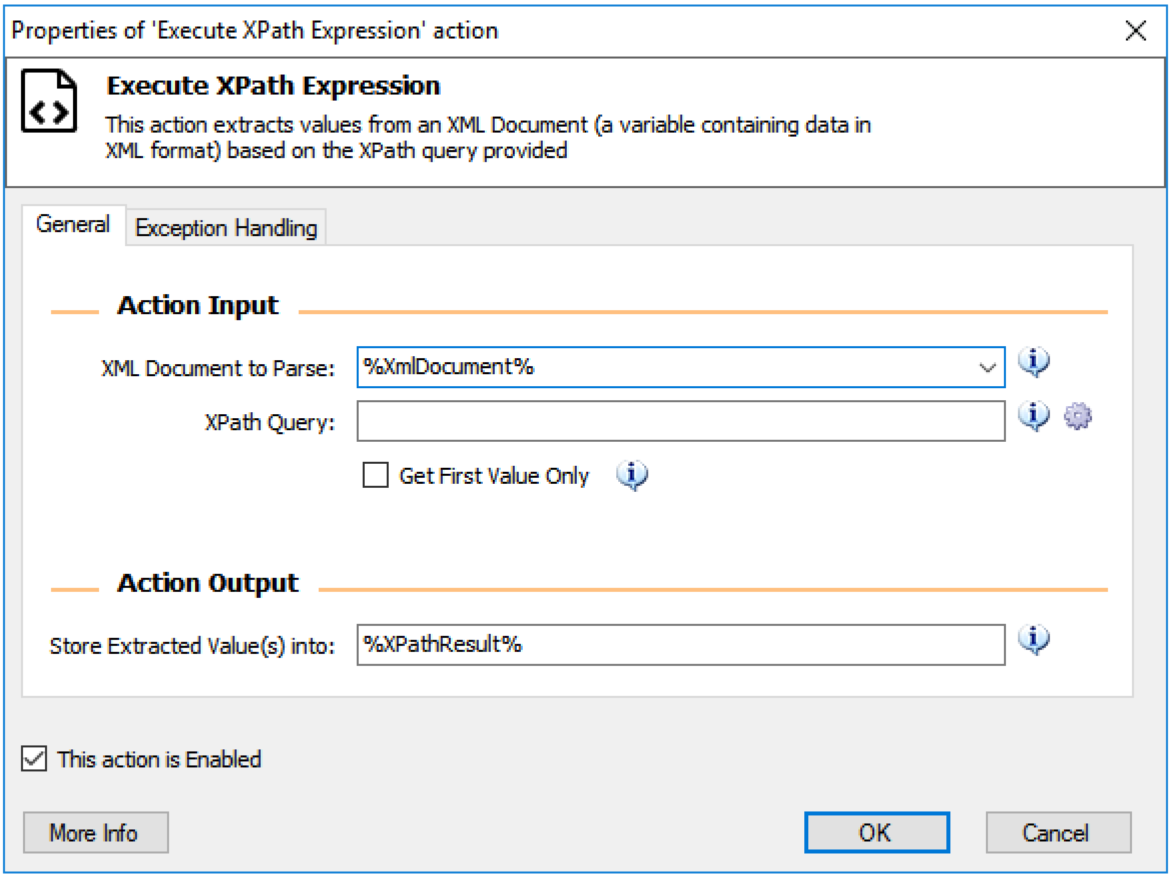
Select the encoding used for the specified file.

5.26.3 Execute XPath Expression Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action extracts values from an XML Document (a variable containing data in XML format) based on the XPath Query provided.



Properties of 'Execute XPath Expression' action

Execute XPath Expression

This action extracts values from an XML Document (a variable containing data in XML format) based on the XPath query provided

Action Input

XML Document to Parse: %XmlDocument%

XPath Query:

□ Get First Value Only

Action Output

Store Extracted Value(s) into: %XPathResult%

☑ This action is Enabled

Properties:

XML Document to Parse:

This action displays an inobtrusive message through the notification popup

XPath Query:

Enter the XPath expression to execute against the XML Document.

Get First Value Only:

Specify whether you want to retrieve a single value (The first value only) or all the values that match the provided XPath expression.

Store Extracted Value(s) into:

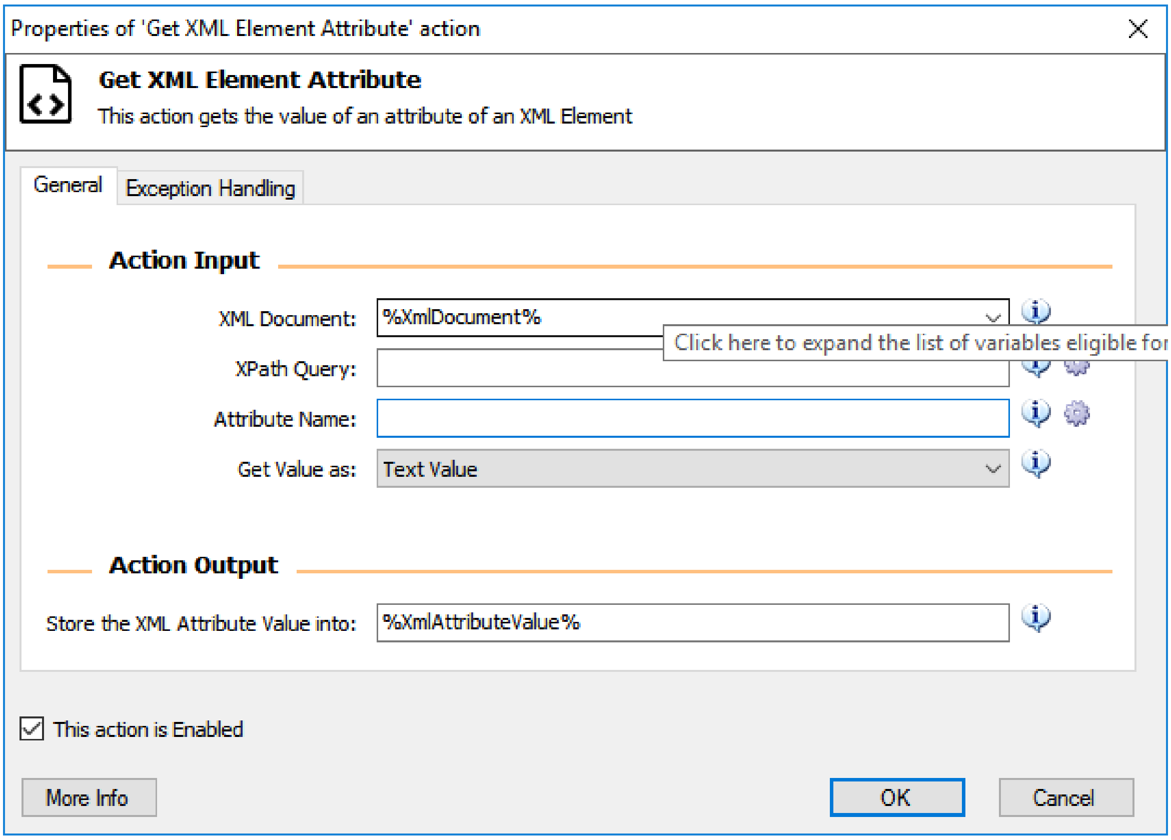
Enter the name of the variable that will store the extracted node(s) as an XML Node or a list of XML Nodes (depending on your choice in "Get First Value Only" property)

5.26.4 Get XML Element Attribute Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action gets the value of an attribute of an XML Element.



Properties of 'Get XML Element Attribute' action

Get XML Element Attribute

This action gets the value of an attribute of an XML Element

Action Input

XML Document: %XmlDocument%

Click here to expand the list of variables eligible for

XPath Query:

Attribute Name:

Get Value as: Text Value

Action Output

Store the XML Attribute Value into: %XmlAttributeValue%

☑ This action is Enabled

Properties:

XML Document:

Enter the variable that contains the XML Document or XML Element whose attribute you want to retrieve.

XPath Query:

Enter the XPath Expression to locate the sub-element whose attribute you want to retrieve.

Attribute Name:

Enter the name of the attribute whose value you want to retrieve.

Get Value as:

Select the data type for the attribute value.

Set the XML Attribute Value into:

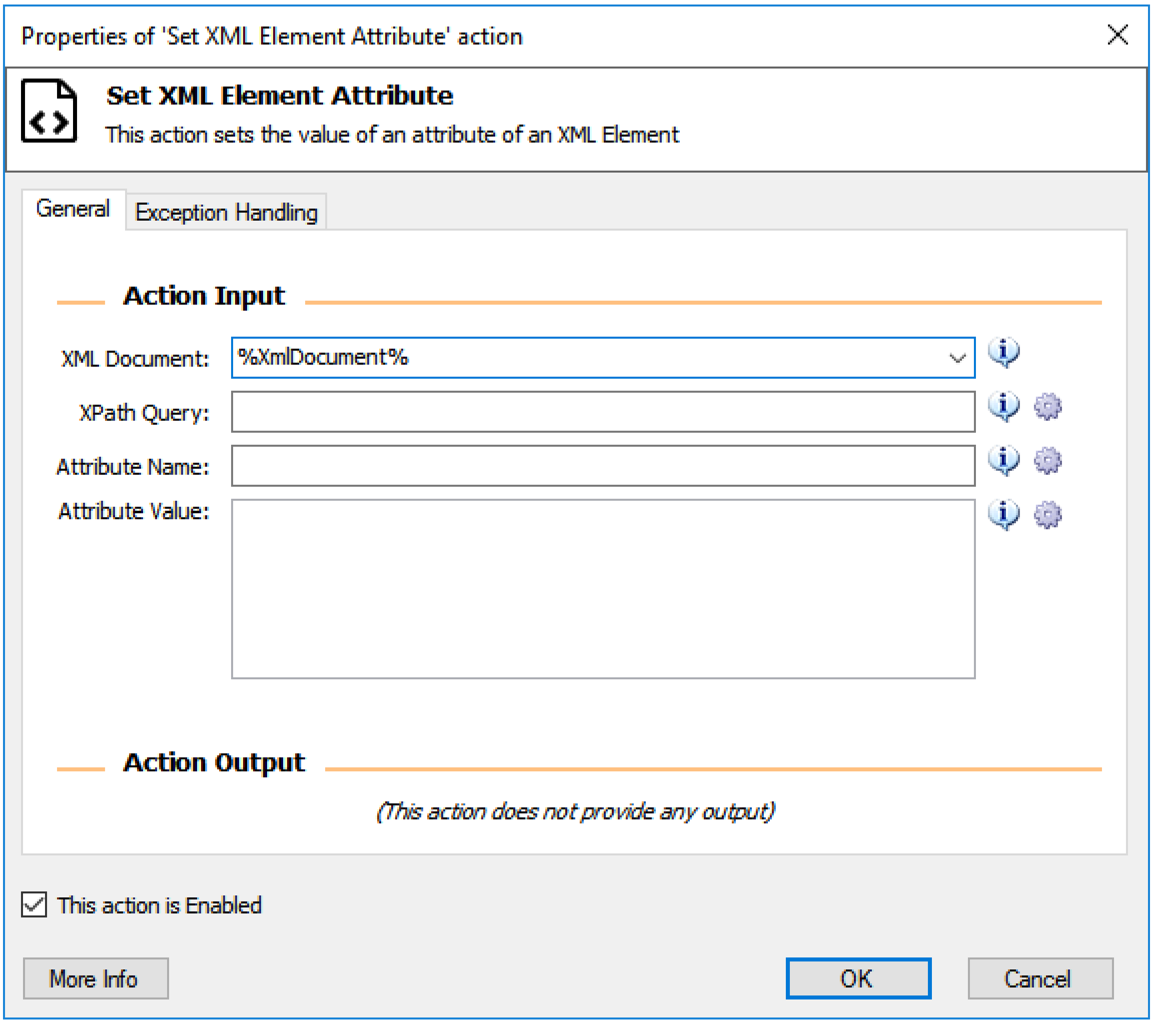
Enter the name of the variable that will store the retrieved value of the XML Attribute. The type of the variable will depend on the selection of the "Get Value as" property.

5.26.5 Set XML Element Attribute Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action sets the value of an attribute of an XML Element.



Properties of 'Set XML Element Attribute' action

Set XML Element Attribute

This action sets the value of an attribute of an XML Element

XML Document: %XmlDocument%

XPath Query:

Attribute Name:

Attribute Value:

(This action does not provide any output)

☑ This action is Enabled

Properties:

Xml Document:

Enter the variable that contains the XML Document or XML Element whose attribute you want to set.

XPath Query:

Enter the XPath Expression to locate the sub-element whose attribute you want to set.

Attribute Name:

Enter the name of the attribute whose value you want to set.

Attribute Value:

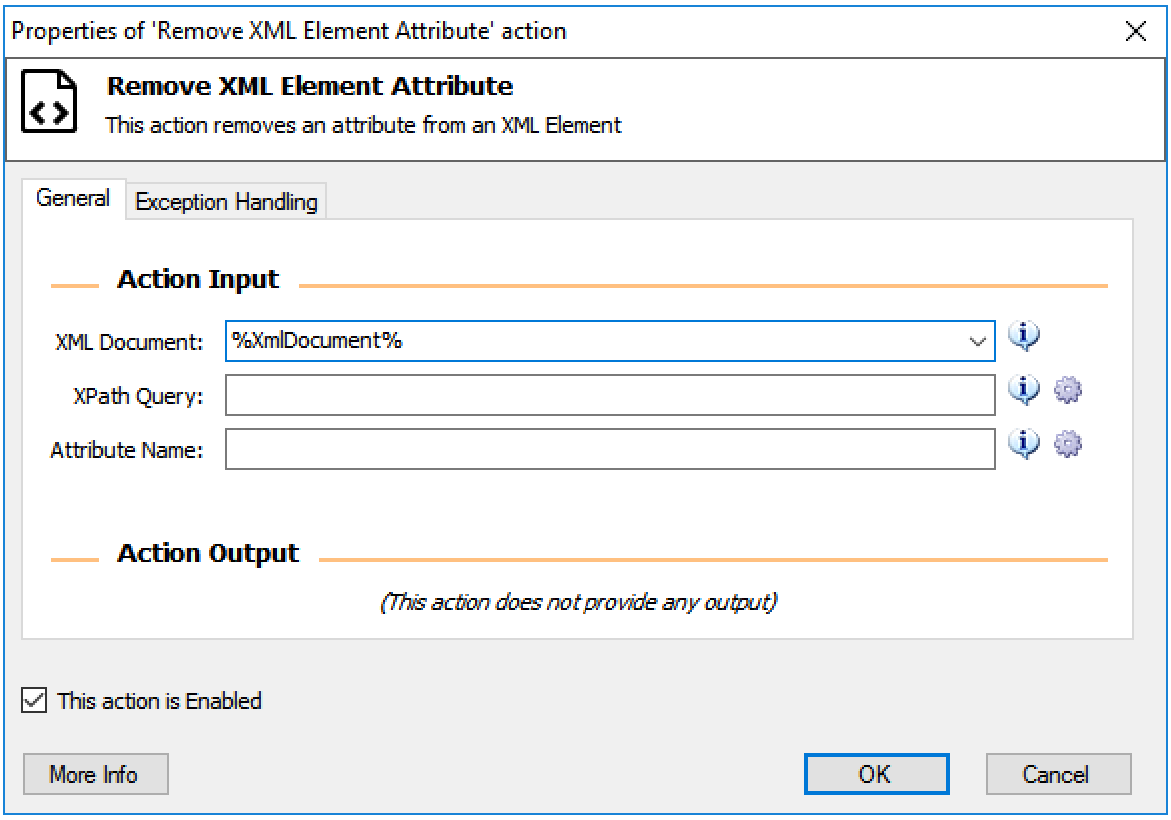
Enter the new value for the attribute.

5.26.6 Remove XML Element Attribute Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action removes an attribute from an XML Element.



Properties of 'Remove XML Element Attribute' action

Remove XML Element Attribute

This action removes an attribute from an XML Element

Action Input

XML Document: %XmlDocument%

XPath Query:

Attribute Name:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

XML Document:

Enter the variable that contains the XML Document or XML Element whose attribute you want to remove.

XPath Query:

Enter the XPath Expression to locate the sub-element whose attribute you want to remove.

Attribute Name:

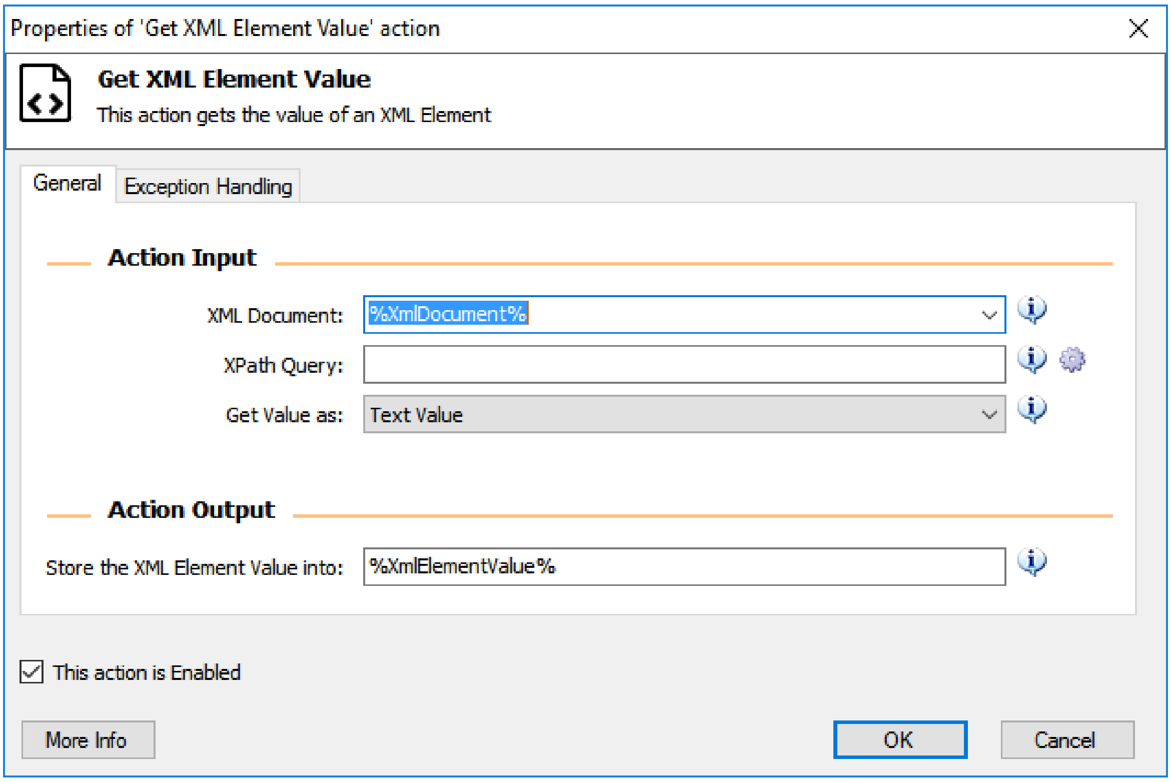
Enter the name of the attribute you want to remove.

5.26.7 Get XML Element Value Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action gets the value of an XML Element.



Properties of 'Get XML Element Value' action

Get XML Element Value

This action gets the value of an XML Element

Action Input

XML Document: %XmlDocument%

XPath Query:

Get Value as: Text Value

Action Output

Store the XML Element Value into: %XmlElementValue%

☑ This action is Enabled

Properties:

XML Document:

Enter the variable that contains the XML Document or XML Element whose value you want to retrieve.

XPath Query:

Enter the XPath Expression to locate the sub-element whose value you want to retrieve.

Get Value as:

Select the data type for the Element value

Store the XML Element Value into:

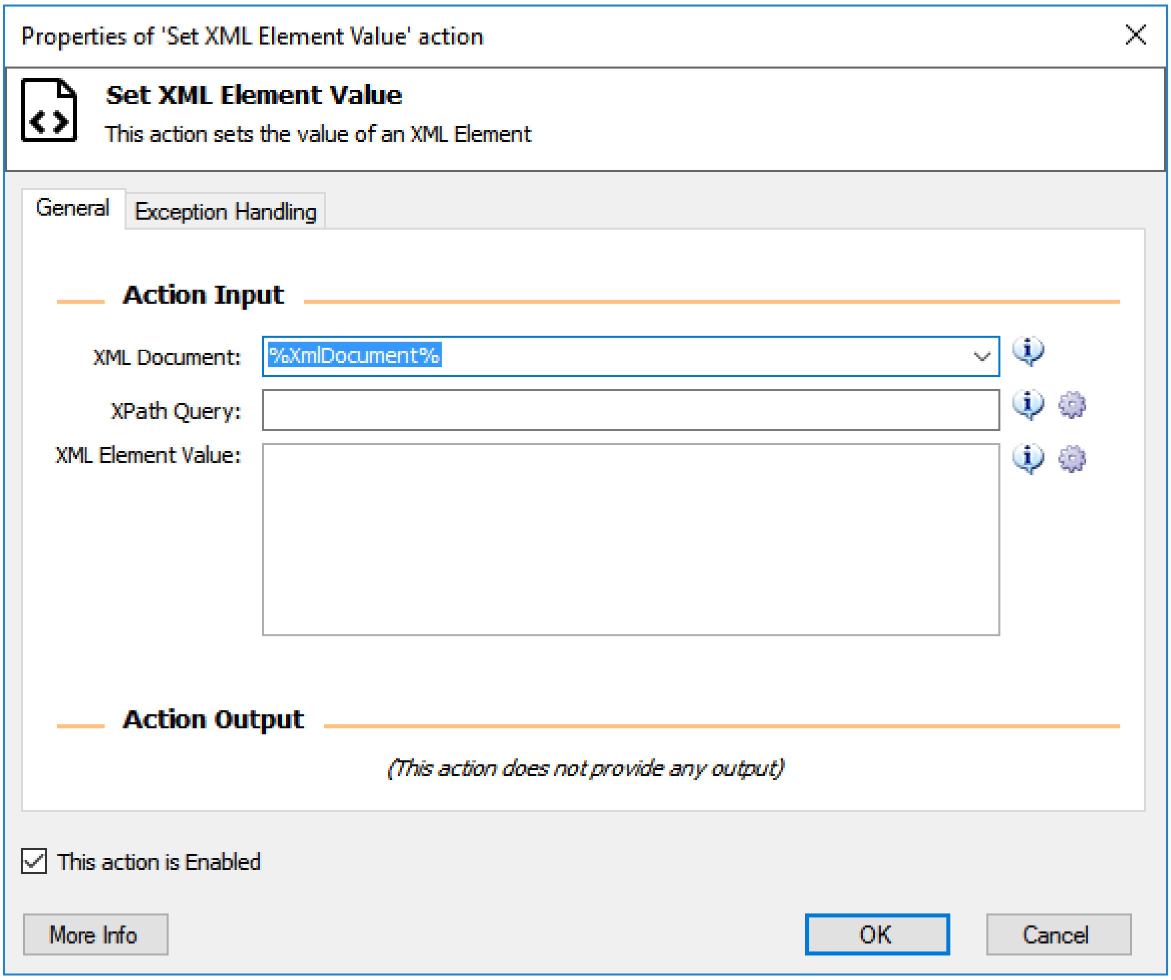
Enter the name of the variable that will store the retrieved value of the XML Element. The type of the variable will depend on the selection of the “Get Value as” property.

5.26.8 Set XML Element Value Action

***(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition)*.**

Description:

This action sets the value of an XML Element.



Properties of 'Set XML Element Value' action

Set XML Element Value

This action sets the value of an XML Element

General | Exception Handling

Action Input

XML Document: %XmlDocument%

XPath Query:

XML Element Value:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

XML Document:

Enter the variable that contains the XML Document or XML Element whose value you want to retrieve.

XPath Query:

Enter the XPath Expression to locate the sub-element whose value you want to retrieve.

XML Element Value:

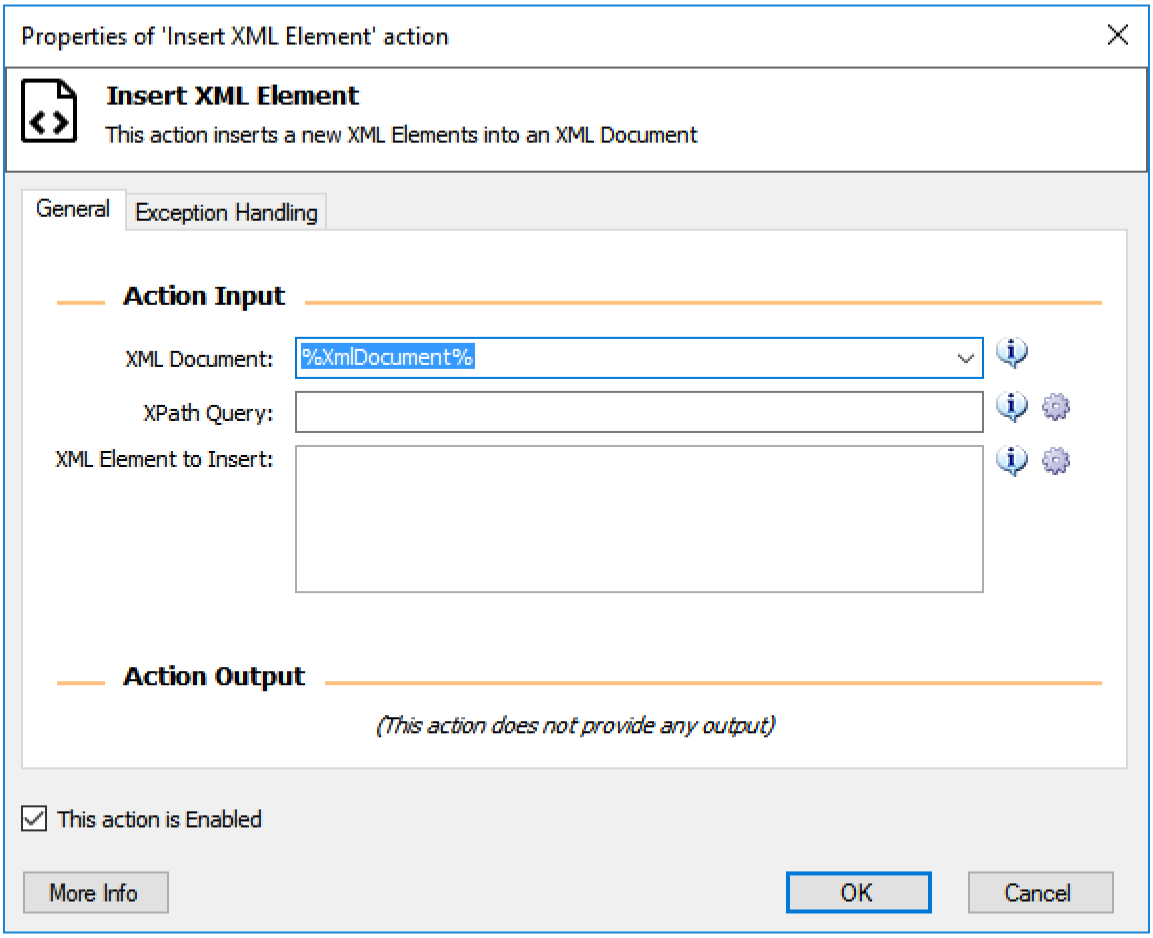
Enter the Value for the XML Element

5.26.9 Insert XML Element Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action inserts a new XML Element into an XML document



Properties of 'Insert XML Element' action

Insert XML Element

This action inserts a new XML Elements into an XML Document

Action Input

XML Document: %XmlDocument%

XPath Query:

XML Element to Insert:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

XML Document:

Enter the XML Document where you want to insert the new XML Element.

XPath Query:

Enter the XPath Expression to locate the parent XML element into which the new element will be inserted.

XML Element to Insert:

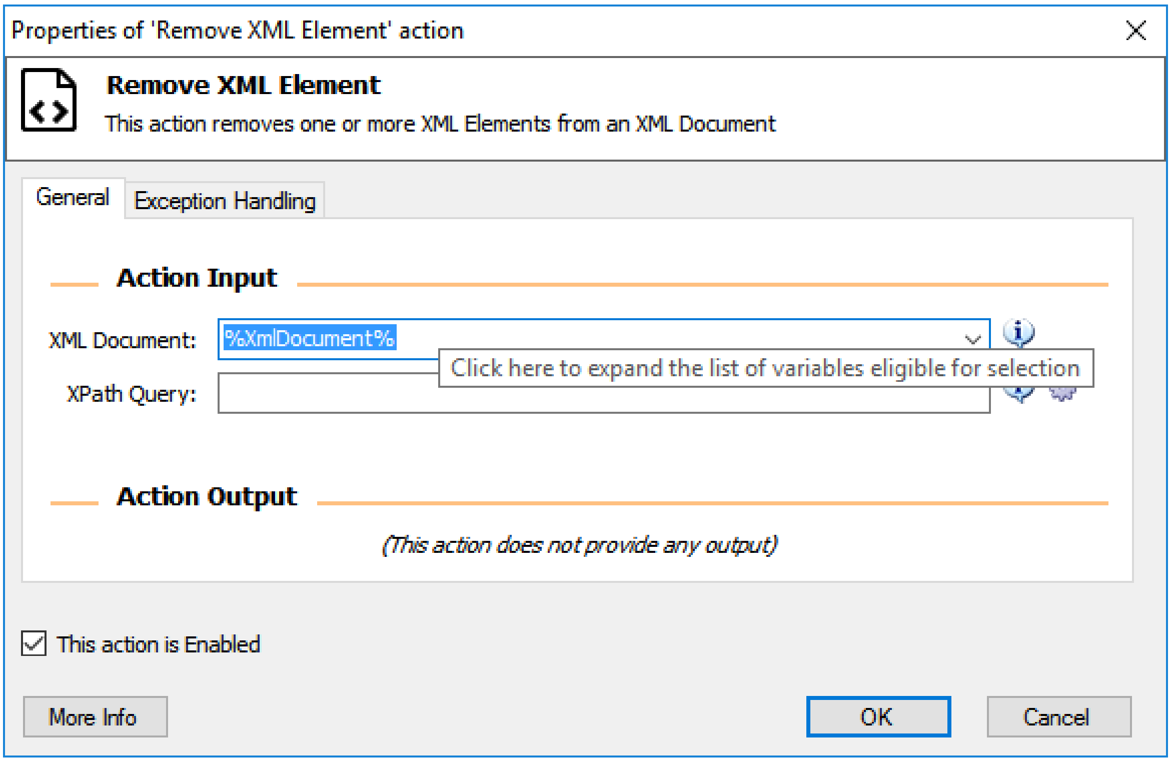
Enter the new XML element you want to insert into the XML document.

5.26.10 Remove XML Element Action

(Available with the Professional and Professional Plus Editions. N/A to the Basic Edition).

Description:

This action removes one or more XML Elements from an XML Document.



Properties of 'Remove XML Element' action

Remove XML Element

This action removes one or more XML Elements from an XML Document

XML Document: %XmlDocument%

Click here to expand the list of variables eligible for selection

XPath Query:

(This action does not provide any output)

☑ This action is Enabled

Properties:

XML Document:

Enter the XML Document that contains the XML element(s) you want to remove.

XPath Query:

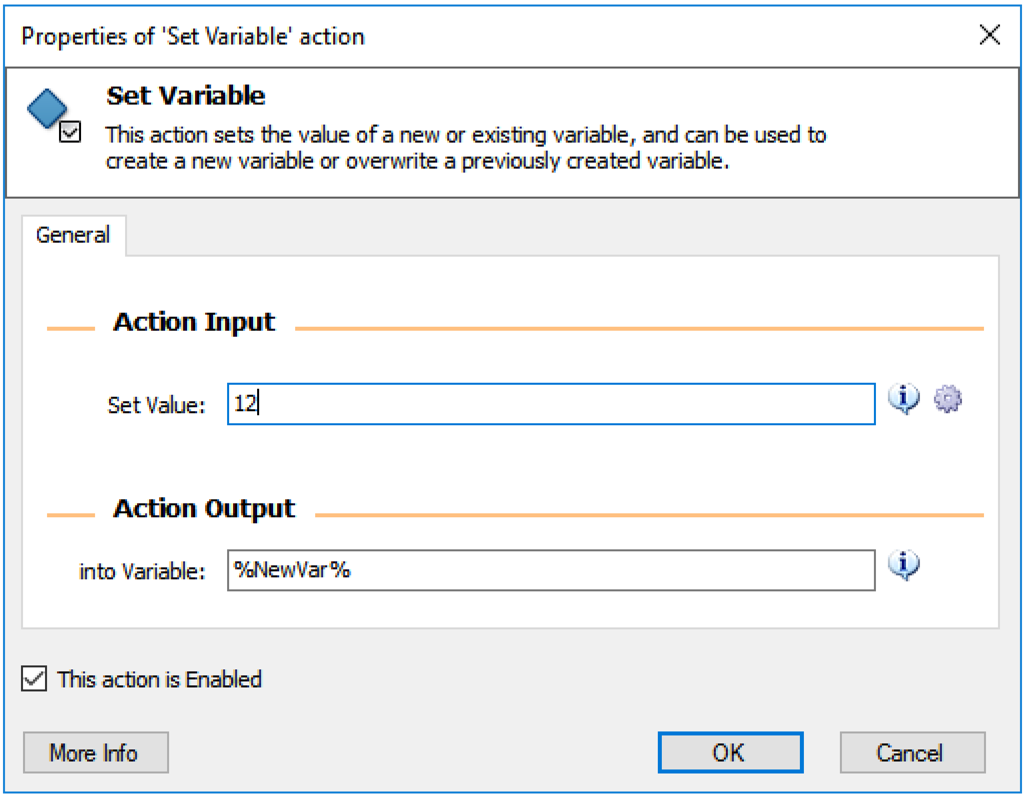
Enter the XPath expression to locate the element(s) you want to remove.

5.27 Variables Actions

5.27.1 Set Variable Action

Description:

This action sets the value of a new or existing variable, and can be used to create a new variable or overwrite a previously created variable.



Properties of 'Set Variable' action

Set Variable

This action sets the value of a new or existing variable, and can be used to create a new variable or overwrite a previously created variable.

General

Action Input

Set Value: 12

Action Output

into Variable: %NewVar%

☑ This action is Enabled

Properties:

Set Value:

Enter a value or expression, or a previously stored variable, to be the value of this variable.

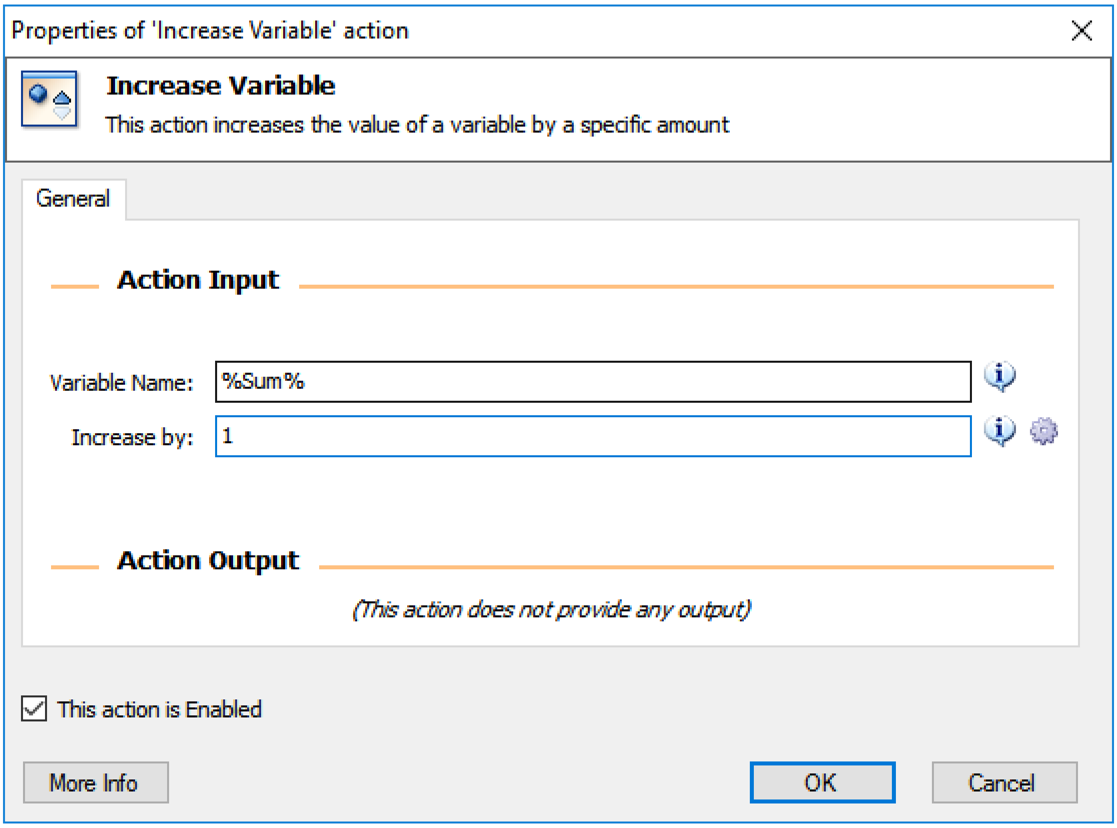
into Variable:

Enter a name to be the variable that will hold the value you set. This can be a new or existing variable.

5.27.2 Increase Variable Action

Description:

This action increases the value of a variable by a specific amount



Properties of 'Increase Variable' action

Increase Variable

This action increases the value of a variable by a specific amount

General

Action Input

Variable Name: %Sum%

Increase by: 1

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Variable Name:

Enter the name of the numeric variable you wish to increase.

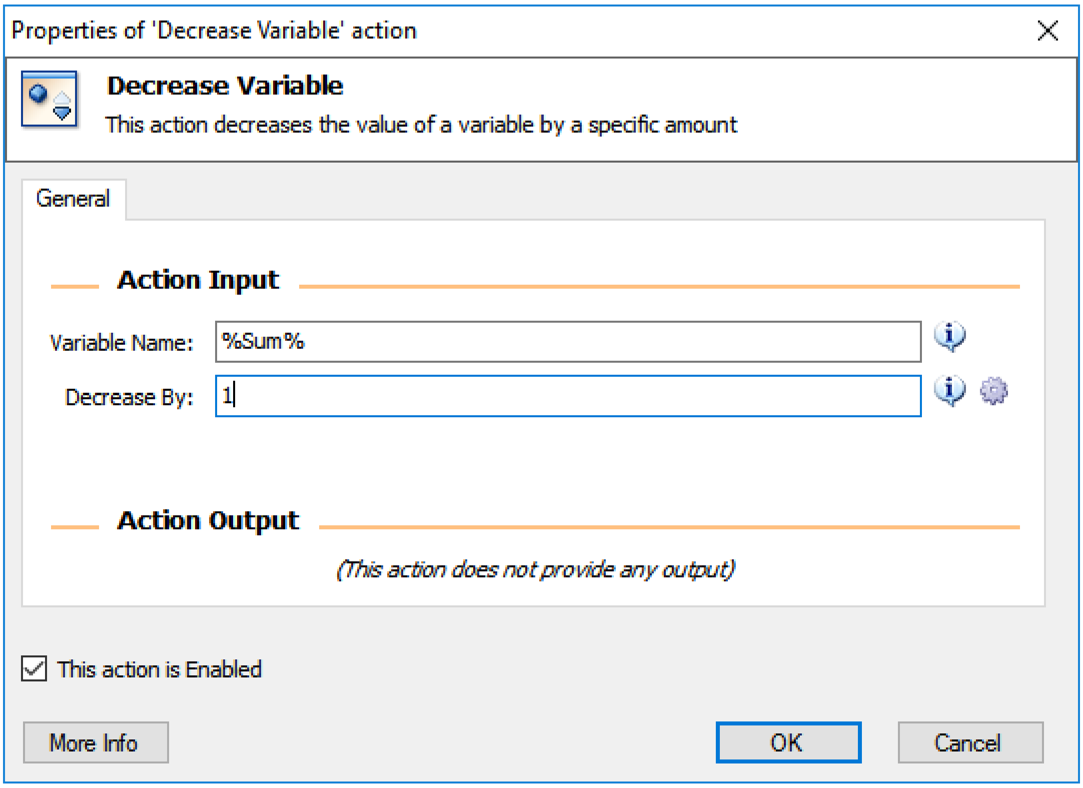
Increase by:

Enter a numeric value, or a previously stored numeric variable, to increase the variable by.

5.27.3 Decrease Variable Action

Description:

This action decreases the value of a variable by a specific amount



Properties of 'Decrease Variable' action

Decrease Variable

This action decreases the value of a variable by a specific amount

Variable Name: %Sum%

Decrease By: 1

(This action does not provide any output)

☑ This action is Enabled

Properties:

Variable Name:

Enter the name of the numeric variable you wish to decrease.

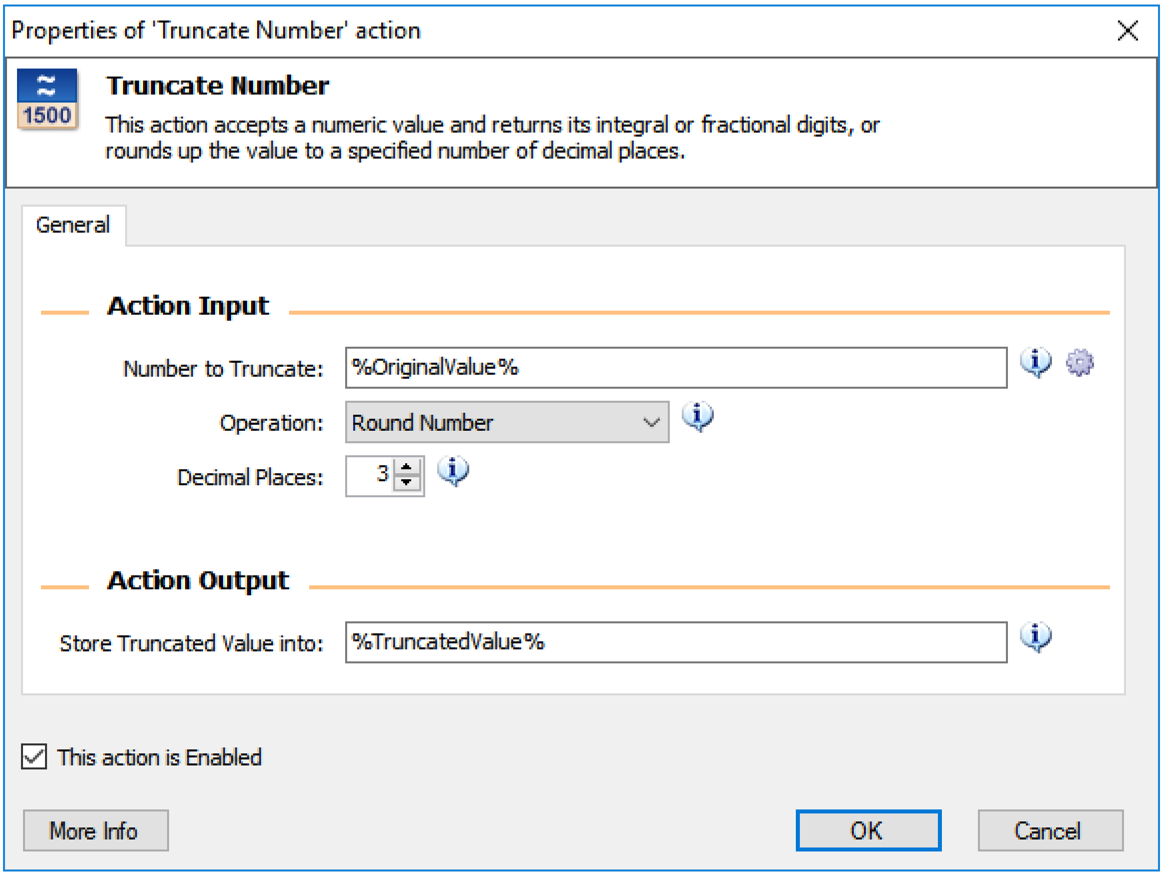
Decrease By:

Enter a numeric value, or a previously stored numeric variable, to decrease the variable by.

5.27.4 Truncate Number Action

Description:

This action accepts a numeric value and returns its integral or fractional digits, or rounds up the value to a specified number of decimal places.



Properties of 'Truncate Number' action

Truncate Number

This action accepts a numeric value and returns its integral or fractional digits, or rounds up the value to a specified number of decimal places.

General

Action Input

Number to Truncate: %OriginalValue%

Operation: Round Number

Decimal Places: 3

Action Output

Store Truncated Value into: %TruncatedValue%

☑ This action is Enabled

Properties:

Number to Truncate:

Enter the number or the name of the variable that holds the numeric value you want to truncate/round up.

Operation:

Select the operation you want to perform on the given number.

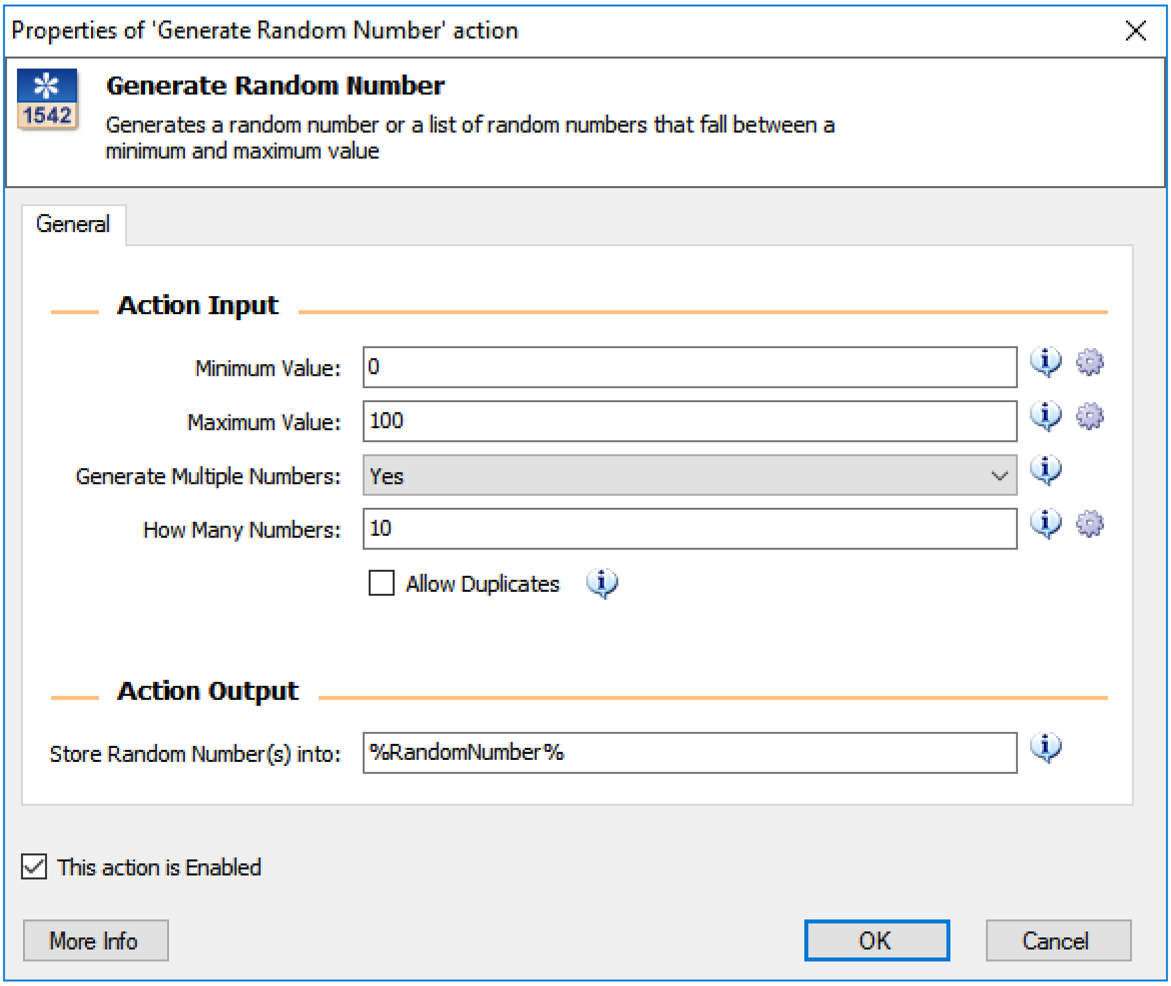
Decimal Places:

Specify the number of decimal places you want to round the given number up. Enter 0, do you want the result to be an integer.

5.27.5 Generate Random Number Action

Description:

Generates a random number or a list of random numbers that fall between a minimum and maximum value



Properties of 'Generate Random Number' action

Generate Random Number

Generates a random number or a list of random numbers that fall between a minimum and maximum value

Action Input

Minimum Value: 0

Maximum Value: 100

Generate Multiple Numbers: Yes

How Many Numbers: 10

□ Allow Duplicates

Action Output

Store Random Number(s) into: %RandomNumber%

☑ This action is Enabled

Properties:

Minimum Value:

Enter a numeric value, or a previously stored numeric variable, to specify a lower boundary for the random number(s) to generate.

Maximum Value:

Enter a numeric value, or a previously stored numeric variable, to specify an upper boundary for the random number(s) to generate.

Generate Multiple Numbers:

Specify whether you want to generate a single random number or a list of random numbers.

How Many Numbers:

Enter a numeric value, or a previously stored numeric variable, to specify how many random numbers to generate.

Allow Duplicates:

Specify whether to permit or prevent the same number from appearing more than once in the random numbers list.

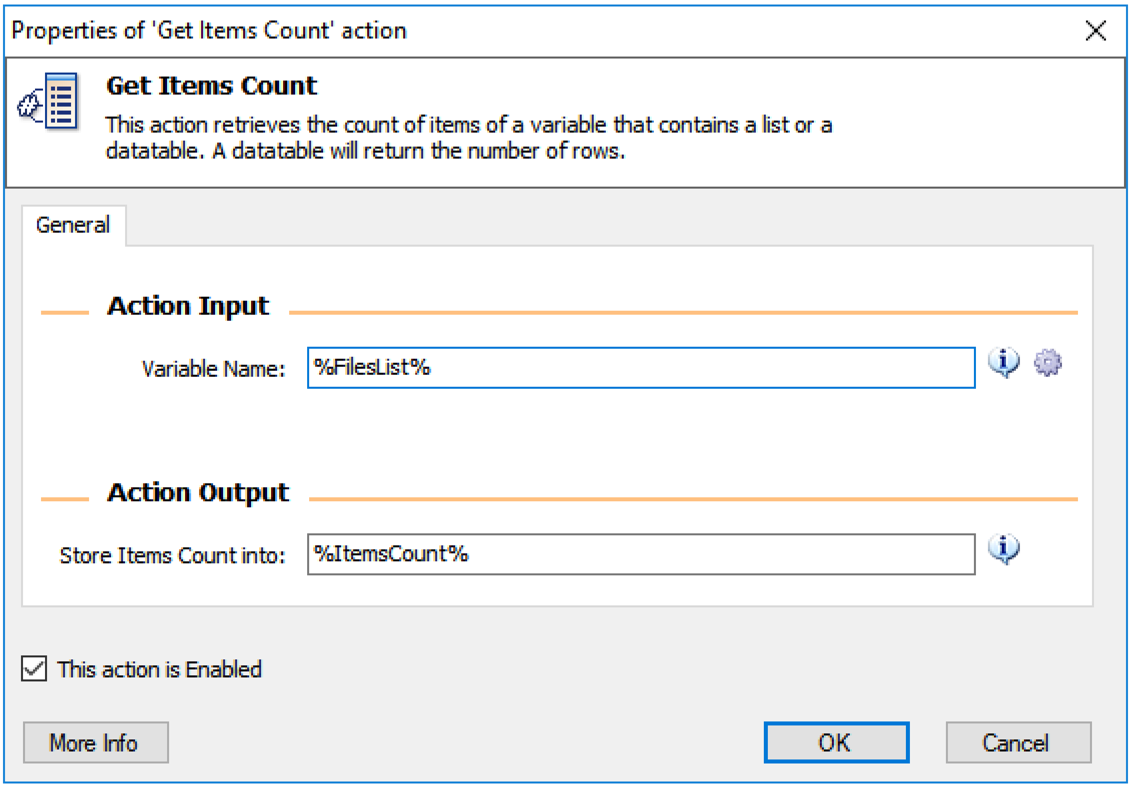
Store Random Number(s) into:

Enter a name to be the variable that will store the newly generated random number(s). The variable will hold a numeric value or a list of numeric values, depending on your choice in 'Generate Multiple Numbers'

5.27.6 Get Items Count Action

Description:

This action retrieves the count of items of a variable that contains a list or a datatable. A datatable will return the number of rows.



Properties of 'Get Items Count' action

Get Items Count

This action retrieves the count of items of a variable that contains a list or a datatable. A datatable will return the number of rows.

General

Action Input

Variable Name: %FilesList%

Action Output

Store Items Count into: %ItemsCount%

☑ This action is Enabled

Properties:

Variable Name:

Enter the name of the list or datatable variable to be counted.

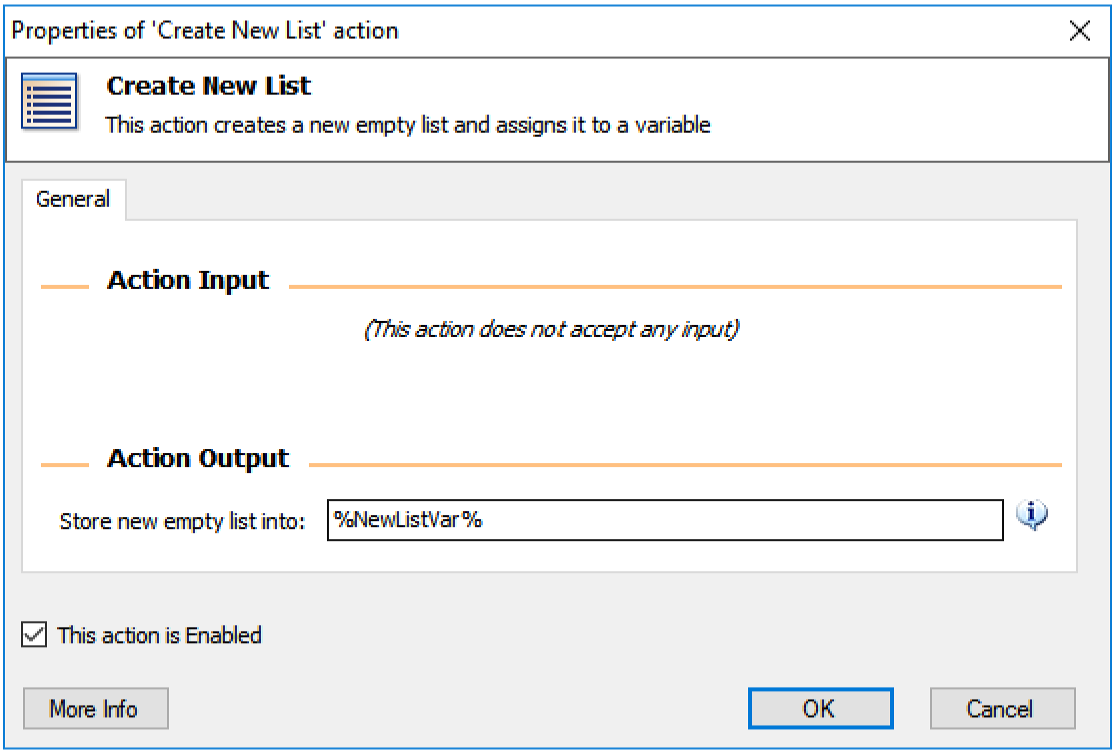
Store Items Count into:

Enter a name to be the variable that will hold the count of items on the list or the number of rows in the datatable.

5.27.7 Create New List Action

Description:

This action creates a new empty list and assigns it to a variable



Properties of 'Create New List' action

Create New List

This action creates a new empty list and assigns it to a variable

General

Action Input

(This action does not accept any input)

Action Output

Store new empty list into: %NewListVar%

☑ This action is Enabled

Properties:

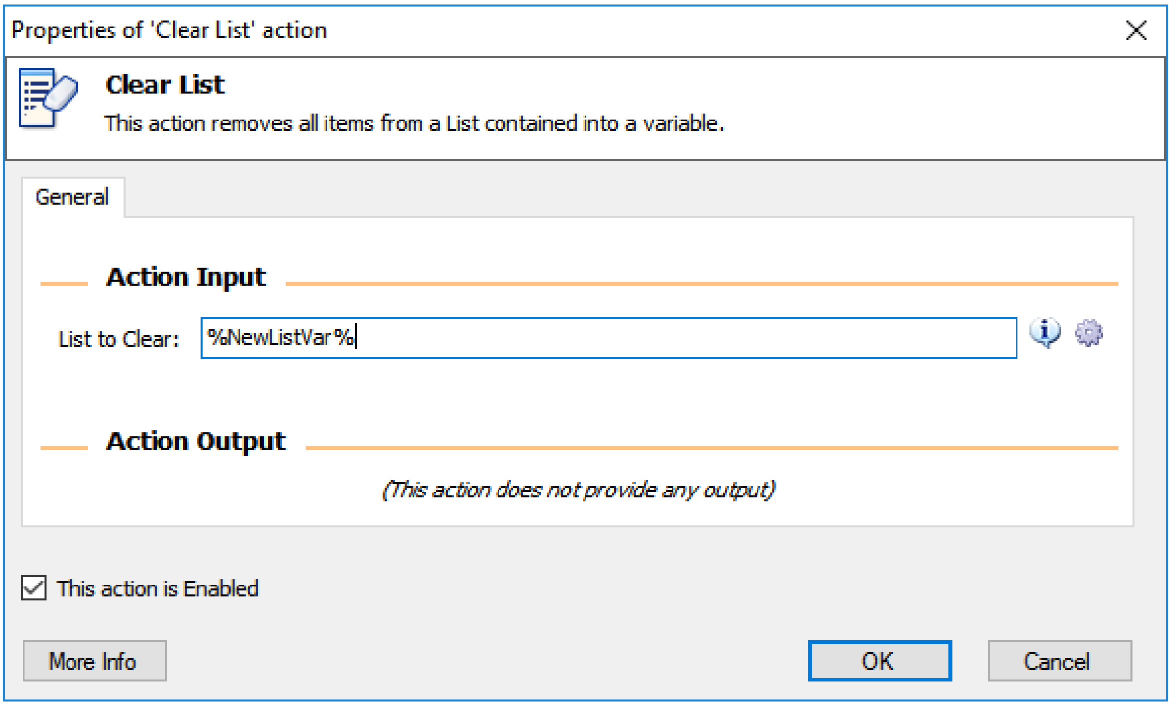
Store new empty list into:

Enter a name to be the variable that will hold the list.

5.27.8 Clear List Action

Description:

This action removes all items from a List contained into a variable.



Clear List

This action removes all items from a List contained into a variable.

Action Input

List to Clear: %NewListVar%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

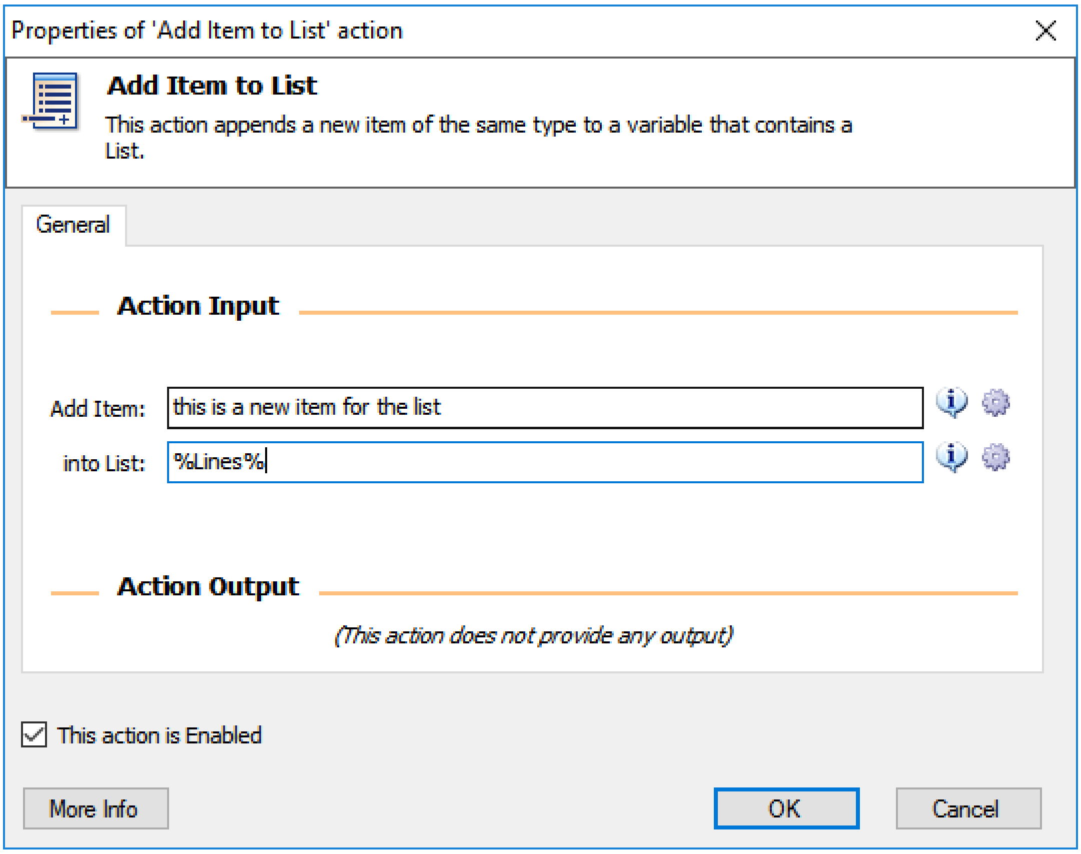
List to Clear:

Enter the name of a variable that contains the list you wish to remove its items.

5.27.9 Add Item to List Action

Description:

This action appends a new item of the same type to a variable that contains a List.



Properties of 'Add Item to List' action

Add Item to List

This action appends a new item of the same type to a variable that contains a List.

General

Action Input

Add Item: this is a new item for the list

into List: %Lines%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Add Item:

Enter a value, or the name of a variable, to be added. The new value must be a single value and not a list of values. If the list you are adding to has a specific type of elements, say all numeric or all file information, the new value must be of the same type.

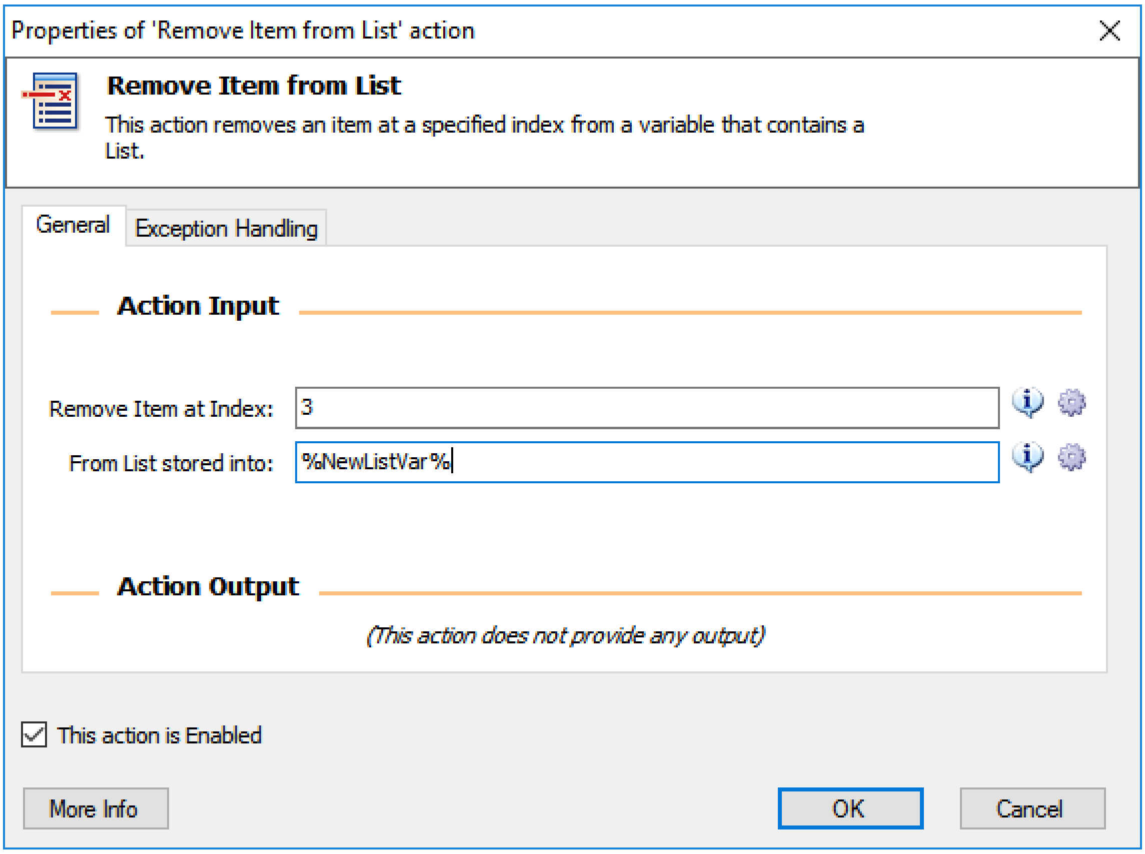
into List:

Enter the name of a variable that contains a list you wish to add to.

5.27.10 Remove Item from List Action

Description:

This action removes an item at a specified index from a variable that contains a List.



Properties of 'Remove Item from List' action

Remove Item from List

This action removes an item at a specified index from a variable that contains a List.

Action Input

Remove Item at Index: 3

From List stored into: %NewListVar%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Remove Item at Index:

Enter the index number of the item you wish to remove. This action will shorten the list by that item.

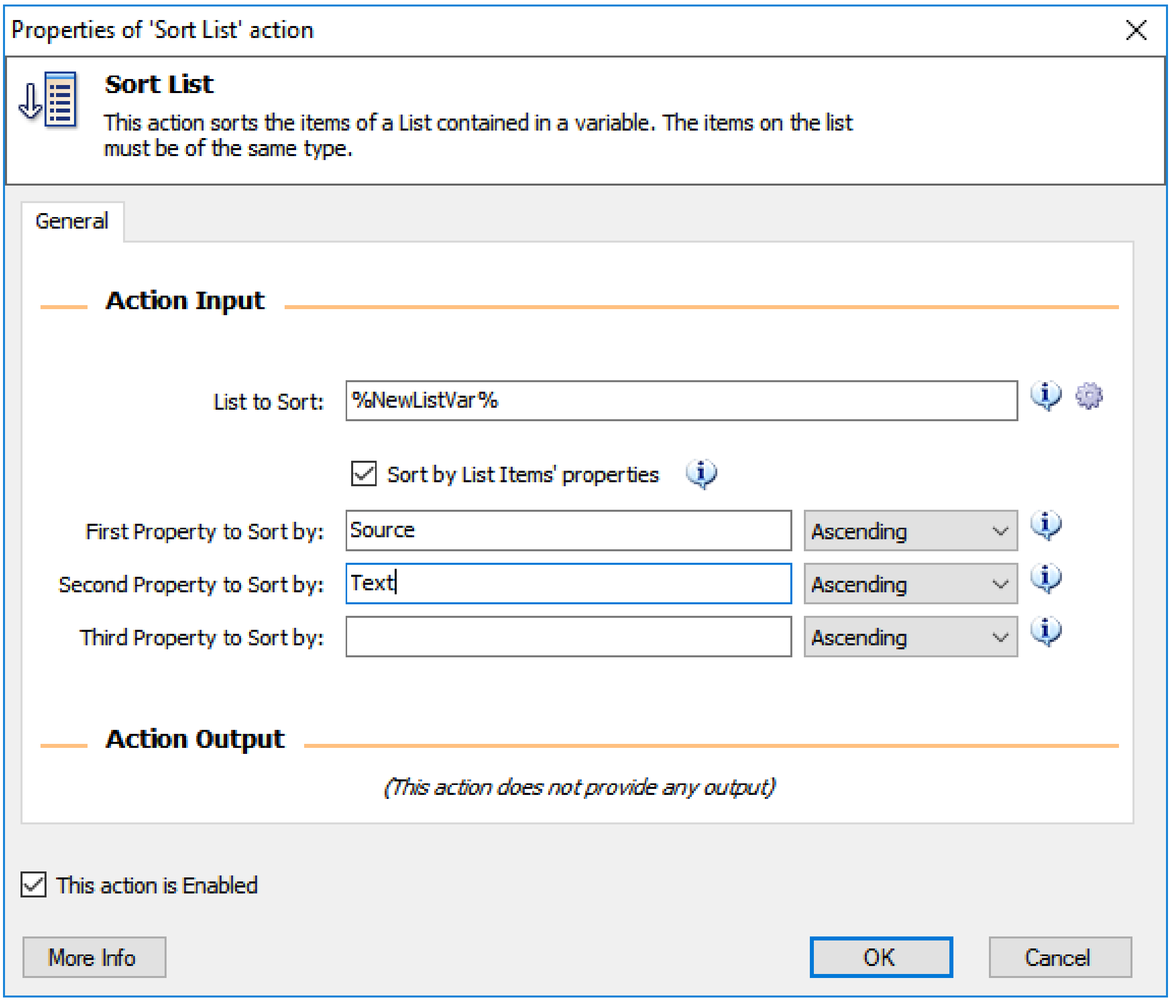
From List stored into:

Enter the name of a variable that contains a list you wish to remove the item from.

5.27.11 Sort List Action

Description:

This action sorts the items of a List contained in a variable. The items on the list must be of the same type.



Properties of 'Sort List' action

Sort List

This action sorts the items of a List contained in a variable. The items on the list must be of the same type.

General

Action Input

List to Sort: %NewListVar%

☑ Sort by List Items' properties

First Property to Sort by: Source — Ascending

Second Property to Sort by: Text — Ascending

Third Property to Sort by: — Ascending

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

List to Sort:

Enter the name of a variable that contains a list you wish to sort.

Sort by list items' properties:

If your list items are objects (such are files, folders, etc) you can choose here to sort the item by a specific property. If you leave this unchecked the items of the list will be sorted by their default property (e.g. file objects will be sorted by their full path).

So, for example, if you have a list of files, using this option you can sort them, say, by extension and then by size. If you don't use the option, the files will be sorted by their full path.

First Property to Sort by:

Enter the name of a property of the items contained in the list that you want to sort by. You can find the properties for some of the data types supported by WinAutomation here 290. For data types defined in Addons, please refer to the corresponding Addon documentation.

Second Property to Sort by:

Optional: Enter the name of a second property to sort by.

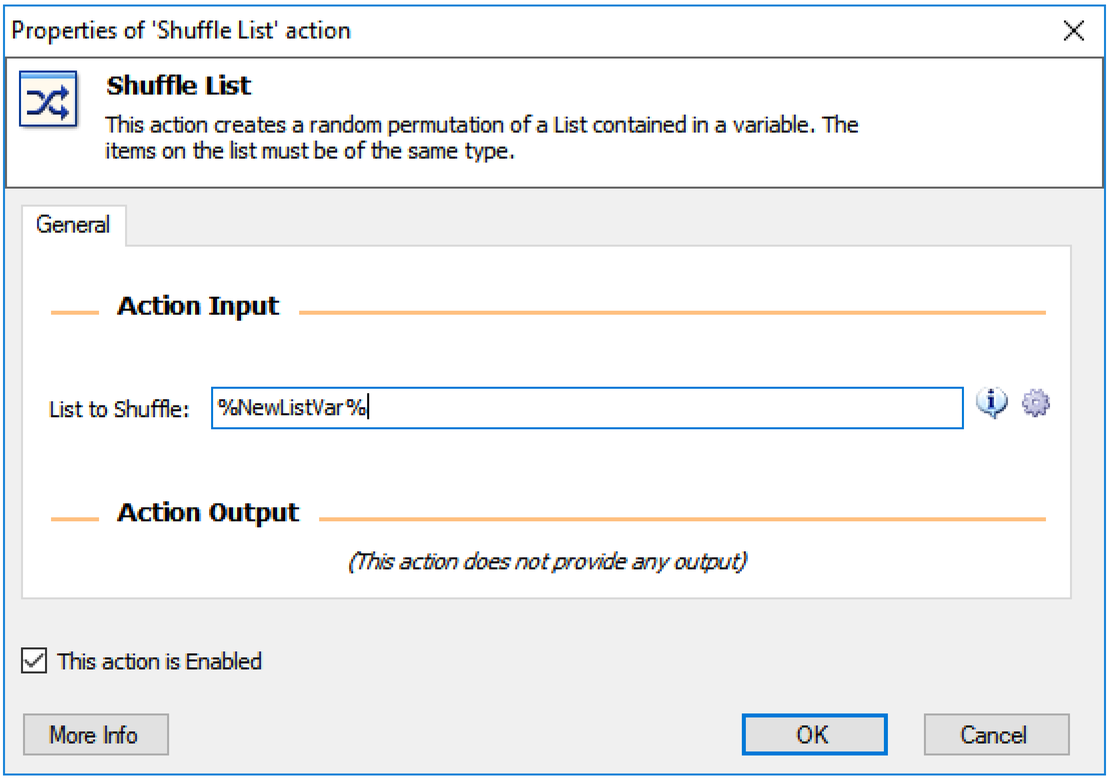
Third Property to Sort by:

Optional: Enter the name of a second property to sort by.

5.27.12 Shuffle List Action

Description:

This action creates a random permutation of a List contained in a variable. The items on the list must be of the same type.



Properties of 'Shuffle List' action

Shuffle List

This action creates a random permutation of a List contained in a variable. The items on the list must be of the same type.

General

Action Input

List to Shuffle: %NewListVar%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

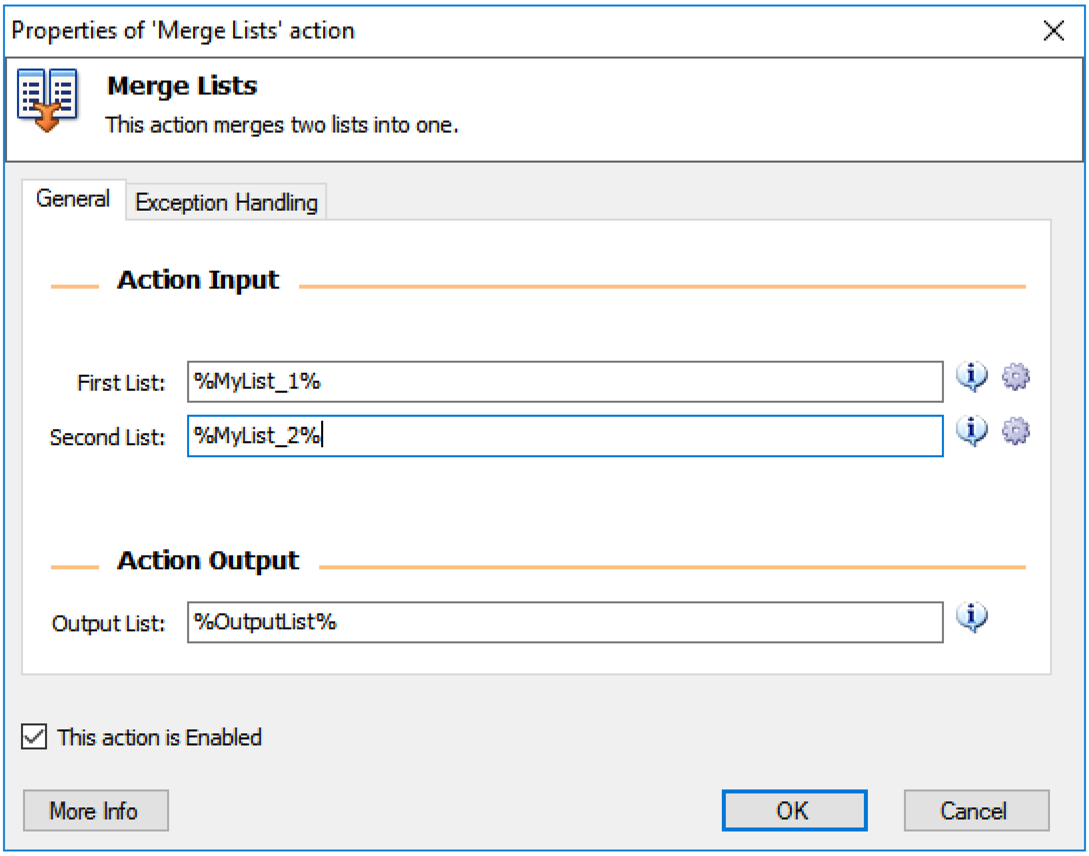
List to Shuffle:

Enter the name of a variable that contains a list you wish to shuffle.

5.27.13 Merge Lists

Description:

This action merges two lists into one.



Properties of 'Merge Lists' action

Merge Lists

This action merges two lists into one.

Action Input

First List: %MyList_1%

Second List: %MyList_2%

Action Output

Output List: %OutputList%

☑ This action is Enabled

Properties:

Fisrt List:

Enter the name of a variable that is the first list of items to be merged.

Second List:

Enter the name of a variable that is the second list of items to be merged.

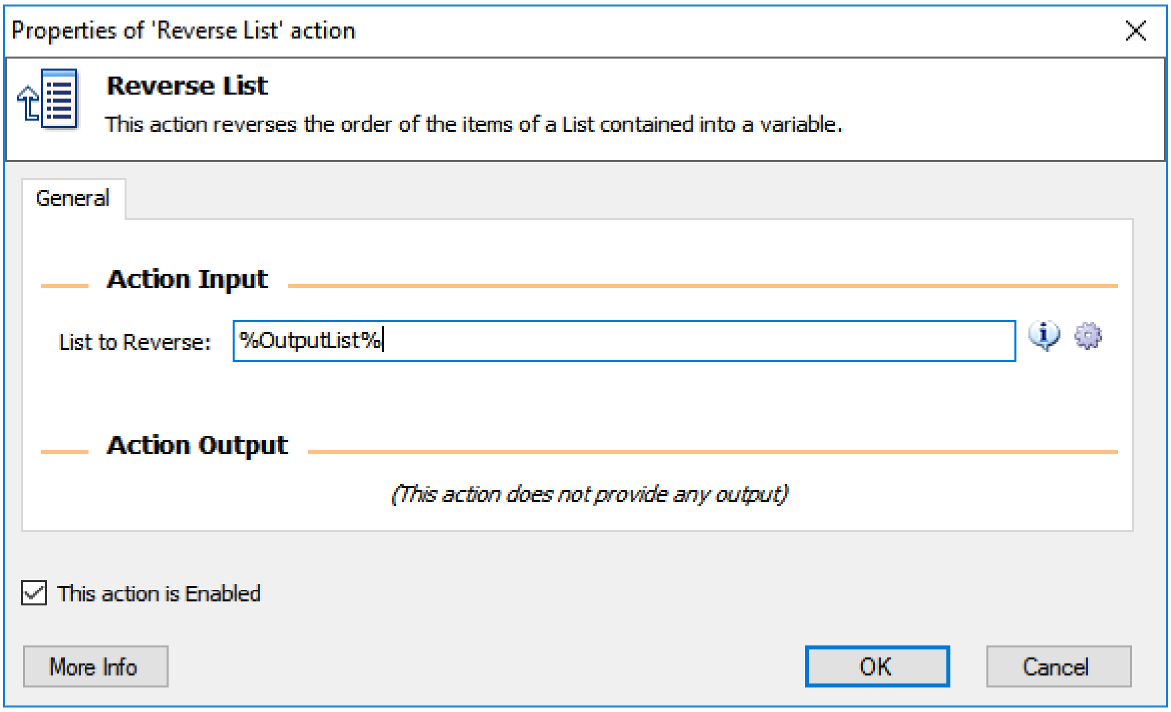
Output List:

Enter the name of the variable that will contain the merged list. The initial lists will not be affected.

5.27.14 Reverse List Action

Description:

This action reverses the order of the items of a List contained into a variable.



Properties of 'Reverse List' action

Reverse List

This action reverses the order of the items of a List contained into a variable.

Action Input

List to Reverse: %OutputList%

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

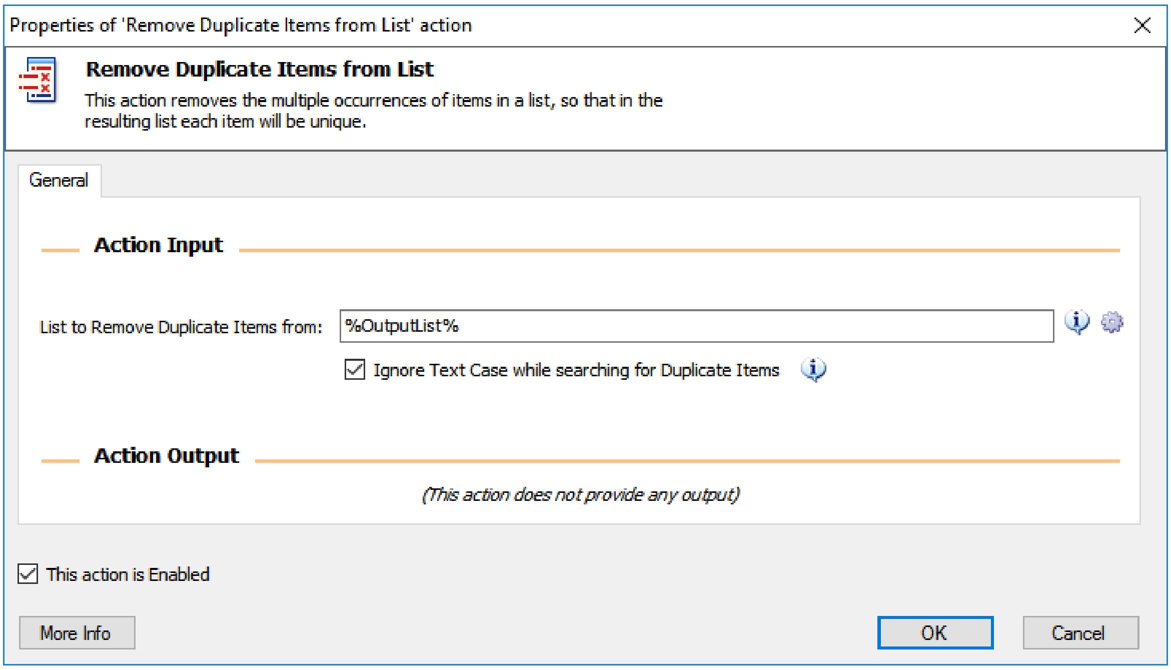
List to Reverse:

Enter the name of the variable that contains the List, whose items order you want to reverse.

5.27.15 Remove Duplicate Items from List Action

Description:

This action removes the multiple occurrences of items in a list, so that in the resulting list each item will be unique.



Properties of 'Remove Duplicate Items from List' action

Remove Duplicate Items from List

This action removes the multiple occurrences of items in a list, so that in the resulting list each item will be unique.

General

Action Input

List to Remove Duplicate Items from: %OutputList%

☑ Ignore Text Case while searching for Duplicate Items

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

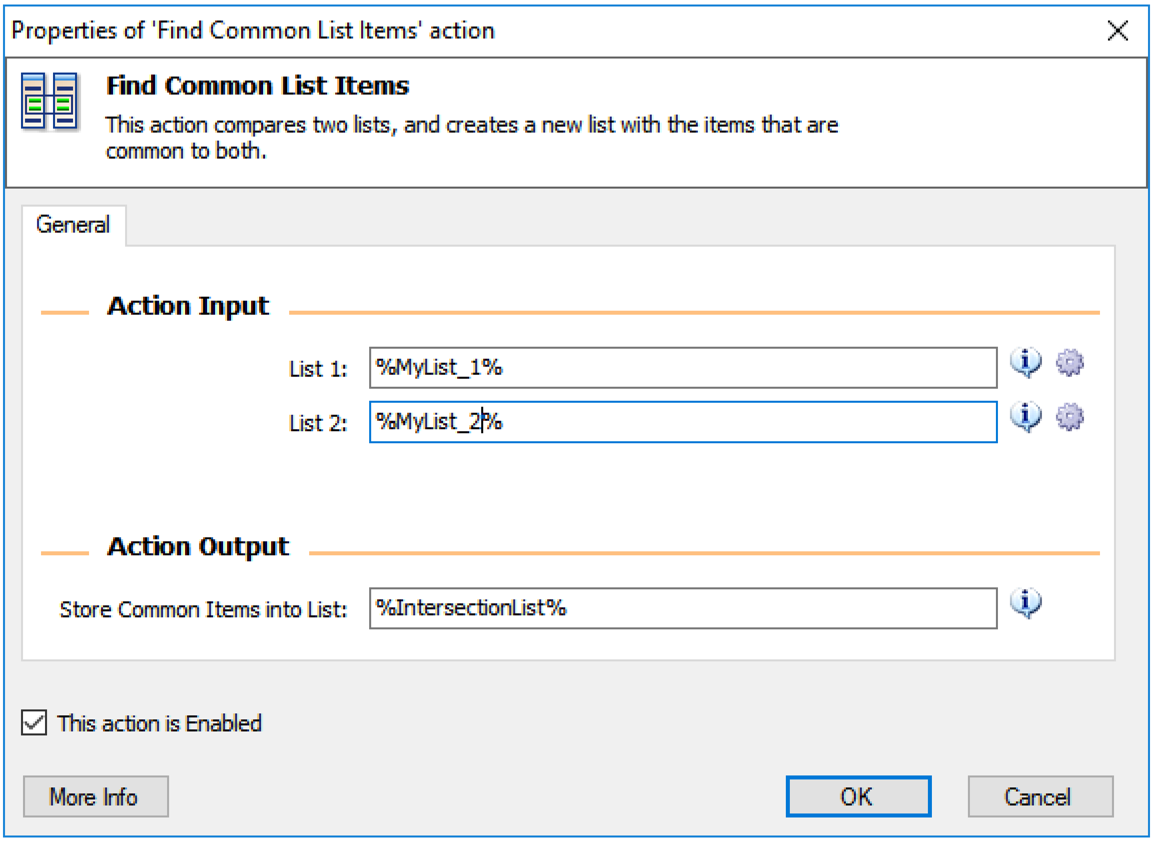
List to Remove Duplicate Items from:

Enter the name of a variable that contains a list you wish to remove duplicate items from.

5.27.16 Find Common List Items Action

Description:

This action compares two lists, and creates a new list with the items that are common to both.



Properties of 'Find Common List Items' action

Find Common List Items

This action compares two lists, and creates a new list with the items that are common to both.

Action Input

List 1: %MyList_1%

List 2: %MyList_2%

Action Output

Store Common Items into List: %IntersectionList%

☑ This action is Enabled

Properties:

List 1:

Enter the name of a variable containing a list, to be compared.

List 2:

Enter the name of a variable containing a different list, to be compared.

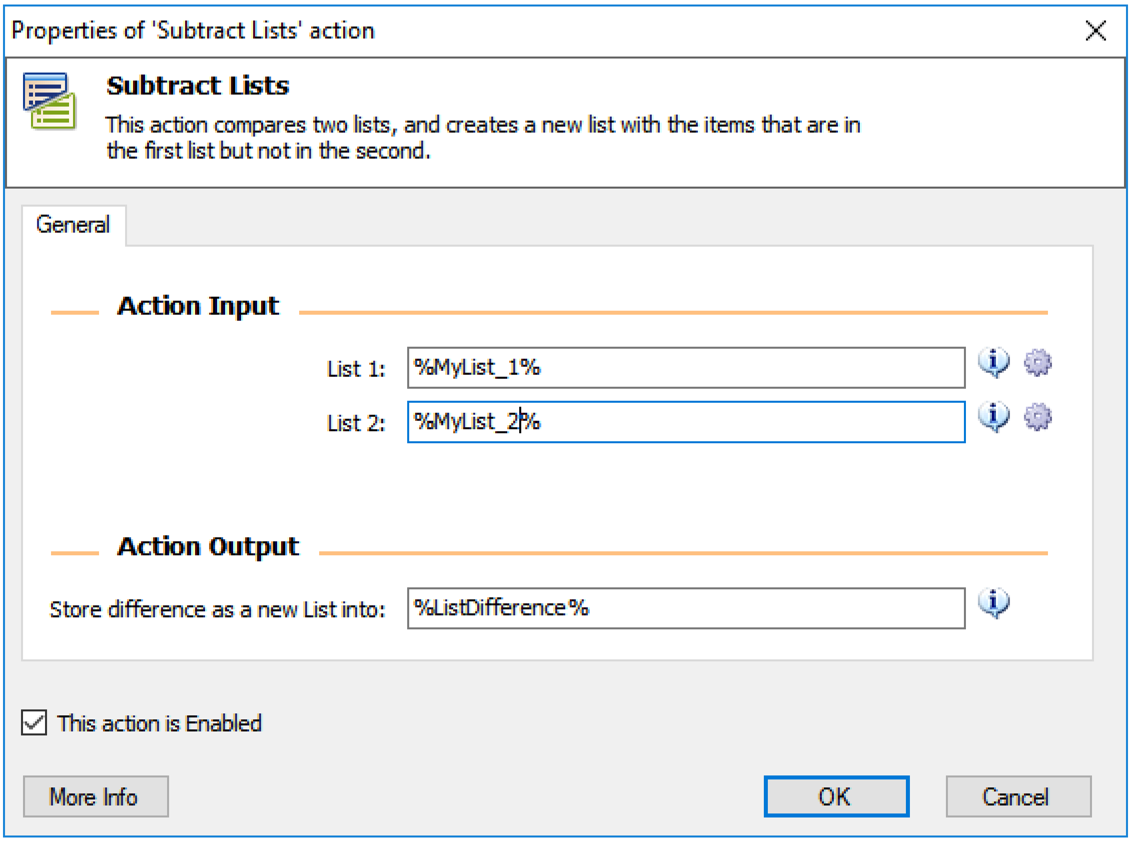
Store Common Items into List:

Enter a name to be the variable that will hold the new list of common items.

5.27.17 Subtract Lists Action

Description:

This action compares two lists, and creates a new list with the items that are in the first list but not in the second.



Properties of 'Subtract Lists' action

Subtract Lists

This action compares two lists, and creates a new list with the items that are in the first list but not in the second.

General

Action Input

List 1: %MyList_1%

List 2: %MyList_2%

Action Output

Store difference as a new List into: %ListDifference%

☑ This action is Enabled

Properties:

List 1:

Enter the name of a variable containing a list to be compared.

List 2:

Enter the name of a variable containing a different list to be subtracted from the first list. Subtracted items will shorten the resultant list. If two identical lists are compared, the result will be an empty list.

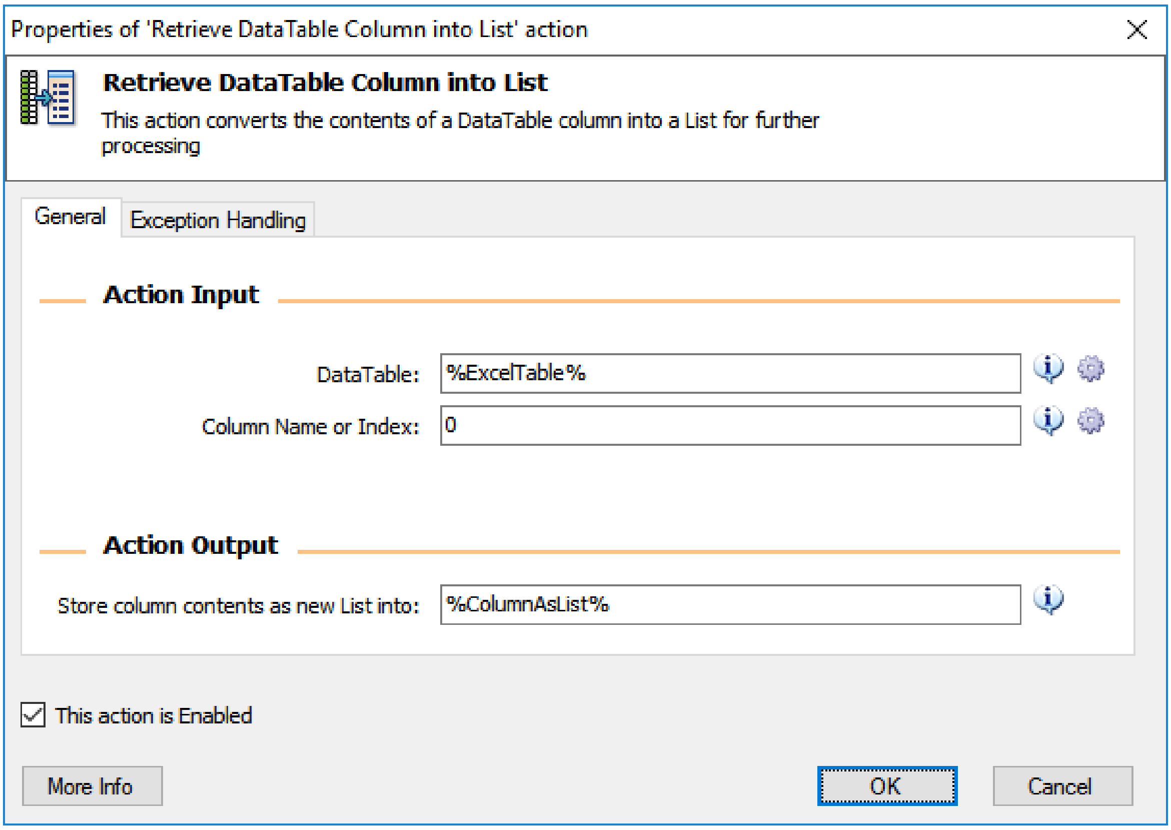
Store difference as new List into:

Enter a name to be the variable that will hold the new, resulting list.

5.27.18 Retrieve DataTable Column into List Action

Description:

This action converts the contents of a DataTable column into a List for further processing



Properties of 'Retrieve DataTable Column into List' action

Retrieve DataTable Column into List

This action converts the contents of a DataTable column into a List for further processing

Action Input

DataTable: %ExcelTable%

Column Name or Index: 0

Action Output

Store column contents as new List into: %ColumnAsList%

☑ This action is Enabled

Properties:

DataTable:

Enter the name of a variable containing a data table.

Column Name or Index:

Enter the column name, if you have defined column names, or the index number of the column you wish to retrieve. Note that the index is 0 based.

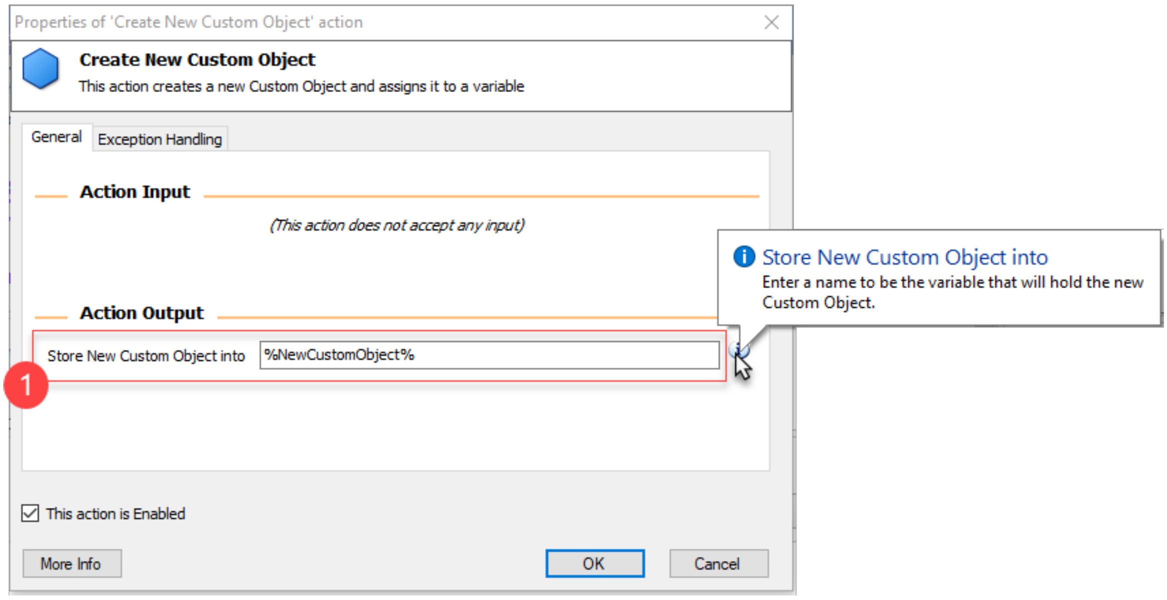
Store column contents as new list into:

Enter a name to be the variable that will hold the new list. This list will hold the contents of the specified data table.

5.27.19 Create New Custom Object

Description:

This action creates a new Custom Object 299 and stores it [1] into a variable for later use:



Properties of 'Create New Custom Object' action

Create New Custom Object

This action creates a new Custom Object and assigns it to a variable

Action Input

(This action does not accept any input)

Action Output

Store New Custom Object into: %NewCustomObject%

Store New Custom Object into

Enter a name to be the variable that will hold the new Custom Object.

☑ This action is Enabled

Properties:

This action does not accept any input.

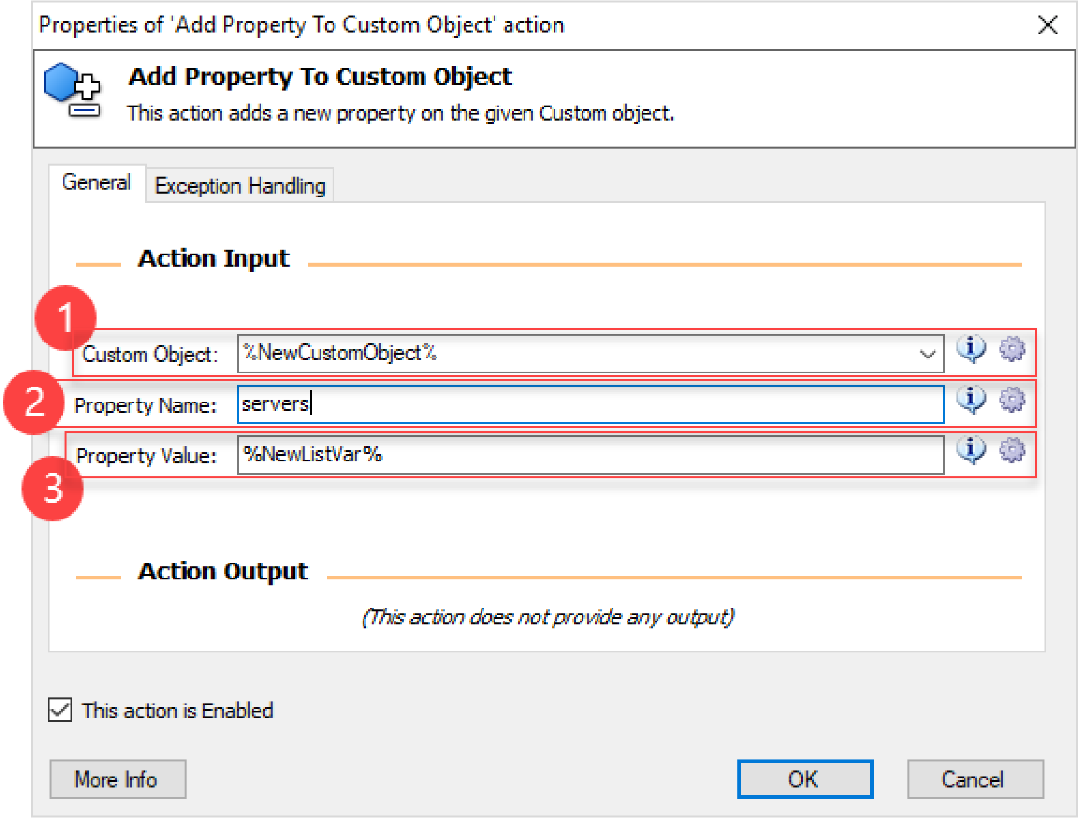
1. Store New Custom Object into:

This text field invites you to type the variable you wish to hold the new Custom Object 299.

5.27.20 Add Property To Custom Object

Description:

This action allows you to add *pairs* of custom object Property Names [2] and Property Values [3] to an existing Custom Object 299. What is noteworthy is that the format of the action allows you to work with a number of available custom objects through the drop down menu of the Custom Object [1] action property:



Properties of 'Add Property To Custom Object' action

Add Property To Custom Object

This action adds a new property on the given Custom object.

1 Custom Object: %NewCustomObject%

2 Property Name: servers

3 Property Value: %NewListVar%

(This action does not provide any output)

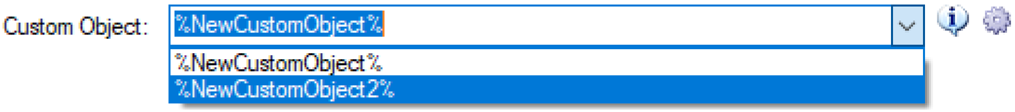
☑ This action is Enabled

This action does not provide any output.

Properties:

1. Custom Object:

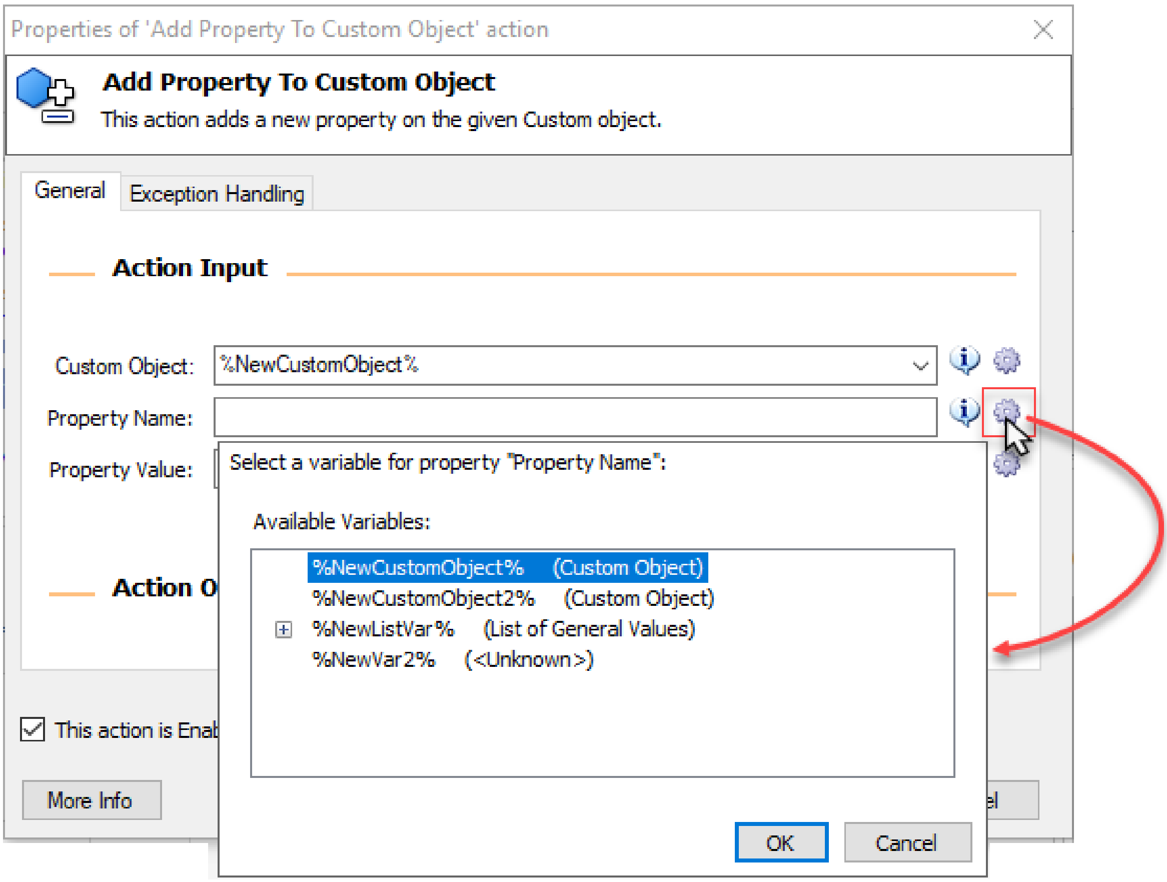
This is a text-field with drop down menu options. It allows you to enter the Name of the Custom Object you want to work with, or simply find and select it effortlessly from the drop down menu that lists all available custom objects in your script.



Custom Object: %NewCustomObject%

2. Property Name:

This is a text-field that allows you to enter the new Property Name of the Custom Object of your choice [1]. If you have any questions on what is the Property Name of a Custom Object, please refer to the *Custom Object format* of the following article 299. Please also know, that you can always use the Gear Icon to enter Property Name as a variable:



Properties of 'Add Property To Custom Object' action

Add Property To Custom Object

This action adds a new property on the given Custom object.

Custom Object: %NewCustomObject%

Property Name:

Property Value:

☑ This action is Enab

Select a variable for property "Property Name":

Available Variables:

```
%NewCustomObject%    (Custom Object)
%NewCustomObject2%    (Custom Object)
⊞ %NewListVar%    (List of General Values)
%NewVar2%    (<Unknown>)
```

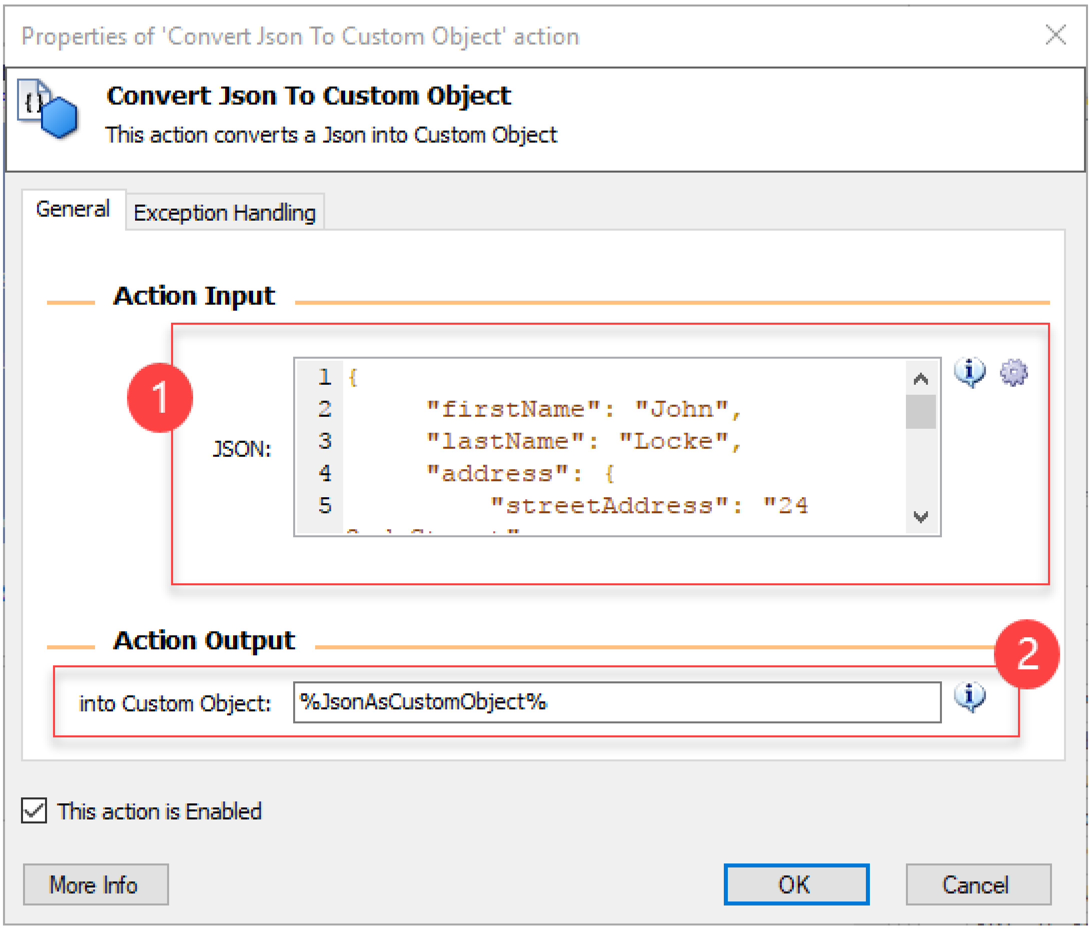
3. Property Value:

This is a text-field that allows you to enter the Property Value of the previously filled Property Name [2]. If you have any questions on what is Property Name or Property Value of a Custom Object, please refer to the *Custom Object format* of the following article 299. Please also know, that you can always use the Gear Icon to enter this Property Value as a variable. This can be very helping in case you want to use a data type that you have constructed earlier on in your script.

5.27.21 Convert Json to Custom Object

Description:

This action is giving you the ability to translate JSON [1] into a Custom Object and store it inside a new variable for later use [2]:



Convert Json To Custom Object

This action converts a Json into Custom Object

Action Input

JSON:

```
{
     "firstName": "John",
     "lastName": "Locke",
     "address": {
         "streetAddress": "24
```

Action Output

into Custom Object: %JsonAsCustomObject%

☑ This action is Enabled

Properties:

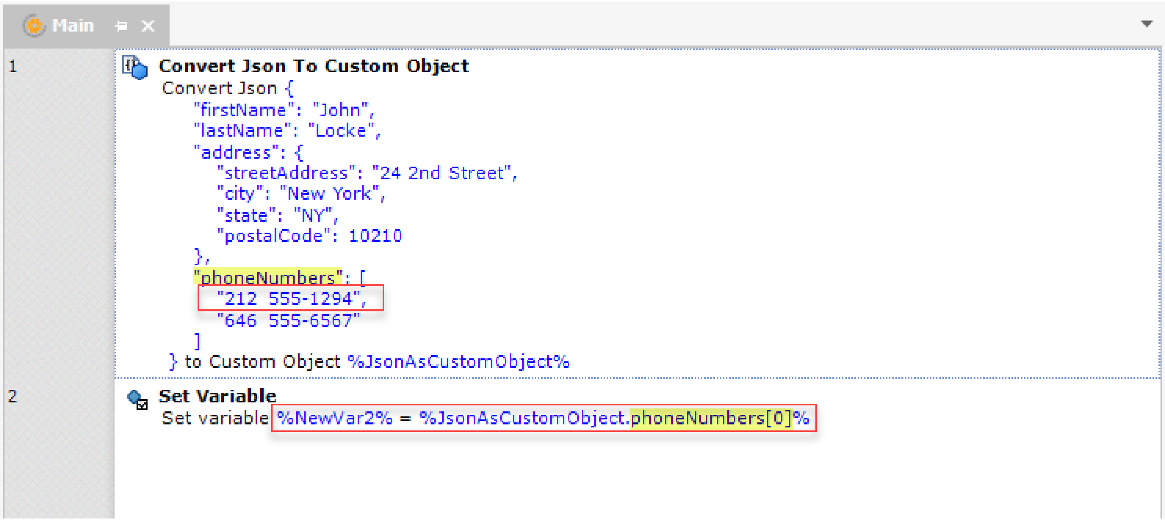
1. JSON:

This action property allows you to enter either a multiple lines long JSON directly or through a WinAutomation variable. If you have any questions on what JSON or Custom Objects are, please refer to the appropriate section of the following topic 299. Please also know, that you can always use the Gear Icon to enter effortlessly an existing variable.

2. Into Custom Object:

In this text-field you should enter the name of the existing or new variable that you wish to store the Custom Object.

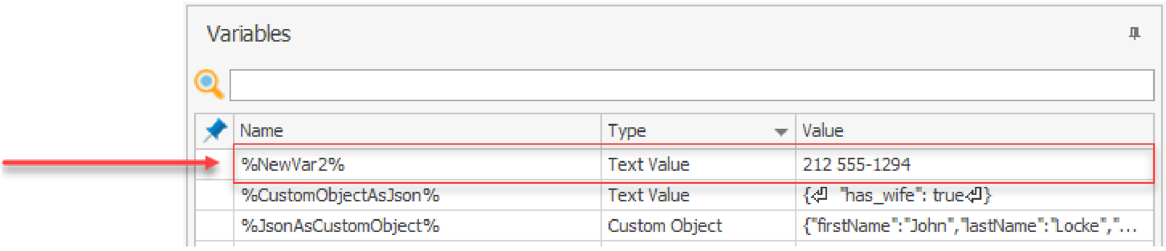
Please note that you can access the values of your custom object almost exactly like if they were JSON. Consider for example the following actions in Process Designer's Workspace 162:



```
Convert Json To Custom Object
Convert Json {
    "firstName": "John",
    "lastName": "Locke",
    "address": {
       "streetAddress": "24 2nd Street",
       "city": "New York",
       "state": "NY",
       "postalCode": 10210
    },
    "phoneNumbers": [
       "212 555-1294",
       "646 555-6567"
    ]
 } to Custom Object %JsonAsCustomObject%

Set Variable
Set variable %NewVar2% = %JsonAsCustomObject.phoneNumbers[0]%
```

Testing this from Process Designer 199 will produce the following variable value for %NewVar2%:



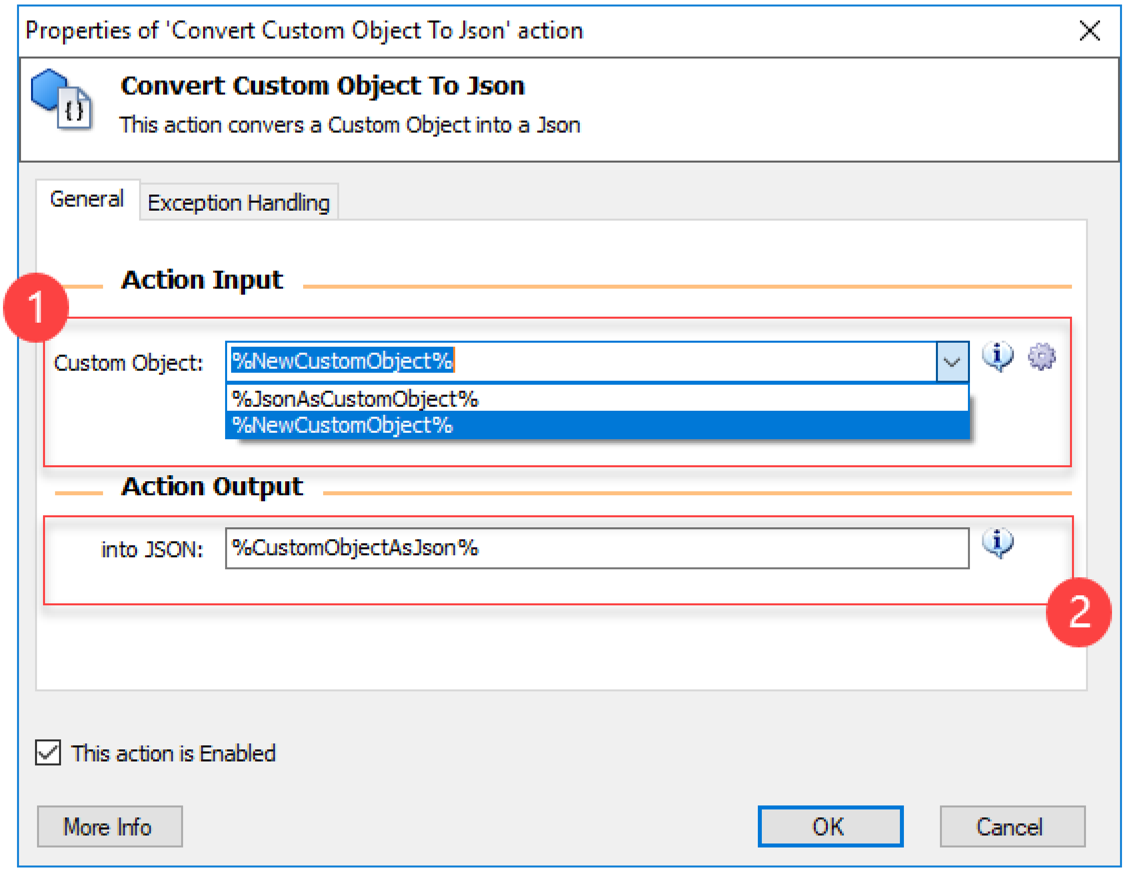
Variables

Name	Type	Value
%NewVar2%	Text Value	212 555-1294
%CustomObjectAsJson%	Text Value	{⏎ "has_wife": true⏎}
%JsonAsCustomObject%	Custom Object	{"firstName":"John","lastName":"Locke","...

5.27.22 Convert Custom Object to Json

Description:

This action enables you to convert a Custom Object [1] to a JSON and store it into a WinAutomation variable [2] for later use:



Properties of 'Convert Custom Object To Json' action

Convert Custom Object To Json

This action convers a Custom Object into a Json

Custom Object: %NewCustomObject%

%JsonAsCustomObject%
%NewCustomObject%

into JSON: %CustomObjectAsJson%

☑ This action is Enabled

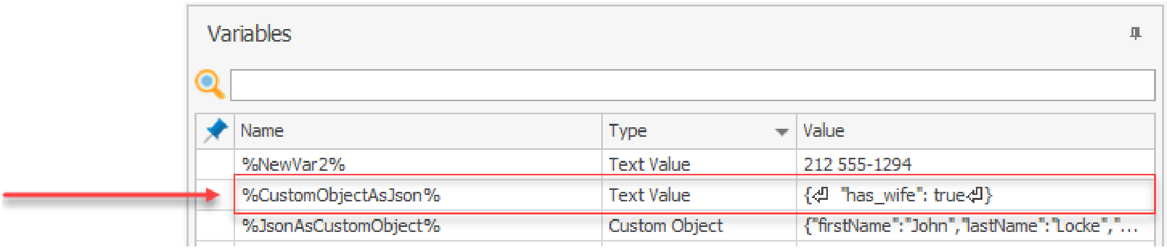
Properties:

1. Custom Object:

This is a text-field with drop down menu options. It allows you to enter the Name of the Custom Object you want to work with, but also find it and select it effortlessly from the drop down menu that lists all available custom objects in your script.

2. Into JSON:

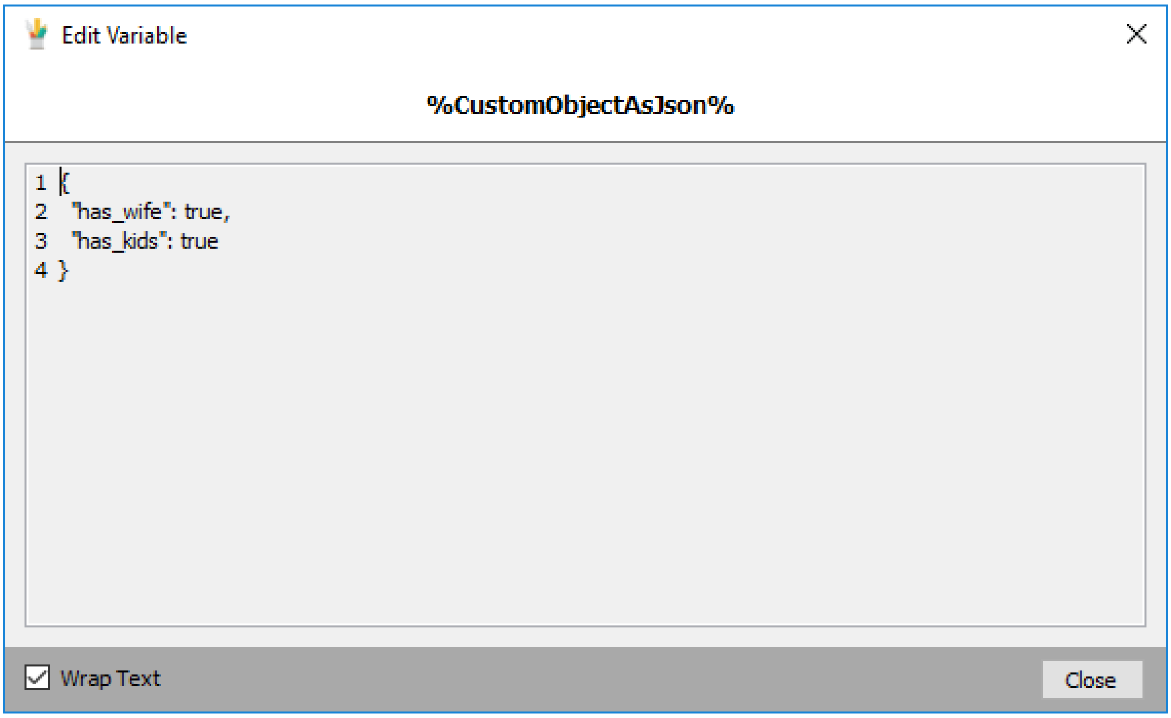
JSON is a text format, so it should not be a surprise that this action returns a Text Value. This text field however allows you to enter the name of the variable (new or existing) in which you want to store the JSON Text Value. Also, in case you wish to work with that Text Value, please do note that it is JSON formatted, containing line breaks:



Variables

Name	Type	Value
%NewVar2%	Text Value	212 555-1294
%CustomObjectAsJson%	Text Value	{⏎ "has_wife": true⏎}
%JsonAsCustomObject%	Custom Object	{"firstName":"John","lastName":"Locke","...

Please also note that ***double clicking*** on the {⏎ "has_wife": true,⏎ "has_kids": true⏎} Value on the Image above will produce the following pop-up (which is the Variables Visualizer Window 167), showing us the format of the returned value.



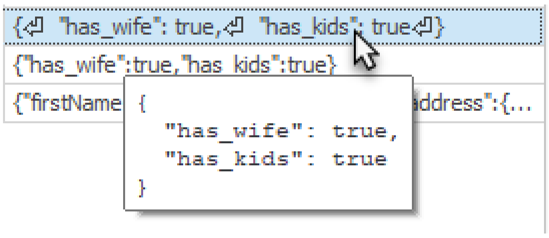
Edit Variable

%CustomObjectAsJson%

```
{
  "has_wife": true,
  "has_kids": true
}
```

☑ Wrap Text

Hovering over the {⏎ "has_wife": true,⏎ "has_kids": true⏎} Value will produce the following pop-up that also allows you to develop a quick feeling of your variable value, without of course the capacity to edit your variable:



```
{⏎  "has_wife": true,⏎  "has_kids": true⏎}
{"has_wife":true,"has_kids":true}
{"firstName  address":{...
```

```
{
   "has_wife": true,
   "has_kids": true
}
```

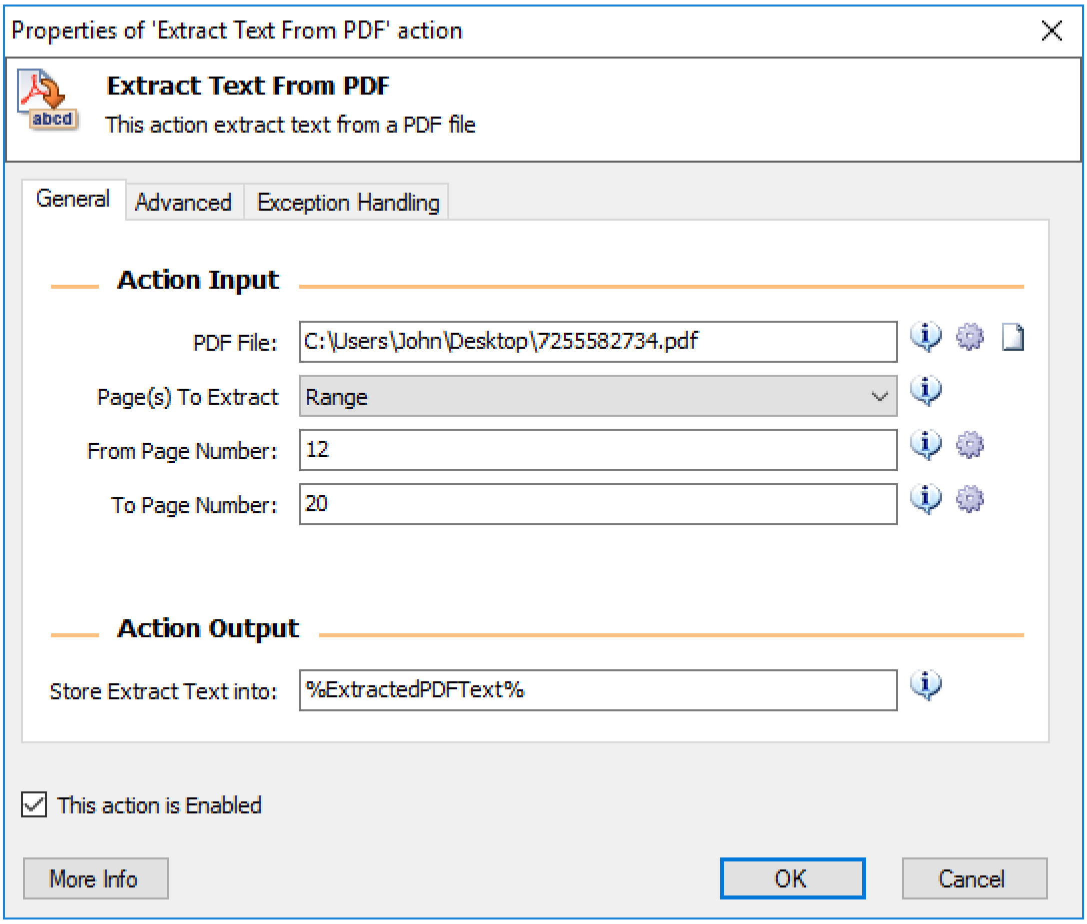
5.28 PDF Actions

5.28.1 Extract Text From PDF

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This actions extracts the text from a PDF file.



Properties of 'Extract Text From PDF' action

Extract Text From PDF

This action extract text from a PDF file

Action Input

PDF File: C:\Users\John\Desktop\7255582734.pdf

Page(s) To Extract: Range

From Page Number: 12

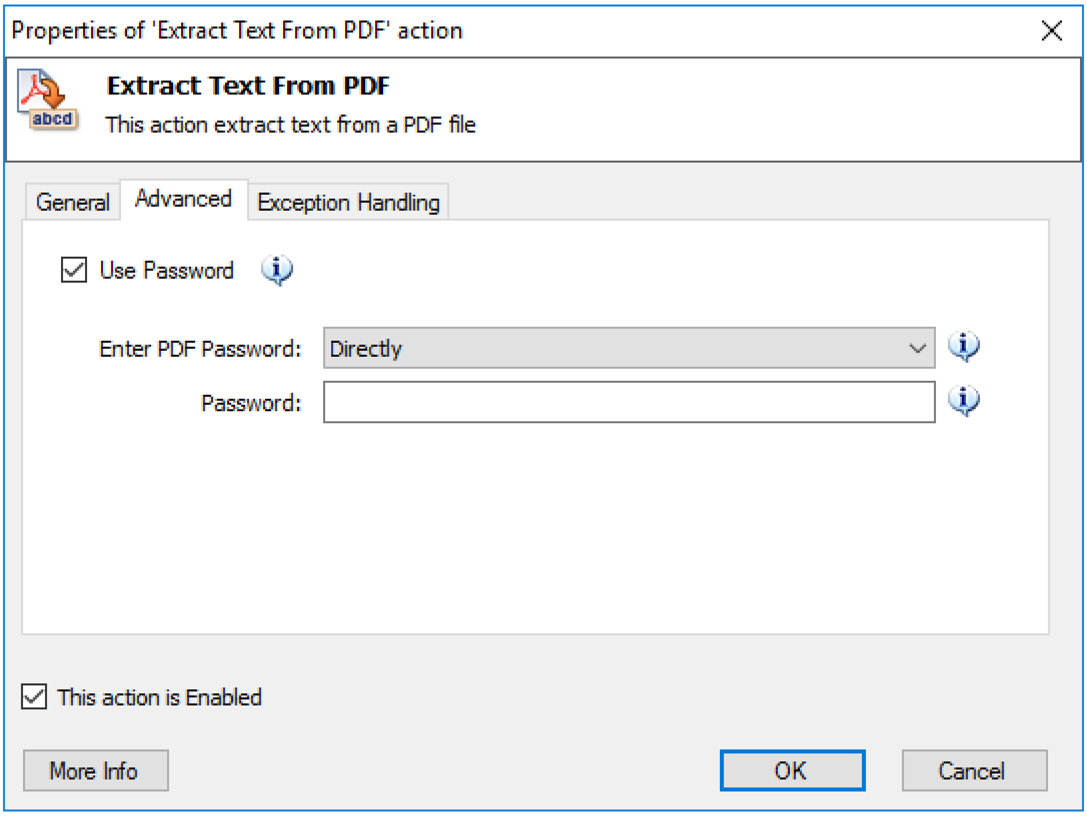
To Page Number: 20

Action Output

Store Extract Text into: %ExtractedPDFText%

☑ This action is Enabled

General



Properties of 'Extract Text From PDF' action

Extract Text From PDF

This action extract text from a PDF file

☑ Use Password

Enter PDF Password: Directly

Password:

☑ This action is Enabled

Advanced

Properties:

PDF File: Enter or choose the PDF file, whose text will be extracted. It can be a file path, a variable containing a file or a text path.

Page(s) To Extract: Choose how many pages will be extracted. All, Single or Range of pages.

Single Page Number: Set the number of the single page that text will be extracted.

From Page Number: Set the first page number from the range of pages that text will be extracted

To Page Number: Set the last page number from the range of pages that text will be extracted

Store Extracted Text into: Enter a name to be the variable that will store the extracted text.

Use Password: Choose whether you want to use password for PDFs that are password protected.

Enter PDF Password: If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' you must enter a variable containing the password and the '%' character will be treated as an indicator of a variable, not part of the password.

Password: Enter the Password here. The password will be hidden.

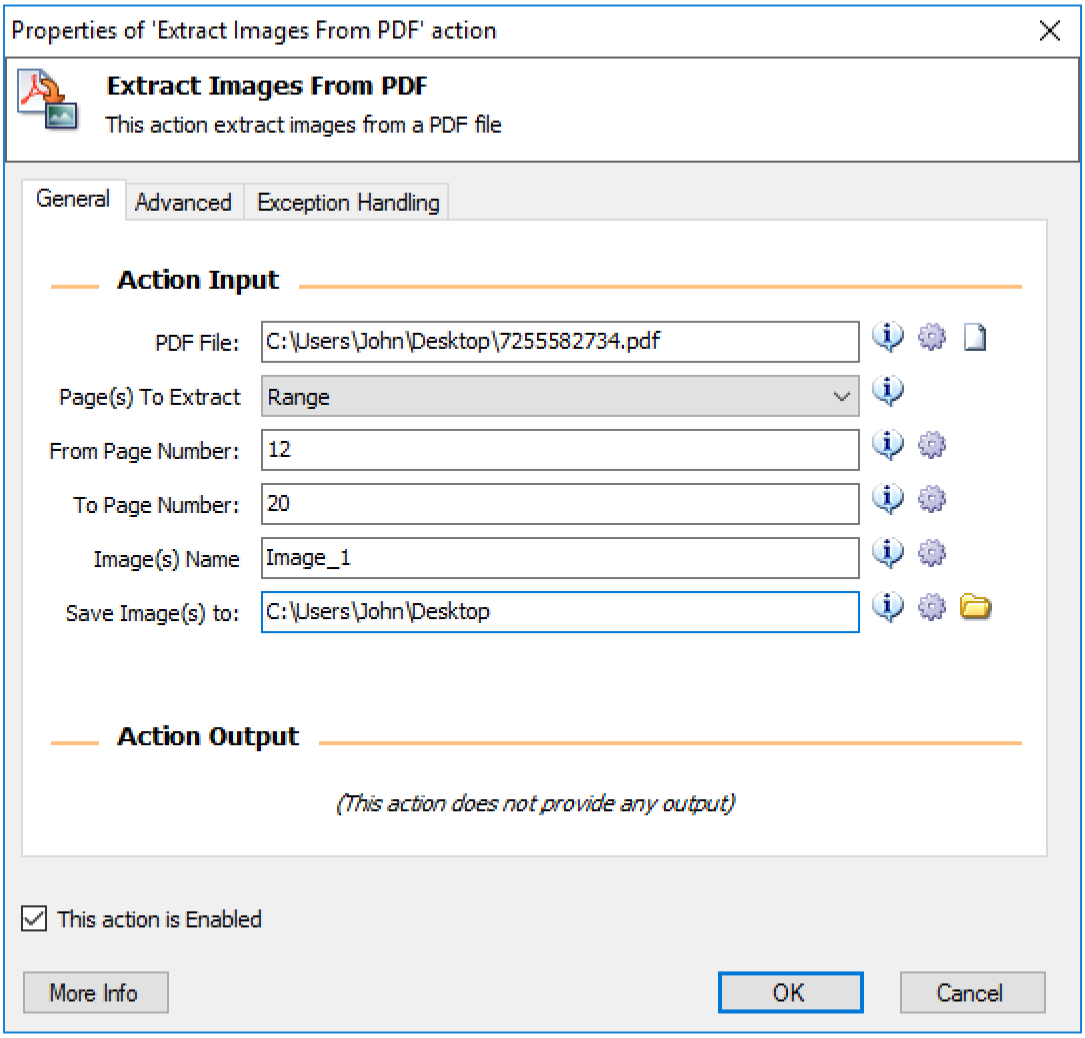
Password: Enter a variable containing the password here.

5.28.2 Extract Images From PDF Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

This action extracts images from a PDF file.



Properties of 'Extract Images From PDF' action

Extract Images From PDF

This action extract images from a PDF file

Action Input

PDF File: C:\Users\John\Desktop\7255582734.pdf

Page(s) To Extract: Range

From Page Number: 12

To Page Number: 20

Image(s) Name: Image_1

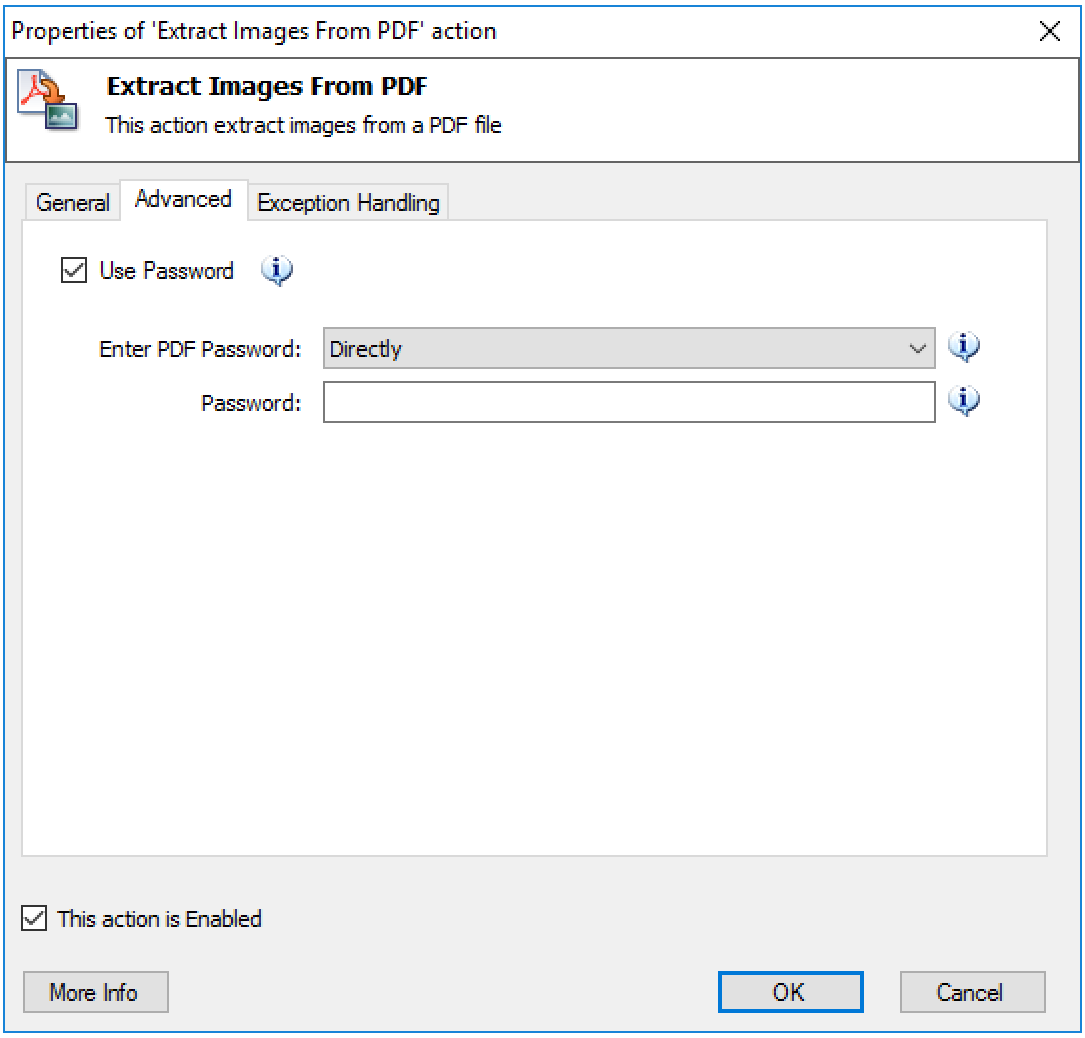
Save Image(s) to: C:\Users\John\Desktop

Action Output

(This action does not provide any output)

☑ This action is Enabled

General Tab



Properties of 'Extract Images From PDF' action

Extract Images From PDF

This action extract images from a PDF file

☑ Use Password

Enter PDF Password: Directly

Password:

☑ This action is Enabled

Advanced Tab

Properties:

PDF File: Enter or choose the PDF file, whose text will be extracted. It can be a file path, a variable containing a file or a text path.

Page(s) To Extract: Choose how many pages will be extracted using OCR.. All, Single or Range of pages

Single Page Number: Set the number of the single page that images will be extracted.

From Page Number: Set the first page number from the range of pages that images will be extracted.

To Page Number: Set the last page number from the range of pages that images will be extracted.

Image(s) Name: Enter how the image(s) will start. Extracted image(s) name example: GivenName_1, GivenName_2

Save Image(s) To: Enter or choose a local folder, or a previously defined variable containing a folder, to specify the folder where the extracted images from PDF will be saved into as png files.

Use Password: Choose whether you want to use password for PDF that are password protected.

Enter PDF Password: If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' you must enter a variable containing the password and the '%' character will be treated as an indicator of a variable, not part of the password.

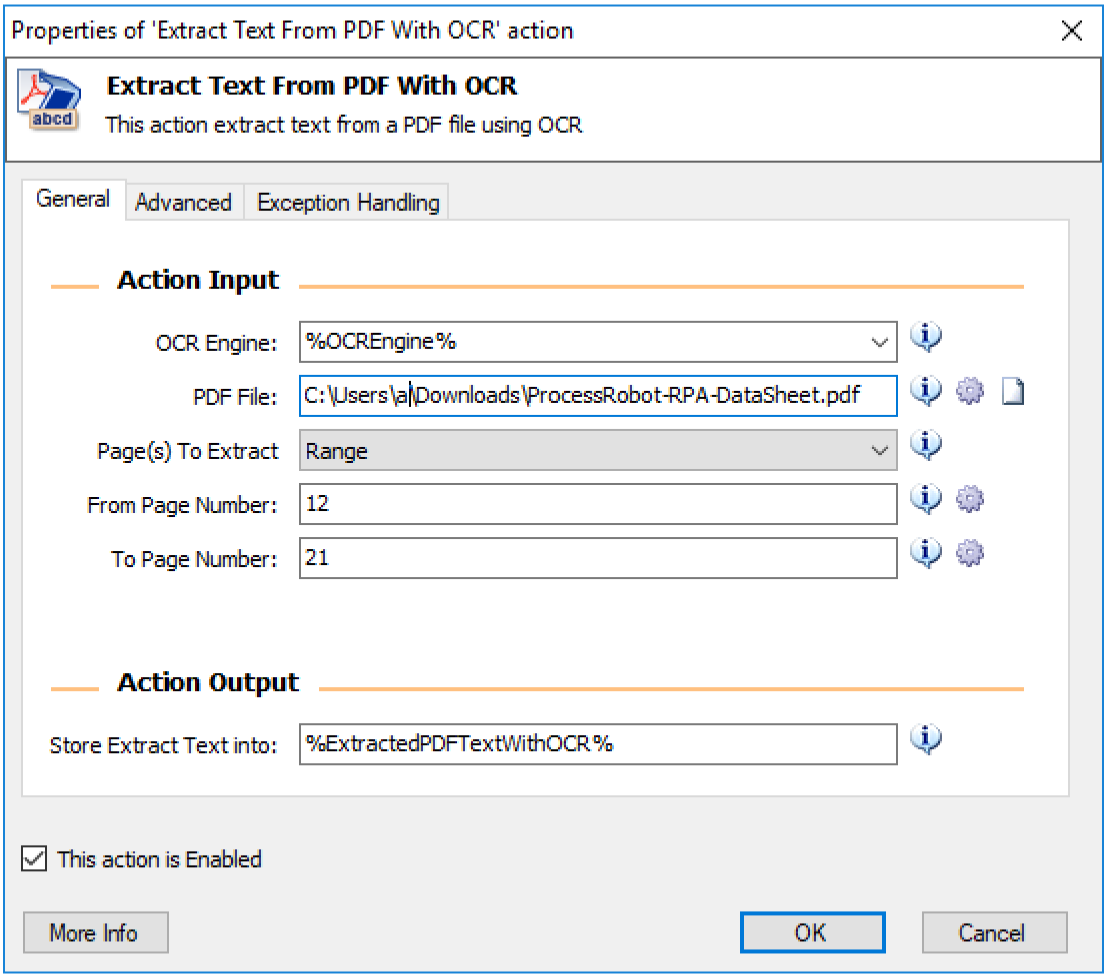
Password: Enter the Password here. The password will be hidden.

Password: Enter a variable containing the password here.

5.28.3 Extract text From PDF With OCR

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description: This action extracts text from a PDF file using OCR.



Properties of 'Extract Text From PDF With OCR' action

Extract Text From PDF With OCR

This action extract text from a PDF file using OCR

Action Input

OCR Engine: %OCREngine%

PDF File: C:\Users\a\Downloads\ProcessRobot-RPA-DataSheet.pdf

Page(s) To Extract Range

From Page Number: 12

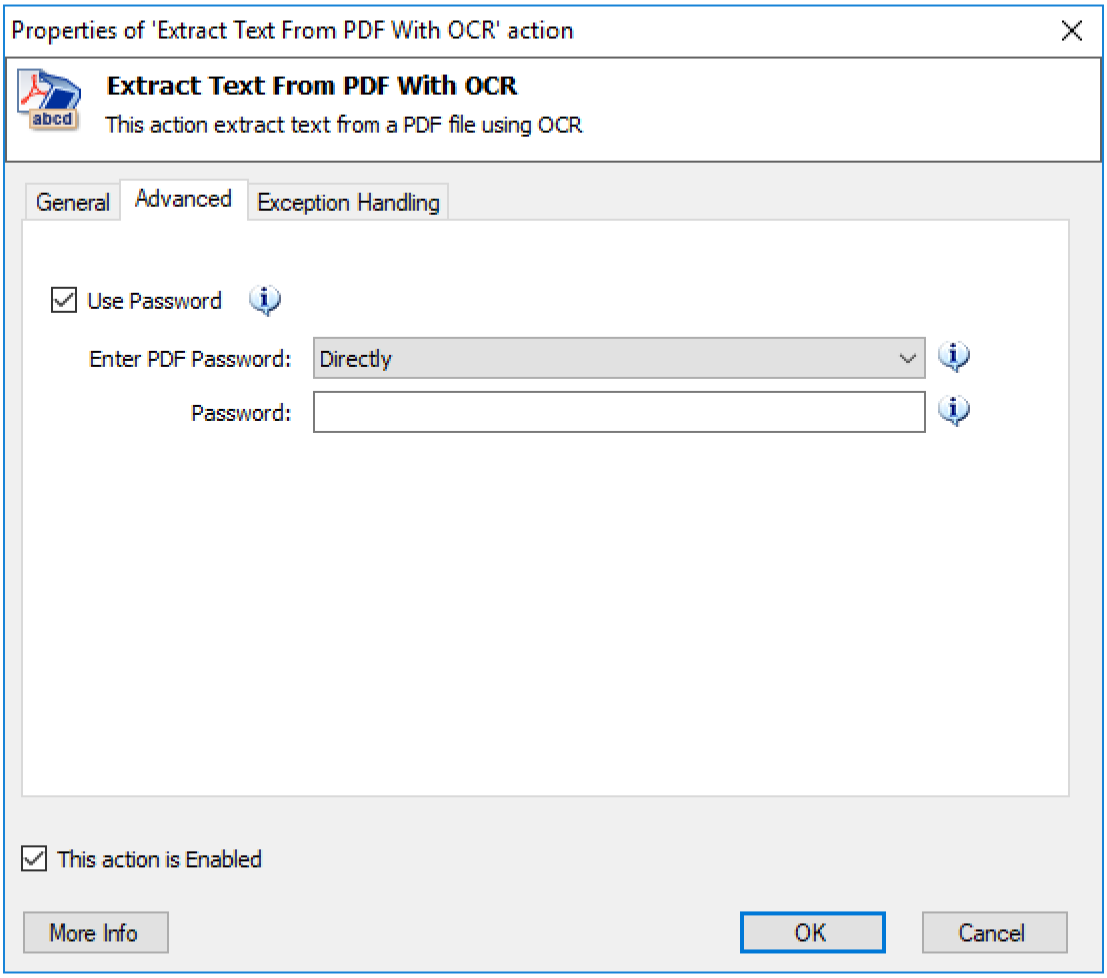
To Page Number: 21

Action Output

Store Extract Text into: %ExtractedPDFTextWithOCR%

☑ This action is Enabled

General Tab



Properties of 'Extract Text From PDF With OCR' action

Extract Text From PDF With OCR

This action extract text from a PDF file using OCR

☑ Use Password

Enter PDF Password: Directly

Password:

☑ This action is Enabled

Advanced Tab

Properties:

General Tab's Properties:

OCR Engine: This text field with drop down menu options invites you to enter the OCR Engine instance you want to work with.

PDF File: Enter or choose the PDF file, whose text will be extracted. It can be a file path, a variable containing a file or a text path.

Page(s) To Extract: Choose how many pages will be extracted using OCR. All, Single or Range of pages

Single Page Number: Set the value of the page you want to extract text using OCR.

The following two options will be available if you have chosen Range on the "Page(s) To Extract" Property Value:

From Page Number: Set the first page number from the range of pages that text will be extracted using OCR.

To Page Number: Set the last page number from the range of pages that text will be extracted using OCR.

Store Extracted Text into: Enter a name to be the variable that will store the extracted text using OCR.

Advanced Tab's Properties:

Use Password: Choose whether you want to work with PDFs that are password protected.

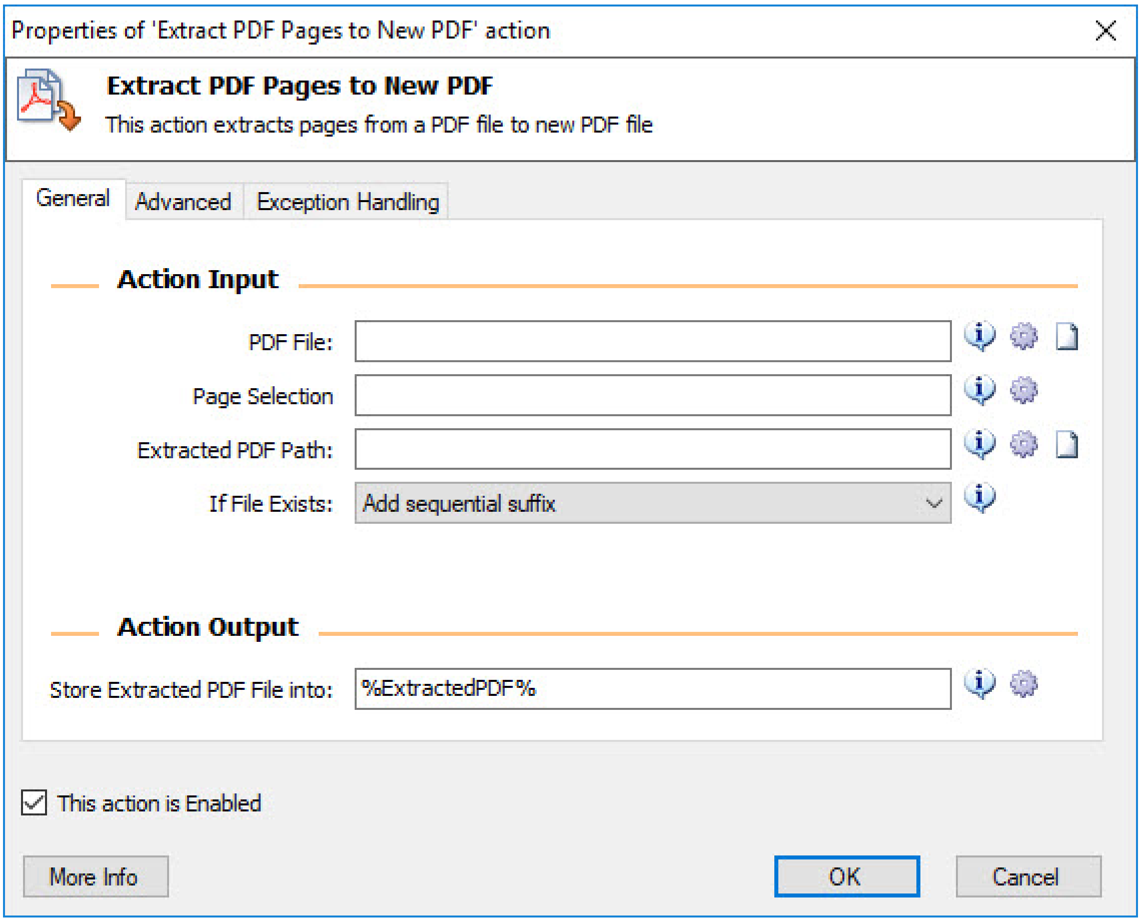
Enter PDF Password: If you choose 'directly', the password entered in the Password field will be hidden. If you choose 'as variable' you must enter a variable containing the password and the '%' character will be treated as an indicator of a variable, not part of the password.

Password (Directly): Enter the Password here. The password will be hidden.

Password (as Variable): Enter a variable containing the password here.

5.28.4 Extract PDF Pages to New PDF

Description: This action extracts pages from a PDF file to a new PDF file.



Properties of 'Extract PDF Pages to New PDF' action

Extract PDF Pages to New PDF

This action extracts pages from a PDF file to new PDF file

Action Input

PDF File:

Page Selection

Extracted PDF Path:

If File Exists: Add sequential suffix

Action Output

Store Extracted PDF File into: %ExtractedPDF%

☑ This action is Enabled

Properties:

PDF File: Enter or choose the PDF file, whose text will be extracted. It can be a file path, a variable containing a file or a text path.

Page Selection: Set the Index numbers of the pages you want to keep e.g. (1,3,17-24)

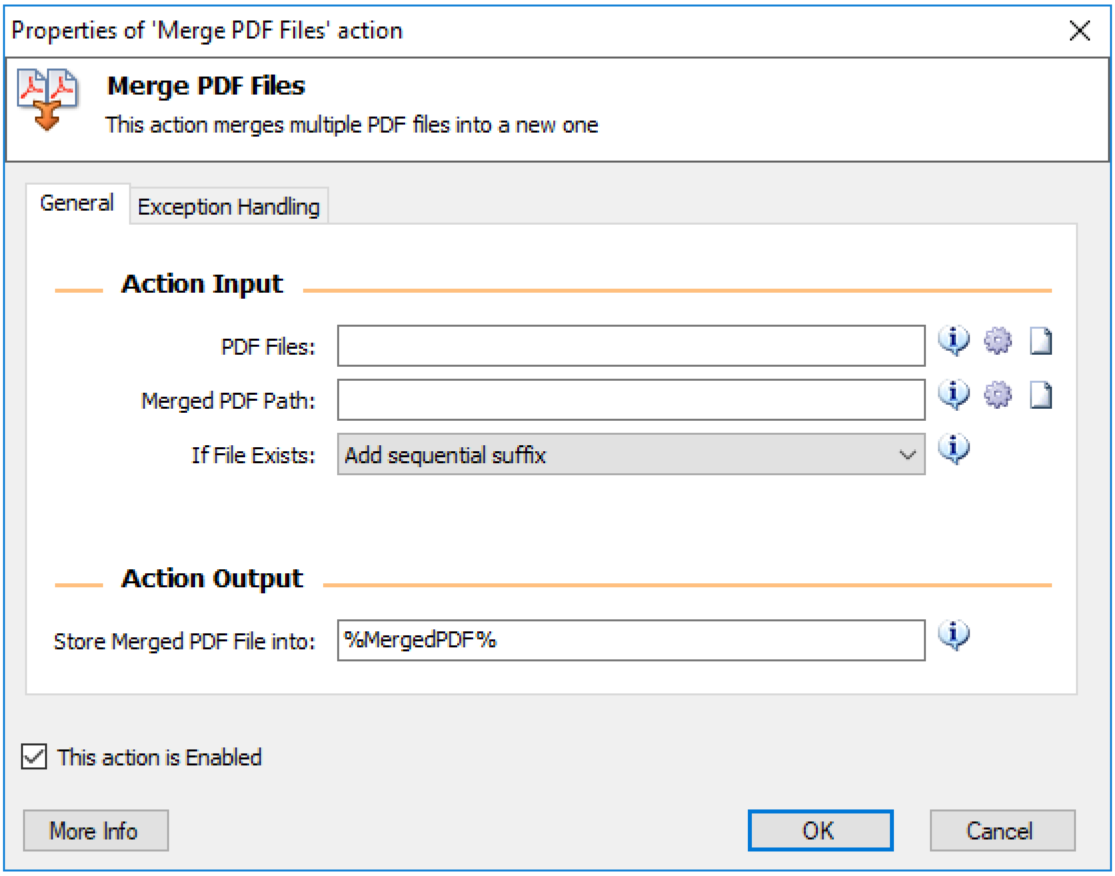
Extracted PDF Path: Enter a path where the extracted PDF will be stored

If File Exists: Choose what to do in case Output PDF file already exists

Store Extracted PDF File into: Select a variable where the new PDF File will be stored

5.28.5 Merge PDF Files

Description: This action merges a list of PDF files into a new one



Properties of 'Merge PDF Files' action

Merge PDF Files

This action merges multiple PDF files into a new one

Action Input

PDF Files:

Merged PDF Path:

If File Exists: Add sequential suffix

Action Output

Store Merged PDF File into: %MergedPDF%

☑ This action is Enabled

Properties:

PDF Files: Enter the files to be merged. Multiple files should be enclosed in double quotes (") and should be separated by a delimiter of your choice. You can also use a variable that contains a list of files

Merged PDF Path: Enter the path to the file that this action will use to store the PDF file.

If File Exists: Choose what to do in case Output PDF file already exists

Store Merged PDF File into: Enter the Name of the Variable that will contain the PDF File

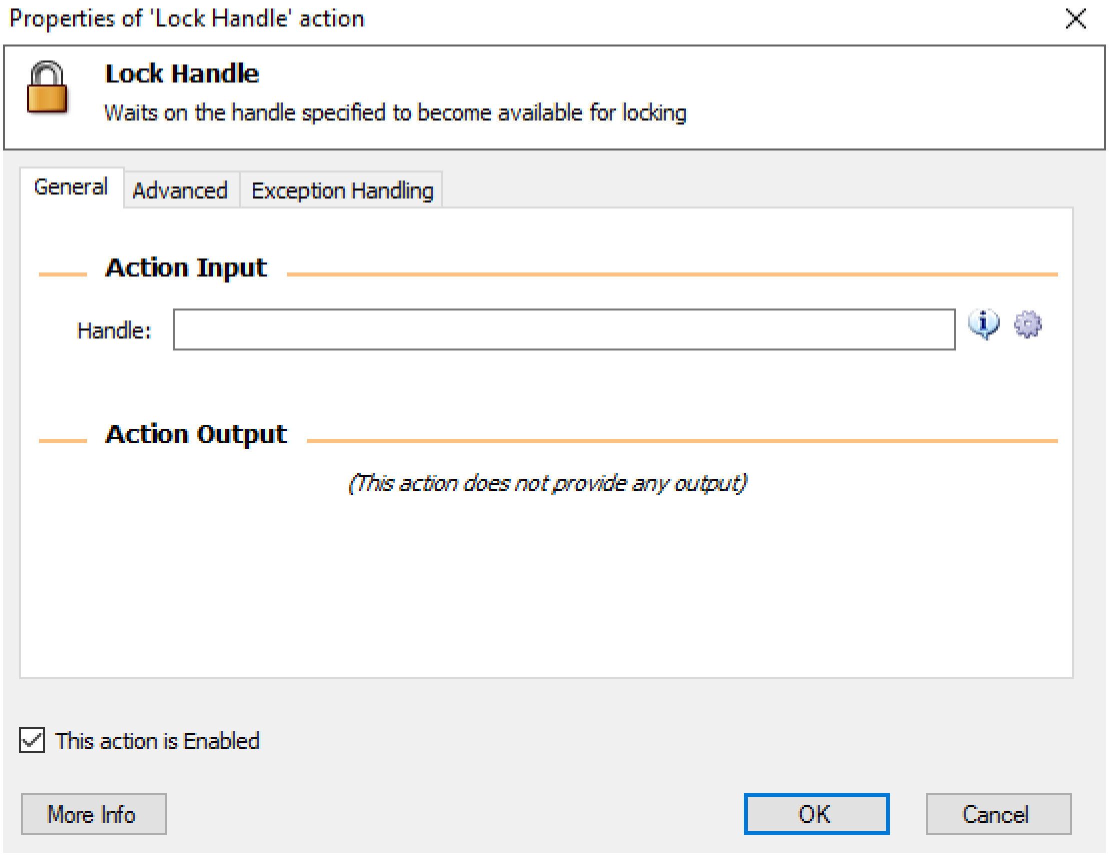
5.29 Synchronization Actions

5.29.1 Lock Handle Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

Waits on the handle specified to become available for locking.



Properties of 'Lock Handle' action

Lock Handle

Waits on the handle specified to become available for locking

Action Input

Handle:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Handle:

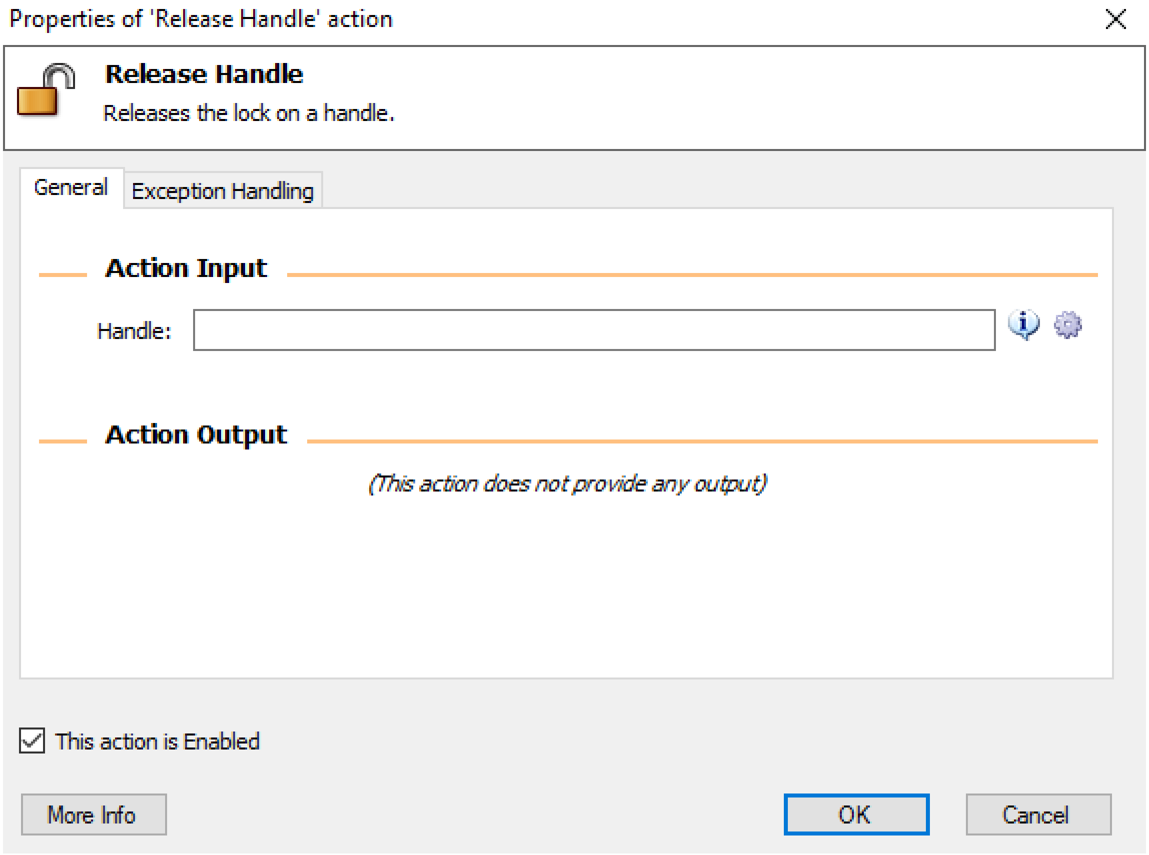
Enter the name of the handle to wait on till it becomes eligible for locking.

5.29.2 Release Handle Action

(Available with the Professional Plus Edition. N/A to the Basic and Professional Editions)

Description:

Releases the lock on a handle.



Properties of 'Release Handle' action

Release Handle

Releases the lock on a handle.

Action Input

Handle:

Action Output

(This action does not provide any output)

☑ This action is Enabled

Properties:

Handle:

Enter the name of the handle to release the lock of. The handle must have been locked within the same process-instance, otherwise this action won't have any effect on the handle whatsoever.

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