Hands-On Lab

# Authoring and Running Manual Tests using Microsoft Test Manager 2015

Lab version: 14.0.23107.0

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## Overview

* 1. In this lab, you will learn how to use Microsoft Test Manager 2015 to author a manual test case and take advantage of test parameters. You will then run this test case using the Microsoft Test Runner. While running this test case you will capture an action recording which can be used to take advantage of Fast Forward for Manual Testing, to quickly re-run test steps or even entire test cases in the future. Finally, you will explore how Shared Steps can be used to more effectively author common test steps, which can then be reused across multiple test cases.
  2. This hands-on-lab is one out of a number of labs that deal with Microsoft Test Manager 2015. The recommended order to complete the labs in is as follows:
  + Introduction to Test Planning with Microsoft Test Manager 2015
  + Introduction to Test Case Management with Microsoft Test Manager 2015
  + Authoring and Running Manual Tests using Microsoft Test Manager 2015
  + Introduction to Platform Testing with Microsoft Test Manager 2015

### Prerequisites

* 1. In order to complete this lab you will need the Visual Studio 2015 virtual machine provided by Microsoft. For more information on acquiring and using this virtual machine, please see [this blog post](http://aka.ms/almvm).

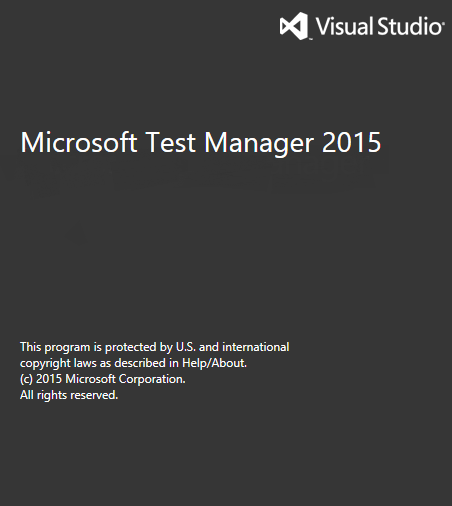
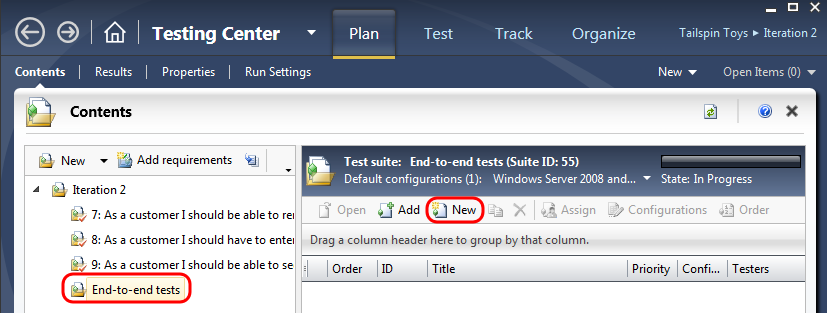
### Exercises

* 1. This Hands-On Lab comprises the following exercises:
  2. Authoring a Running Manual Tests
  3. Test Case Management and Manual Testing in Team Foundation Server Web Portal
  4. Estimated time to complete this lab: **60 minutes**.

## Exercise 1: Authoring and Running Manual Tests

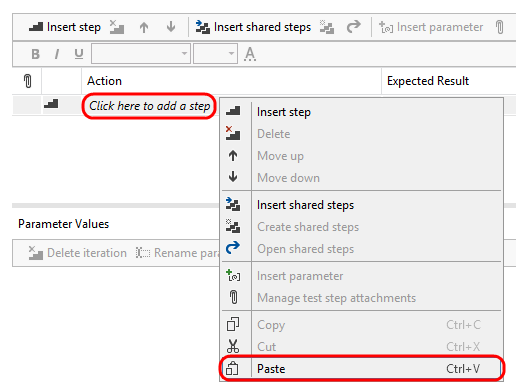
* 1. In this exercise, you will learn how to create a manual test plan and populate it with steps. The plan can later be run to confirm the expected behavior of your software. In this lab, we’re going to focus on creating a new manual test case and running it. We will focus on the other aspects of managing test cases and test plans in another lab.

#### Task 1: Authoring a Manual Test Plan

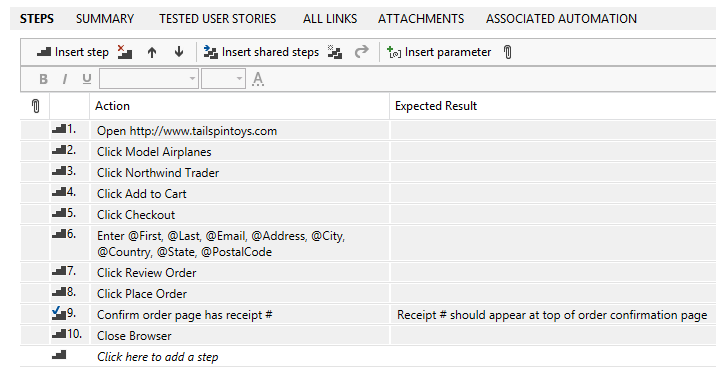
* 1. Log in as **Julia Ilyiana** (VSALM\Julia). All user passwords are **P2ssw0rd**.
     1. **Note:** If you are connecting to the VM over a RDP, it is recommended that you either run in windowed mode (not full screen) or alternatively ensure that both the host machine and the RDP session use the same resolution. This will help ensure smooth action recordings during this lab.
  2. Launch **Microsoft Test Manager** from the taskbar.
     1. 
     2. Figure
     3. Microsoft Test Manager splash screen
  3. In the left pane, select the **End-to-End Tests** test suite and then select the **New** button from the right pane.
     1. 
     2. Figure
     3. Creating a new manual test
  4. In the **Title** box, type “**Confirm that receipt number appears after successful order**”. Alternatively, you can open the “*New Test Case.txt*” file from the **Code Snippets** folder on the desktop of the VM and copy and paste the title from there.
  5. At this point, we’re ready to add steps to this manual test. Each step includes an **Action**, which describes the action the tester needs to perform. Optionally, a step can include an **Expected Result**, which describes the expected result of the given action.
  6. In the **Steps** panel, create a step for each of the following **Actions**, only one of which has an Expected Result. See the next paragraph for an alternate, faster way to add the actions.

|  |  |
| --- | --- |
| Action | Expected Result |
| Open http://www.tailspintoys.com |  |
| Click Model Airplanes |  |
| Click Northwind Trader |  |
| Click Add to Cart |  |
| Click Checkout |  |
| Enter @First, @Last, @Email, @Address, @City, @Country, @State, @PostalCode |  |
| Click Review Order |  |
| Click Place Order |  |
| Confirm order page has receipt # | Receipt # should appear at top of order confirmation page |
| Close Browser |  |

An alternative to manual entry of each step is to copy and paste the steps from the “*New Test Case.txt*” file to add them all at once. In order to do this, **right-click** on the row that currently shows “***Click here to add a step***” and select the **Paste** option.

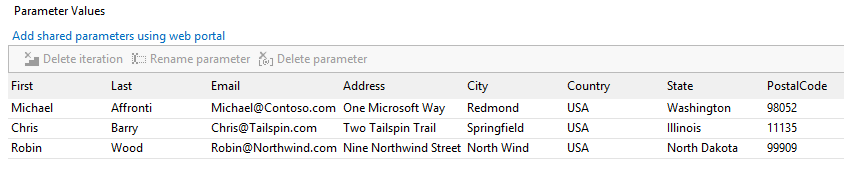
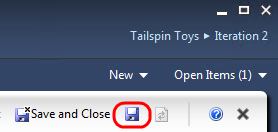
* + 1. 
    2. Figure

Pasting test steps

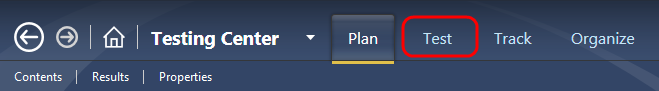
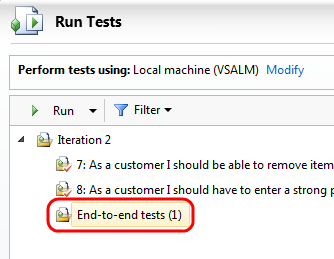
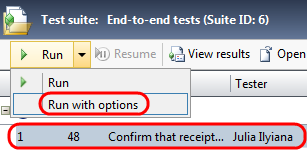
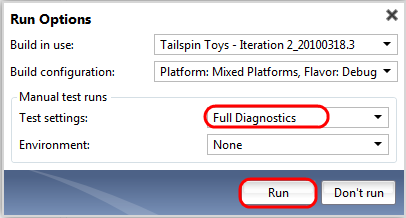
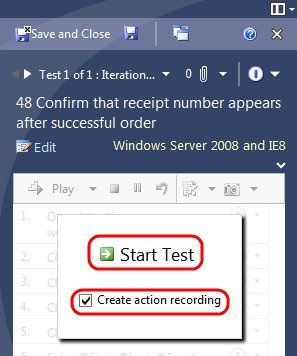
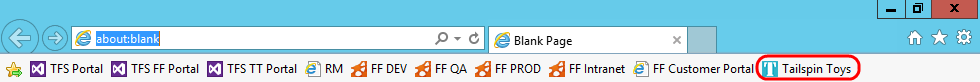
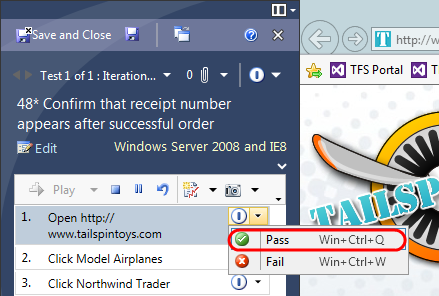
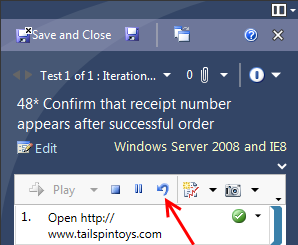
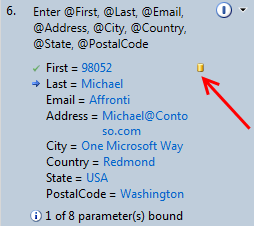
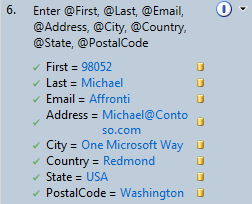
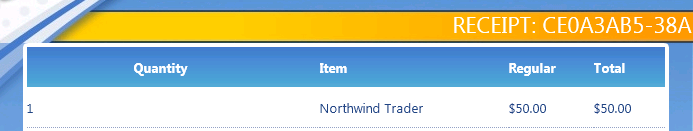
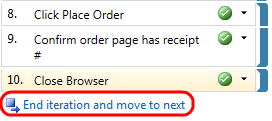
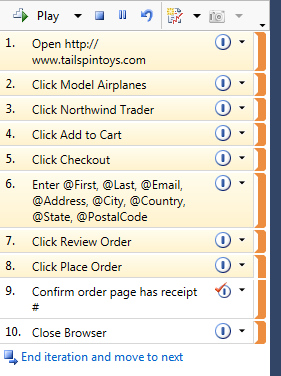
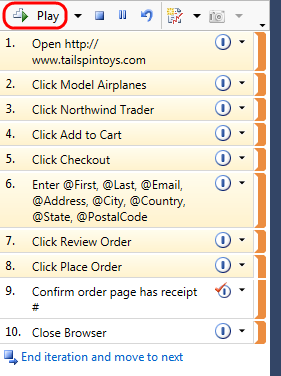
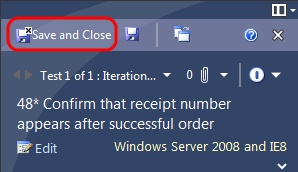
* + 1. **Note:** If you end up with an extra step, go ahead and delete it.
  1. At this point, the **Steps** panel should look similar to the following:
     1. 
     2. Figure
     3. Steps for new manual test
     4. **Note:** Adding a value in the Expected Result column for a manual test step adds a checkbox next to the step action so that the tester is required to manually validate that the test passed.
  2. Note the “Enter @First, @Last, @Email, @Address, @City, @Country, @State, @PostalCode” step. In this step, we used the **@** sign to indicate that there were iteration-specific variables to be used during the manual test pass. We can define which variables to use by scrolling down to the **Parameter Values** section of this form and entering them for each iteration. Use the following table to set up values for three iterations (or use the copy and paste method from the “*New Test Case.txt*” file once again):

|  |  |  |  |
| --- | --- | --- | --- |
| First | Last | Email | Address |
| Michael | Affronti | Michael@Contoso.com | One Microsoft Way |
| Chris | Barry | Chris@Tailspin.com | Two Tailspin Trail |
| Robin | Wood | Robin@Northwind.com | Nine Northwind Street |

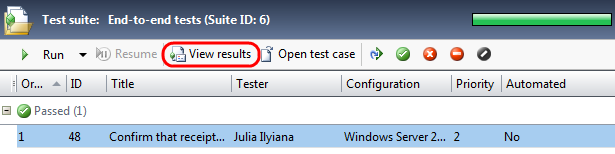
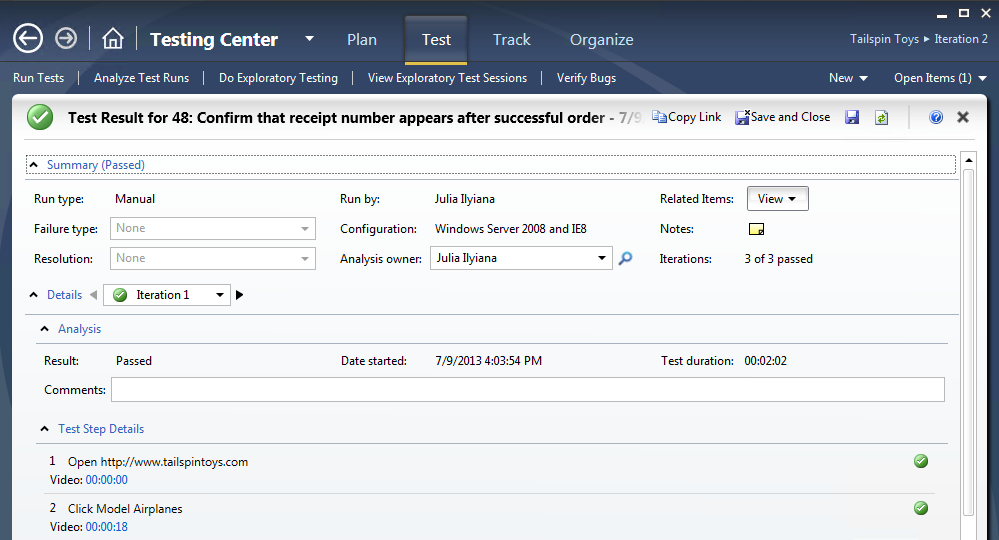
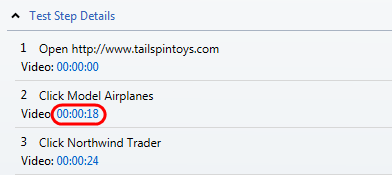
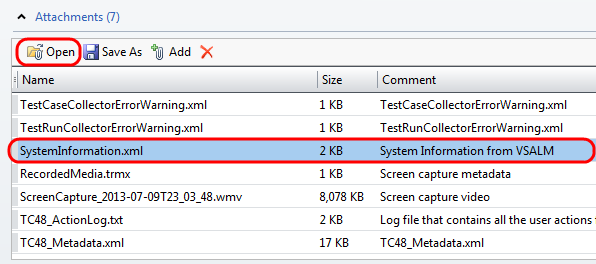
|  |  |  |  |
| --- | --- | --- | --- |
| City | Country | State | PostalCode |
| Redmond | USA | Washington | 98052 |
| Springfield | USA | Illinois | 11135 |
| North Wind | USA | North Dakota | 99909 |

* 1. The **Parameter Values** section should now look like this:
     1. 
     2. Figure
     3. Parameter values for manual test
     4. **Note:** If you want to use the copy and paste method to input parameter values, the easiest way to do this is to right-click on the header row showing parameter names, and then select the **Paste** option.
  2. Save test case by selecting the **Save** icon in the top-right corner of the window.
     1. 
     2. Figure
     3. Save button location

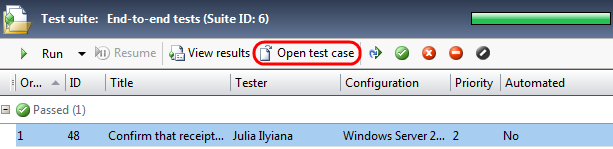
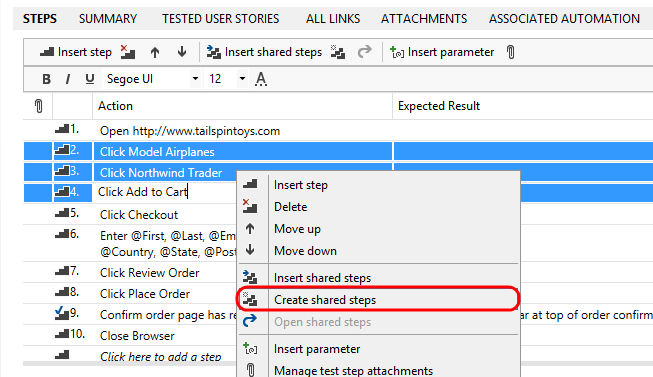
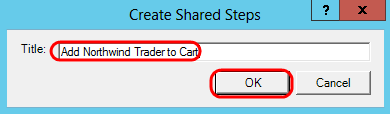
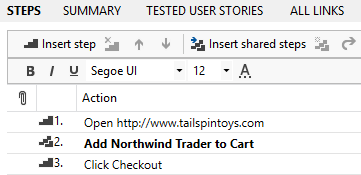
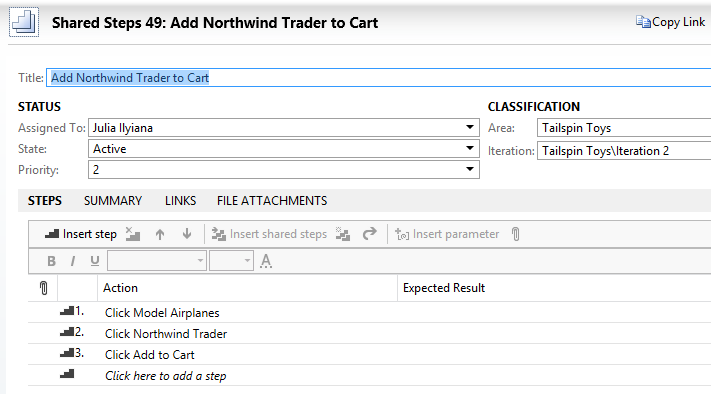
#### Task 2: Running a Manual Test Plan

* 1. In this task, you will learn how to run the manual test plan that we created in the first exercise.
  2. From the top menu, select the **Test** button to enter test mode.
     1. 
     2. Figure
     3. Test button location
  3. In the left pane, expand the tree to find the **End-to-End Tests** node and select it.
     1. 
     2. Figure
     3. Selecting End-to-end tests node
  4. In the right pane, select the test titled “*Confirm that receipt number appears after successful order*” and click the **Run with options** button by first selecting the dropdown arrow next to the Run button.
     1. 
     2. Figure
     3. Run button location
  5. In the **Run Options** window, change the test settings to **Full Diagnostics** and then select the **Run** button**.**
     1. 
     2. Figure
     3. Selecting Full Diagnostics option for test
  6. At this point, the Microsoft Test Runner is launched and provides the option to record the actions taken by the tester. This is a key feature as it enables “fast forwarding” for future test runs and records more details for reviewing historical test runs. Check the **Create action recording** box and then select the **Start Test** button**.**
     1. 
     2. Figure
     3. Running the manual test with action recording
  7. Wait until the Test Runner has completed initialization and then launch **Internet Explorer** from the **Taskbar**.
  8. Select the **Tailspin Toys** link from the Favorites bar in Internet Explorer. It will take a few moments for the site to load and run.
     1. 
     2. Figure
     3. Location of Tailspin Toys link
  9. After the site has loaded, the first step of the test will have been completed. Select the **Pass** option from the test result dropdown next to the step itself. It’s not a requirement to pass or fail tests other than those that require validation (such as with “expected results”), but it does help when correlating tester actions with steps. Note that when you pass a test, it automatically sets the next step as active.
     1. 
     2. Figure
     3. Manually passing a test step
  10. In Internet Explorer, select the **Model Airplanes** button and pass the step if successful.
  11. Select the **Northwind Trader** link and pass the step if successful.
  12. Select the **Add To Cart** button and pass the step if successful.
  13. Select the **Checkout** button and pass the step if successful.
      1. **Note:** In the event that your action recording does not go according to plan, you can always reset and record again.
      2. 
      3. Figure
      4. Location of Reset button (if needed)
  14. Click in the “**First**” text box, press **Ctrl+V** to paste in the first iteration’s **First** variable, then press **Tab** to move to the next text box. This action will bind the variable from the test with the text box in the website, as evidenced by the databound icon that is shown next to the variable. Future iterations of the test will be able to take advantage of this association.
      1. 
      2. Figure
      3. Binding test parameters during test
  15. Repeat the process of pasting the variables for “Last”, “Email”, “Address”, and so on. Skip the Address 2 text box. In the end, each of the variables should be databound. You will have to select values from dropdown boxes for Country and State even though they may already display a value.
      1. 
      2. Figure
      3. Databound test variables
  16. Once all variables are bound to their form counterparts, **pass** the step.
  17. Select the **Review Order** button and pass the step if successful.
  18. Select the **Place Order** button and pass the step if successful.
  19. Confirm that the order page has a **receipt number**. Pass the step.
      1. 
      2. Figure
      3. Order page showing receipt number
  20. **Close** the **Internet Explorer** window as instructed and pass the step if successful.
  21. You are now at the end of the first test iteration. Select the **End iteration and move to next** link to move onto Iteration 2.
      1. 
      2. Figure
      3. Location of “End iteration and move to next” link
  22. In the second iteration, we will not create an action recording as it would overwrite the original one that we just created. Instead, we’re going to use the version that we just recorded to aid in the running of this iteration. Select the **Start Test** button to start iteration 2.
  23. Step 1 should already be selected. Hold down the **Shift** key and click the “**Click Place Order**” step to select all steps leading to it, inclusively.
      1. 
      2. Figure
      3. Selecting all steps up to “Click Place Order”
  24. Select the **Play** button to automatically run the selected steps. Using the mouse or keyboard during test automation can interfere, so don’t use them again until the automation of the selected test steps is complete. In the event that playback fails, go ahead and stop playback and try again.
      1. **Note:** This automated process uses the data specified for the second test iteration of the test in order to complete the registration form.
      2. 
      3. Figure
      4. Playing test steps using action recording
  25. After the Test Runner finishes running the steps that you selected, it will stop on the “**Confirm order page has receipt #**” step so that you can manually verify. **Pass** the step.
  26. **Close** the browser window and pass the last step.
  27. You are now at the end of the second test iteration. Select the “**End iteration and move to next**” link to move onto Iteration 3.
  28. Follow the same process that you did for iteration 2.
  29. Select the **Save and Close** button to save the test results.
      1. 
      2. Figure
      3. Location of “Save and Close” button

#### Task 3: Analyzing Manual Test Results

* 1. In this task, you will learn how to review the results of a manual test run.
  2. Select the **View results** button in the right pane.
     1. 
     2. Figure
     3. View Results button location
  3. In the test results view, you can see more details on the tests run, including details of the iterations, results, and associated attachments.
     1. 
     2. Figure
     3. Test results view
  4. In the **Test Step Details** section, select one of the video links. This will launch the test video replay for the specific time of this step.
     1. 
     2. Figure
     3. Video links for each step
     4. **Note:** The times will vary depending upon how long each step took during your test run. In addition, the entire run is stored in one video file and the times listed are actually offsets into that file.
  5. **Close** the video player.
  6. Navigate to the **Attachments** panel. This panel contains various attachments recorded during the test that can help with diagnostics.
  7. Select the **SystemInformation.xml** attachment and then select the **Open** button. After confirming that you would like to open the file, go ahead and use **Notepad**.
     1. 
     2. Figure
     3. Location of SystemInformation.xml attachment from test run
  8. **Close** the **Notepad** window that was opened to view SystemInformation.xml.
  9. Select **Save and Close** to close the test results view.
     1. 
     2. Figure
     3. Save and Close

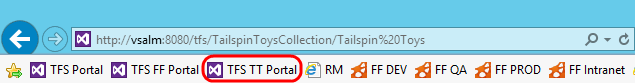
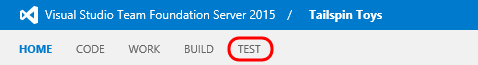
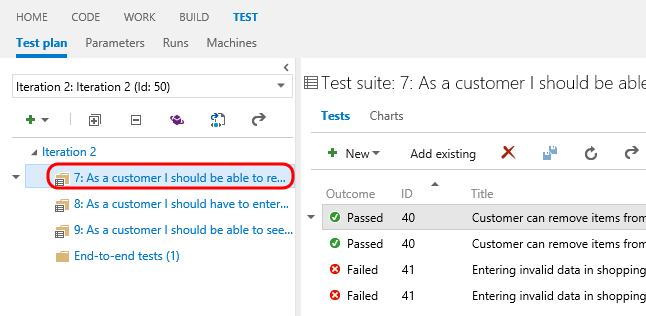
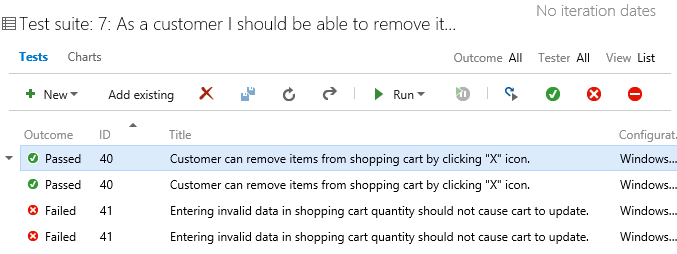
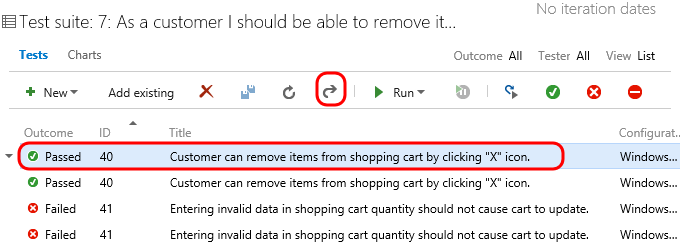
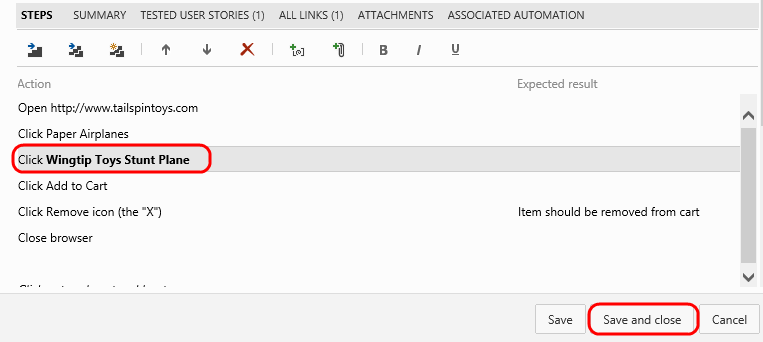
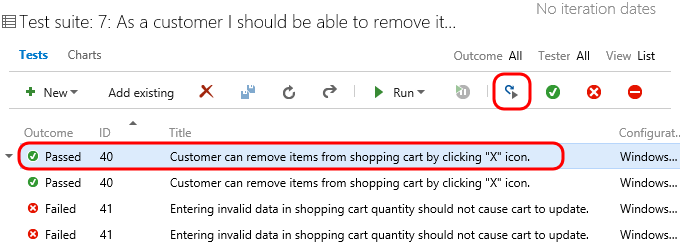
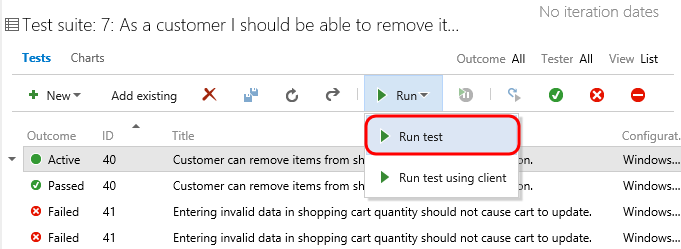
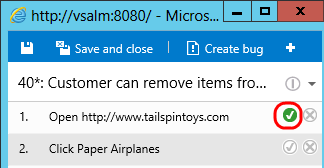
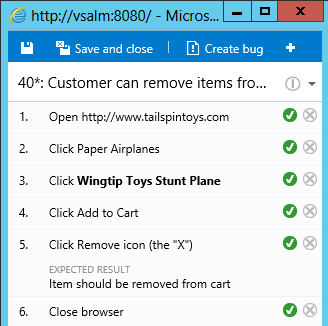
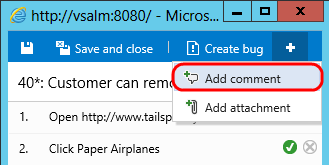
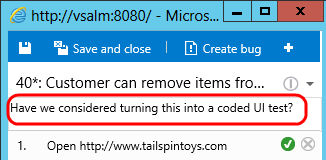
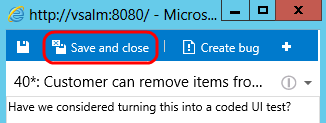
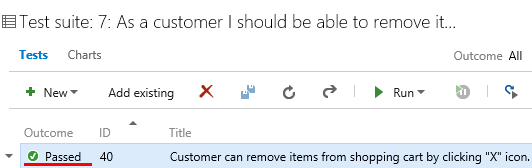
#### Task 4: Creating Shared Steps

* 1. In this task, you will learn how to create shared steps. A shared step combines multiple steps that are commonly performed in sequence into a single logical step, which can be shared across tests. If the process defined by the shared steps ever changes in the future, you can update the shared step in one place and it will be reflected in all tests that reference it.
  2. In the right pane, select the **Open test case** button to open the selected test.
     1. 
     2. Figure
     3. Location of “Open test case” button
  3. In the **Steps** panel, click on the second step “**Click Model Airplanes**” to select it. Next, hold the **Shift** key and then click the step “**Click Add to Cart**” so that steps 2 -4 are selected.
  4. **Right-click** the selection and select **Create shared steps** from the context menu that appears.
     1. 
     2. Figure
     3. Creating shared steps
  5. In the **Create Shared Steps** dialog, enter “**Add Northwind Trader to Cart**” as the Title and then select the **OK** button.
     1. 
     2. Figure
     3. Create shared steps dialog
     4. 
     5. Figure
     6. Step 2 now refers to the shared steps that we just created
  6. **Right-click** the shared step and select **Open shared steps**. You can now edit the shared steps as needed.
     1. 
     2. Figure
     3. Viewing shared steps
  7. Select **Save and Close** to save the shared steps.
  8. Select **Save and Close** to save and close the test.

## Exercise 2: Test Case Management and Manual Testing in Team Foundation Server Web Portal

* 1. In this exercise, you will about the test case management and manual testing capabilities of Team Foundation Server web portal.

#### Task 1: Using Web Portal for Manual Testing

* 1. Launch **Internet Explorer** from the taskbar and select the **TFS TT Portal** button from the favorites bar at the top.
     1. 
     2. Figure
     3. Launching the team web portal site
  2. Select the **Test** hyperlink at the top of the window.
     1. 
     2. Figure
     3. Location of Test hyperlink
  3. The **Test** page allows you to work with test plans, test suites, and test cases. Select **test suite 7**.
     1. 
     2. Figure
     3. Selecting a test suite
  4. Test suite 7 contains a few test cases that are linked to user stories, and since it is a requirements-based suite, a hyperlink to the associated user story requirement is shown. Here you can open, create, and delete test cases, start test runs, and manually set test outcomes.
     1. 
     2. Figure
     3. Test Suite 7
  5. Select the first test case with **ID = 40** and then select the **Open Test Case** button.
     1. 
     2. Figure
     3. Opening test case associated with test run
  6. You can create or modify test case steps and even parameter values in the web portal. Change Step 3 to be “Click **Wintip Toys Stunt Plane**” and then select the **Save and Close** button.
     1. 
     2. Figure
     3. Modifying test case step
  7. With the first test case (**ID = 40**) selected, select the **Reset Test to Active** button. This helps indicate to testers that the test case changed and needs to be ran again.
     1. 
     2. Figure
     3. Resetting test to Active state
  8. Select the **Run Test** button to start a manual testing session with the web-based test runner.
     1. 
     2. Figure
     3. Starting manual test session
  9. As instructed by the first test step, launch an instance of **Internet Explorer** from the taskbar and then select the **Tailspin Toys** button from the favorites bar at the top.
  10. Move and resize the test runner window and the Internet Explorer window so that you can see both at the same time.
      1. 
      2. Figure
      3. Web based test runner and test site open
  11. Select the **Pass** button to pass the first test step.
      1. 
      2. Figure
      3. Pass step
  12. Follow the remaining steps in the test runner to finish the test run.
      1. 
      2. Figure
      3. Web based test runner showing completed test run
  13. Select the ‘**+**’ button in the test runner followed by the **Add Comment** option.
      1. 
      2. Figure
      3. Adding a comment
  14. Add a comment such as “**Have we considered turning this into a coded UI test?**”
      1. 
      2. Figure
      3. Adding a comment
  15. Select the **Save and Close** button to finish the test run.
      1. 
      2. Figure
      3. Saving the test run results
  16. Return to test suite 7 in the web portal and note that the test case now shows that it passed once again.
      1. 
      2. Figure
      3. Test case passed

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