[MS-SPWFCSOM]:

SharePoint Workflow Client-Side Object Model Protocol

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1 Introduction

The SharePoint Workflow Client-Side Object Model Protocol provides types, methods, and properties to enable a protocol client to manage and interact with workflow functionality on a collaboration server.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in [RFC2119]. Sections 1.5 and 1.9 are also normative but do not contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are specific to this document:

action: A unit of work that can be performed by a workflow and is typically defined in a workflow markup file.

activity: An object that stores information about either an **action** or an activity model.

application: A participant that is responsible for beginning, propagating, and completing an atomic transaction. An application communicates with a transaction manager in order to begin and complete transactions. An application communicates with a transaction manager in order to marshal transactions to and from other applications. An application also communicates in application-specific ways with a resource manager in order to submit requests for work on resources.

association form: A form that provides parameters for a **workflow association**.

authentication: The act of proving an identity to a server while providing key material that binds the identity to subsequent communications.

collateral file: Any file stored with a workflow definition. This file is intended to be used for management of the workflow definition, or to initiate and control of an instance of the workflow definition.

Coordinated Universal Time (UTC): A high-precision atomic time standard that approximately tracks Universal Time (UT). It is the basis for legal, civil time all over the Earth. Time zones around the world are expressed as positive and negative offsets from UTC. In this role, it is also referred to as Zulu time (Z) and Greenwich Mean Time (GMT). In these specifications, all references to UTC refer to the time at UTC-0 (or GMT).

CSOM array: An ordered collection of values that can be used in an **XML** request or **JSON** response text. The values are identified by their position and their position is determined by a zero-based integer index.

CSOM Boolean: A Boolean value that can be used in an **XML** request or **JSON** response text. A CSOM Boolean value is either "true" or "false".

CSOM DateTime: An Int64 value that represents the number of 100-nanosecond time intervals that have elapsed since 12:00:00, January 1, 0001. It can be used in an **XML** request or as a string in **JSON** response text. The value can represent time intervals through 23:59:59.9999999, December 31, 9999. It can also specify whether a local, **UTC**, or no time zone applies.

CSOM dictionary: An object that contains an unordered collection of key/value pairs that can be used in an **XML** request or **JSON** response text. Each key in a CSOM dictionary has a unique name.

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CSOM GUID: A **GUID**, as described in [MS-DTYP], that can be used in an **XML** request or as a string in **JSON** response text.

CSOM Int32: A 32-bit, signed integer value, which is the INT32 type described in [MS-DTYP], that can be used in an **XML** request or as a number in **JSON** response text. The range of CSOM Int32 values is from "-2147483648" to "2147483647".

CSOM Stream: A series of bytes that is used to transfer data and that supports reading, writing, and seeking.

CSOM String: A representation of text as a series of Unicode characters. It can be used in an **XML** request or **JSON** response text.

empty GUID: A 128-bit, 16-byte identification number that is represented by all zeros.

event: (1) Any significant occurrence in a system or an application that requires users to be notified or an entry to be added to a log.

(2) An action or occurrence to which an application might respond. Examples include state changes, data transfers, key presses, and mouse movements.

event receiver: A structured modular component that enables built-in or user-defined managed code classes to act upon objects, such as list items, **lists**, or content types, when specific triggering actions occur.

Extensible Application Markup Language (XAML): A declarative XML-based language that is used to represent a tree of objects. XAML markup is stored in .xaml files or, for workflow schemas, .xoml files.

field: (1) An element or attribute (1) in a data source that can contain data.

(2) A container for metadata within a SharePoint list and associated list items.

globally unique identifier (GUID): A term used interchangeably with universally unique identifier (UUID) in Microsoft protocol technical documents (TDs). Interchanging the usage of these terms does not imply or require a specific algorithm or mechanism to generate the value. Specifically, the use of this term does not imply or require that the algorithms described in [RFC4122] or [C706] must be used for generating the **GUID**. See also universally unique identifier (UUID).

item: A unit of content that can be indexed and searched by a search application.

JavaScript Object Notation (JSON): A text-based, data interchange format that is used to transmit structured data, typically in Asynchronous JavaScript + XML (AJAX) web applications, as described in [RFC4627]. The JSON format is based on the structure of ECMAScript (Jscript, JavaScript) objects.

leaf name: The segment of a URL that follows the last slash. If the resource is a directory, the leaf name can be an empty string (1).

list: A container within a SharePoint site that stores list items. A list has a customizable schema that is composed of one or more fields.

list item: An individual entry within a SharePoint list. Each list item has a schema that maps to fields in the list that contains the item, depending on the content type of the item.

published: A condition of portions of a workbook that are marked as being available to the user when that workbook is processed by a protocol server.

site: A group of related pages and data within a SharePoint site collection. The structure and content of a site is based on a site definition. Also referred to as SharePoint site and web site.

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solution package: A compressed file that can be deployed to a server farm or a site. It can contain assemblies, resource files, site and feature definitions, templates, code access security policies, and Web Parts. Solution packages have a .wsp file name extension.

Uniform Resource Locator (URL): A string of characters in a standardized format that identifies a document or resource on the World Wide Web. The format is as specified in [RFC1738].

workflow: A structured modular component that enables the automated movement of documents or items through a specific sequence of actions or tasks that are related to built-in or user-defined business processes.

workflow association: An association of a workflow template to a specific list or content type.

workflow host: A service that runs XAML workflows.

workflow identifier: A GUID that is used to identify a workflow.

workflow initiation form: An implementation-specific file, typically an ASPX page, that is a part of a workflow. It contains fields and other elements that can be used to initiate a process for a list item, based on the rules and settings in a workflow template that is associated with the list that contains the item.

workflow instance: An instance of a workflow association that performs on a list item the process that is defined in a workflow template.

workflow store: A stored collection of workflow definitions, **workflow associations**, and files that are related to workflows.

workflow subscription: A relationship that determines the data a **workflow** uses and when the workflow will launch.

XML: The Extensible Markup Language, as described in [XML1.0].

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined in [RFC2119]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the Errata.

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information.

[MS-CSOMSPT] Microsoft Corporation, "SharePoint Client-Side Object Model Protocol".

[MS-CSOM] Microsoft Corporation, "SharePoint Client Query Protocol".

[MS-SPPTC] Microsoft Corporation, "User Code Execution Protocol".

[MS-WSSCAML] Microsoft Corporation, "Collaborative Application Markup Language (CAML) Structure".

[MS-WSSTS] Microsoft Corporation, "Windows SharePoint Services".

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[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, http://www.rfc-editor.org/rfc/rfc2119.txt

1.2.2 Informative References

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, http://www.rfc-editor.org/rfc/rfc2616.txt

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, http://www.rfc-editor.org/rfc/rfc2818.txt

[RFC4627] Crockford, D., "The application/json Media Type for JavaScript Object Notation (JSON)", RFC 4627, July 2006, http://www.ietf.org/rfc/rfc4627.txt

1.3 Overview

This protocol defines types, methods, and properties that protocol clients use to manage **workflows** on a **site** on a protocol server. The types, properties, and methods enable remote clients to manage **workflow associations**, to send workflow **events**, to control or to query **workflow instances**, and to manage workflow definitions and **actions**.

1.4 Relationship to Other Protocols

This protocol is a set of types, properties, and methods that can be accessed by using the SharePoint Client Query Protocol as described in [MS-CSOM]. This protocol uses JSON as described in [RFC4627] to format data returned to a protocol client. This protocol also uses HTTP, as described in [RFC2616], and HTTPS, as described in [RFC2818] as the transport. The dependencies for this protocol are shown in the following layering diagram.

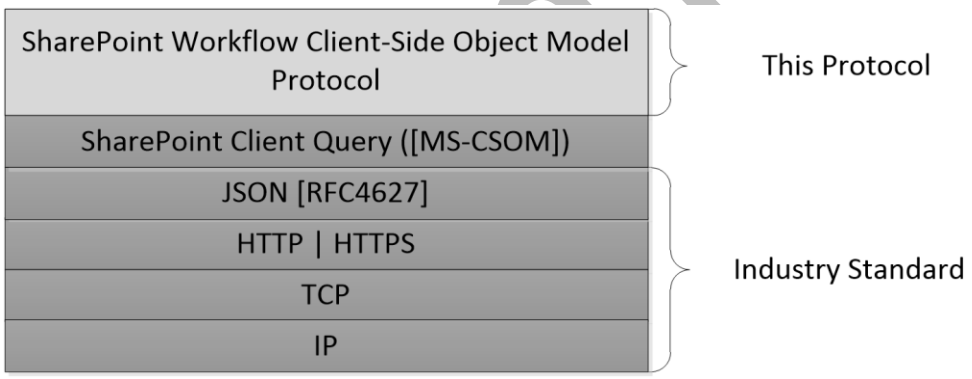

Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against workflows on a site that is identified by a **Uniform Resource Locator (URL)** that is recognized by protocol clients. This protocol assumes that **authentication** has been performed by underlying protocols.

1.6 Applicability Statement

This protocol can be used by a protocol client to manage workflows on a protocol server. This protocol is optimized to enable a protocol client to specify the exact set of data and operations to perform in a single batch, making it a suitable solution when the connection speed between the protocol client and

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the protocol server is slow. This protocol is not suitable and is inefficient if both the protocol client and protocol server are on the same computer. In this case, the protocol client can use an API that does not require communication over a network.

1.7 Versioning and Capability Negotiation

- Security and Authentication Methods: This protocol operates in the context of the authenticated user that made a request to the service, and that it runs in the context of a particular site.
- Localization: Localization-specific properties, such as the title of a **list**, are returned by using the preferred language of the user, if available, or by using the default language of the site as a fallback. Certain properties can be read or written for specific locales, and are listed in the document.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

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2 Messages

2.1 Transport

Messages are transported by using the SharePoint Client Query Protocol, as specified in [MS-CSOM].

2.2 Message Syntax

None.

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3 Protocol Details

3.1 Server Details

3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This specification does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this specification.

This protocol deals with various structures associated with sites, lists, **items**, navigation, and other structures as specified in [MS-WSSTS].

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

None.

3.1.5 Message Processing Events and Sequencing Rules

3.1.5.1 Microsoft.SharePoint.Client.WorkflowServices.WorkflowDefinition

TypeId: {60320D36-4B4D-4BAC-A092-8F8B5610EDCD}

ShortName: SP.WorkflowServices.WorkflowDefinition

Represents a workflow definition and associated properties.

3.1.5.1.1 Properties

3.1.5.1.1.1 Scalar Properties

3.1.5.1.1.1.1 Description

Type: **CSOM String**

Accessibility: Read/Write

Specifies the description for **WorkflowDefinition** (section 3.1.5.1).

3.1.5.1.1.1.2 DisplayName

Type: CSOM String

Accessibility: Read/Write

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Specifies the display name for **WorkflowDefinition** (section 3.1.5.1).

3.1.5.1.1.1.3 Id

Type: **CSOM GUID**

Accessibility: Read/Write

Specifies the **workflow identifier** for **WorkflowDefinition** (section 3.1.5.1).

3.1.5.1.1.1.4 Properties

Type: **CSOM dictionary**

Accessibility: Read Only

Gets the custom properties for **WorkflowDefinition** (section 3.1.5.1).

3.1.5.1.1.1.5 Xaml

Type: CSOM String

Accessibility: Read/Write

Specifies the **XAML** for **WorkflowDefinition** (section 3.1.5.1).

3.1.5.1.1.1.6 AssociationUrl

Type: CSOM String

Accessibility: Read/Write

Specifies the Uniform Resource Locator (URL) of the **association form**.

Remarks:

If the value is null or empty, the workflow has no association form.

3.1.5.1.1.1.7 FormField

Type: CSOM String

Accessibility: Read/Write

Defines the **fields** of the **workflow initiation forms** and association forms as specified in [MS-WSSCAML] section 2.3.2.9.

3.1.5.1.1.1.8 InitiationUrl

Type: CSOM String

Accessibility: Read/Write

Specifies the Uniform Resource Locator (URL) of the workflow initiation form.

Remarks:

If the value is null or empty, the workflow has no workflow initiation form.

3.1.5.1.1.1.9 RequiresAssociationForm

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Type: **CSOM Boolean**

Accessibility: Read/Write

Determines whether to automatically generate an association form for this workflow.

Remarks:

If the value is true, and the **AssociationUrl** (section 3.1.5.1.1.1.6) is not already set, a default association form is automatically generated for the workflow when **SaveDefinition** (section 3.1.5.8.2.1.6) is called.

3.1.5.1.1.1.10 RequiresInitiationForm

Type: CSOM Boolean

Accessibility: Read/Write

Determines whether to automatically generate a workflow initiation form for this workflow.

Remarks:

If the value is true, and the **InitiationUrl** (section 3.1.5.1.1.1.8) is not already set, a default workflow initiation form is automatically generated for the workflow when **SaveDefinition** (section 3.1.5.8.2.1.6) is called.

3.1.5.1.1.1.11 Published

Type: CSOM Boolean

Accessibility: Read Only

"true" if the **WorkflowDefinition** (section 3.1.5.1) has been published to the external **workflow host**; "false" if the **WorkflowDefinition** is only saved on the site.

3.1.5.1.1.1.12 RestrictToScope

Type: CSOM String

Accessibility: Read/Write

Specifies the restricted scope of the **WorkflowDefinition** (section 3.1.5.1).

Remarks:

RestrictToScope is a **GUID** value, used in conjunction with the **RestrictToType** property to further restrict the scope of the definition. For example, if the **RestrictToType** is "List", then setting the **RestrictToScope** to a particular list identifier limits the definition to be associable only to the specified list. If the **RestrictToType** is "List" but the **RestrictToScope** is null or the empty string, then the definition is associable to any list.

3.1.5.1.1.1.13 RestrictToType

Type: CSOM String

Accessibility: Read/Write

Specifies the restricted type of the **WorkflowDefinition** (section 3.1.5.1).

Remarks:

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RestrictToType determines the possible event source type for a workflow subscription that uses this definition. Possible values include "List", "Site", the empty string, or null. For example, a value of "List" indicates this definition is a list workflow and can only be associated to a list. An empty string or null value indicates this definition is a universal template, available to associate to any type.

3.1.5.1.1.1.14 DraftVersion

Type: CSOM String

Accessibility: Read/Write

Identifier for a draft version of a **WorkflowDefinition** (section 3.1.5.1).

Remarks:

If **SaveDefinition** (section 3.1.5.8.2.1.6) is called with a **WorkflowDefinition** (section 3.1.5.1) identifier that matches the identifier of a **WorkflowDefinition** on the server, then the **DraftVersion** of the **WorkflowDefinition** MUST match the **DraftVersion** of the **WorkflowDefinition** on the server.

3.1.5.1.1.2 ObjectPath Properties

None.

3.1.5.1.2 Methods

3.1.5.1.2.1 Scalar Methods

3.1.5.1.2.1.1 SetProperty

Return Type: None

This method adds a key-value pair (propertyName, value) to the **WorkflowDefinition** (section 3.1.5.1) object's property bag.

Parameters:

propertyName: Name of the property to add.

Type: CSOM String

value: Value of the property to add.

Type: CSOM String

3.1.5.1.2.2 ObjectPath Methods

3.1.5.1.2.2.1 CSOM Constructor

Creates an instance of the **WorkflowDefinition** (section 3.1.5.1) object.

Parameters: None

3.1.5.2 Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

TypeId: {AEC0FE18-F5E5-4C65-A9D3-550B4169B1BC}

ShortName: SP.WorkflowServices.WorkflowInstance

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Represents a workflow instance.

3.1.5.2.1 Properties

3.1.5.2.1.1 Scalar Properties

3.1.5.2.1.1.1 InstanceCreated

Type: **CSOM DateTime**

Accessibility: Read Only

Gets the **Coordinated Universal Time (UTC)** when this **WorkflowInstance** (section 3.1.5.2) was created.

3.1.5.2.1.1.2 LastUpdated

Type: CSOM DateTime

Accessibility: Read Only

Gets the Coordinated Universal Time (UTC) when this **WorkflowInstance** (section 3.1.5.2) state was last persisted.

3.1.5.2.1.1.3 Properties

Type: CSOM dictionary

Accessibility: Read Only

Specifies the properties of this **WorkflowInstance** (section 3.1.5.2).

3.1.5.2.1.1.4 Status

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowStatus

Accessibility: Read Only

Specifies the runtime status of this **WorkflowInstance** (section 3.1.5.2).

3.1.5.2.1.1.5 UserStatus

Type: CSOM String

Accessibility: Read/Write

Specifies the custom status set by workflow authors of this **WorkflowInstance** (section 3.1.5.2).

3.1.5.2.1.1.6 WorkflowSubscriptionId

Type: CSOM GUID

Accessibility: Read Only

Gets the unique identifier of the subscription that instantiates the **WorkflowInstance** (section 3.1.5.2).

3.1.5.2.1.1.7 Id

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Type: CSOM GUID

Accessibility: Read Only

Gets the unique identifier of the **WorkflowInstance** (section 3.1.5.2).

3.1.5.2.1.1.8 FaultInfo

Type: CSOM String

Accessibility: Read Only

Contains the error string or exception information if the workflow faults.

3.1.5.2.1.2 ObjectPath Properties

None.

3.1.5.2.2 Methods

3.1.5.2.2.1 Scalar Methods

None.

3.1.5.2.2.2 ObjectPath Methods

None.

3.1.5.3 Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceCollection

TypeId: {AEC0FE18-F5E5-4C65-A9D3-550B4169B1BB}

ShortName: SP.WorkflowServices.WorkflowInstanceCollection

A collection of **WorkflowInstance** (section 3.1.5.2) objects.

3.1.5.3.1 Properties

3.1.5.3.1.1 Scalar Properties

None.

3.1.5.3.1.2 ObjectPath Properties

None.

3.1.5.3.2 Methods

3.1.5.3.2.1 Scalar Methods

None.

3.1.5.3.2.2 ObjectPath Methods

None.

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3.1.5.4 Microsoft.SharePoint.Client.WorkflowServices.WorkflowServicesManager

TypeId: {4CCC7F0E-BF7E-4477-999C-6458A73D0039}

ShortName: SP.WorkflowServices.WorkflowServicesManager

Describes the workflow host configuration states and provides service objects that interact with the workflow.

3.1.5.4.1 Properties

3.1.5.4.1.1 Scalar Properties

3.1.5.4.1.1.1 AppId

Type: CSOM String

Accessibility: Read Only

The current **application** identifier.

3.1.5.4.1.1.2 IsConnected

Type: CSOM Boolean

Accessibility: Read Only

Indicates whether this workflow service is actively connected to a workflow host.

3.1.5.4.1.1.3 ScopePath

Type: CSOM String

Accessibility: Read Only

Returns the path of the current scope in the workflow host.

3.1.5.4.1.1.4 ServiceHealthStatus

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowServiceHealthStatus

Accessibility: Read Only

3.1.5.4.1.2 ObjectPath Properties

3.1.5.4.1.2.1 Current

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowServicesManager

Accessibility: Read Only

Returns the **WorkflowServicesManager** (section 3.1.5.4) for the current **Web** ([MS-CSOMSPT] section 3.2.5.143) context.

3.1.5.4.2 Methods

3.1.5.4.2.1 Scalar Methods

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3.1.5.4.2.1.1 IsIntegratedApp

Return Type: CSOM Boolean

Parameters: None

3.1.5.4.2.2 ObjectPath Methods

3.1.5.4.2.2.1 GetWorkflowDeploymentService

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowDeploymentService

Returns the **WorkflowDeploymentService** (section 3.1.5.8), which manages **WorkflowDefinition** (section 3.1.5.1) objects and activities.

Parameters: None

3.1.5.4.2.2.2 GetWorkflowInstanceService

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceService

Returns the **WorkflowInstanceService** (section 3.1.5.9), which manages workflow instances.

Parameters: None

3.1.5.4.2.2.3 GetWorkflowInteropService

Return Type: Microsoft.SharePoint.Client.WorkflowServices.InteropService

Returns the **InteropService** (section 3.1.5.7), which provides methods to start or to wait for other workflows.

Parameters: None

3.1.5.4.2.2.4 GetWorkflowSubscriptionService

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionService

Returns the **WorkflowSubscriptionService** (section 3.1.5.10), which manages **workflow subscriptions**.

Parameters: None

3.1.5.4.2.2.5 CSOM Constructor

Creates an instance of the **WorkflowServicesManager** (section 3.1.5.4) scoped to the specified **Web** ([MS-CSOMSPT] section 3.2.5.143).

Parameters:

web: The **Web** in which the **WorkflowServicesManager** will operate. The **WorkflowServicesManager** can be used to return instances of objects that allow management and interaction with workflow services, and these will be scoped to the **Web** specified by this constructor.

Type: Microsoft.SharePoint.Client.Web

3.1.5.5 Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

TypeId: {D185EDE6-C3C3-4D37-9E8C-2382DEB37708}

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ShortName: SP.WorkflowServices.WorkflowSubscription

Represents a workflow subscription. Updating this subscription will asynchronously update the subscription in the external workflow host.

3.1.5.5.1 Properties

3.1.5.5.1.1 Scalar Properties

3.1.5.5.1.1.1 DefinitionId

Type: CSOM GUID

Accessibility: Read/Write

Specifies the identifier of the **WorkflowDefinition** (section 3.1.5.1) that this **WorkflowSubscription** (section 3.1.5.5) will use.

3.1.5.5.1.1.2 EventSourceId

Type: CSOM GUID

Accessibility: Read/Write

Specifies a unique identifier for the logical source of the event. Used by the **EnumerateSubscriptionsByEventSource** (section 3.1.5.10.2.2.3).

3.1.5.5.1.1.3 Id

Type: CSOM GUID

Accessibility: Read/Write

Gets or sets the unique identifier of this **WorkflowSubscription** (section 3.1.5.5).

3.1.5.5.1.1.4 Name

Type: CSOM String

Accessibility: Read/Write

Gets or sets the display name of this **WorkflowSubscription** (section 3.1.5.5).

3.1.5.5.1.1.5 PropertyDefinitions

Type: CSOM dictionary

Accessibility: Read Only

Specifies the set of properties that will be available to the workflow instance at runtime.

3.1.5.5.1.1.6 Enabled

Type: CSOM Boolean

Accessibility: Read/Write

Enables or disables this **WorkflowSubscription** (section 3.1.5.5). When "false", new instances of the subscription cannot be started, but existing instances will continue to run.

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3.1.5.5.1.1.7 StatusFieldName

Type: CSOM String

Accessibility: Read/Write

Gets or sets the name of the workflow status field (2) on the list.

Remarks:

Only used for list workflows. If the value is null or the empty string, then a new status field will be created on the specified list when calling **PublishSubscriptionForList** (section 3.1.5.10.2.1.3), and **StatusFieldName** is then set to the name of the new status field.

3.1.5.5.1.1.8 EventTypes

Type: **CSOM array** of CSOM String

Accessibility: Read/Write

Specifies the list of event (1) types that this **WorkflowSubscription** (section 3.1.5.5) monitors.

For list events, these map to an **SPEventReceiverType** enumeration value, as specified in [MS-SPPTC] section 2.2.1.5.

3.1.5.5.1.1.9 ManualStartBypassesActivationLimit

Type: CSOM Boolean

Accessibility: Read/Write

If the value is **true**, then multiple workflow instances can be manually started on the same **list item** at the same time. Otherwise, the maximum number of workflow instances is limited. Only applicable on list workflows.

3.1.5.5.1.1.10 ParentContentTypeId

Type: CSOM String

Accessibility: Read/Write

3.1.5.5.1.2 ObjectPath Properties

None.

3.1.5.5.2 Methods

3.1.5.5.2.1 Scalar Methods

3.1.5.5.2.1.1 SetProperty

Return Type: None

Specifies the properties for the **PropertyDefinitions** (section 3.1.5.5.1.1.5).

Parameters:

name: The name of the property.

Type: CSOM String

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value: The value of the property.

Type: CSOM String

3.1.5.5.2.1.2 GetExternalVariable

Return Type: CSOM String

Returns the value associated with the external variable name.

Parameters:

name: The name of the external variable.

Type: CSOM String

3.1.5.5.2.1.3 SetExternalVariable

Return Type: None

Specifies the default value for this external variable.

Parameters:

name: The name of the external variable.

Type: CSOM String

value: The value of the external variable.

Type: CSOM String

3.1.5.5.2.2 ObjectPath Methods

3.1.5.5.2.2.1 CSOM Constructor

Creates an instance of the **WorkflowSubscription** (section 3.1.5.5) object.

Parameters: None

3.1.5.6 Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionCollection

TypeId: {D185EDE6-C3C3-4D37-9E8C-2382DEB37707}

ShortName: SP.WorkflowServices.WorkflowSubscriptionCollection

A collection of **WorkflowSubscription** (section 3.1.5.5) objects.

3.1.5.6.1 Properties

3.1.5.6.1.1 Scalar Properties

None.

3.1.5.6.1.2 ObjectPath Properties

None.

3.1.5.6.2 Methods

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3.1.5.6.2.1 Scalar Methods

3.1.5.6.2.1.1 Sort

Return Type: None

Sorts the workflow subscriptions in this collection.

Parameters: None

3.1.5.6.2.2 ObjectPath Methods

None.

3.1.5.7 Microsoft.SharePoint.Client.WorkflowServices.InteropService

TypeId: {AEDA1AE7-A445-429D-AD92-1D6B00DF7102}

ShortName: SP.WorkflowServices.InteropService

Allows the workflows to call other workflows.

3.1.5.7.1 Properties

3.1.5.7.1.1 Scalar Properties

None.

3.1.5.7.1.2 ObjectPath Properties

3.1.5.7.1.2.1 Current

Type: Microsoft.SharePoint.Client.WorkflowServices.InteropService

Accessibility: Read Only

Gets the current **InteropService** (section 3.1.5.7) for this request.

3.1.5.7.2 Methods

3.1.5.7.2.1 Scalar Methods

3.1.5.7.2.1.1 CancelWorkflow

Return Type: None

Stops a workflow.

Parameters:

instanceId: Identifier of the workflow to cancel.

Type: CSOM GUID

3.1.5.7.2.1.2 DisableEvents

Return Type: None

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Removes workflow events from an object.

Parameters:

listId: Identifier of a list on which to remove workflow (2) events. Use an **empty GUID** to specify events that SHOULD be disabled at the higher web scope.

Type: CSOM GUID

itemGuid: GUID that identifies a list item. Use an empty GUID to ignore the parameter.

Type: CSOM GUID

3.1.5.7.2.1.3 EnableEvents

Return Type: None

Enables workflow events on an object.

Parameters:

listId: Optional identifier of a list on which to enable workflow events. Use an empty GUID to specify events should be enabled at the higher web scope.

Type: CSOM GUID

itemGuid: GUID that identifies a list item. Use an empty GUID to ignore the parameter.

Type: CSOM GUID

3.1.5.7.2.1.4 StartWorkflow

Return Type: CSOM GUID

Starts a workflow.

Parameters:

associationName: The association name of the workflow to start.

Type: CSOM String

correlationId: GUID that represents this request.

Type: CSOM GUID

listId: Identifier of a list on which to start. Use an empty GUID to specify this is a site workflow that runs at the scope of the web rather than a specific list.

Type: CSOM GUID

itemGuid: GUID that identifies a list item. Use an empty GUID for site workflows.

Type: CSOM GUID

workflowParameters: Parameters passed to the new workflow.

Type: CSOM dictionary

3.1.5.7.2.2 ObjectPath Methods

None.

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3.1.5.8 Microsoft.SharePoint.Client.WorkflowServices.WorkflowDeploymentService

TypeId: {3573A52F-3A27-4700-A08E-822C191C2C5D}

ShortName: SP.WorkflowServices.WorkflowDeploymentService

Manages the **WorkflowDefinition** (section 3.1.5.1) objects and **activity** authoring.

3.1.5.8.1 Properties

3.1.5.8.1.1 Scalar Properties

None.

3.1.5.8.1.2 ObjectPath Properties

None.

3.1.5.8.2 Methods

3.1.5.8.2.1 Scalar Methods

3.1.5.8.2.1.1 DeleteDefinition

Return Type: None

Deletes a **WorkflowDefinition** (section 3.1.5.1).

Parameters:

definitionId: Identifier of the **WorkflowDefinition** (section 3.1.5.1).

Type: CSOM GUID

3.1.5.8.2.1.2 DeprecateDefinition

Return Type: None

Marks a **WorkflowDefinition** (section 3.1.5.1) object as deprecated.

Parameters:

definitionId: Identifier of the definition to deprecate.

Type: CSOM GUID

3.1.5.8.2.1.3 GetActivitySignatures

Return Type: CSOM dictionary

Returns a collection of **XML** that represents the signature of a XAML (section 3.1.5.1.1.1.5) class.

Parameters:

lastChanged: The time to check for latest changes. Any signatures older than this time are excluded.

Type: CSOM DateTime

3.1.5.8.2.1.4 GetDesignerActions

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Return Type: CSOM String

Returns the list of valid workflow actions for this server.

Parameters:

web: The site from which to read the workflow actions.

Type: Microsoft.SharePoint.Client.Web

3.1.5.8.2.1.5 PublishDefinition

Return Type: None

Publishes a **WorkflowDefinition** (section 3.1.5.1) to the **workflow store**.

Parameters:

definitionId: The identifier of the definition to publish.

Type: CSOM GUID

3.1.5.8.2.1.6 SaveDefinition

Return Type: CSOM GUID

Returns the unique identifier of the **WorkflowDefinition** (section 3.1.5.1) in the workflow store.

Parameters:

definition: The definition to save.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowDefinition

3.1.5.8.2.1.7 ValidateActivity

Return Type: CSOM String

Validates the activity against the workflow store. Returns the error message encountered during validation, or null if successful.

Parameters:

activityXaml: The activity to validate.

Type: CSOM String

3.1.5.8.2.1.8 DeleteCollateral

Return Type: None

Deletes the URL of a **collateral file** for a **WorkflowDefinition** (section 3.1.5.1).

Parameters:

workflowDefinitionId: Identifier of the **WorkflowDefinition** (section 3.1.5.1).

Type: CSOM GUID

leafFileName: The **leaf name** of the collateral file.

Type: CSOM String

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3.1.5.8.2.1.9 GetCollateralUri

Return Type: CSOM String

Retrieves the URL of a collateral file for a **WorkflowDefinition** (section 3.1.5.1).

Parameters:

workflowDefinitionId: Identifier of the **WorkflowDefinition** (section 3.1.5.1).

Type: CSOM GUID

leafFileName: The leaf name of the collateral file.

Type: CSOM String

3.1.5.8.2.1.10 PackageDefinition

Return Type: CSOM String

Returns a Uniform Resource Locator (URL) to the **solution package** generated from a single **WorkflowDefinition** (section 3.1.5.1).

Parameters:

definitionId: The ID of the definition to package.

Type: CSOM GUID

packageDefaultFilename: The default file name to choose for the new package.

Type: CSOM String

packageTitle: The package title.

Type: CSOM String

packageDescription: The package description.

Type: CSOM String

3.1.5.8.2.1.11 SaveCollateral

Return Type: None

Saves the collateral file for a **WorkflowDefinition** (section 3.1.5.1).

Parameters:

workflowDefinitionId: Identifier of the **WorkflowDefinition** (section 3.1.5.1).

Type: CSOM GUID

leafFileName: The leaf name of the collateral file.

Type: CSOM String

fileContent: File content of the collateral file.

Type: **CSOM Stream**

3.1.5.8.2.1.12 IsIntegratedApp

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Return Type: CSOM Boolean

Parameters: None

3.1.5.8.2.2 ObjectPath Methods

3.1.5.8.2.2.1 GetDefinition

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowDefinition

Returns a **WorkflowDefinition** (section 3.1.5.1) from the workflow store.

Parameters:

definitionId: The identifier of the definition to retrieve.

Type: CSOM GUID

3.1.5.8.2.2.2 EnumerateDefinitions

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowDefinitionCollection

Returns the **WorkflowDefinition** (section 3.1.5.1) objects from the workflow store that match the specified parameters.

Parameters:

publishedOnly: "true" if only **published** workflows should be returned.

Type: CSOM Boolean

3.1.5.8.2.2.3 EnumerateIntegratedApps

Return Type: CSOM array of Microsoft.SharePoint.Client.AppInstance

Parameters: None

3.1.5.9 Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceService

TypeId: {71252277-2470-4022-BCAF-C4657AA118C3}

ShortName: SP.WorkflowServices.WorkflowInstanceService

Manages and reads workflow instances from the workflow host.

3.1.5.9.1 Properties

3.1.5.9.1.1 Scalar Properties

None.

3.1.5.9.1.2 ObjectPath Properties

3.1.5.9.1.2.1 Current

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceService

Accessibility: Read Only

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Returns the current instance of the **WorkflowInstanceService** (section 3.1.5.9)

3.1.5.9.2 Methods

3.1.5.9.2.1 Scalar Methods

3.1.5.9.2.1.1 CancelWorkflow

Return Type: None

Sends a cancel message to a workflow specified by the given instance.

Parameters:

instance: The **WorkflowInstance** (section 3.1.5.2) to cancel.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

3.1.5.9.2.1.2 StartWorkflow

Return Type: CSOM GUID

Starts a **WorkflowInstance** (section 3.1.5.2) specified by the given workflow subscription and payload.

Parameters:

subscription: The **WorkflowSubscription** (section 3.1.5.5) from which to start a new **WorkflowInstance** (section 3.1.5.2).

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

payload: Parameters to pass into the **WorkflowInstance** (section 3.1.5.2).

Type: CSOM dictionary

3.1.5.9.2.1.3 TerminateWorkflow

Return Type: None

Terminates a workflow specified by the given workflow instance).

Parameters:

instance: The **WorkflowInstance** (section 3.1.5.2) to terminate.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

3.1.5.9.2.1.4 PublishCustomEvent

Return Type: None

Sends a custom event and its payload to a workflow specified by the given workflow instance.

Parameters:

instance: The **WorkflowInstance** (section 3.1.5.2) to receive the custom event.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

eventName: Name of the custom event.

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Type: CSOM String

payload: Payload of the custom event.

Type: CSOM String

3.1.5.9.2.1.5 CountInstances

Return Type: CSOM Int32

Returns a count of all the workflow instances of the specified **WorkflowSubscription** (section 3.1.5.5).

Parameters:

parentSubscription: The parent workflow subscription of the instances to count.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

3.1.5.9.2.1.6 CountInstancesWithStatus

Return Type: CSOM Int32

Returns a count of the workflow instances of the specified **WorkflowSubscription** (section 3.1.5.5) with the specified status.

Parameters:

parentSubscription: The parent workflow subscription of the instances to count.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

status: Only instances with this status (section 3.1.5.12) value are counted. If the value is **WorkflowStatus.NotSpecified** (section 3.1.5.12.1.8), instances in all statuses are counted.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowStatus

3.1.5.9.2.1.7 StartWorkflowOnListItem

Return Type: CSOM GUID

Starts a **WorkflowInstance** (section 3.1.5.2) specified by the given workflow subscription on the given list item, and passes additional parameters.

Parameters:

subscription: The **WorkflowSubscription** (section 3.1.5.5) from which to start a new **WorkflowInstance** (section 3.1.5.2).

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

itemId: The identifier of an existing list item on which to start a new **WorkflowInstance** (section 3.1.5.2).

Type: CSOM Int32

payload: Parameters to pass into the **WorkflowInstance** (section 3.1.5.2).

Type: CSOM dictionary

3.1.5.9.2.1.8 GetDebugInfo

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Return Type: CSOM String

Retrieves the debug information for the specified **WorkflowInstance** (section 3.1.5.2) in **JavaScript Object Notation (JSON)** format.

Parameters:

instance: The workflow instance to get debug information for.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

3.1.5.9.2.1.9 ResumeWorkflow

Return Type: None

Resumes a workflow instance.

Parameters:

instance: The workflow instance to resume.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

3.1.5.9.2.1.10 SuspendWorkflow

Return Type: None

Suspends a workflow instance.

Parameters:

instance: The workflow instance to suspend.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

3.1.5.9.2.1.11 StartWorkflowOnListItemBySubscriptionId

Return Type: CSOM GUID

Starts a **WorkflowInstance** (section 3.1.5.2) specified by the given workflow instance id on the given list item, and passes additional parameters.

Parameters:

subscriptionId: The guid of **WorkflowSubscription** (section 3.1.5.5) from which to start a **WorkflowInstance** (section 3.1.5.2).

Type: CSOM GUID

itemId: The identifier of an existing list item on which to start a new **WorkflowInstance** (section 3.1.5.2).

Type: CSOM Int32

payload: Parameters to pass into the **WorkflowInstance** (section 3.1.5.2).

Type: CSOM dictionary

3.1.5.9.2.2 ObjectPath Methods

3.1.5.9.2.2.1 Enumerate

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Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceCollection

Gets a collection of workflow instances started by the specified workflow subscription.

Parameters:

parentSubscription: The **WorkflowSubscription** (section 3.1.5.5) that started the workflow instances.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

3.1.5.9.2.2.2 GetInstance

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstance

Returns a **WorkflowInstance** (section 3.1.5.2) from an external workflow store matching a specified workflow instance identifier.

Parameters:

instanceId: Unique identifier of the **WorkflowInstance** (section 3.1.5.2).

Type: CSOM GUID

3.1.5.9.2.2.3 EnumerateInstancesForListItem

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceCollection

Returns the workflow instances for the specified list item.

Parameters:

listId: The identifier of the list to which the item belongs.

Type: CSOM GUID

itemId: The identifier of the item to get the instances for.

Type: CSOM Int32

3.1.5.9.2.2.4 EnumerateInstancesForSite

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceCollection

Returns the site workflow instances for the current site.

Parameters: None

3.1.5.9.2.2.5 EnumerateInstancesForListItemWithOffset

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceCollection

Returns the collection of up to 100 workflow instances for the specified list item, starting from the specified offset.

Parameters:

listId: The identifier of the list to which the item belongs.

Type: CSOM GUID

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itemId: The identifier of the item to get the workflow instances for.

Type: CSOM Int32

offset: The number of workflow instances to skip before returning the next 100 instances.

Type: CSOM Int32

3.1.5.9.2.2.6 EnumerateInstancesForSiteWithOffset

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceCollection

Returns the collection of up to 100 site workflow instances for the current site, starting from the specified offset.

Parameters:

offset: The number of workflow instances to skip before returning the next 100 instances.

Type: CSOM Int32

3.1.5.9.2.2.7 EnumerateWithOffset

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowInstanceCollection

Returns a collection of up to 100 workflow instances started by the specified subscription, starting from the specified offset.

Parameters:

parentSubscription: The subscription that started the workflow instances to get.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

offset: The number of workflow instances to skip before returning the next 100 instances.

Type: CSOM Int32

3.1.5.10 Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionService

TypeId: {FC956693-2419-4950-8963-52EBC3E46501}

ShortName: SP.WorkflowServices.WorkflowSubscriptionService

Manages workflow subscriptions for a workflow.

3.1.5.10.1 Properties

3.1.5.10.1.1 Scalar Properties

None.

3.1.5.10.1.2 ObjectPath Properties

3.1.5.10.1.2.1 Current

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionService

Accessibility: Read Only

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Returns the current **WorkflowSubscriptionService** (section 3.1.5.10) object.

3.1.5.10.2 Methods

3.1.5.10.2.1 Scalar Methods

3.1.5.10.2.1.1 DeleteSubscription

Return Type: None

Deletes the specified **WorkflowSubscription** (section 3.1.5.5).

Parameters:

subscriptionId: The identifier of the subscription to delete.

Type: CSOM GUID

3.1.5.10.2.1.2 PublishSubscription

Return Type: CSOM GUID

Creates a workflow subscription for a workflow, and returns the unique identifier of the new subscription.

Parameters:

subscription: The **WorkflowSubscription** (section 3.1.5.5) data to publish.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

3.1.5.10.2.1.3 PublishSubscriptionForList

Return Type: CSOM GUID

Creates a workflow subscription for a workflow and if necessary an **event receiver** on the specified list. Also writes an **EventSourceId** (section 3.1.5.5.1.1.2) that matches the list as the event (2) source. Returns the unique identifier of the new subscription.

Parameters:

subscription: The **WorkflowSubscription** (section 3.1.5.5) data to publish.

Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

listId: Identifier for the specified list.

Type: CSOM GUID

3.1.5.10.2.1.4 RegisterInterestInHostWebList

Return Type: None

Parameters:

listId:

Type: CSOM GUID

eventName:

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Type: CSOM String

3.1.5.10.2.1.5 RegisterInterestInList

Return Type: None

Ensures that an event receiver will monitor a list for the specified event (2).

Parameters:

listId: GUID that specifies the list to monitor via an event receiver.

Type: CSOM GUID

eventName: The name of the event (2) to monitor.

Type: CSOM String

3.1.5.10.2.1.6 UnregisterInterestInHostWebList

Return Type: None

Parameters:

listId:

Type: CSOM GUID

eventName:

Type: CSOM String

3.1.5.10.2.1.7 UnregisterInterestInList

Return Type: None

Removes monitoring for an event receiver on the specified list with the specified event.

Parameters:

listId: GUID of the list containing the event receiver to be unregistered.

Type: CSOM GUID

eventName: The name of the event (2) to be removed.

Type: CSOM String

3.1.5.10.2.2 ObjectPath Methods

3.1.5.10.2.2.1 EnumerateSubscriptions

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionCollection

Retrieves a **WorkflowSubscriptionCollection** (section 3.1.5.6) that contains all of the workflow subscriptions on the **Web** ([MS-CSOMSPT] section 3.2.5.143).

Parameters: None

3.1.5.10.2.2.2 EnumerateSubscriptionsByDefinition

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Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionCollection

Retrieves a **WorkflowSubscriptionCollection** (section 3.1.5.6) based on a **WorkflowDefinition** (section 3.1.5.1).

Parameters:

definitionId: Identifier of a **WorkflowDefinition** (section 3.1.5.1) object.

Type: CSOM GUID

3.1.5.10.2.2.3 EnumerateSubscriptionsByEventSource

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionCollection

Retrieves a **WorkflowSubscriptionCollection** (section 3.1.5.6) based on the specified **EventSourceId** (section 3.1.5.5.1.1.2).

Parameters:

eventSourceId: The unique identifier of the **EventSource** (section 3.1.5.5.1.1.2) for the subscriptions.

Type: CSOM GUID

3.1.5.10.2.2.4 EnumerateSubscriptionsByList

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionCollection

Retrieves a **WorkflowSubscriptionCollection** (section 3.1.5.6) based on the specified list.

Parameters:

listId: The unique identifier of the list on which to filter the subscriptions.

Type: CSOM GUID

3.1.5.10.2.2.5 EnumerateSubscriptionsByListAndParentContentType

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionCollection

Parameters:

listId:

Type: CSOM GUID

parentContentTypeId:

Type: Microsoft.SharePoint.Client.ContentTypeId

includeNoContentTypeSpecified:

Type: CSOM Boolean

3.1.5.10.2.2.6 EnumerateSubscriptionsByListWithContentType

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscriptionCollection

Parameters:

listId:

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Type: CSOM GUID

includeContentTypeSpecified:

Type: CSOM Boolean

3.1.5.10.2.2.7 GetSubscription

Return Type: Microsoft.SharePoint.Client.WorkflowServices.WorkflowSubscription

Retrieves an instance of the **WorkflowSubscription** (section 3.1.5.5) based on its unique identifier.

Parameters:

subscriptionId: The unique identifier of the subscription.

Type: CSOM GUID

3.1.5.11 Microsoft.SharePoint.Client.WorkflowServices.WorkflowDefinitionCollection

TypeId: {66F013C8-F126-4F84-BC22-8FD0E9A3E7D3}

ShortName: SP.WorkflowServices.WorkflowDefinitionCollection

Represents a collection of **WorkflowDefinition** (section 3.1.5.1) objects.

3.1.5.11.1 Properties

3.1.5.11.1.1 Scalar Properties

None.

3.1.5.11.1.2 ObjectPath Properties

None.

3.1.5.11.2 Methods

3.1.5.11.2.1 Scalar Methods

3.1.5.11.2.1.1 Sort

Return Type: None

Parameters: None

3.1.5.11.2.2 ObjectPath Methods

None.

3.1.5.12 Microsoft.SharePoint.Client.WorkflowServices.WorkflowStatus

ShortName: SP.WorkflowServices.WorkflowStatus

Flag: false

An enumeration that represents the runtime status of a workflow instance.

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3.1.5.12.1 Field Values

3.1.5.12.1.1 NotStarted

Value: 0

The workflow instance has not started.

3.1.5.12.1.2 Started

Value: 1

The workflow instance has started.

3.1.5.12.1.3 Suspended

Value: 2

The workflow instance was suspended.

3.1.5.12.1.4 Canceling

Value: 3

The workflow instance received a cancel command and is responding to the request.

3.1.5.12.1.5 Canceled

Value: 4

The workflow instance has been canceled.

3.1.5.12.1.6 Terminated

Value: 5

The workflow instance has been terminated.

3.1.5.12.1.7 Completed

Value: 6

The workflow instance has finished running and is in the completed state.

3.1.5.12.1.8 NotSpecified

Value: 7

No status has been specified.

3.1.5.12.1.9 Invalid

Value: 8

The workflow instance is in an invalid state.

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3.1.5.13 Microsoft.SharePoint.Client.WorkflowServices.WorkflowServiceHealthStatus

ShortName: SP.WorkflowServices.WorkflowServiceHealthStatus

Flag: false

3.1.5.13.1 Field Values

3.1.5.13.1.1 Active

Value: 0

3.1.5.13.1.2 NoScope

Value: 1

3.1.5.13.1.3 NotConnected

Value: 2

3.1.5.13.1.4 Suspended

Value: 3

3.1.5.13.1.5 Throttled

Value: 4

3.1.5.13.1.6 Unknown

Value: 5

3.1.5.13.1.7 Unregistered

Value: 6

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

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4 Protocol Examples

4.1 Associate Workflow

In this example, a published workflow definition is associated with a list.

Request:

```
<Request AddExpandoFieldTypeSuffix="true" SchemaVersion="15.0.0.0" LibraryVersion="15.0.0.0"
ApplicationName=".NET Library"
xmlns="http://schemas.microsoft.com/sharepoint/clientquery/2009">
  <Actions>
    <SetProperty Id="78" ObjectPathId="74" Name="DefinitionId">
      <Parameter Type="Guid">{3988dd69-2ffa-45b5-b3f0-5735d4150110}</Parameter>
    </SetProperty>
    <SetProperty Id="79" ObjectPathId="74" Name="EventSourceId">
      <Parameter Type="Guid">{96424cc8-dc44-409d-ad9e-87236ee608a2}</Parameter>
    </SetProperty>
    <SetProperty Id="80" ObjectPathId="74" Name="EventSource">
      <Parameter Type="String">e3137044-d96b-4989-ad80-aed34f0cc10b/375160a8-0ab6-46f2-9b3d-
b987684b30e3/96424cc8-dc44-409d-ad9e-87236ee608a2</Parameter>
    </SetProperty>
    <SetProperty Id="81" ObjectPathId="74" Name="EventType">
      <Parameter Type="String">WorkflowStart</Parameter>
    </SetProperty>
    <SetProperty Id="82" ObjectPathId="74" Name="Name">
      <Parameter Type="String">testWorkflowAssociation1</Parameter>
    </SetProperty>
    <Method Name="PublishSubscription" Id="83" ObjectPathId="30">
      <Parameters>
        <Parameter ObjectPathId="74" />
      </Parameters>
    </Method>
  </Actions>
  <ObjectPaths>
    <Identity Id="74" Name="50e607f0-ceab-4a8c-90c5-81e2f2ba78d9:00000000-0000-0000-0000-
000000000000" />
    <Method Id="30" ParentId="25" Name="GetWorkflowSubscriptionService" />
    <Constructor Id="25" TypeId="{4ccc7f0e-bf7e-4477-999c-6458a73d0039}">
      <Parameters>
        <Parameter ObjectPathId="7" />
      </Parameters>
    </Constructor>
    <Identity Id="7" Name="740c6a0b-85e2-48a0-a494-e0f1759d4aa7:web:375160a8-0ab6-46f2-9b3d-
b987684b30e3" />
  </ObjectPaths>
</Request>
```

Response:

```
[
{
"SchemaVersion":"15.0.0.0","LibraryVersion":"15.0.3427.1000","ErrorInfo":null
},83,"\/Guid(b72d25f3-8327-41d5-836d-ad956da3eb45)\/"
]
```

4.2 Publish Definition

In this example, a saved workflow definition is published.

Request:

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```
<Request AddExpandoFieldTypeSuffix="true" SchemaVersion="15.0.0.0" LibraryVersion="15.0.0.0"
ApplicationName=".NET Library"
xmlns="http://schemas.microsoft.com/sharepoint/clientquery/2009">
  <Actions>
    <Method Name="PublishDefinition" Id="24" ObjectPathId="14">
      <Parameters>
        <Parameter Type="Guid">{3988dd69-2ffa-45b5-b3f0-5735d4150110}</Parameter>
      </Parameters>
    </Method>
  </Actions>
  <ObjectPaths>
    <Method Id="14" ParentId="11" Name="GetWorkflowDeploymentService" />
    <Constructor Id="11" TypeId="{4ccc7f0e-bf7e-4477-999c-6458a73d0039}">
      <Parameters>
        <Parameter ObjectPathId="7" />
      </Parameters>
    </Constructor>
    <Identity Id="7" Name="740c6a0b-85e2-48a0-a494-e0f1759d4aa7:web:375160a8-0ab6-46f2-9b3d-
b987684b30e3" />
  </ObjectPaths>
</Request>
```

Response:

```
[
{
"SchemaVersion":"15.0.0.0","LibraryVersion":"15.0.3427.1000","ErrorInfo":null
}
]
```

4.3 Save Definition

In this example, a **WorkflowDefinition** (section 3.1.5.1) is saved.

Request:

```
<Request AddExpandoFieldTypeSuffix="true" SchemaVersion="15.0.0.0" LibraryVersion="15.0.0.0"
ApplicationName=".NET Library"
xmlns="http://schemas.microsoft.com/sharepoint/clientquery/2009">
  <Actions>
    <SetProperty Id="20" ObjectPathId="16" Name="DisplayName">
      <Parameter Type="String">csomTest2</Parameter>
    </SetProperty>
    <SetProperty Id="21" ObjectPathId="16" Name="Id">
      <Parameter Type="Guid">{3988dd69-2ffa-45b5-b3f0-5735d4150110}</Parameter>
    </SetProperty>
    <SetProperty Id="22" ObjectPathId="16" Name="Xaml">
      <Parameter Type="String">
        &lt;p:Activity mva:VisualBasic.Settings="Assembly references and imported namespaces
for internal implementation" &#xD;
        xmlns:mva="clr-
namespace:Microsoft.VisualBasic.Activities;assembly=System.Activities"&#xD;
        xmlns:p="http://schemas.microsoft.com/netfx/2009/xaml/activities"&#xD;
        xmlns:s="clr-namespace:System;assembly=mscorlib"&#xD;
        xmlns:mv="clr-namespace:Microsoft.VisualBasic;assembly=System" &#xD;
        xmlns:s1="clr-namespace:System;assembly=System" &#xD;
        xmlns:s2="clr-namespace:System;assembly=System.Xml" &#xD;
        xmlns:s3="clr-namespace:System;assembly=System.Core" &#xD;
        xmlns:scg="clr-namespace:System.Collections.Generic;assembly=System" &#xD;
        xmlns:scg1="clr-namespace:System.Collections.Generic;assembly=System.ServiceModel"
&#xD;
        xmlns:scg2="clr-namespace:System.Collections.Generic;assembly=System.Core" &#xD;
        xmlns:scg3="clr-namespace:System.Collections.Generic;assembly=mscorlib" &#xD;
        xmlns:sd="clr-namespace:System.Data;assembly=System.Data" &#xD;
```


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```
        xmlns:sl="clr-namespace:System.Linq;assembly=System.Core" &#xD;
        xmlns:st="clr-namespace:System.Text;assembly=mscorlib"&#xD;
        xmlns:sad="clr-namespace:System.Activities.Debugger;assembly=System.Activities"&#xD;
        xmlns:sapx="clr-
namespace:System.Activities.Presentation.Xaml;assembly=System.Activities.Presentation"&#xD;
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"&gt;&#xD;
        &lt;/p:Activity&gt;
      </Parameter>
    </SetProperty>
    <Method Name="SaveDefinition" Id="23" ObjectPathId="14">
      <Parameters>
        <Parameter ObjectPathId="16" />
      </Parameters>
    </Method>
  </Actions>
  <ObjectPaths>
    <Identity Id="16" Name="98b53367-9eab-45ad-ae5a-6e041f4b3be8:8290b9e3-2772-45fb-8bee-
e502ed37cef3" />
    <Method Id="14" ParentId="11" Name="GetWorkflowDeploymentService" />
    <Constructor Id="11" TypeId="{4ccc7f0e-bf7e-4477-999c-6458a73d0039}">
      <Parameters>
        <Parameter ObjectPathId="7" />
      </Parameters>
    </Constructor>
    <Identity Id="7" Name="740c6a0b-85e2-48a0-a494-e0f1759d4aa7:web:375160a8-0ab6-46f2-9b3d-
b987684b30e3" />
  </ObjectPaths>
</Request>
```

Response:

```
[
{
"SchemaVersion":"15.0.0.0","LibraryVersion":"15.0.3427.1000","ErrorInfo":null
},23,"\/Guid(3988dd69-2ffa-45b5-b3f0-5735d4150110)\/"
]
```

4.4 Start Workflow

In this example, a workflow instance is triggered from an existing workflow association.

Request:

```
<Request AddExpandoFieldTypeSuffix="true" SchemaVersion="15.0.0.0" LibraryVersion="15.0.0.0"
ApplicationName=".NET Library"
xmlns="http://schemas.microsoft.com/sharepoint/clientquery/2009">
  <Actions>
    <Method Name="StartWorkflow" Id="150" ObjectPathId="87">
      <Parameters>
        <Parameter ObjectPathId="131" />
        <Parameter Type="Dictionary">
          <Property Name="ListId" Type="Guid">{96424cc8-dc44-409d-ad9e-
87236ee608a2}</Property>
        </Parameter>
      </Parameters>
    </Method>
  </Actions>
  <ObjectPaths>
    <Method Id="87" ParentId="84" Name="GetWorkflowInstanceService" />
    <Identity Id="131" Name="50e607f0-ceab-4a8c-90c5-81e2f2ba78d9:b72d25f3-8327-41d5-836d-
ad956da3eb45" />
    <Constructor Id="84" TypeId="{4ccc7f0e-bf7e-4477-999c-6458a73d0039}">
      <Parameters>
        <Parameter ObjectPathId="7" />
```


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```
      </Parameters>
    </Constructor>
    <Identity Id="7" Name="740c6a0b-85e2-48a0-a494-e0f1759d4aa7:web:375160a8-0ab6-46f2-9b3d-
b987684b30e3" />
  </ObjectPaths>
</Request>
```

Response:

```
[
{
"SchemaVersion":"15.0.0.0","LibraryVersion":"15.0.3427.1000","ErrorInfo":null
},150,"\/Guid(4f5dc953-22c4-40ad-8ae8-75c3af9bf339)\/"
]
```

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5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

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6 Appendix A: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs.

- Microsoft SharePoint Server 2013

1. Microsoft SharePoint Server 2016 Preview

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

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7 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- The removal of a document from the documentation set.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.
- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

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- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact dochelp@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
6 Appendix A: Product Behavior	Updated list of supported products.	Y	Content updated due to protocol revision.

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