

[MS-SPWFCSOM]: SharePoint Workflow Client-Side Object Model Protocol Specification

Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft [Open Specification Promise](#) or the [Community Promise](#). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights.
- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

Reservation of Rights. All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

Tools. The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

Preliminary Documentation. This Open Specification provides documentation for past and current releases and/or for the pre-release (beta) version of this technology. This Open Specification is final documentation for past or current releases as specifically noted in the document, as applicable; it is preliminary documentation for the pre-release (beta) versions. Microsoft will release final documentation in connection with the commercial release of the updated or new version of this technology. As the documentation may change between this preliminary version and the final version of this technology, there are risks in relying on preliminary documentation. To the extent that you incur additional development obligations or any other costs as a result of relying on this preliminary documentation, you do so at your own risk.

Revision Summary

Date	Revision History	Revision Class	Comments
01/20/2012	0.1	New	Released new document.
04/11/2012	0.1	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1 Introduction	7
1.1 Glossary	7
1.2 References	8
1.2.1 Normative References	8
1.2.2 Informative References	8
1.3 Overview	9
1.4 Relationship to Other Protocols	9
1.5 Prerequisites/Preconditions	9
1.6 Applicability Statement	9
1.7 Versioning and Capability Negotiation	9
1.8 Vendor-Extensible Fields	10
1.9 Standards Assignments	10
2 Messages.....	11
2.1 Transport.....	11
2.2 Message Syntax	11
3 Protocol Details.....	12
3.1 Server Details	12
3.1.1 Abstract Data Model	12
3.1.2 Timers	12
3.1.3 Initialization	12
3.1.4 Higher-Layer Triggered Events	12
3.1.5 Message Processing Events and Sequencing Rules	12
3.1.5.1 Microsoft.SharePoint.WorkflowServices.Client.WorkflowDefinition	12
3.1.5.1.1 Properties	12
3.1.5.1.1.1 Scalar Properties	12
3.1.5.1.1.1.1 Description	12
3.1.5.1.1.1.2 DisplayName	12
3.1.5.1.1.1.3 Id	13
3.1.5.1.1.1.4 Properties	13
3.1.5.1.1.1.5 Version	13
3.1.5.1.1.1.6 Xaml	13
3.1.5.1.1.1.7 AssociationUrl	13
3.1.5.1.1.1.8 FormField	13
3.1.5.1.1.1.9 InitiationUrl	14
3.1.5.1.1.1.10 RequiresAssociationForm	14
3.1.5.1.1.1.11 RequiresInitiationForm	14
3.1.5.1.1.1.12 Published	14
3.1.5.1.1.1.13 RestrictToScope	14
3.1.5.1.1.1.14 RestrictToType	15
3.1.5.1.1.2 ObjectPath Properties	15
3.1.5.1.2 Methods	15
3.1.5.1.2.1 Scalar Methods	15
3.1.5.1.2.1.1 SetProperty	15
3.1.5.1.2.2 ObjectPath Methods	15
3.1.5.1.2.2.1 CSOM Constructor	15
3.1.5.2 Microsoft.SharePoint.WorkflowServices.Client.WorkflowInstance	16
3.1.5.2.1 Properties	16
3.1.5.2.1.1 Scalar Properties	16

3.1.5.2.1.1.1	InstanceCreated	16
3.1.5.2.1.1.2	InstanceName	16
3.1.5.2.1.1.3	LastUpdated	16
3.1.5.2.1.1.4	Properties	16
3.1.5.2.1.1.5	Status	16
3.1.5.2.1.1.6	UserStatus	17
3.1.5.2.1.1.7	WorkflowSubscriptionId	17
3.1.5.2.1.1.8	WorkflowSubscriptionName	17
3.1.5.2.1.1.9	Id	17
3.1.5.2.1.2	ObjectPath Properties.....	17
3.1.5.2.2	Methods.....	17
3.1.5.2.2.1	Scalar Methods.....	17
3.1.5.2.2.2	ObjectPath Methods	17
3.1.5.3	Microsoft.SharePoint.WorkflowServices.Client.WorkflowInstanceCollection	17
3.1.5.3.1	Properties	18
3.1.5.3.1.1	Scalar Properties	18
3.1.5.3.1.2	ObjectPath Properties.....	18
3.1.5.3.2	Methods.....	18
3.1.5.3.2.1	Scalar Methods.....	18
3.1.5.3.2.2	ObjectPath Methods	18
3.1.5.4	Microsoft.SharePoint.WorkflowServices.Client.WorkflowServicesManager.....	18
3.1.5.4.1	Properties	18
3.1.5.4.1.1	Scalar Properties	18
3.1.5.4.1.1.1	IsConfigured.....	18
3.1.5.4.1.1.2	IsConnected	18
3.1.5.4.1.2	ObjectPath Properties.....	19
3.1.5.4.1.2.1	Current.....	19
3.1.5.4.2	Methods.....	19
3.1.5.4.2.1	Scalar Methods.....	19
3.1.5.4.2.2	ObjectPath Methods	19
3.1.5.4.2.2.1	GetWorkflowDeploymentService	19
3.1.5.4.2.2.2	GetWorkflowInstanceService	19
3.1.5.4.2.2.3	GetWorkflowInteropService	19
3.1.5.4.2.2.4	GetWorkflowSubscriptionService	19
3.1.5.4.2.2.5	CSOM Constructor.....	20
3.1.5.5	Microsoft.SharePoint.WorkflowServices.Client.WorkflowStatus.....	20
3.1.5.5.1	Field Values	20
3.1.5.5.1.1	Started.....	20
3.1.5.5.1.2	InProgress	20
3.1.5.5.1.3	Suspended	20
3.1.5.5.1.4	Canceling	20
3.1.5.5.1.5	Canceled	20
3.1.5.5.1.6	Terminated	21
3.1.5.5.1.7	Completed	21
3.1.5.5.1.8	Invalid	21
3.1.5.6	Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscription	21
3.1.5.6.1	Properties	21
3.1.5.6.1.1	Scalar Properties	21
3.1.5.6.1.1.1	DefinitionId	21
3.1.5.6.1.1.2	EventSource	21
3.1.5.6.1.1.3	EventSourceId	21
3.1.5.6.1.1.4	EventType.....	22
3.1.5.6.1.1.5	Id	22

3.1.5.6.1.1.6	Name	22
3.1.5.6.1.1.7	PropertyDefinitions.....	22
3.1.5.6.1.1.8	Enabled	22
3.1.5.6.1.2	ObjectPath Properties.....	22
3.1.5.6.2	Methods.....	22
3.1.5.6.2.1	Scalar Methods.....	22
3.1.5.6.2.1.1	SetProperty	22
3.1.5.6.2.2	ObjectPath Methods.....	23
3.1.5.6.2.2.1	CSOM Constructor	23
3.1.5.7	Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscriptionCollection..	23
3.1.5.7.1	Properties	23
3.1.5.7.1.1	Scalar Properties	23
3.1.5.7.1.2	ObjectPath Properties.....	23
3.1.5.7.2	Methods.....	23
3.1.5.7.2.1	Scalar Methods.....	23
3.1.5.7.2.2	ObjectPath Methods	23
3.1.5.8	Microsoft.SharePoint.WorkflowServices.Client.InteropService	23
3.1.5.8.1	Properties	24
3.1.5.8.1.1	Scalar Properties	24
3.1.5.8.1.2	ObjectPath Properties.....	24
3.1.5.8.1.2.1	Current.....	24
3.1.5.8.2	Methods.....	24
3.1.5.8.2.1	Scalar Methods.....	24
3.1.5.8.2.1.1	CancelWorkflow	24
3.1.5.8.2.1.2	DisableEvents	24
3.1.5.8.2.1.3	EnableEvents.....	24
3.1.5.8.2.1.4	StartWorkflow	25
3.1.5.8.2.2	ObjectPath Methods	25
3.1.5.9	Microsoft.SharePoint.WorkflowServices.Client.WorkflowDeploymentService	25
3.1.5.9.1	Properties	25
3.1.5.9.1.1	Scalar Properties	25
3.1.5.9.1.2	ObjectPath Properties.....	26
3.1.5.9.2	Methods.....	26
3.1.5.9.2.1	Scalar Methods.....	26
3.1.5.9.2.1.1	DeleteDefinition	26
3.1.5.9.2.1.2	DeprecateDefinition	26
3.1.5.9.2.1.3	GetActivitySignatures	26
3.1.5.9.2.1.4	GetDesignerActions	26
3.1.5.9.2.1.5	PublishDefinition	27
3.1.5.9.2.1.6	SaveDefinition	27
3.1.5.9.2.1.7	ValidateActivity	27
3.1.5.9.2.1.8	DeleteCollateral	27
3.1.5.9.2.1.9	GetCollateralUri	27
3.1.5.9.2.1.10	PackageDefinition.....	28
3.1.5.9.2.1.11	SaveCollateral.....	28
3.1.5.9.2.2	ObjectPath Methods	29
3.1.5.9.2.2.1	GetDefinition	29
3.1.5.9.2.2.2	EnumerateDefinitions	29
3.1.5.10	Microsoft.SharePoint.WorkflowServices.Client.WorkflowInstanceService.....	29
3.1.5.10.1	Properties.....	29
3.1.5.10.1.1	Scalar Properties	29
3.1.5.10.1.2	ObjectPath Properties.....	29
3.1.5.10.2	Methods	29

3.1.5.10.2.1	Scalar Methods.....	29
3.1.5.10.2.1.1	CancelWorkflow	29
3.1.5.10.2.1.2	StartWorkflow	30
3.1.5.10.2.1.3	TerminateWorkflow	30
3.1.5.10.2.1.4	PublishCustomEvent	30
3.1.5.10.2.2	ObjectPath Methods	30
3.1.5.10.2.2.1	Enumerate	30
3.1.5.10.2.2.2	GetInstance.....	31
3.1.5.11	Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscriptionService ...	31
3.1.5.11.1	Properties.....	31
3.1.5.11.1.1	Scalar Properties	31
3.1.5.11.1.2	ObjectPath Properties.....	31
3.1.5.11.1.2.1	Current	31
3.1.5.11.2	Methods.....	31
3.1.5.11.2.1	Scalar Methods.....	31
3.1.5.11.2.1.1	DeleteSubscription	31
3.1.5.11.2.1.2	PublishSubscription	32
3.1.5.11.2.1.3	PublishSubscriptionForList	32
3.1.5.11.2.1.4	RegisterInterestInList	32
3.1.5.11.2.1.5	UnregisterInterestInList	32
3.1.5.11.2.1.6	UpdateSubscription	33
3.1.5.11.2.2	ObjectPath Methods	33
3.1.5.11.2.2.1	EnumerateSubscriptions.....	33
3.1.5.11.2.2.2	EnumerateSubscriptionsByDefinition.....	33
3.1.5.11.2.2.3	EnumerateSubscriptionsByEventSource.....	33
3.1.5.11.2.2.4	EnumerateSubscriptionsByList	34
3.1.5.11.2.2.5	GetSubscription	34
3.1.5.12	Microsoft.SharePoint.WorkflowServices.Client.WorkflowDefinitionCollection	34
3.1.5.12.1	Properties.....	34
3.1.5.12.1.1	Scalar Properties	34
3.1.5.12.1.2	ObjectPath Properties.....	34
3.1.5.12.2	Methods.....	35
3.1.5.12.2.1	Scalar Methods.....	35
3.1.5.12.2.2	ObjectPath Methods	35
3.1.6	Timer Events	35
3.1.7	Other Local Events	35
4 Protocol Examples.....		36
4.1	Associate Workflow	36
4.2	Publish Definition	37
4.3	Save Definition	37
4.4	Start Workflow	38
5 Security.....		40
5.1	Security Considerations for Implementers.....	40
5.2	Index of Security Parameters	40
6 Appendix A: Product Behavior.....		41
7 Change Tracking.....		42
8 Index		43

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 RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are defined in [\[MS-GLOS\]](#):

authentication

Coordinated Universal Time (UTC)

GUID

XML

The following terms are defined in [\[MS-OFCGLOS\]](#):

action

activity

CSOM Boolean

CSOM DateTime

CSOM dictionary

CSOM GUID

CSOM Int32

CSOM String

empty GUID

event

event receiver

Extensible Application Markup Language (XAML)

field

item

leaf name

list

published

published version

site

solution package

store

Uniform Resource Locator (URL)

workflow

workflow association

workflow identifier

workflow initiation form

workflow instance

The following terms are specific to this document:

activities: MS-OFGLOS: An object that stores information about either an action (1) or an activity model.

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

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.

workflow host: A service that runs XAML workflows.

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

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

1.2 References

References to Microsoft Open Specifications documentation do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

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. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[MS-CSOM] Microsoft Corporation, "[SharePoint Client Query Protocol Specification](#)".

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

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

[MS-WSSTS] Microsoft Corporation, "[Windows SharePoint Services Technical Specification](#)".

[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

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)".

[MS-OFCGLOS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

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

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.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 (2)** on a **site (2)** on a protocol server. The types, properties, and methods enable remote clients to manage **workflow associations**, to send workflow (2) **events**, to control or to query **workflow instances**, and to manage workflow (2) definitions and actions.

1.4 Relationship to Other Protocols

The SharePoint Workflow Client Side Object Model 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 [\[RFC2818\]](#). The dependencies for this protocol are shown in the following layering diagram.

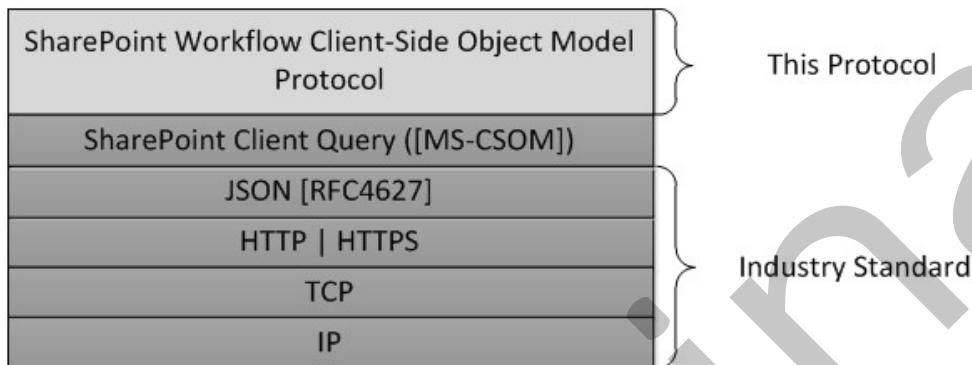


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against workflows (2) on a site (2) that is identified by a **Uniform Resource Locator (URL)** that is recognized by protocol clients. This protocol assumes that **authentication (2)** has been performed by underlying protocols.

1.6 Applicability Statement

This protocol can be used by a protocol client to manage workflows (2) 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 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

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 (2). Localization-specific properties, such as the title of a **list (1)**, are returned by using the preferred language of the user, if available, or by using the default language of the site (2) 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.

Preliminary

2 Messages

2.1 Transport

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

2.2 Message Syntax

None.

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 (2), lists (1), **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.WorkflowServices.Client.WorkflowDefinition

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

ShortName: SP.WorkflowServices.WorkflowDefinition

Represents a workflow (2) 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

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 Version

Type: CSOM Int32

Accessibility: Read Only

Gets the **published version** of **WorkflowDefinition** (section [3.1.5.1](#)).

Remarks:

This value is incremented each time this definition is **published**.

3.1.5.1.1.1.6 Xaml

Type: CSOM String

Accessibility: Read/Write

Specifies the **XAML** for **WorkflowDefinition** (section [3.1.5.1](#)).

3.1.5.1.1.1.7 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 (2) has no association form.

3.1.5.1.1.1.8 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.

3.1.5.1.1.1.9 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 (2) has no workflow initiation form.

3.1.5.1.1.1.10 RequiresAssociationForm

Type: CSOM Boolean

Accessibility: Read/Write

Determines whether to automatically generate an association form for this workflow (2).

Remarks:

If the value is true, and the **AssociationUrl** (section [3.1.5.1.1.7](#)) is not already set, a default association form is automatically generated for the workflow (2) when **SaveDefinition** (section [3.1.5.9.2.1.6](#)) is called.

3.1.5.1.1.11 RequiresInitiationForm

Type: CSOM Boolean

Accessibility: Read/Write

Determines whether to automatically generate a workflow initiation form for this workflow (2).

Remarks:

If the value is true, and the **InitiationUrl** (section [3.1.5.1.1.9](#)) is not already set, a default workflow initiation form is automatically generated for the workflow (2) when **SaveDefinition** (section [3.1.5.9.2.1.6](#)) is called.

3.1.5.1.1.12 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 (2).

3.1.5.1.1.13 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 (1) identifier limits the definition to be associable only to the specified list (1). If the **RestrictToType** is "List" but the **RestrictToScope** is null or the empty string, then the definition is associable to any list (1).

3.1.5.1.1.14 **RestrictToType**

Type: CSOM String

Accessibility: Read/Write

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

Remarks:

RestrictToType determines the possible event source type for a workflow (2) subscription using the definition. Possible values include "List", "Site", the empty string, or null. For example, a value of "List" indicates this definition is a list (1) workflow (2) and can only be associated to a list (1). An empty string or null value indicates this definition is a universal template, available to associate to any type.

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.WorkflowServices.Client.WorkflowInstance

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

ShortName: SP.WorkflowServices.WorkflowInstance

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 InstanceName

Type: CSOM String

Accessibility: Read Only

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

3.1.5.2.1.1.3 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.

3.1.5.2.1.1.4 Properties

Type: CSOM dictionary

Accessibility: Read Only

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

3.1.5.2.1.1.5 Status

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowStatus

Accessibility: Read Only

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

3.1.5.2.1.1.6 UserStatus

Type: CSOM String

Accessibility: Read/Write

Specifies the custom status set by workflow (2) authors of this **WorkflowInstance** (section [3.1.5.2](#)).

3.1.5.2.1.1.7 WorkflowSubscriptionId

Type: CSOM GUID

Accessibility: Read Only

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

3.1.5.2.1.1.8 WorkflowSubscriptionName

Type: CSOM String

Accessibility: Read Only

Gets the name of the subscription that instantiated this **WorkflowInstance** (section [3.1.5.2](#)).

3.1.5.2.1.1.9 Id

Type: CSOM GUID

Accessibility: Read Only

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

3.1.5.2.1 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.WorkflowServices.Client.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.

3.1.5.4 Microsoft.SharePoint.WorkflowServices.Client.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 (2).

3.1.5.4.1 Properties

3.1.5.4.1.1 Scalar Properties

3.1.5.4.1.1.1 IsConfigured

Type: CSOM Boolean

Accessibility: Read Only

Indicates whether the workflow (2) service has been configured for communication with a workflow host.

3.1.5.4.1.1.2 IsConnected

Type: CSOM Boolean

Accessibility: Read Only

Indicates whether this workflow (2) service is actively connected to a workflow host.

3.1.5.4.1.2 ObjectPath Properties

3.1.5.4.1.2.1 Current

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowServicesManager

Accessibility: Read Only

Gets 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

None.

3.1.5.4.2.2 ObjectPath Methods

3.1.5.4.2.2.1 GetWorkflowDeploymentService

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

Provides the **WorkflowDeploymentService** (section [3.1.5.9](#)) which manages **WorkflowDefinition** (section [3.1.5.1](#)) objects and **activities (1)**.

Parameters: None

3.1.5.4.2.2.2 GetWorkflowInstanceService

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

Provides the **WorkflowInstanceService** (section [3.1.5.10](#)) which manages workflow instances.

Parameters: None

3.1.5.4.2.2.3 GetWorkflowInteropService

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

Returns the **InteropService** (section [3.1.5.8](#)) which provides methods to start or to wait for other workflows (2).

Parameters: None

3.1.5.4.2.2.4 GetWorkflowSubscriptionService

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

Provides the **WorkflowSubscriptionService** (section [3.1.5.11](#)), which manages workflow associations.

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 (2) services, and these will be scoped to the **Web** specified by this constructor.

Type: Microsoft.SharePoint.Client.Web

3.1.5 Microsoft.SharePoint.WorkflowServices.Client.WorkflowStatus

ShortName: SP.WorkflowServices.WorkflowStatus

Flag: false

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

3.1.5.5.1 Field Values

3.1.5.5.1.1 Started

Value: 0

The workflow instance has started.

3.1.5.5.1.2 InProgress

Value: 1

The workflow instance is currently running.

3.1.5.5.1.3 Suspended

Value: 2

The workflow instance has been suspended.

3.1.5.5.1.4 Canceling

Value: 3

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

3.1.5.5.1.5 Canceled

Value: 4

The workflow instance has been canceled.

3.1.5.5.1.6 Terminated

Value: 5

The workflow instance has been terminated.

3.1.5.5.1.7 Completed

Value: 6

The workflow instance has finished running.

3.1.5.5.1.8 Invalid

Value: 7

The workflow instance is in an invalid state.

3.1.5.6 Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscription

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

ShortName: SP.WorkflowServices.WorkflowSubscription

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

3.1.5.6.1 Properties

3.1.5.6.1.1 Scalar Properties

3.1.5.6.1.1.1 DefinitionId

Type: CSOM GUID

Accessibility: Read/Write

Specifies the identifier of the **WorkflowDefinition** (section [3.1.5.1](#)) that this **WorkflowSubscription** (section [3.1.5.6](#)) will use.

3.1.5.6.1.1.2 EventSource

Type: CSOM String

Accessibility: Read/Write

Specifies the logical source of the event.

3.1.5.6.1.1.3 EventSourceId

Type: CSOM GUID

Accessibility: Read/Write

Specifies a unique identifier for the logical source of the event. Used by the **EnumerateSubscriptionsByEventSource** (section [3.1.5.11.2.2.3](#)).

3.1.5.6.1.1.4 EventType

Type: CSOM String

Accessibility: Read/Write

Specifies the type of event that this **WorkflowSubscription** (section [3.1.5.7](#)) is for.

3.1.5.6.1.1.5 Id

Type: CSOM GUID

Accessibility: Read/Write

Gets or sets the unique identifier of this **WorkflowSubscription** (section [3.1.5.7](#)).

3.1.5.6.1.1.6 Name

Type: CSOM String

Accessibility: Read/Write

Gets or sets the display name of this **WorkflowSubscription** (section [3.1.5.7](#)).

3.1.5.6.1.1.7 PropertyDefinitions

Type: CSOM dictionary

Accessibility: Read Only

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

3.1.5.6.1.1.8 Enabled

Type: CSOM Boolean

Accessibility: Read/Write

Enables or disables this **WorkflowSubscription** (section [3.1.5.6](#)). When false, new instances of the subscription cannot be started, but existing instances will continue to run.

3.1.5.6.1.2 ObjectPath Properties

None.

3.1.5.6.2 Methods

3.1.5.6.2.1 Scalar Methods

3.1.5.6.2.1.1 SetProperty

Return Type: None

Sets the properties for the **PropertyDefinitions** (section [3.1.5.6.1.1.7](#)).

Parameters:

name: The name of the property.

Type: CSOM String

value: The value of the property.

Type: CSOM String

3.1.5.6.2.2 ObjectPath Methods

3.1.5.6.2.2.1 CSOM Constructor

Creates an instance of the **WorkflowSubscription** (section [3.1.5.6](#)) object.

Parameters: None

3.1.5.7

Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscriptionCollection

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

ShortName: SP.WorkflowServices.WorkflowSubscriptionCollection

A collection of **WorkflowSubscription** (section [3.1.5.6](#)) objects.

3.1.5.7.1 Properties

3.1.5.7.1.1 Scalar Properties

None.

3.1.5.7.1.2 ObjectPath Properties

None.

3.1.5.7.2 Methods

3.1.5.7.2.1 Scalar Methods

None.

3.1.5.7.2.2 ObjectPath Methods

None.

3.1.5.8 Microsoft.SharePoint.WorkflowServices.Client.InteropService

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

ShortName: SP.WorkflowServices.InteropService

Allows the workflows (2) to invoke other workflows (2).

3.1.5.8.1 Properties

3.1.5.8.1.1 Scalar Properties

None.

3.1.5.8.1.2 ObjectPath Properties

3.1.5.8.1.2.1 Current

Type: Microsoft.SharePoint.WorkflowServices.Client.InteropService

Accessibility: Read Only

Gets the current **InteropService** (section [3.1.5.8](#)) for this request.

3.1.5.8.2 Methods

3.1.5.8.2.1 Scalar Methods

3.1.5.8.2.1.1 CancelWorkflow

Return Type: None

Stops a workflow (2).

Parameters:

instanceId: Identifier of the workflow (2) to cancel.

Type: CSOM GUID

3.1.5.8.2.1.2 DisableEvents

Return Type: None

Removes workflow (2) events from an object.

Parameters:

listId: Identifier of a list on which to remove workflow (2) events. Use an **empty GUID** to specify events 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

3.1.5.8.2.1.3 EnableEvents

Return Type: None

Enables workflow (2) events on an object.

Parameters:

listId: Optional identifier of a list on which to enable workflow (2) 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

3.1.5.8.2.1.4 StartWorkflow

Return Type: CSOM GUID

Starts a workflow (2).

Parameters:

associationName: The association name of the workflow (2) 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 (2) workflow (2) 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 (2) workflows (2).

Type: CSOM GUID

workflowParameters: Parameters passed to the new workflow (2).

Type: CSOM dictionary

3.1.5.8.2.2 ObjectPath Methods

None.

3.1.5.9

Microsoft.SharePoint.WorkflowServices.Client.WorkflowDeploymentService

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

ShortName: SP.WorkflowServices.WorkflowDeploymentService

Manages the **WorkflowDefinition** (section [3.1.5.1](#)) objects and **activity (1)** authoring.

3.1.5.9.1 Properties

3.1.5.9.1.1 Scalar Properties

None.

3.1.5.9.1.2 ObjectPath Properties

None.

3.1.5.9.2 Methods

3.1.5.9.2.1 Scalar Methods

3.1.5.9.2.1.1 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

3.1.5.9.2.1.2 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

3.1.5.9.2.1.3 GetActivitySignatures

Return Type: CSOM dictionary

Returns a collection of **XML** that represents the signature of a XAML (section [3.1.5.1.1.1.6](#)) class.

Parameters:

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

Type: CSOM DateTime

3.1.5.9.2.1.4 GetDesignerActions

Return Type: CSOM String

Returns the list of valid workflow (2) **actions (2)** for this server.

Parameters:

web: The site (2) from which to read the workflow (2) actions (2).

Type: Microsoft.SharePoint.Client.Web

3.1.5.9.2.1.5 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

3.1.5.9.2.1.6 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.WorkflowServices.Client.WorkflowDefinition

3.1.5.9.2.1.7 ValidateActivity

Return Type: CSOM String

Validates the activity (1) against the workflow store.

Parameters:

activityXaml: The activity (1) to validate.

Type: CSOM String

3.1.5.9.2.1.8 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

3.1.5.9.2.1.9 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

3.1.5.9.2.1.10 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: ID of the definition to package

Type: CSOM GUID

packageDefaultFilename: the default filename to choose for the new package

Type: CSOM String

packageTitle: the package title

Type: CSOM String

packageDescription: the package description

Type: CSOM String

3.1.5.9.2.1.11 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

3.1.5.9.2.2 ObjectPath Methods

3.1.5.9.2.2.1 GetDefinition

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

Retrieves a **WorkflowDefinition** (section [3.1.5.1](#)) from the workflow store.

Parameters:

definitionId: Identifier of the definition to retrieve.

Type: CSOM GUID

3.1.5.9.2.2.2 EnumerateDefinitions

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

Retrieves the **WorkflowDefinition** (section [3.1.5.1](#)) objects from the **store** that match the specified parameters.

Parameters:

publishedOnly: "true" if only published workflows (2) should be returned.

Type: CSOM Boolean

3.1.5.10 Microsoft.SharePoint.WorkflowServices.Client.WorkflowInstanceService

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

ShortName: SP.WorkflowServices.WorkflowInstanceService

Manages and reads workflow instances from the workflow host.

3.1.5.10.1 Properties

3.1.5.10.1.1 Scalar Properties

None.

3.1.5.10.1.2 ObjectPath Properties

None.

3.1.5.10.2 Methods

3.1.5.10.2.1 Scalar Methods

3.1.5.10.2.1.1 CancelWorkflow

Return Type: None

Sends a cancel message to a workflow (2) specified by the given instance.

Parameters:

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

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowInstance

3.1.5.10.2.1.2 StartWorkflow

Return Type: CSOM GUID

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

Parameters:

subscription: The **WorkflowSubscription** (section [3.1.5.6](#)) from which to start a new **WorkflowInstance** (section [3.1.5.2](#)).

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscription

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

Type: CSOM dictionary

3.1.5.10.2.1.3 TerminateWorkflow

Return Type: None

Terminates a workflow (2) specified by the given **WorkflowInstance** (section [3.1.5.2](#)).

Parameters:

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

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowInstance

3.1.5.10.2.1.4 PublishCustomEvent

Return Type: None

Sends a custom event and its payload to a workflow (2) specified by the given instance.

Parameters:

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

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowInstance

eventName: Name of the custom event.

Type: CSOM String

payload: Payload of the custom event.

Type: CSOM String

3.1.5.10.2.2 ObjectPath Methods

3.1.5.10.2.2.1 Enumerate

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

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

Parameters:

parentSubscription: The subscription that started the workflow instances.

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscription

3.1.5.10.2.2.2 GetInstance

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

Gets a **WorkflowInstance** (section [3.1.5.2](#)) from an external workflow store by a specified name.

Parameters:

instanceName: Unique identifier of the **WorkflowInstance** (section [3.1.5.2](#)).

Type: CSOM String

3.1.5.11

Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscriptionService

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

ShortName: SP.WorkflowServices.WorkflowSubscriptionService

Manages subscriptions for workflow (2).

3.1.5.11.1 Properties

3.1.5.11.1.1 Scalar Properties

None.

3.1.5.11.1.2 ObjectPath Properties

3.1.5.11.1.2.1 Current

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscriptionService

Accessibility: Read Only

Gets the current **WorkflowSubscriptionService** (section [3.1.5.11](#)) object.

3.1.5.11.2 Methods

3.1.5.11.2.1 Scalar Methods

3.1.5.11.2.1.1 DeleteSubscription

Return Type: None

Deletes the specified **WorkflowSubscription** (section [3.1.5.6](#)).

Parameters:

subscriptionId: The identifier of the subscription to delete.

Type: CSOM GUID

3.1.5.11.2.1.2 PublishSubscription

Return Type: CSOM GUID

Creates a **WorkflowSubscription** (section [3.1.5.6](#)) for a workflow (2), and returns the unique identifier of the new subscription.

Parameters:

subscription: The subscription data to publish.

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscription

3.1.5.11.2.1.3 PublishSubscriptionForList

Return Type: CSOM GUID

Creates a subscription for a workflow (2) and an **event receiver** on the specified list, and writes an **EventSourceId** (section [3.1.5.6.1.1.3](#)) that matches the list as the event source, and returns the unique identifier of the new subscription.

Parameters:

subscription: The subscription data to publish.

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscription

listId: Identifier for the specified list.

Type: CSOM GUID

3.1.5.11.2.1.4 RegisterInterestInList

Return Type: None

Creates an event receiver on a list for the specified event (2) if necessary.

Parameters:

listId: GUID of the list to ensure that the event receiver is on.

Type: CSOM GUID

eventName: The name of the event (2).

Type: CSOM String

3.1.5.11.2.1.5 UnregisterInterestInList

Return Type: None

Removes an event receiver from the list for the specified event.

Parameters:

listId: GUID of the list to ensure that the event receiver is on.

Type: CSOM GUID

eventName: The name of the event (2).

Type: CSOM String

3.1.5.11.2.1.6 UpdateSubscription

Return Type: None

Updates a subscription for a workflow (2).

Parameters:

subscriptionId: The unique identifier of the subscription.

Type: CSOM GUID

subscription: The subscription to update.

Type: Microsoft.SharePoint.WorkflowServices.Client.WorkflowSubscription

properties: The workflow association properties.

Type: CSOM dictionary

3.1.5.11.2.2 ObjectPath Methods

3.1.5.11.2.2.1 EnumerateSubscriptions

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

Retrieves a **WorkflowSubscriptionCollection** (section [3.1.5.7](#)) that contains all of the subscriptions on the **Web** ([\[MS-CSOMSPT\]](#) section 3.2.5.143).

Parameters: None

3.1.5.11.2.2.2 EnumerateSubscriptionsByDefinition

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

Retrieves a **WorkflowSubscriptionCollection** (section [3.1.5.7](#)) based on a **WorkflowDefinition** (section [3.1.5.1](#)).

Parameters:

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

Type: CSOM GUID

3.1.5.11.2.2.3 EnumerateSubscriptionsByEventSource

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

Retrieves a **WorkflowSubscriptionCollection** (section [3.1.5.7](#)) based on the specified **EventSourceId** (section [3.1.5.6.1.1.3](#)).

Parameters:

eventSourceId: The unique identifier of the **EventSource** (section [3.1.5.6.1.1.2](#)) for the subscriptions.

Type: CSOM GUID

3.1.5.11.2.2.4 EnumerateSubscriptionsByList

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

Retrieves a **WorkflowSubscriptionCollection** (section [3.1.5.7](#)) based on the specified list.

Parameters:

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

Type: CSOM GUID

3.1.5.11.2.2.5 GetSubscription

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

Retrieves an instance of the **WorkflowSubscription** (section [3.1.5.6](#)) based on its unique identifier.

Parameters:

subscriptionId: The unique identifier of the subscription.

Type: CSOM GUID

3.1.5.12

Microsoft.SharePoint.WorkflowServices.Client.WorkflowDefinitionCollection

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

ShortName: SP.WorkflowServices.WorkflowDefinitionCollection

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

3.1.5.12.1 Properties

3.1.5.12.1.1 Scalar Properties

None.

3.1.5.12.1.2 ObjectPath Properties

None.

3.1.5.12.2 Methods

3.1.5.12.2.1 Scalar Methods

None.

3.1.5.12.2.2 ObjectPath Methods

None.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

4 Protocol Examples

4.1 Associate Workflow

In this example, a published workflow (2) 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 (2) definition is published.

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="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">
<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;
    xmlns:s1="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">&#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" />
      </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)\"  
]
```

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

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 15 Technical 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.

7 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

Preliminary

8 Index

A

Abstract data model
 [server](#) 12
[Applicability](#) 9
[Associate Workflow example](#) 36

C

[Capability negotiation](#) 9
[Change tracking](#) 42

D

Data model - abstract
 [server](#) 12

E

Examples
 [Associate Workflow](#) 36
 [Publish Definition](#) 37
 [Save Definition](#) 37
 [Start Workflow](#) 38

F

[Fields - vendor-extensible](#) 10

G

[Glossary](#) 7

H

Higher-layer triggered events
 [server](#) 12

I

[Implementer - security considerations](#) 40
[Index of security parameters](#) 40
[Informative references](#) 8
Initialization
 [server](#) 12
[Introduction](#) 7

M

[Message processing - server](#) 12
Messages
 [transport](#) 11

N

[Normative references](#) 8

O

Other local events
 [server](#) 35
[Overview \(synopsis\)](#) 9

P

[Parameters - security index](#) 40
[Preconditions](#) 9
[Prerequisites](#) 9
[Product behavior](#) 41
[Publish Definition example](#) 37

R

[References](#) 8
 [informative](#) 8
 [normative](#) 8
[Relationship to other protocols](#) 9

S

[Save Definition example](#) 37
Security
 [implementer considerations](#) 40
 [parameter index](#) 40
[Sequencing rules - server](#) 12
Server
 [abstract data model](#) 12
 [higher-layer triggered events](#) 12
 [initialization](#) 12
 [message processing](#) 12
 [other local events](#) 35
 [sequencing rules](#) 12
 [timer events](#) 35
 [timers](#) 12
[Standards assignments](#) 10
[Start Workflow example](#) 38

T

Timer events
 [server](#) 35
Timers
 [server](#) 12
[Tracking changes](#) 42
[Transport](#) 11
Triggered events - higher-layer
 [server](#) 12

V

[Vendor-extensible fields](#) 10
[Versioning](#) 9