

# webMethods Alfresco Adapter

Installation and User's Guide

Version 10.5

February 2021

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**WEBMETHODS**

This document applies to webMethods *Alfresco* Adapter 10.5 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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## 1 About this Guide

This guide describes how to configure and use webMethods Alfresco Adapter 3.0.1. It contains information for administrators and application developers who want to exchange data with an Alfresco system.

To use this guide effectively, you should be familiar with:

- The basic concepts and tasks for working with Alfresco
- Creating flow or Java Services
- Terminology and basic operations of your operating system
- The setup and operation of webMethods Integration Server
- How to perform basic tasks with Software AG Designer

### 1.1 Document Conventions

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Convention	Description
<b>Bold</b>	Identifies elements on a screen.
Narrow font	Identifies storage locations for services on webMethods Integration Server, using the convention <i>folder.subfolder:service</i> .
UPPERCASE	Identifies keyboard keys. Keys you must press simultaneously are joined with a plus sign (+).
<i>Italic</i>	Identifies variables for which you must supply values specific to your own situation or environment. Identifies new terms the first time they occur in the text.
Monospace font	Identifies text you must type or messages displayed by the system.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the   symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

## 1.2 Online Information

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### Software AG Documentation Website

You can find documentation on the Software AG Documentation website at <http://documentation.softwareag.com>. The site requires Empower credentials. If you do not have Empower credentials, you should use the TECHcommunity website.

### Software AG Empower Product Support Website

You can find product information on the Software AG Empower Product Support website at <https://empower.softwareag.com>.

To submit feature/enhancement requests, get information about product availability, and download products, go to [Products](#).

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, go to the [Knowledge Center](#).

### Software AG TECHcommunity

You can find documentation and other technical information on the Software AG TECHcommunity website at <http://techcommunity.softwareag.com>. You can:

- Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest.
- Access articles, code samples, demos, and tutorials.
- Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.
- Link to external websites that discuss open standards and web technology.

## 2 Overview of the Adapter

### 2.1 About Adapter - webMethods Alfresco ECM Adapter

WebMethods Alfresco Adapter is an add-on to webMethods that allows you to interact with Alfresco, an enterprise content management system, developed by Alfresco INC, which comes in three flavors: Alfresco Community Edition, Alfresco Enterprise Edition, and Alfresco Cloud Edition<sup>[1]</sup>. Adapter supports both Alfresco on premise Community edition as well as alfresco in cloud from version 5.2, onwards.

WebMethods Alfresco Adapter allows you use adapter service templates to preform CRUD operations again objects stored in Alfresco. Your webMethods Integration Server clients can create and run services that use these adapter services to create, query, retrieve, update, and delete data.

### 2.2 Architecture Overview

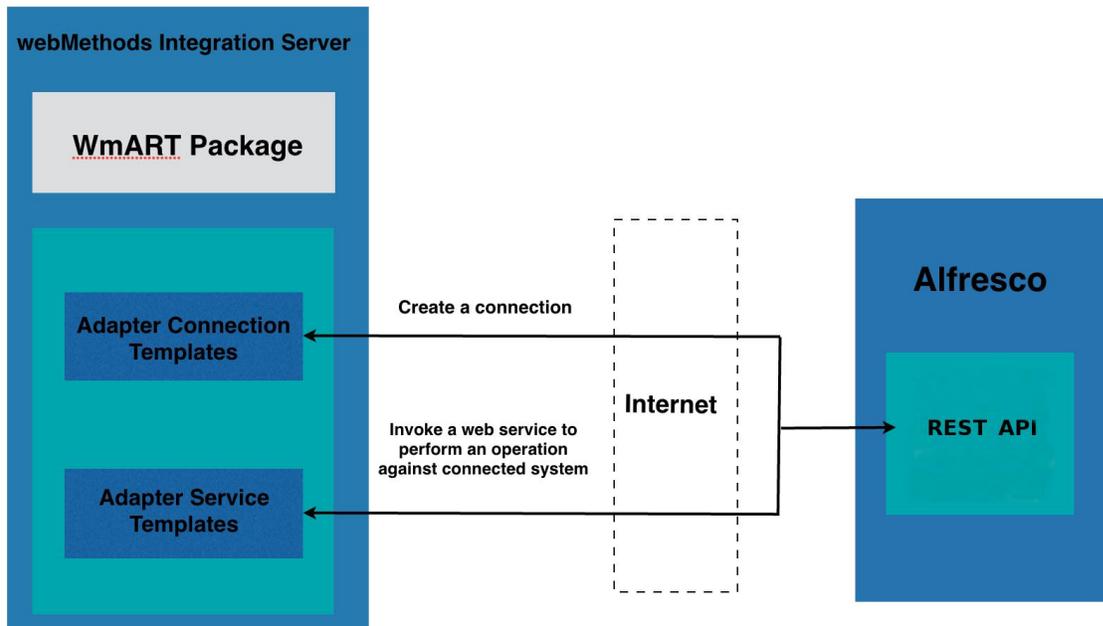
The Alfresco Adapter provides a set of user interfaces, services, and templates that enable you to create integrations with Alfresco. The adapter connects to the system via Alfresco REST API, RESTful web services exposed by Alfresco. RESTful Web services allow the requesting systems to access and manipulate textual representations of Web resources by using a uniform and predefined set of stateless operations. Adapter itself relies on Aflresco REST API client, and all API calls goes through this REST client.

The adapter 3.0.1 is provided as a single package that is installed on Integration Server. For more detailed installation instructions, see [“Installing, Upgrading, and Uninstalling Alfresco”](#). For software requirements, see *webMethods Adapters System Requirements*.

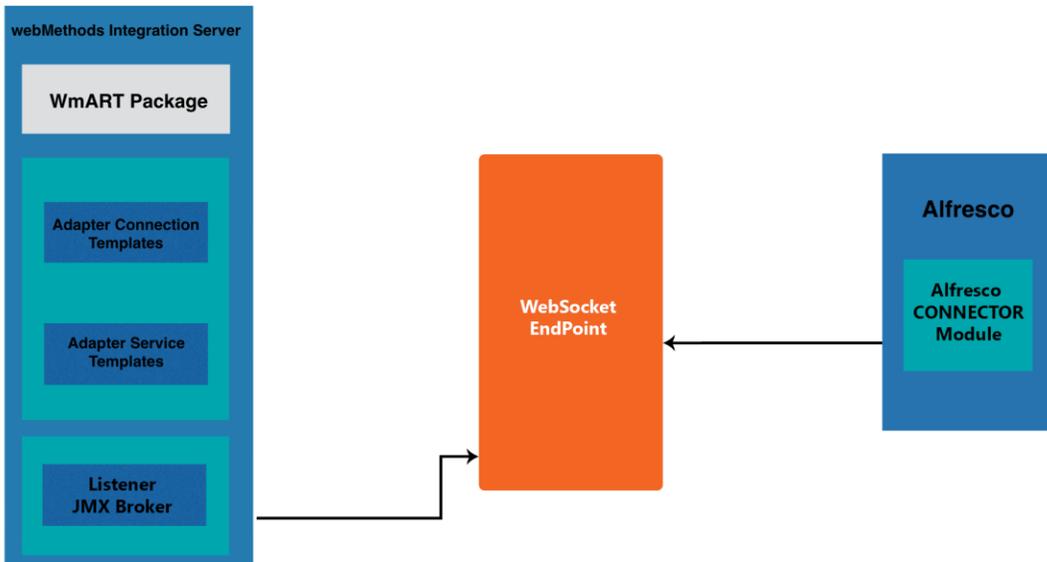
The Alfresco Adapter enables you to configure the following components:

- **Adapter connections** enable Integration Server to connect to Alfresco systems at run time. You must configure an adapter connection before you can configure adapter services. For a detailed description of adapter connections, see [“Alfresco Adapter Connections”](#).
- **Adapter services** enable Integration Server to initiate and perform operations against an Alfresco system. You can use the services to upload a document into Alfresco or to get a document from the same system, including metadata about the document. You configure adapter services using the adapter service templates, provided by the Alfresco Adapter. There are several services contained in the package. For more detailed description of all these services, please refer to [“Adapter Services”](#).
- **Adapter listener** enables Integration Server to Receive Run-Time messages (in JSON format), that notifies a CRUD operation occurs into the Alfresco repository server.

The following diagram shows at a high level how an adapter service uses an adapter connection and adapter services to connect and perform operations on an Alfresco system:



The following diagram shows how the Alfresco Repository communicates with the adapter when an event occurs.



## 2.3 Package Management

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The Alfresco Adapter is provided as a package called WmAlfrescoAdapter that you manage like any package on Integration Server.

There are several considerations regarding how you set up and effectively manage your packages on Integration Server:

- You must create user-defined packages for your connections and adapter services. For details, see [“Adapter for Alfresco Package Management”](#).
- You should understand how package dependencies work to allow you to make the best decisions regarding how you manage your adapter services. For details, see [“Package Dependency Requirements and Guidelines”](#).
- You control which development groups have access to which adapter services. For details, see [“Group Access Control”](#).

## 2.4 Adapter Connections

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The Alfresco Adapter connects to Alfresco through Alfresco REST API at run time. You create one or more connections at design time to use in integrations. The number of connections you create depends on how many Alfresco system repositories you are connecting to and your integration needs.

For example, if you are connecting to different Alfresco repositories, you will need to create connections that are unique to those repositories. Additionally, if you have multiple installations of the same Alfresco repositories in different stages (Development, Test, QA), you access each using different connections.

Adapter for Alfresco connections contain parameters that Integration Server uses to manage connections to the system so that they can be used by the adapter to provide services. You configure connections using Integration Server Administrator. You must have Integration Server Administrator privileges to access Alfresco Adapter’s administrative screens.

For instructions on configuring, viewing, editing, enabling, and disabling the Alfresco Adapters connections, see [“Adapter for Alfresco Connections”](#). For information about setting user privileges, see *Integration Server administrator’s guide*.

### 2.4.1 Connection Pools

Integration Server includes a connection management service that dynamically manages connections and connection pools based on configuration settings that you specify for each connection. All adapter services use connection pooling.

A connection pool is a collection of connections with the same set of attributes. Integration Server maintains connection pools in memory. Connection pools improve performance by enabling adapter services to reuse open connections instead of opening new connections.

### 2.4.1.1 Run-Time Behavior of Connection Pools

When you enable a connection, Integration Server initializes the connection pool, creating the number of connection instances you specified in the connection's **Minimum Pool Size** field when you configured the connection.

Whenever an adapter service needs a connection, Integration Server provides a connection from the pool. If no connections are available in the pool, and the maximum pool size has not been reached, the server creates one or more new connections (according to the number specified in the **Pool Increment Size** field) and adds them to the connection pool. If the pool is full (as specified in **Maximum Pool Size** field), the requesting service will wait for Integration Server to obtain a connection, up to the length of time specified in the **Block Timeout** field, until a connection becomes available.

Periodically, Integration Server inspects the pool and removes inactive connections that have exceeded the expiration period that you specified in the **Expire Timeout** field.

If initialization of the connection pool fails because of a network connection failure or some other type of exception, you can enable the system to retry the initialization any number of times, at specified intervals. For information about configuring connections, see [“Configuring Adapter for Alfresco Connections”](#).

### 2.4.1.2 Built-In Services for Connections

Integration Server provides built-in services that enable you to programmatically control the connections. You can use them to enable and disable a connection, and to return usage statistics and the current state (Enabled or Disabled) and error status for a connection. These services are located in the WmART package, in the `pub.art.connection` folder.

The `setAdapterServiceNodeConnection` and `setPollingNotificationNodeConnection` built-in services enable you to change the connection associated with an adapter service or notification respectively.

For details, see *Integration Server built-in services reference guide*.

## 2.5 Adapter Services

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To use the Alfresco Adapter, you create adapter services. Adapter services allow you to connect to the adapter's resource and initiate an operation on the resource from Integration Server.

You call adapter services from flow or Java services to interact with Alfresco document types. The adapter services perform repository operations by communicating with Alfresco using the Alfresco's REST API.

Adapter services are based on templates provided by the Alfresco Adapter. Each template represents a specific technique for doing work on a specific resource, such as using the Create Document template to upload a new document the Alfresco system.

An adapter service template contains all the code necessary for interacting with the resource but without the data specifications. You provide these specifications when you create a new adapter service.

The creation of a new service from an adapter service template is straightforward. Using Software AG Designer, you assign the service a default adapter connection.

After selecting the connection for the adapter service, you select the adapter service template and supply the data specifications using Designer. Some familiarity with using Designer is required. For more information, see *Designer Service Development online help*.

More detailed information on the use of these services can be found in [“Adapter Services”](#).

Adapter for Alfresco provides the following adapter service templates:

Adapter Service Type	Adapter Service Template	Description
Create	Create Document	Creates a document in Alfresco.
Create	Create Folder Path	Creates a folder path in Alfresco.
Delete	Delete Document	Deletes a document contained in Alfresco.
Delete	Delete Folder	Deletes a folder path in Alfresco allowing the client to specify if to delete subfolders and children.
Search	Search Document (Pass Through)	Pass through search of documents in Alfresco.
Get	Read Document	Reads metadata of a document in Alfresco and displays it.
Update	Update Document	Updates meta data of documents already existing in Alfresco.
Get	Get Permissions	Returns all available permission that are set on the specific node
Set	Set Permission	Updates node when any new permission has been added to existing document
Get	Get Principals	Fetches information about all Users and Groups available on the specific Alfresco instance



## 2.5.1 Using Adapter Services

The following table lists the tasks required to use adapter services.

For this task...	Use these tools...
1. Create an adapter connection. For details, see <a href="#">“Adapter for Alfresco Connections”</a> .	Integration Server Administrator
2. Select the appropriate adapter service template and configure the adapter service. Depending on the type of adapter service, you specify: <ul style="list-style-type: none"><li>■ The adapter connection</li><li>■ The document type</li><li>■ The query expression used to modify or select data, and attributes to choose from a document type.</li><li>■ The input fields and types</li><li>■ The output fields and types</li></ul>	Designer
For more information about configuring adapter services, see <a href="#">Adapter Services</a> .	
3. If you plan to use an Integration Server flow or Java service to invoke the adapter service, design the flow or Java service to use this adapter service.	Designer
4. Manage the adapter service. For details, see <a href="#">“Package Management”</a> , and <a href="#">“Adapter Services”</a> .	Designer and Integration Server Administrator

## 2.5.2 Changing the Connection Associated with an Adapter Service at Run Time

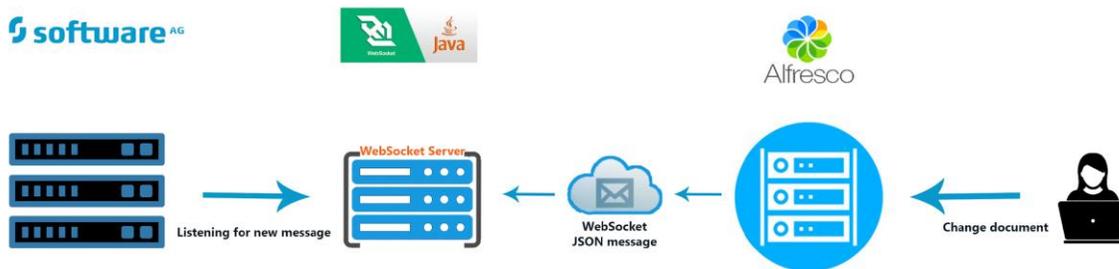
Integration Server enables you to dynamically select the connection a service uses to interact with the adapter's resource. This feature enables one service to interact with multiple, similar backend resources.

For example, a service can be defined to use a default connection that interacts with your company's production Alfresco system. However, at run time you can override the default connection and instead use another connection to interact with the company's test Alfresco system.

## 2.6 Adapter Listener - Real Time Notification Support

Real Time Notification is a message-based system that allows the user to control all changes that happens inside Alfresco repository. Every time when a document is updated, Alfresco sends a message, with all the info that is changed. The adapter can read the message sent from a WebSocket server.

The following image shows how the asynchronous notifications for Alfresco Repository work.



## 3 Installing, Upgrading, and Uninstalling the Alfresco Adapter

### 3.1 Overview

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This chapter explains how to install, upgrade, and uninstall webMethods Alfresco 3.0.1 adapter. The instructions use the Software AG Installer and the Software AG Uninstaller wizards. For complete information about the wizards or other installation methods, or to install other webMethods products, see the webMethods installation guide for your release. See “About this Guide” for specific document titles.

### 3.2 Requirements

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For a list of operating systems and webMethods products supported by the Alfresco Adapter, see *webMethods Adapters System Requirements*.

The Alfresco Adapter has no hardware requirements beyond those of its host Integration Server.

### 3.3 The Integration Server Home Directory

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Beginning with Integration Server 9.6, you can create and run multiple Integration Server instances under a single installation directory. Each Integration Server instance has a home directory under *Integration Server\_directory\instances\instance\_name* that contains packages, configuration files, log files, and updates for the instance.

For more information about running multiple Integration Server instances, see the Integration Server administration guide for your release.

If you are using Integration Server 9.5 and lower, the Integration Server home directory is *Integration Server\_directory*. For example, on Integration Server 9.5 the adapter package is installed in the *Integration Server\_directory\packages* directory.

This guide uses the *packages\_directory* as the home directory in Integration Server class paths. For Integration Server 9.6 and above, the *packages\_directory* is

*Integration Server\_directory\instances\instance\_name\packages* directory. For Integration Server 9.5 and lower, the *packages\_directory* is *Integration Server\_directory\packages* directory.

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### 3.3.1 Installing Adapter for Alfresco

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**Note:** If you are installing the Alfresco Adapter in a clustered environment, you must install the adapter on each Integration Server in the cluster, and each installation must be identical.

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#### To install the Alfresco Adapter

- 1 Download Installer from the [Empower Product Support website](#).
- 2 If you are installing the adapter on an existing Integration Server, shut down the Integration Server.
- 3 Start the Installer wizard.
- 4 Choose the webMethods release that includes the Integration Server on which you want to install the adapter. For example, if you want to install the adapter on Integration Server 9.8, choose the 9.8 release.
- 5 Specify the installation directory as follows:
  - If you are installing on an existing Integration Server, specify the webMethods installation directory that contains the host Integration Server.
  - If you are installing both the host Integration Server and the adapter, specify the installation directory to use.
- 6 In the product selection list, select **Adapters > webMethods Adapter 10.5 for Alfresco 3.0.1**

If you are using Integration Server 9.6 and above, you can choose to install the package in the default instance. In this case, Software AG Installer installs the adapter in locations, *Integration Server\_directory*\packages and the default instance packages directory located in *Integration Server\_directory*\instances\default\packages.
- 7 To download the documentation for the adapter, go to [Software AG Documentation website](#).
- 8 After the installation is complete, start the host Integration.
- 9 (Optional) If you want to receive notification message on change of repository content you must install a package on alfresco repository.

## 3.4 Uninstalling Alfresco Adapter

---

### To uninstall Alfresco Adapter

- 1 Shut down the host Integration Server. You do not need to shut down any other webMethods products or applications that are running on your machine.
- 2 Start Software AG Uninstaller, selecting the webMethods installation directory that contains the host Integration Server.
- 3 In the product selection list, select **Adapters > webMethods Adapter 10.5 for Alfresco Adapter 3.0.1**. You can also choose to uninstall documentation.
- 4 After Uninstaller completes, restart the host Integration Server.

Uninstaller removes all Alfresco Adapter-related files that were installed. However, Uninstaller does not delete files created after you installed the adapter (for example, user created or configuration files), nor does it delete the adapter directory structure.

You can go to the *Integration Server\_directory*\packages directory and *Integration Server\_directory*\instances\default\packages directory. Delete the WmAlfrescoAdapter directory.

## 4 Package Management

### 4.1 Overview

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The following sections describe how to set up and manage your Alfresco Adapter packages, set up Access Control Lists (ACLs), and use the adapter in a clustered environment.

### 4.2 Alfresco Adapter Package Management

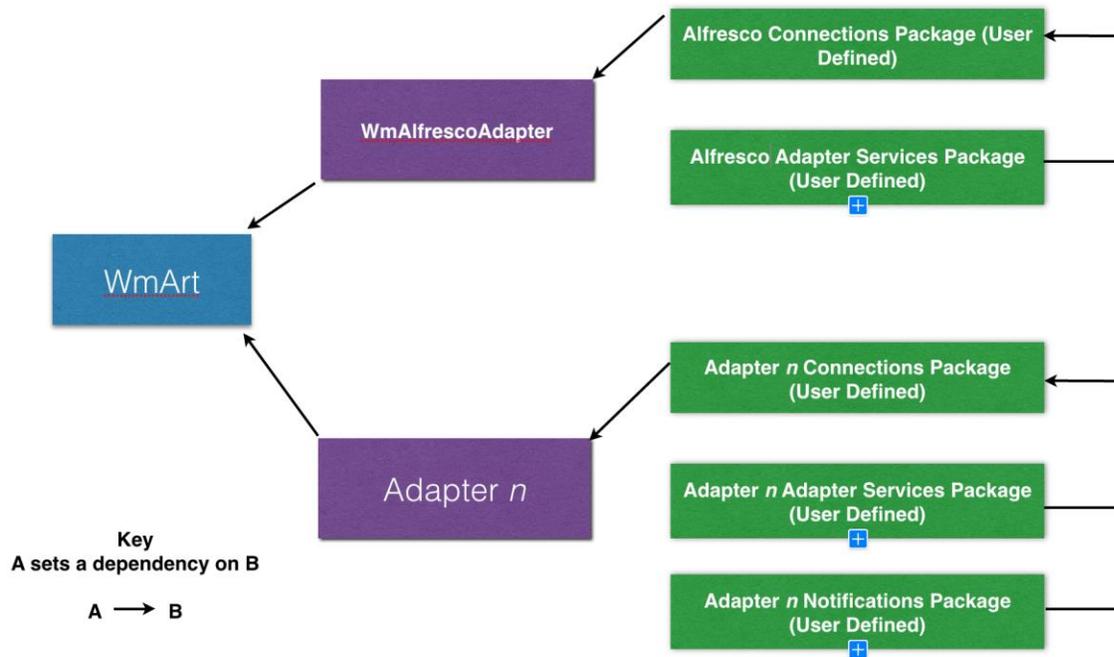
---

Adapter for Alfresco is provided as a package called WmAlfrescoAdapter.

You manage the WmAlfrescoAdapter package as you would manage any package on webMethods Integration Server.

When you create connections, adapter services, and adapter notifications, define them in user-defined packages rather than in the WmAlfrescoAdapter package. Doing so will allow you to manage the package more easily.

As you create user-defined packages to store connections and adapter services, use the package management functionality provided in Software AG Designer and set the user-defined packages to have a dependency on the WmAlfrescoAdapter package. That way, when the WmAlfrescoAdapter package loads or reloads, the user-defined packages get updated automatically. See the following diagram:



Package management tasks include:

- Setting package dependencies (see [“Package Dependency Requirements and Guidelines”](#))
- [“Enabling Packages”](#)
- [“Importing and Exporting Packages”](#)
- [“Group Access Control”](#)

#### 4.2.1 Package Dependency Requirements and Guidelines

This section contains a list of dependency requirements and guidelines for user-defined packages. For instructions on setting package dependencies, see *webMethods Service Development Help* for your release.

- A user-defined package must have a dependency on its associated adapter package, WmAlfrescoAdapter. (The WmAlfrescoAdapter package has a dependency on the WmART package.)
- Package dependencies ensure that at startup the Integration Server automatically loads or reloads all packages in the proper order: the WmART package first, the adapter package next, and the user-defined packages last. The WmART package is automatically installed when you install Integration Server. You should not need to manually reload the WmART package.
- If the connections and adapter services of an adapter are defined in different packages, then:

- A package that contains the connections must have a dependency on the adapter package.
- Packages that contain adapter services must have a dependency on their associated connection package.
- Keep connections for different adapters in separate packages so that you do not create interdependencies between adapters. If a package contains connections for two different adapters, and you reload one of the adapter packages, the connections for both adapters will reload automatically.
- Integration Server does not allow enabling a package if it has a dependency on another package that is disabled. That is, before you can enable your package, you must enable all packages on which your package depends. For information about enabling packages, see [“Enabling Packages”](#).
- Integration Server does allow disabling a package even if another package that is enabled has a dependency on it. Therefore, you must manually disable any user-defined packages that have a dependency on the adapter package before you disable the adapter package. For information about disabling packages, see [“Disabling Packages”](#).
- You can name connections and adapter services the same, provided that they are in different folders and packages.

#### 4.2.2 Enabling Packages

All packages are automatically enabled by default. Use the following procedure when you want to enable a package that was previously disabled.

---

##### To enable a package

- 1 Open Integration Server Administrator if it is not already open.
- 2 In the **Packages** menu of the navigation area, click **Management**.
- 3 Click **No** in the **Enabled** column. The server displays a  and **Yes** in the **Enabled** column.

---

**Note:** Enabling an adapter package will not cause its associated user-defined packages to be reloaded. For information about reloading packages, see *webMethods Service Development Help*.

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**Important!** Before you manually enable a user-defined package, you must first enable its associated adapter package (WmAlfrescoAdapter).

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### 4.2.3 Disabling Packages

When you want to temporarily prohibit access to the elements in a package, disable the package. When you disable a package, the server unloads all of its elements from memory. Disabling a package prevents Integration Server from loading that package at startup.

---

**Important!** If your adapter has multiple user-defined packages, and you want to disable some of them, disable the adapter package first (WmAlfrescoAdapter). Otherwise, errors will be issued when you try to access the remaining enabled user-defined packages.

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#### To disable a package

- 1 Open Integration Server Administrator if it is not already open.
- 2 In the **Packages** menu of the navigation area, click **Management**.
- 3 Click **Yes** in the **Enabled** column for the package that you want to disable. The server issues a prompt to verify that you want to disable the package.
- 4 Click **OK** to disable the package. When the package is disabled, the server displays **No** in the **Enabled** column.

A disabled adapter will:

- Remain disabled until you explicitly enable it using Integration Server Administrator.
- Not be listed in Designer.

### 4.2.4 Importing and Exporting Packages

Import and export packages using Designer. Exporting allows you to export the package to a zip file and save it to your hard drive. The zip file can then be imported for use by another package.

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**Important!** Do not rename packages you export; the rename function is comparable to moving a package, and when you import the renamed package, you lose any triggers, connections, and notifications associated with this package.

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For details about importing and exporting packages, see *Designer Service Development online help*.

### 4.3 Group Access Control

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To control which groups, have access to which adapter services, use access control lists (ACLs). For example, you can use ACLs to prevent one development group from inadvertently updating the work of another group, or to allow or deny access to services that are restricted to one group but not to others.

For information about assigning and managing ACLs, see *Designer Service Development online help*.

## 5 Alfresco Adapter Connections

### 5.1 Overview

This chapter describes how to configure and manage Alfresco Adapter connections. For more information about how adapter connections work, see [Adapter Connections](#).

### 5.2 Before Configuring or Managing Adapter Connections

Perform the following steps before configuring or managing adapter connections.

*The Alfresco Adapter's functionality is provided out-of-the-box, the adapter connections are packaged with the adapter. Therefore, install the Alfresco Adapter along with the webMethods Integration Server to allow you to configure its connections.*

#### To prepare to configure or manage adapter connections

- 1 Install webMethods Integration Server and the Alfresco Adapter on the same machine.

### 5.3 Configuring Alfresco Adapter Connections

You can configure an adapter's connections from the Integration Server Administrator and Designer.

Perform the following steps to configure the adapter's connections in Integration Service Administrator.

- 
1. In the **Adapters** menu in Integration Server Administrator's navigation area, click **Alfresco Adapter**.
  2. The Connections screen displays all connections that have been created. If no connections have been created for the current package, "No connections found" is displayed.
  3. Click **Configure New Connection**.
  4. The Configure Connection Type is displayed. Enter the parameters that are required for this connection. The screenshot below shows an example configuration. See ["Connection Properties"](#) for information of the connection settings.
  5. Click Save Connection.
  6. The new connection is saved and can be used while creating a new service from the service template. See ["Adapter Services"](#)

## 5.4 Connection Properties

This section shows you how to create a new connection to your Alfresco system.

### Example configuration for a new connection

The screenshot displays the 'Alfresco Adapter' configuration page for editing a connection. The breadcrumb trail is 'Adapters > Alfresco Adapter > Edit Connection'. A navigation menu on the left includes 'Connections', 'Listeners', 'Listener Notifications', and 'About'. The main content area shows the following configuration details:

- Connection Type:** Alfresco Server Connection
- Package Name:** TestAlfrescoRest
- Connection Properties:**
  - Server Alfresco Service URL:
  - Technical Username:
  - Technical Password:
  - Retype Technical Password:
  - Notifications Listener WebSocket URL:
- Connection Management Properties:**
  - Enable Connection Pooling:
  - Minimum Pool Size:
  - Maximum Pool Size:
  - Pool Increment Size:
  - Block Timeout (msec):
  - Expire Timeout (msec):
  - Startup Retry Count:
  - Startup Backoff Timeout (sec):

A 'Save Changes' button is located at the bottom left of the configuration area.

This section describes the parameters for the defining of a connection.

### Adapter Properties

Attribute	(Example) Value	Description
Package	AlfrescoAdapterSamples	the Integration Server package you want to use
Folder Name	connections	the folder within the IS package
Connection Name	sample	the name of the connection acting as default
Service Context Root URL	http://localhost:8080/alfresco/cmisws/cmismis?cmismis?wsdl	the Alfresco service context root URL; this is where all the Alfresco services are hosted via HTTP/HTTPS

Username	Admin	the username for connecting
Password	secret	the user's password
Retype Password		the user's password retyped
Notification Listener WebSocket URL	ws://192.168.1.148/AlfrescoAuditMonitor/notifications	Address URL of websocket server

### Connection Management Properties

Field	Description/Action
Enable Connection Pooling	<p>Enables the connection to use connection pooling. For more information about connection pooling see the Integration Server connection pool documentation.</p> <p>Note: If you plan to enable connection pooling in a clustered environment, consider the connection pool size.</p>
Minimum Pool Size	<p>If connection pooling is enabled, this field specifies the number of connections to create when the connection is enabled. The adapter will keep open the number of connections you configure here regardless of whether these connections become idle.</p>
Maximum Pool Size	<p>If connection pooling is enabled, this field specifies the maximum number of connections that can exist at one time in the connection pool.</p>
Pool Increment Size	<p>If connection pooling is enabled, this field specifies the number of connections by which the pool will be incremented if connections are needed, up to the maximum pool size.</p>
Block Timeout	<p>If connection pooling is enabled, this field specifies the number of milliseconds that the Integration Server will wait to obtain a connection with Alfresco before it times out and returns an error.</p> <p>For example, you have a pool with Maximum Pool Size of 20. If you</p>

	<p>receive 30 simultaneous requests for a connection, 10 requests will be waiting for a connection from the pool. If you set the Block Timeout to 5000, the 10 requests will wait for a connection for 5 seconds before they time out and return an error. If the service using the connections requires 10 seconds to complete and return connections to the pool, the pending requests will fail and return an error message stating that no connections are available. If you set the Block Timeout value too high, you may encounter problems during error conditions. If a request contain errors that delay the response, other requests will not be sent.</p> <p>This setting should be tuned in conjunction with the Maximum Pool Size to accommodate such bursts in processing.</p>
Expire Timeout	<p>If connection pooling is enabled, this field specifies the number of milliseconds that an inactive connection can remain in the pool before it is closed and removed from the pool. The connection pool will remove inactive connections until the number of connections in the pool is equal to the Minimum Pool Size. The inactivity timer for a connection is reset when the connection is used by the adapter. If you set the Expire Timeout value too high, you may have a number of unused inactive connections in the pool. This consumes local memory and a connection on your backend resource. This could have an adverse effect if your resource has a limited number of connections. If you set the Expire Timeout value too low, performance could degrade because of the increased activity of creating and closing connections.</p> <p>This setting should be tuned in conjunction with the Minimum Pool Size to avoid excessive opening/closing of connections during normal processing.</p>
Startup Retry Count	<p>The number of times that the system should attempt to initialize the connection pool at startup if the initial attempt fails. The default is 0.</p>
Startup Backoff Timeout	<p>The number of seconds that the system should wait between attempts to initialize the connection pool.</p>

## 5.5 Viewing Adapter Connection Parameters

You can view a connection's parameters from Integration Server Administrator and Designer.

### 5.5.1 Using Integration Server Administrator to View Adapter Connection Parameters

Perform the following steps to view adapter connection parameters in Integration Server Administrator.

---

#### To view the parameters for a connection using Integration Server Administrator

- 1 In the **Adapters** menu in Integration Server Administrator's navigation area, click **Alfresco Adapter**.

When using the adapter with Integration Server 8.0 and later, you can sort and filter the list of connections that appears on the Connections screen.

- To sort information on the Connections screen, click the **Up** and **Down** arrows at the top of the column you want to sort.
- To filter the list of connections:
  - i On the Connections screen, click **Filter Connections**.
  - ii Type the criterion by which you want to filter into the **Filter criteria** box. Filtering is based on the node name, not the connection alias. To locate all connections containing specific alphanumeric characters, use asterisks (\*) as wildcards. For example, if you want to display all connections containing the string "abc", type \*abc\* in the **Filter criteria** box.
  - iii Click **Submit**. The Connections screen displays the connections that match the filter criteria.
  - iv To re-display all connections, click **Show All Connections**.

The Connections screen appears, listing all the current connections. You can control the number of connections that are displayed on this screen.

- 2 On the Connections screen, click the  icon for the connection you want to see.

The View Connection screen displays the parameters for the connection. For descriptions of the connection parameters, see [“Configuring Adapter for Alfresco Connections”](#).

- 3 Click **Return to Alfresco connections** to return to the main connections screen.

### 5.5.2 Using Designer to View Adapter Connection Parameters

Perform the following steps to view adapter connection parameters in Designer.

---

#### To view the parameters for a connection using Designer

- 1 From the Designer navigation area, open the package and folder in which the connection is located.
- 2 Double-click the connection you want to view.

The parameters for the connection appear on the **Connection Information** tab. For descriptions of the connection parameters, see [“Configuring Adapter for Alfresco Connections”](#).

## 5.6 Editing Adapter Connections

---

If the login information for a database changes, or if you want to redefine parameters that a connection uses when connecting to a database, you can update a connection parameters using Integration Server Administrator.

---

### To edit a connection

- 1 In the **Adapters** menu in Integration Server Administrator's navigation area, click **Alfresco Adapter**.
- 2 Make sure that the connection is disabled before editing it. For instructions, see [“Disabling Adapter Connections”](#).
- 3 On the Connections screen, click the  icon for the connection you want to edit.  
The Edit Connection screen displays the current parameters for the connection. Update the connection's parameters by typing or selecting the values you want to specify.  
For descriptions of the connection parameters, see [“Configuring Adapter for Alfresco Connections”](#).
- 4 Click **Save Changes** to save the connection and return to the Connections screen.

## 5.7 Copying Adapter Connections

---

You can copy an existing Alfresco connection to configure a new connection with the same or similar connection properties without having to retype all of the properties for the connection. You copy adapter connections using Integration Server Administrator.

---

### To copy a connection

- 1 In the **Adapters** menu in Integration Server Administrator's navigation area, click **Alfresco Adapter**.
- 2 On the Connections screen, click the  icon for the connection you want to copy.

The Copy Connection screen displays the current parameters for the connection you want to copy. Name the new connection, specify a package name and folder name, and edit any connection parameters as needed by typing or selecting the values you want to specify.

---

**Note:** When you copy a connection, the new connection does not save the password of the original connection. You must enter and then retype the password before you can save the new connection.

---

For descriptions of the connection parameters, see [“Configuring Adapter for Alfresco Connections”](#).

- 3 Click **Save Connection Copy** to save the connection and return to the Connections screen.

## 5.8 Deleting Adapter Connections

---

If you no longer want to use a particular Alfresco connection, you can delete it. You delete adapter connections using Integration Server Administrator.

If you delete an Alfresco Adapter connection, any adapter services configured to use that connection will no longer work. However, you can assign a different connection to an adapter service and reuse the service. To do this, use the `setAdapterServiceNodeConnection` built-in service.

---

### To delete a connection

- 1 In the **Adapters** menu in the Integration Server Administrator navigation area, click **Alfresco Adapter**.
- 2 Make sure that the connection is disabled before deleting. To disable the connection, click **Yes** in the **Enabled** column and click **OK** to confirm. The **Enabled** column now shows **No** (Disabled) for the connection.
- 3 On the Connections screen, click  for the connection you want to delete. Integration Server deletes the adapter connection.

## 5.9 Enabling Adapter Connections

---

An Alfresco connection must be enabled before you can configure any adapter service to use the connection, or before an adapter service can use the connection at run time. You enable adapter connections using Integration Server Administrator.

---

**Note:** When you reload a package that contains enabled connections, the connections will automatically be enabled when the package reloads. If the package contains connections that are disabled, they will remain disabled when the package reloads.

---

---

### To enable a connection

- 1 In the **Adapters** menu in the Integration Server Administrator navigation area, click **Alfresco Adapter**.
- 2 On the Connections screen, click **No** in the **Enabled** column for the connection you want to enable.

Integration Server Administrator enables the adapter connection and displays a  and **Yes** in the **Enabled** column.

## 5.10 Disabling Adapter Connections

---

**Note:** Alfresco connections must be disabled before you edit or delete them. You disable adapter connections using Integration Server Administrator.

---

### To disable a connection

- 1 In the **Adapters** menu in the Integration Server Administrator navigation area, click **Alfresco Adapter**.
- 2 On the Connections screen, click **Yes** in the **Enabled** column for the connection you want to disable.

The adapter connection becomes disabled and you see a **No** in the **Enabled** column.



## 6 Adapter Listener

### 6.1 Overview

This chapter describes how to configure Alfresco Adapter Listeners to retrieve message from alfresco repository. For proper operation, we must

- Configure Adapter
- Start WebSocket
- Install connector module in Alfresco repository

### 6.2 Before Configuration or Managing Adapter Listener

Before configure the Listener into the adapter we must have an:

- Alfresco repository that send messages to adapter
- WebSocket to send messages to all client connected to it

For this documentation we need to install WebSocket into the same machine were Alfresco is installed but we can also install WebSocket into another machine.

#### 6.2.1 Installation of WebSocket

The component that sends notification message to the Integration Server is a WebApplication developed in Java that implements a communication between the services with WebSocket communication protocol. For example, we install the .WAR into same Tomcat where Alfresco is installed but it is possible to install it on another server (We must configure it into alfresco-global.properties file).

To install this webApplication there was the step to do:

- Stop Apache Tomcat
- Copy the .WAR file into the folder : <TOMCAT\_HOME>/webapps/
- Restart the server

#### 6.2.2 Installation Alfresco Module

For each version of Alfresco repository, we have developed an AMP file. An Alfresco Module is a collection of code, configuration, script which extends the functionality of Alfresco. Modules are usually packaged in the Alfresco Module Package (AMP) file format for deployment in production environments. An AMP is essentially a Zip file with a specific layout, containing all of the files required for a specific extension, including data you upload in the repository.

Required files (**AlfrescoAuditMonitor.war** and **wmAlfrescoAGConnector-2.0.amp**) are found under **resources** folder inside WmAlfrescoAdapter package.

Copy file with AMP extension into the folder: <ALFRESCO\_HOME>/amps/

Go into *bin* folder at this path: <ALFRESCO\_HOME>/bin/

and execute the file `apply_amps.bat` (Windows) or `apply_amps.sh` (Linux)

If module is installed without error, before starting the server, we must configure *alfresco-global.properties* file. Add this variable into the file:

```
#software AG: parameter connector for adapter
softwareAG.webSocket.webProtocol=ws
softwareAG.webSocket.hostName=localhost
softwareAG.webSocket.portNumber=8080
softwareAG.webSocket.serviceToCall=AlfrescoAuditMonitor/notifications
softwareAG.webSocket.paramToSend=nothing
softwareAG.repoInfo.type=Alfresco 5.0.d
```

Parameter	Description
softwareAG.webSocket.webProtocol	Web protocol used for communication form system
softwareAG.webSocket.hostName	Ip address of the server or server domain
softwareAG.webSocket.portNumber	Port number where the server listens for http protocol
softwareAG.webSocket.serviceToCall	Address of service to call
softwareAG.repoInfo.type	Parameter to send to the webSocket, default value is <b>nothing</b> . If it exist are in the same form: paramName01   value01;paramName02   value02... (it possible to omit the value)
softwareAG.repoInfo.type	Info on repository type

Then restart server. For more detail on how install or develop an AMP file we remaind to the official documentation site (<http://docs.alfresco.com/>).

When a user make a CRUD operation (Create, Read, Update, Delete) a notification is send to webSocket. The message sent like notification has this format:

<i>Field name</i>	<i>Field description</i>
-------------------	--------------------------

<i>RepositoryId</i>	<i>the URL of the document library/list containing the document/list item</i>
<i>HostName</i>	<i>the url of the Alfresco repository collection containing the document/item</i>
<i>ObjectName</i>	<i>the name of the document/item</i>
<i>ObjectId</i>	<i>the Id of the document/item in the document library/list</i>
<i>ObjectPath</i>	<i>the path of the document/item, relative to the document library/list</i>
<i>RepositoryType</i>	<i>type of repository</i>
<i>Username</i>	<i>the username of the user that committed the operation</i>
<i>EventDate</i>	<i>date and time of the operation</i>
<i>ActionType</i>	<i>the type of the committed operation (action)</i>
<i>ItemType</i>	<i>name of the Content Type of the document</i>
<i>BeforeProperties</i>	<i>map of the properties that were changed during the operation and their values before the operation</i>
<i>AfterProperties</i>	<i>map of the properties that were changed during the operation and their values after the operation</i>

## 7 Adapter Services

### 7.1 Overview

The following services are available with the Alfresco Adapter

Service	Description
Create Document	Create a new document in Alfresco
Update Document	Updates metadata of a document in Alfresco
Delete Document	Deletes a document in Alfresco
Read Document	Reads metadata of a document in Alfresco
Search Documents (Passthrough)	Searches documents in Alfresco. A string passed to the service, which represents the CMIS Query Language, defines the query.
Create Folder Path	Creates a folder path in Alfresco.
Delete Folder Path	Deletes a folder path in Alfresco.
Set Permissions	Sets Permissions on the specific Node
Get Permissions	Gets All permissions for the node with specific id
Get Principals	Fetches information about all Users and Groups available on the specific Alfresco instance

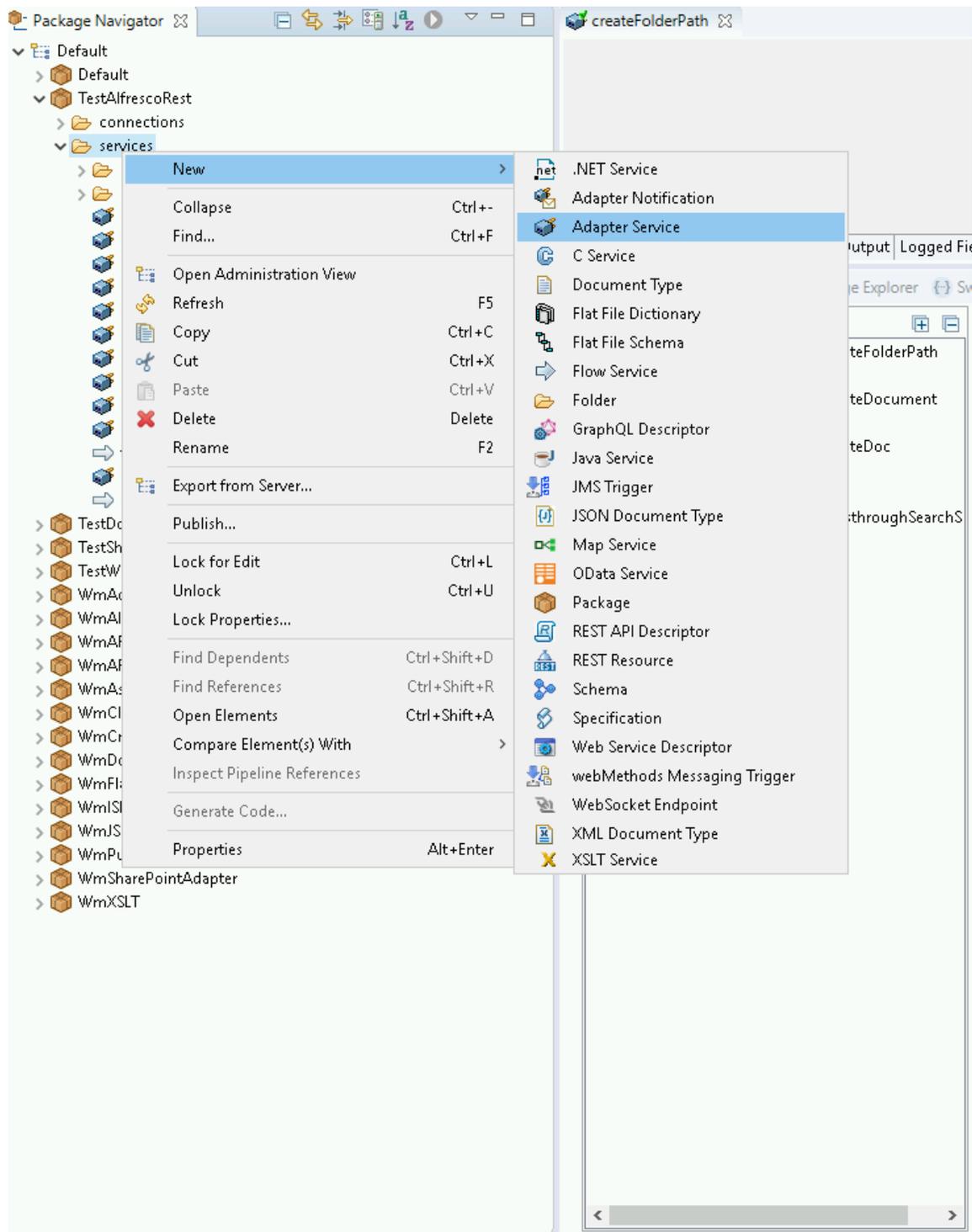
## 7.2 Creating a New Service

The initial steps to create a new adapter service are the same regardless of the services being created.

Open the Software AG Designer and navigate to the package you want to create the service in. In the example below, we will create new services in the `TestAlfrescoRest` under the folder `services`

To create a new service performs the following steps:

1. Right-click -> **New** -> **Adapter Service** just as depicted in the following screenshot:



2. Enter the name of the service you want to create in the **Element name** field.

---

**Note:** The created service names should be unique within the folder. Example, the name given for the service in **Element name** field can be `ExampleService`.

---

New Adapter Service

### Create a New Adapter Service

This wizard is used to create a new Adapter service.

Select the parent namespace

Server: Default

URL: localhost:5555 Package: TestAlfrescoRest

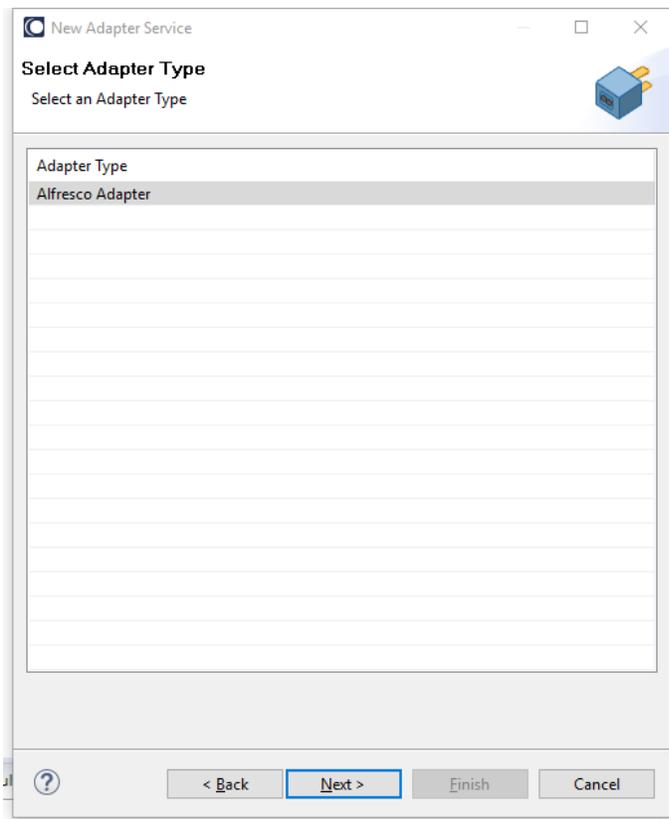
Namespace: services

- TestAlfrescoRest
  - connections
  - services
- TestDocumentumAdapter
- TestSharepointAdapter
- TestWmCmisAdapter
- WmAdmin
- WmAlfrescoAdapter
- WmART
- WmARTEExtDC
- WmAssetPublisher
- WmCloud
- WmCmisAdanter

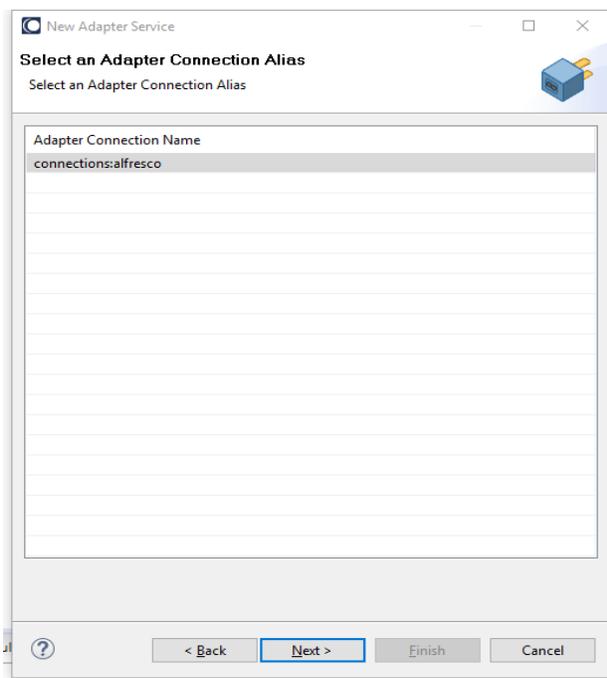
Element name: ExampleService

< Back Next > Finish Cancel

3. Select your adapter type and click **Next**.



4. Select your preconfigured connection that is associated with the service and click **Next**.



5. Finally, the service templates screen appears, showing the templates that are contained in the package. Each service has a corresponding template.

The next section describes how to create each service provided by the Alfresco Adapter.

## 7.3 Create Document

### 7.3.1 Description

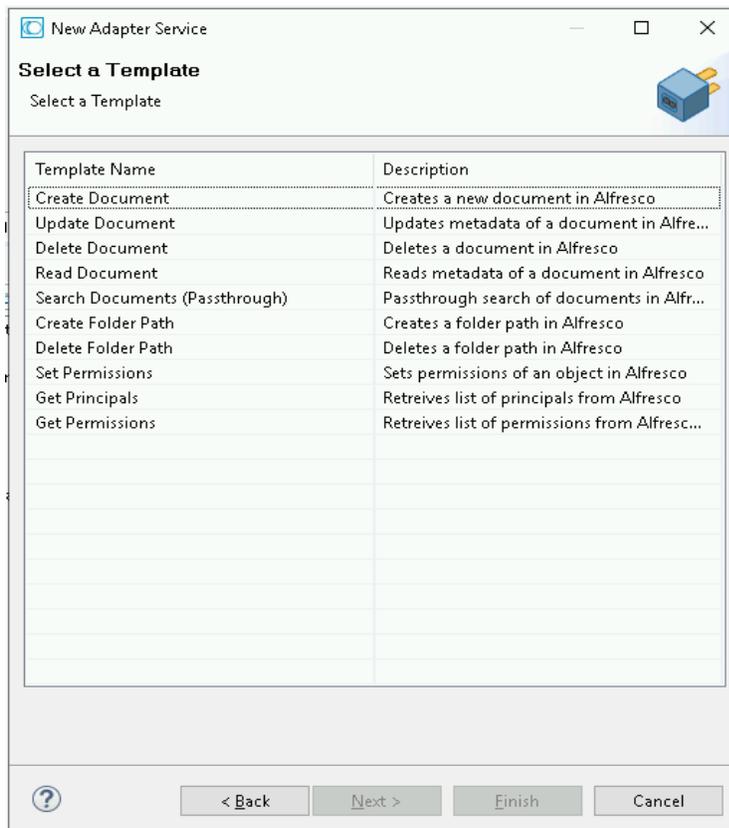
Creates a new document in Alfresco with its attributes (metadata), and folder location.

### 7.3.2 Configure the Service

After the initial configuration of the service, the **Select a Template** screen appears.

Perform the following steps to configure the service:

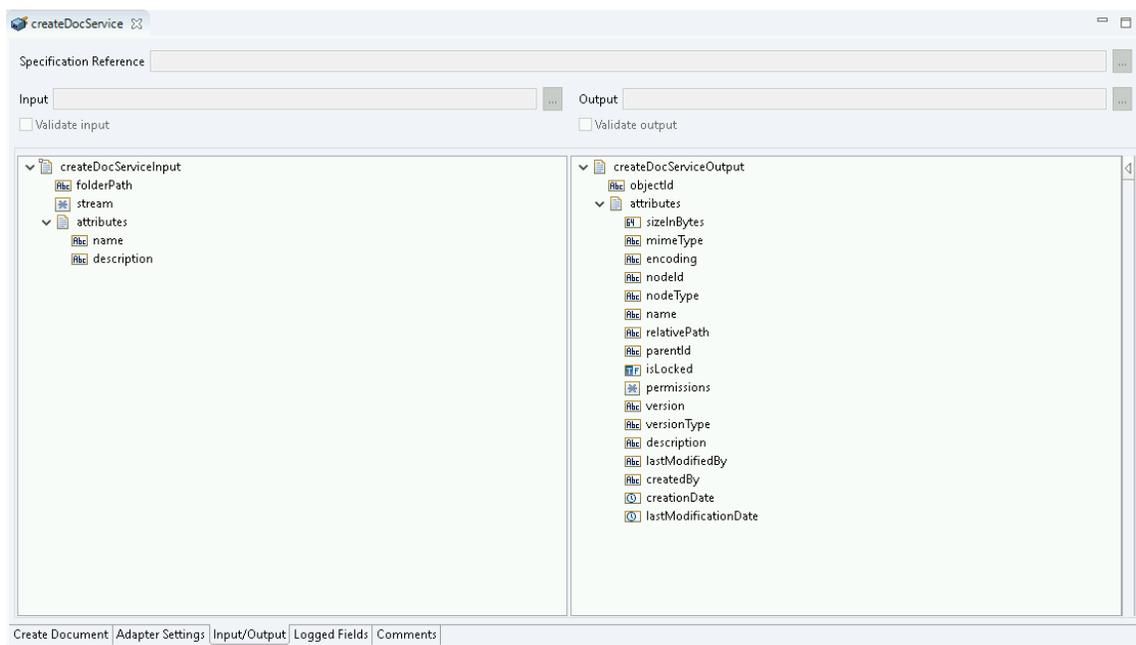
1. Select **Create Document** and click **Finish**.



You can now configure the template. The service template contains a series of tabs along the bottom of the panel.



2. Click the second tab that is used to configure the template, **Input/Output** tab.



This tab shows the inputs and outputs of **Create Document** service such as, the information required and the information provided after the document is created.

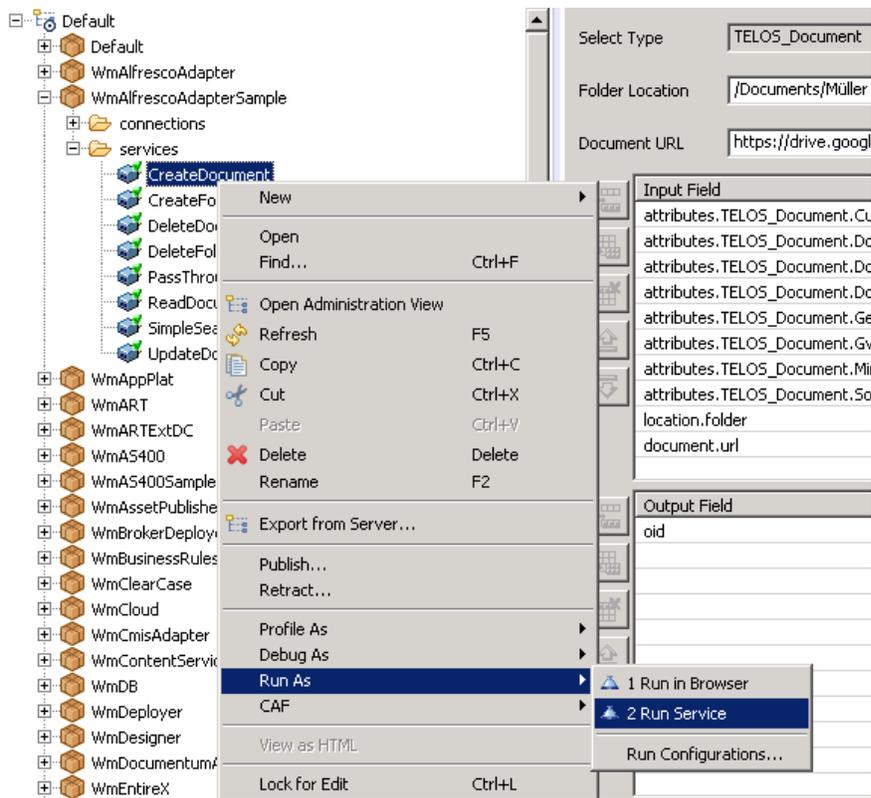
- On the left-hand side of the panel are the parameters that are taken as inputs, while,
- On the right-hand side shows the output for the service. Here, the objectId of the created folder path is returned.

3. Save the new service and it will be available under services.

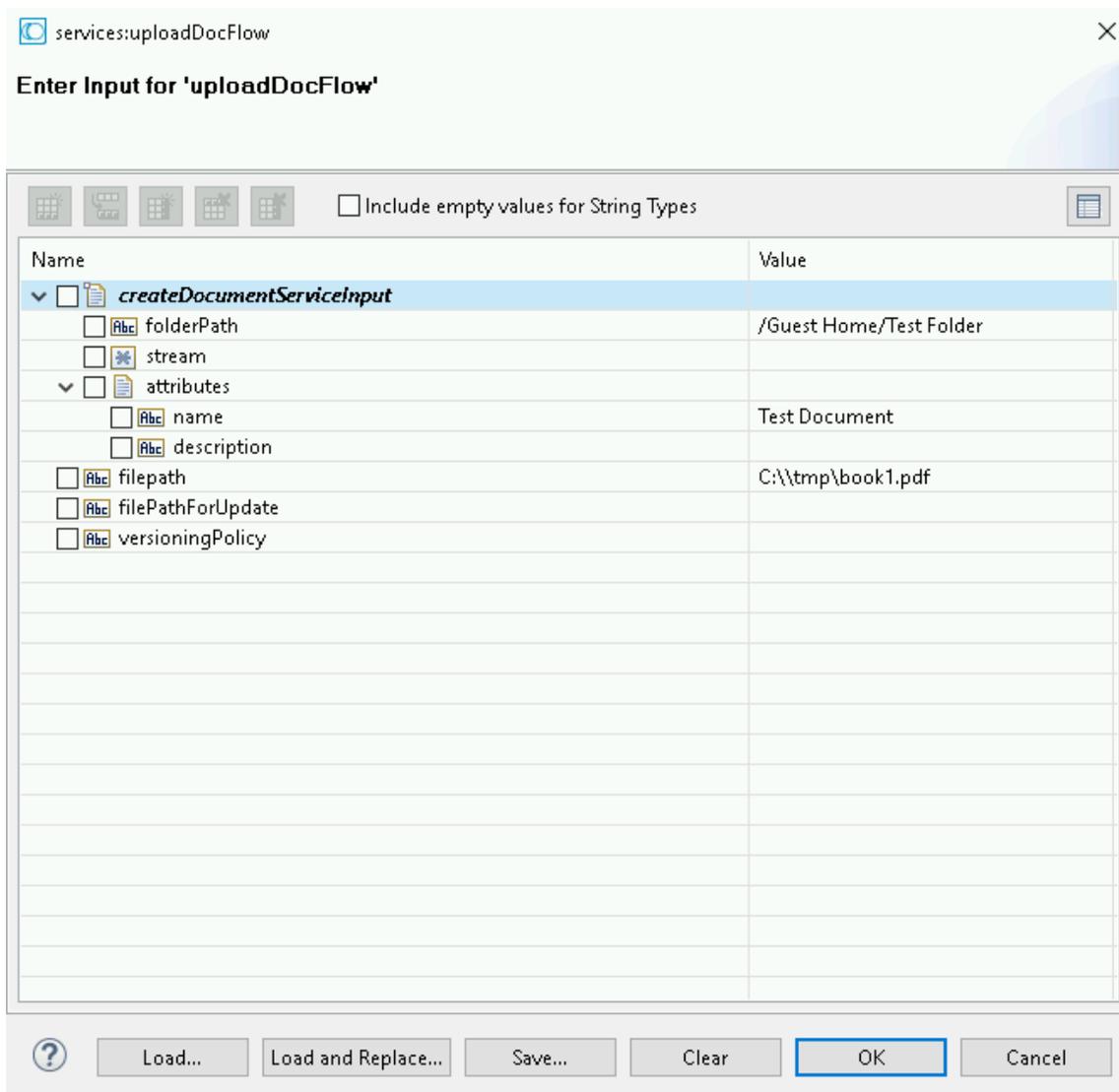
### 7.3.3 Execute the service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.



2. Enter the relevant inputs in the text fields.



3. Click **OK**.  
The output is displayed.

createDocumentServiceOutput	
objectid	12fe3f61-ed11-4d9e-9a0a-fdcae9e42a94
attributes	
sizeInBytes	19671683
mimeType	application/pdf
encoding	UTF-8
nodeId	
nodeType	cm:content
name	Test Document
relativePath	/Company Home/Guest Home/Test Folder
parentId	a0c391ce-9e94-446e-95d0-c10c267c7632
isLocked	false
permissions	
version	1.0
versionType	MAJOR
description	
modifiedByUser	admin
createdByUser	admin
createdAt	9/21/2019 23:13:30 GMT
modifiedAt	9/21/2019 23:13:30 GMT

The Document is created in Alfresco.

The screenshot shows the Alfresco web interface for a document titled "Test Document". The breadcrumb navigation is "Repository > Guest Home > Test Folder". The document is version 1.0 and was last modified by Administrator on April 12, 2016, at 17:40:08. The main content area displays "Dieses Dokument hat keinen Inhalt." (This document has no content). On the right side, there is a sidebar with several sections: "Dokumentenaktionen" (Document Actions) including "Herunterladen", "Im Browser anzeigen", "Eigenschaften bearbeiten", "Neue Version hochladen", "Offline bearbeiten", "Kopieren nach...", "Verschieben nach...", "Dokument löschen", "Workflow starten", "Berechtigungen verwalten", "Aspekte verwalten", and "Typ ändern"; "Weiterleiten" (Forward) with a link to the document details; and "Eigenschaften" (Properties) showing "Name: Test Document", "Titel: (Kein)", "Beschreibung: (Kein)", "MimeType: Unbekannt", "Autor: (Kein)", "Größe: (Kein)", and "Ersteller: admin".

## 7.4 Create Folder Path

Creates a folder path in the Alfresco system connected.

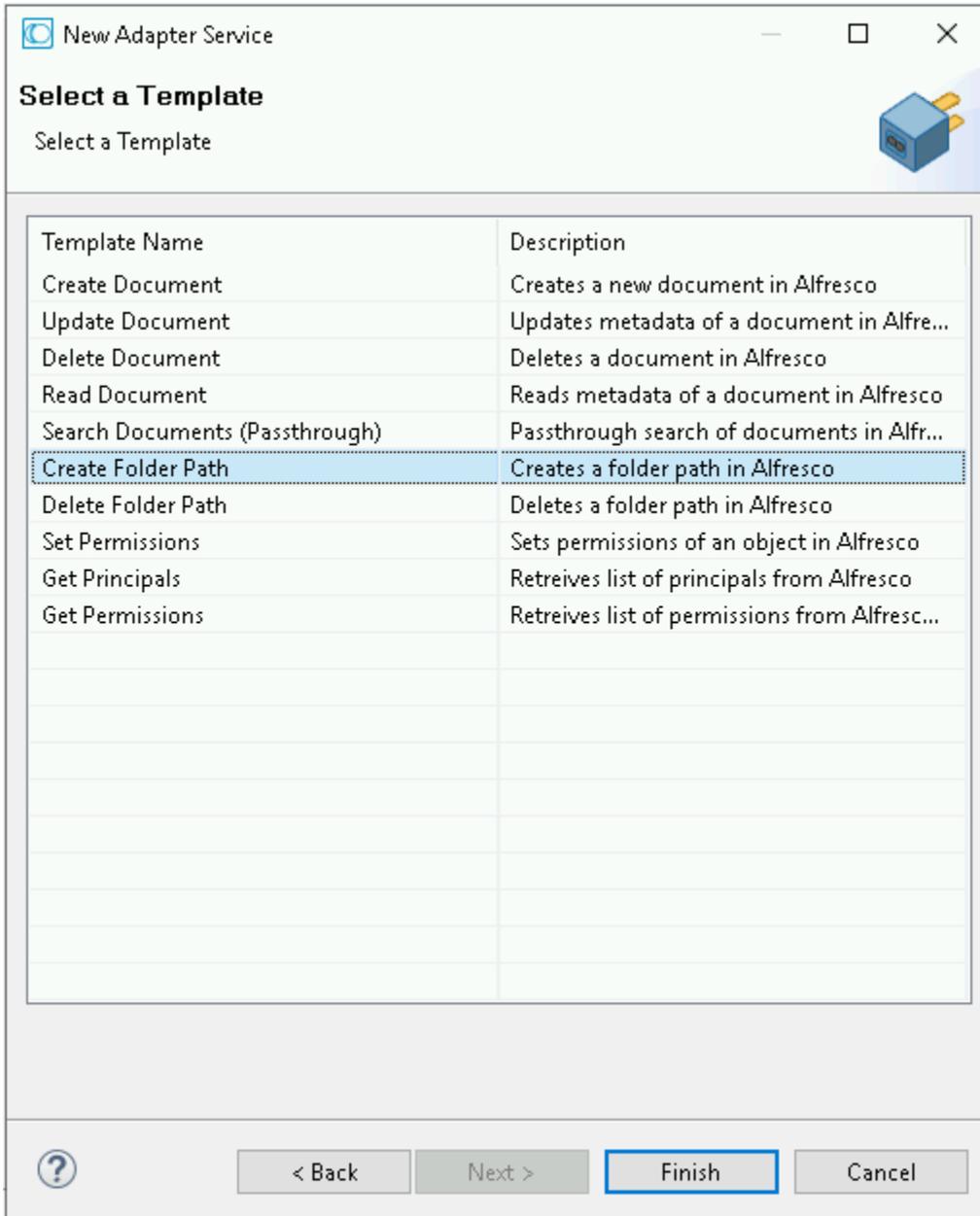
### 7.4.1 Description

Creates a path location for folder in Alfresco.

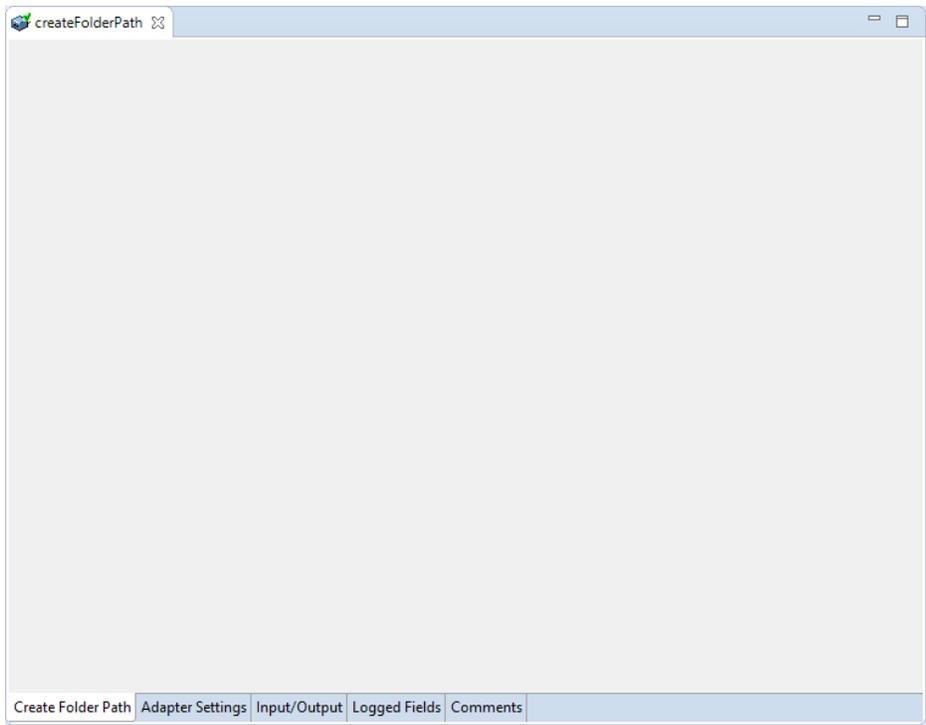
### 7.4.2 Configure the Service

After the initial configuration of the service, the **Select a Template** screen appears. Perform the following steps to configure the service:

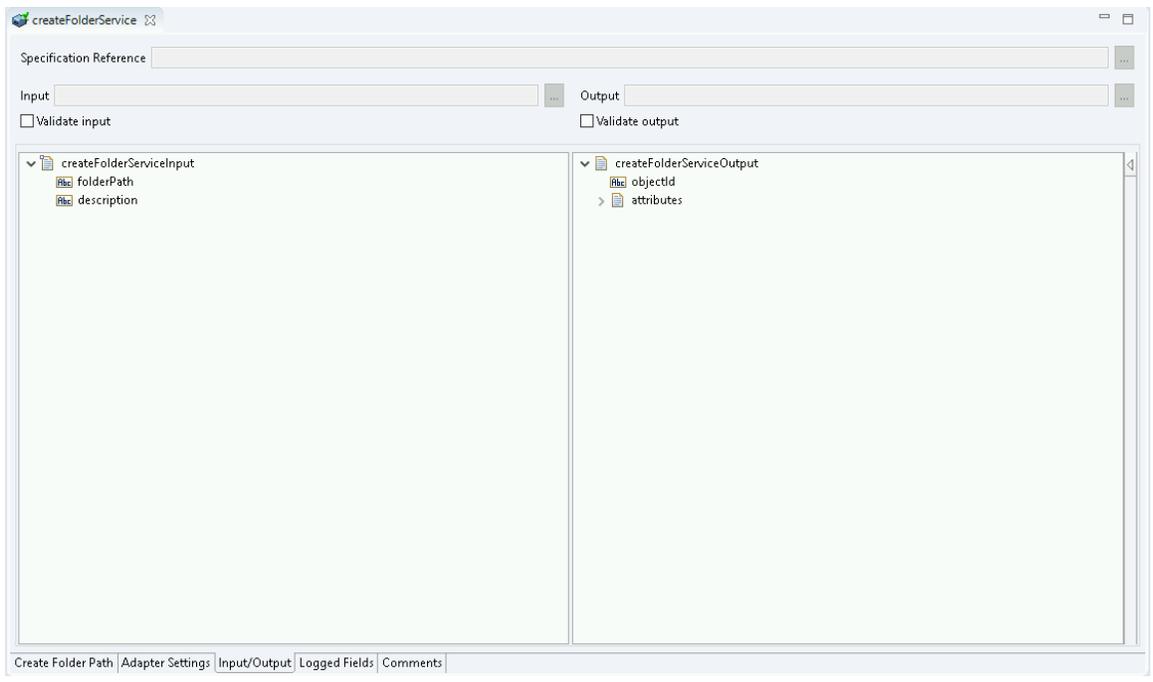
1. Select **Create Folder Path** and click **Finish**.



You can now configure the template. The service template contains a series of tabs along the bottom of the panel. The **Create Folder Path** tab has no properties that require configuration.



2. Click the **Input/Output** tab.



This tab shows the input and output values of **Create Folder Path** service such as, the information required and the information provided after the folder path is created.

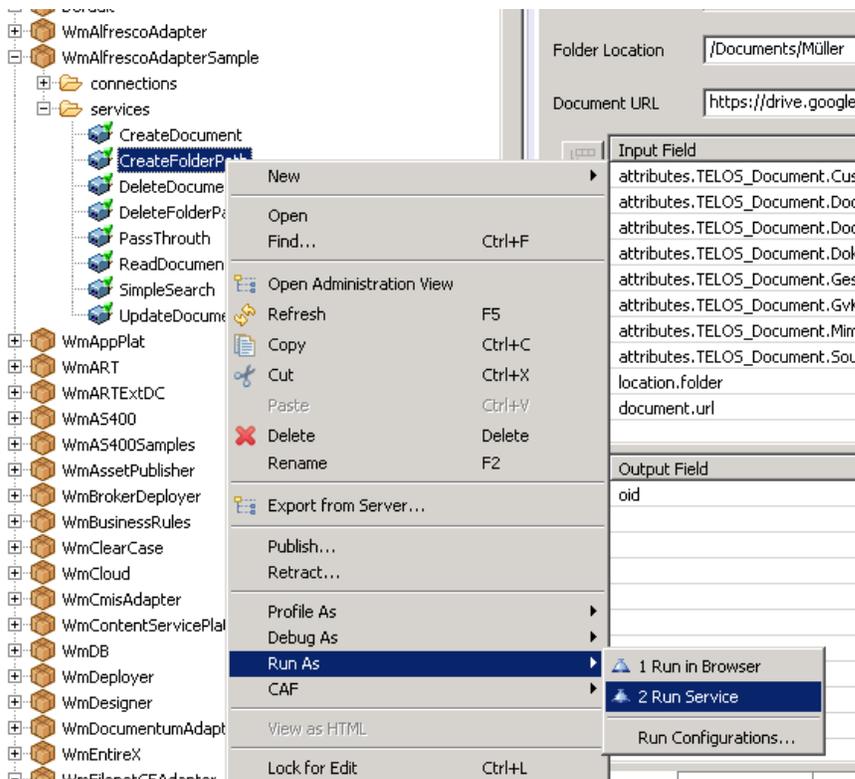
- On the left-hand side of the panel are the parameters that are taken as inputs. In this case, the input required is as follows:
  - The name of the folder Path to be created.
- On the right-hand side shows the output for the service. Here, the objectId of the created folder path is returned, together with Folder attributes.

3. Save the new service and it will be available under services.

### 7.4.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.



2. Enter the relevant information into the resulting form as follows:



Name	Value
createFolderServiceInput	
createFolderServiceOutput	
objectId	3c28d925-b52f-411a-888a-c61956b20afc
attributes	
nodeId	
nodeType	cm:folder
name	Test Folder2
relativePath	/Company Home/Guest Home
parentId	58516898-6efd-47e0-b4ea-03bb801b6b43
isLocked	false
permissions	
version	
versionType	
description	test
modifiedByUser	admin
createdByUser	admin
createdAt	9/21/2019 23:20:28 GMT
modifiedAt	9/21/2019 23:20:28 GMT

The new folder is created in Alfresco.

## 7.5 Delete Document

### 7.5.1 Description

This service enables you to delete a document in Alfresco.

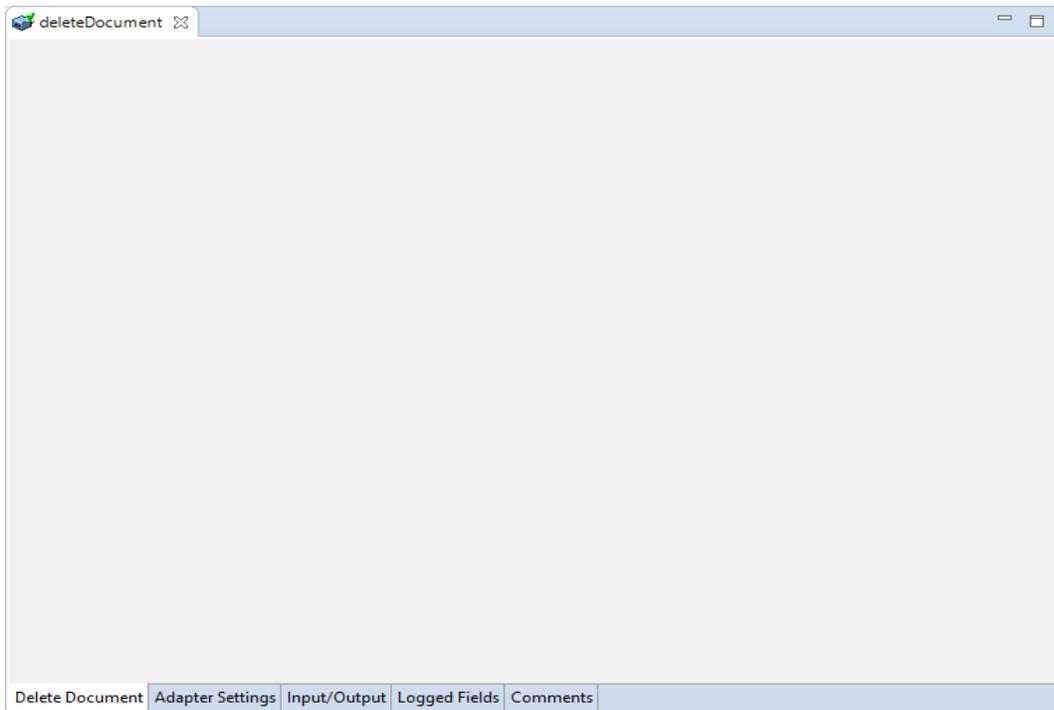
### 7.5.2 Configure the Service

After the initial configuration of the service, as shown above, the **Select a Template** screen is displayed.

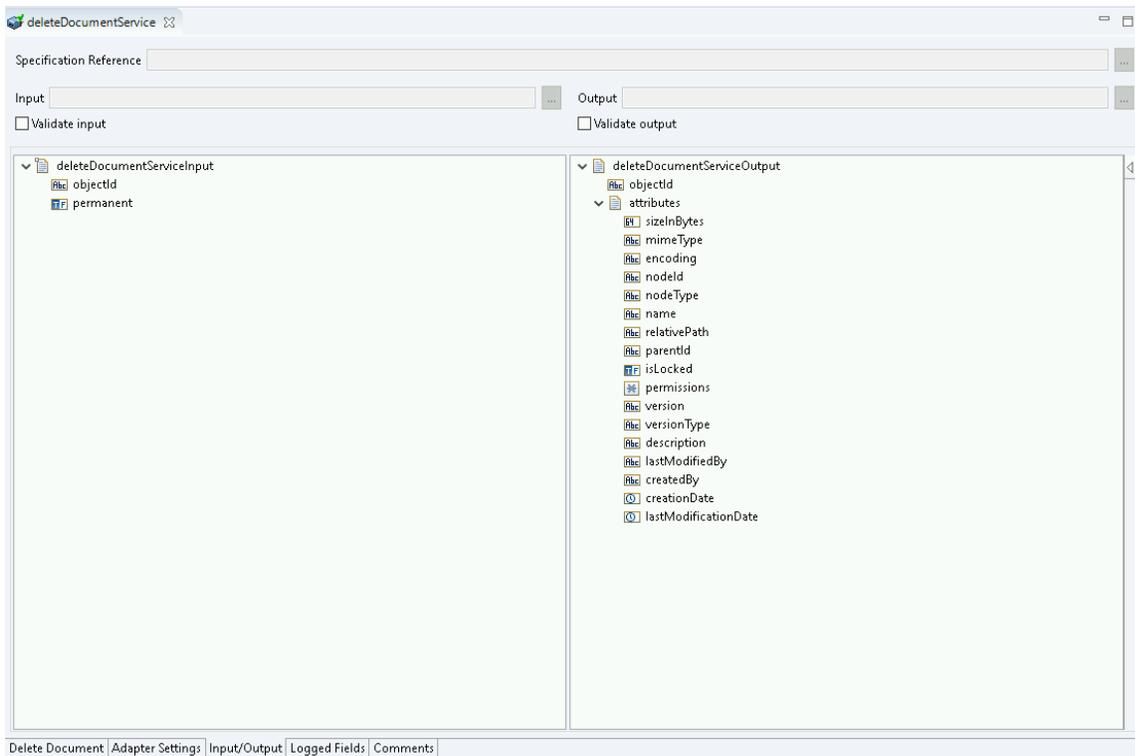
Perform the following steps to configure the service:

1. Select **Delete Document** and click **Finish**.





## 2. Click the Input/Output tab.



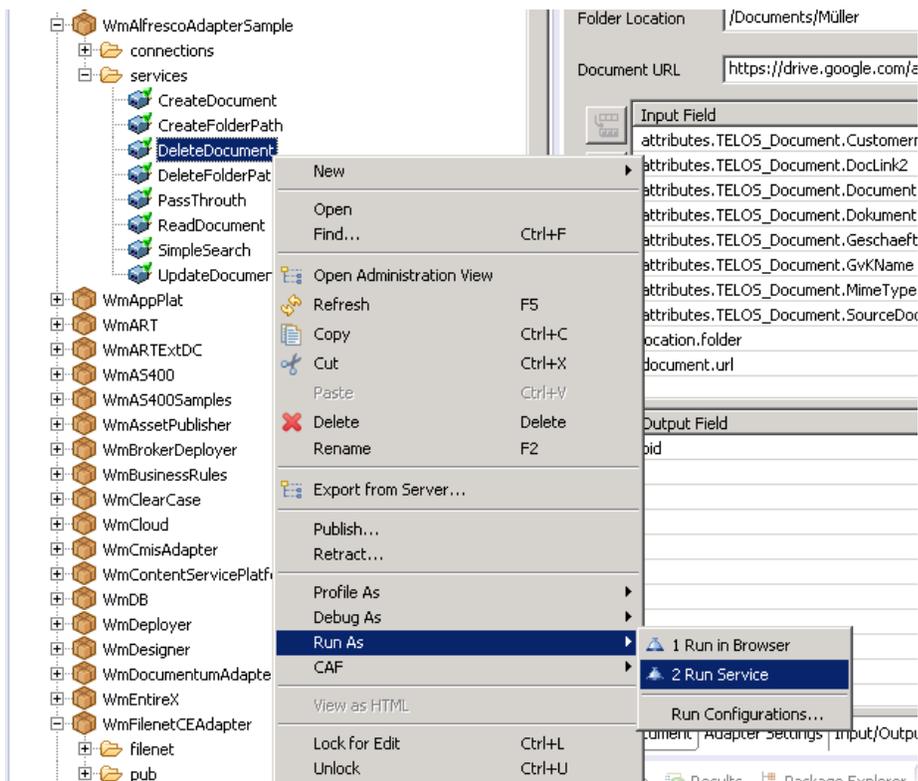
This tab shows the input and output values of Delete Document service such as, the information required and the information provided after the document is deleted.

- On the left-hand side of the panel are the parameters that are taken as inputs. In this case, the input required is as follows:
    - The objectId of the document that is to be deleted.
    - Whether the deletion should be permanent or folder should go in the trash.
  - On the right-hand side shows the output for the service. Here, attributes are returned.
3. Save the new service and it will be available under services

### 7.5.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.



2. Enter the relevant input information in the resulting panel:



Name	Value
deleteDocumentServiceInput	
objectId	12fe3f61-ed11-4d9e-9a0a-fdcae9e42a94
permanent	true
deleteDocumentServiceOutput	
attributes	
sizeInBytes	19671683
mimeType	application/pdf
encoding	UTF-8
nodeId	
nodeType	cm:content
name	Test Document
relativePath	/Company Home/Guest Home/Test Folder
parentId	a0c391ce-9e94-446e-95d0-c10c267c7632
isLocked	false
permissions	
version	1.0
versionType	MAJOR
description	
modifiedByUser	admin
createdByUser	admin
createdAt	9/21/2019 23:13:30 GMT
modifiedAt	9/21/2019 23:13:30 GMT

The document is deleted from Alfresco.

## 7.6 Delete Folder Path

### 7.6.1 Description

This service allows you to delete a folder path in Alfresco. The actual folder path that is deleted is defined by the folder path give as an input when the service is executed.

### 7.6.2 Configure the Service

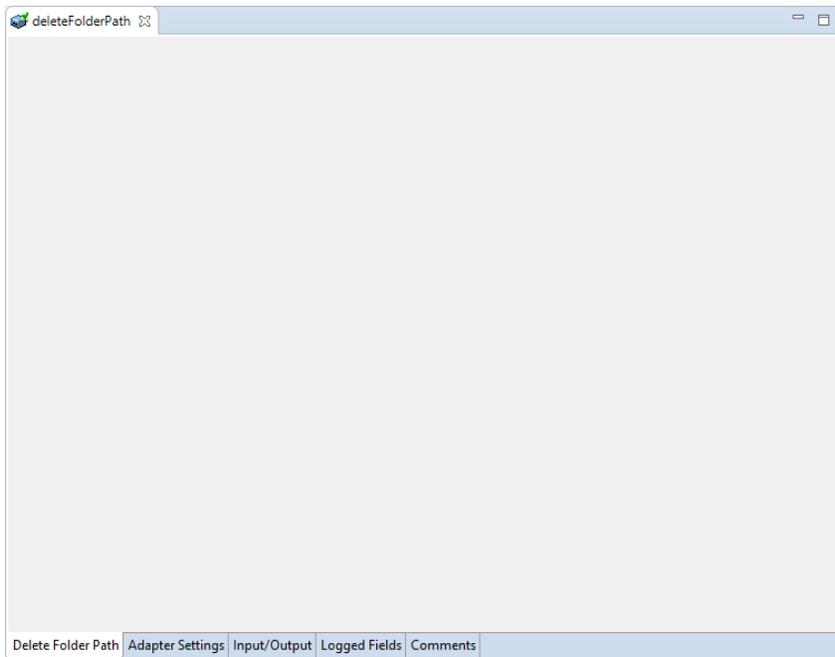
After the initial configuration of the service, as shown above, the select a template screen appears.

Perform the following steps to configure the service:

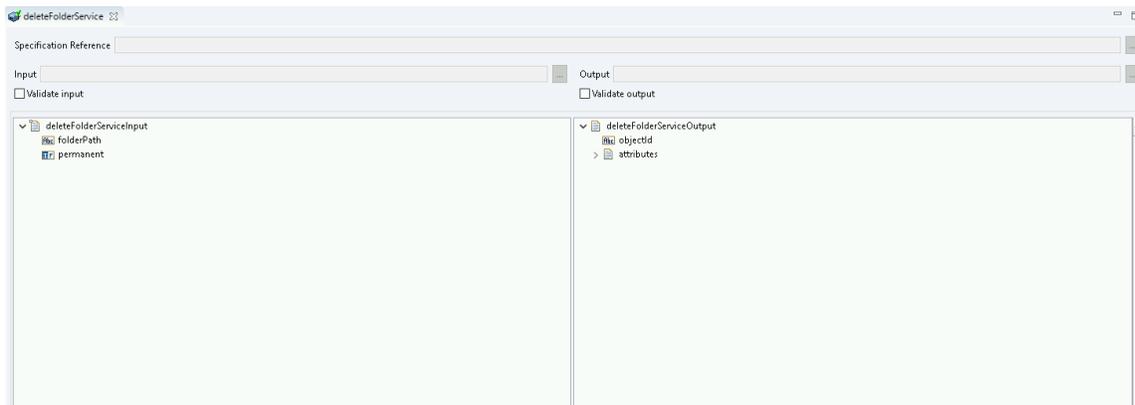
1. Click **Delete Folder Path** and click **Finish**.



You can now configure the template. The service template contains a series of tabs along the bottom of the panel. The **Delete Folder Path** tab has no properties that require configuration.



## 2. Click the **Input/Output** tab.



This tab shows the input and output values of **Delete Folder Path** service such as, the information required and the information provided after the folder path is deleted.

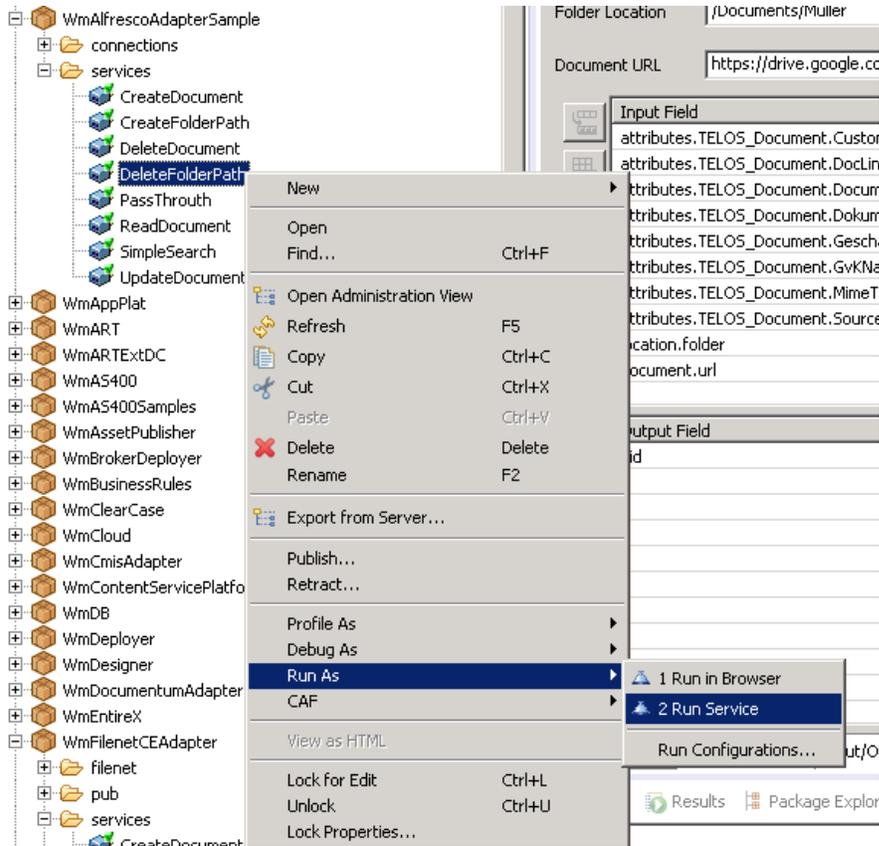
- On the left-hand side of the panel are the parameters that are taken as inputs. In this case, the following two inputs are required:
  - The folder path to be deleted
  - Whether the deletion should be permanent or folder should go in the trash.
- On the right-hand side it shows the output for the service. Here, the attributes are returned.

3. Save the new service and it will be available under services.

### 7.6.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.



2. Enter the relevant input information in the resulting panel.



Name	Value
deleteFolderInput	
folderPath	/Guest Home/test0987656
permanent	false
deleteFolderOutput	
attributes	
nodeId	
nodeType	cm:folder
name	test0987656
relativePath	/Company Home/Guest Home
parentId	58516898-6efd-47e0-b4ea-03bb801b6b43
isLocked	false
permissions	
version	1.0
versionType	MAJOR
description	
modifiedByUser	admin
createdByUser	admin
createdAt	9/22/2019 18:58:01 GMT
modifiedAt	9/22/2019 18:58:01 GMT

The folder is deleted from Alfresco.

## 7.7 Read Document

### 7.7.1 Description

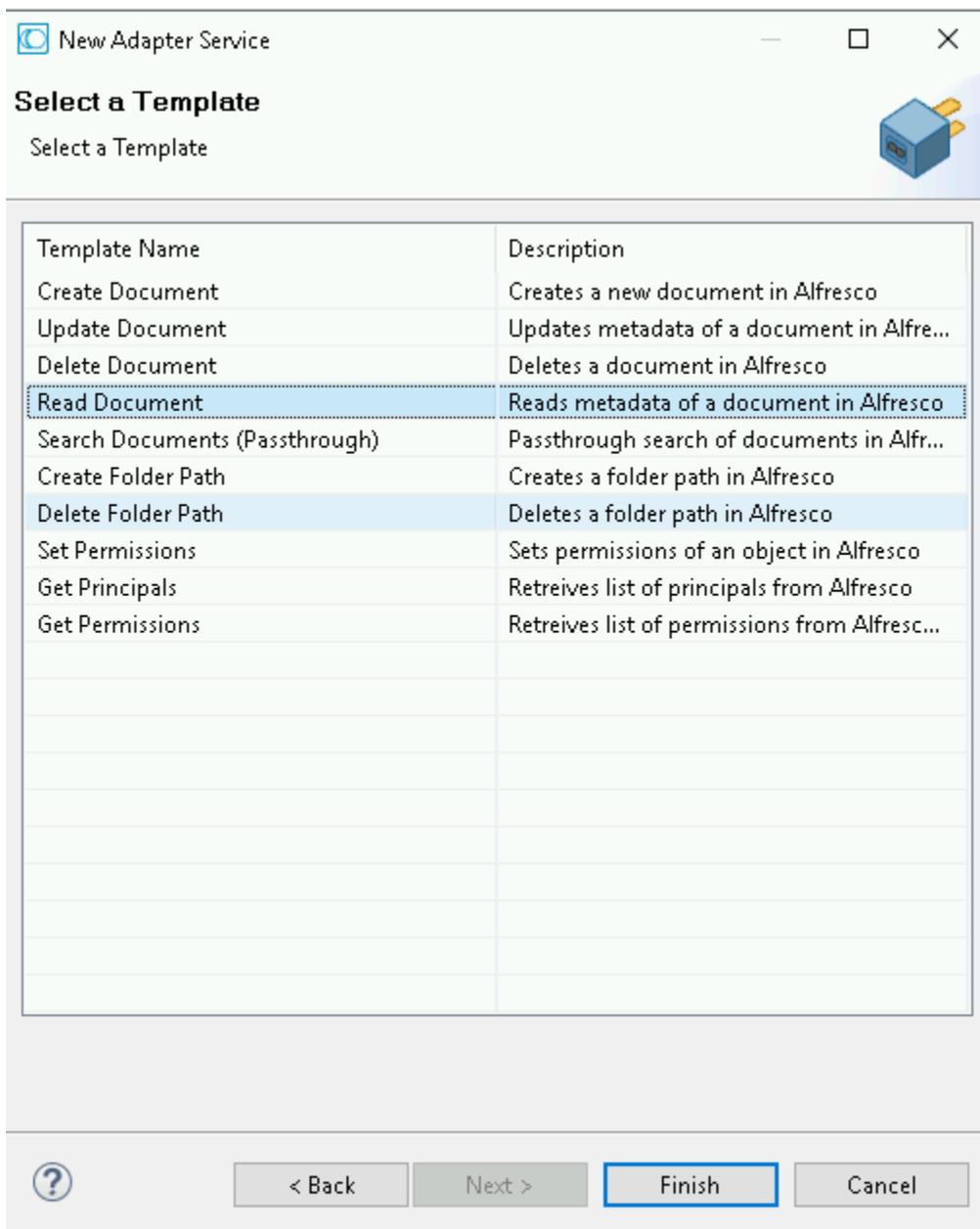
The Read Document service allows you to enter an object ID for a document and have it returned with metadata from Alfresco.

### 7.7.2 Configure the Service

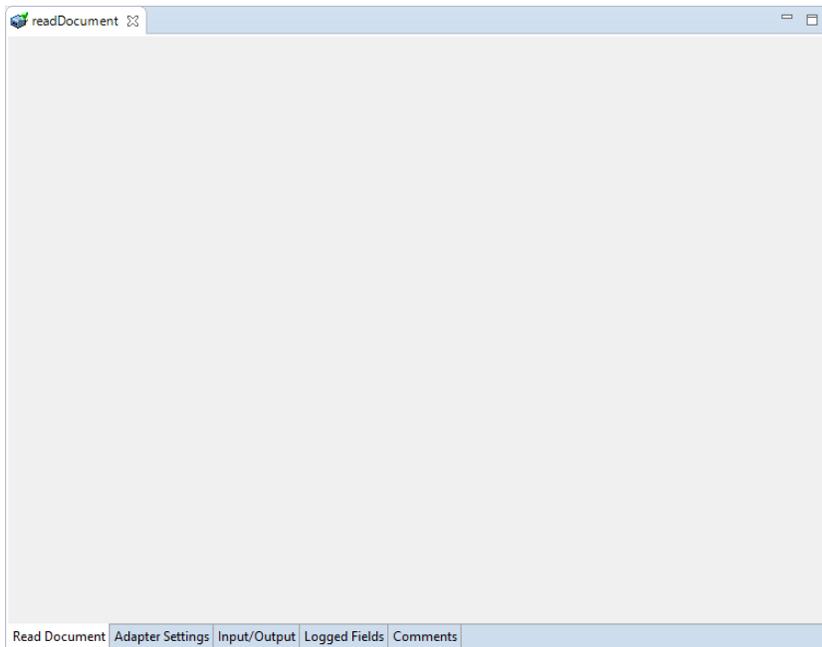
After the initial configuration of the service, as shown above, the **Select a Template** screen is appears.

Perform the following steps to configure the service:

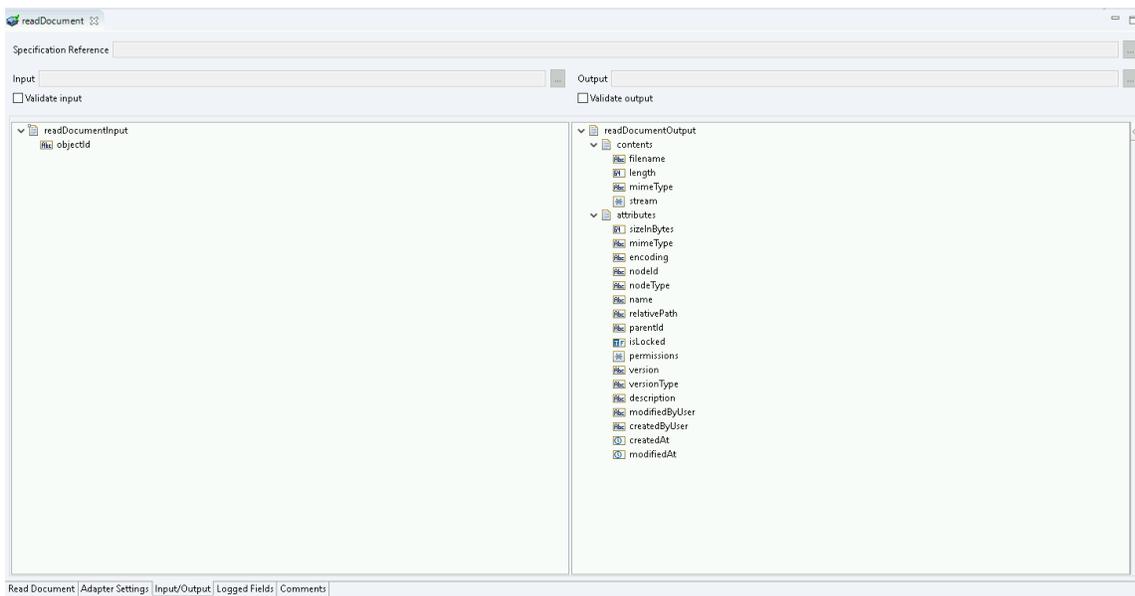
1. Select **Read Documents** and click **Finish**.



You can now configure the template. The service template contains a series of tabs along the bottom of the panel. The **Read Document** tab, has no properties that require configuration.



## 2. Click the Input/Output tab.



This tab shows the input and output values of the Read Document service such as, the information required and the information provided after reading the document.

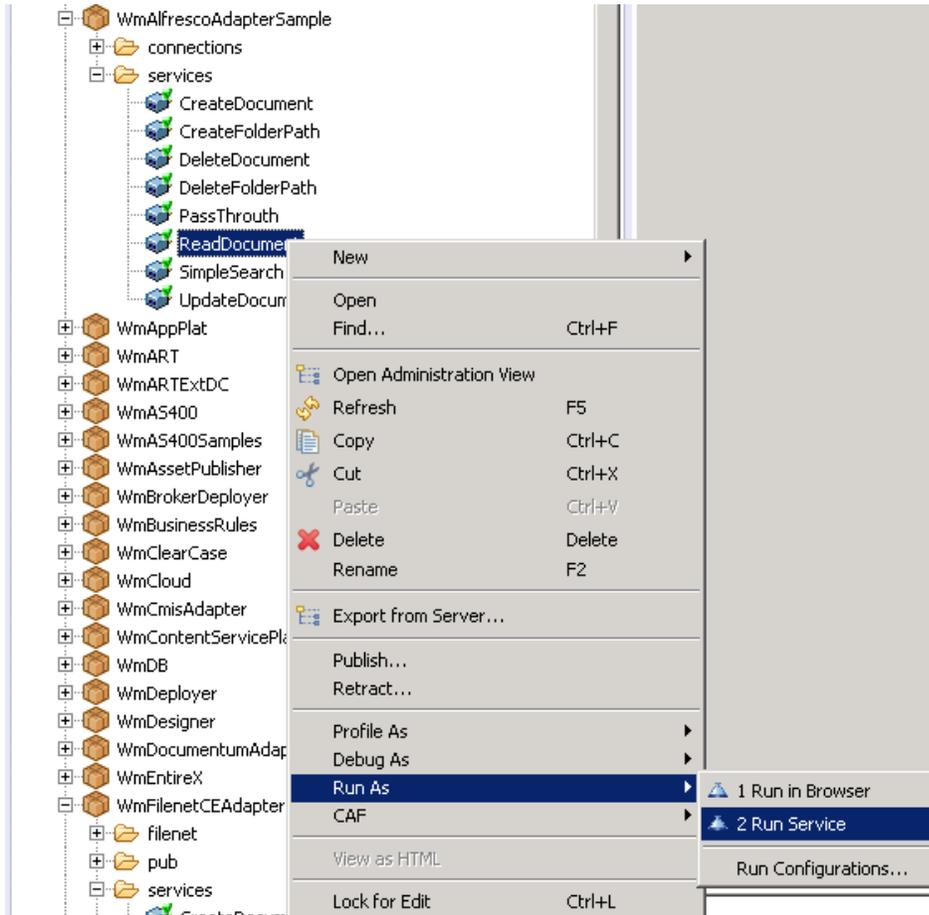
- On the left-hand side of the panel are the parameters that are taken as inputs. In this case, the input required is as follows:
  - The objectId of the document you want to read.
- On the right-hand side the outputs returned as shown, including the content of the document (through the stream) as well as some metadata relating to the document itself.

3. Save the new service and it will be available under services.

### 7.7.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.



2. Enter the relevant information in the resulting panel.



Name	Value
> readDocumentInput	
readDocumentOutput	
objectid	1a74fc89-e8f2-44ab-b75a-73b1918cc2ce
attributes	
sizeInBytes	19671683
mimeType	application/pdf
encoding	UTF-8
nodeId	
nodeType	cm:content
name	updated_name
relativePath	/Company Home/Guest Home/Test Folder
parentId	a0c391ce-9e94-446e-95d0-c10c267c7632
isLocked	false
permissions	
version	1.0
versionType	MAJOR
description	updated_description
modifiedByUser	admin
createdByUser	admin
createdAt	9/22/2019 19:42:58 GMT
modifiedAt	9/22/2019 20:35:30 GMT
contents	
filename	updated_name
length	19671683
mimeType	application/pdf
stream	org.apache.http.conn.EofSensorInputStream

The metadata for your document is returned.

## 7.8 Search Document (Pass Through)

### 7.8.1 Description

The Search Document (Pass Through) allows you to perform a passthrough search of documents contained in the connected Alfresco system using CMIS Query language.

As CMIS as a standard contains lot of properties that are not supported in Alfresco, in CMIS QL queries just CMIS properties that are mapped to Alfresco props can be used.

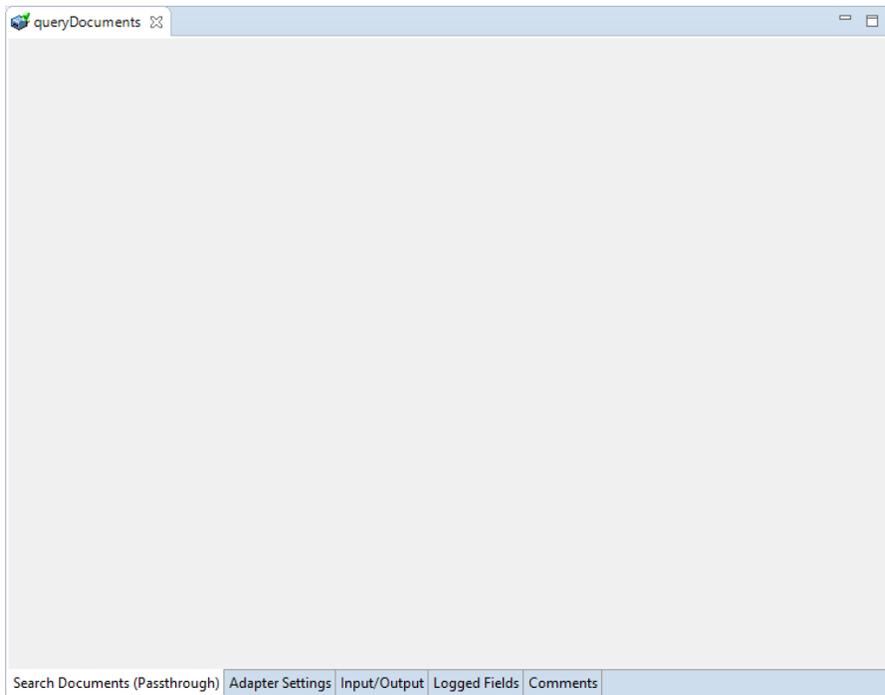
### 7.8.2 Configure the Service

After the initial configuration of the service, as shown above, the **Select a Template** screen appears.

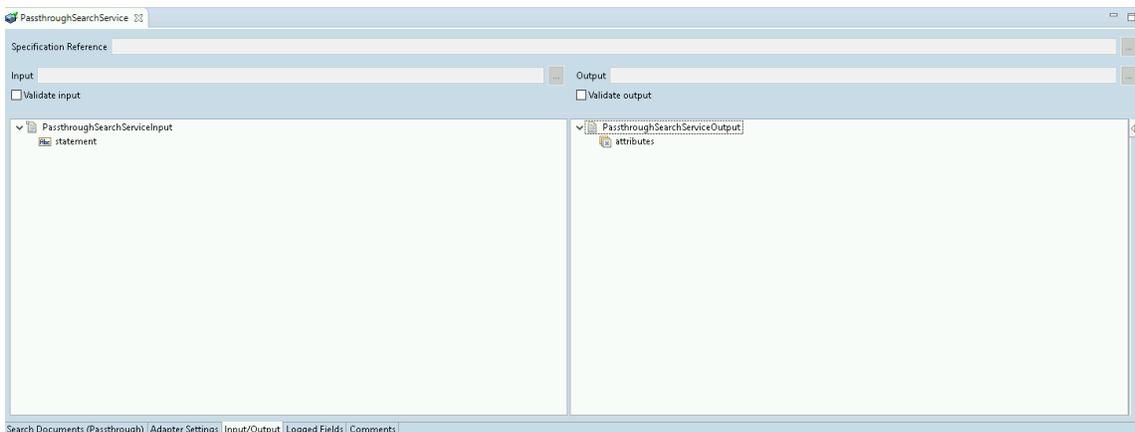
Perform the following steps to configure the service:

1. Select **Search Documents (Pass Through)** and click **Finish**.





2. Therefore click the **Input/Output** tab.



This tab shows the input and output values of the Search Documents (Pass Through) service such as, the information required and the information provided after the query is executed.

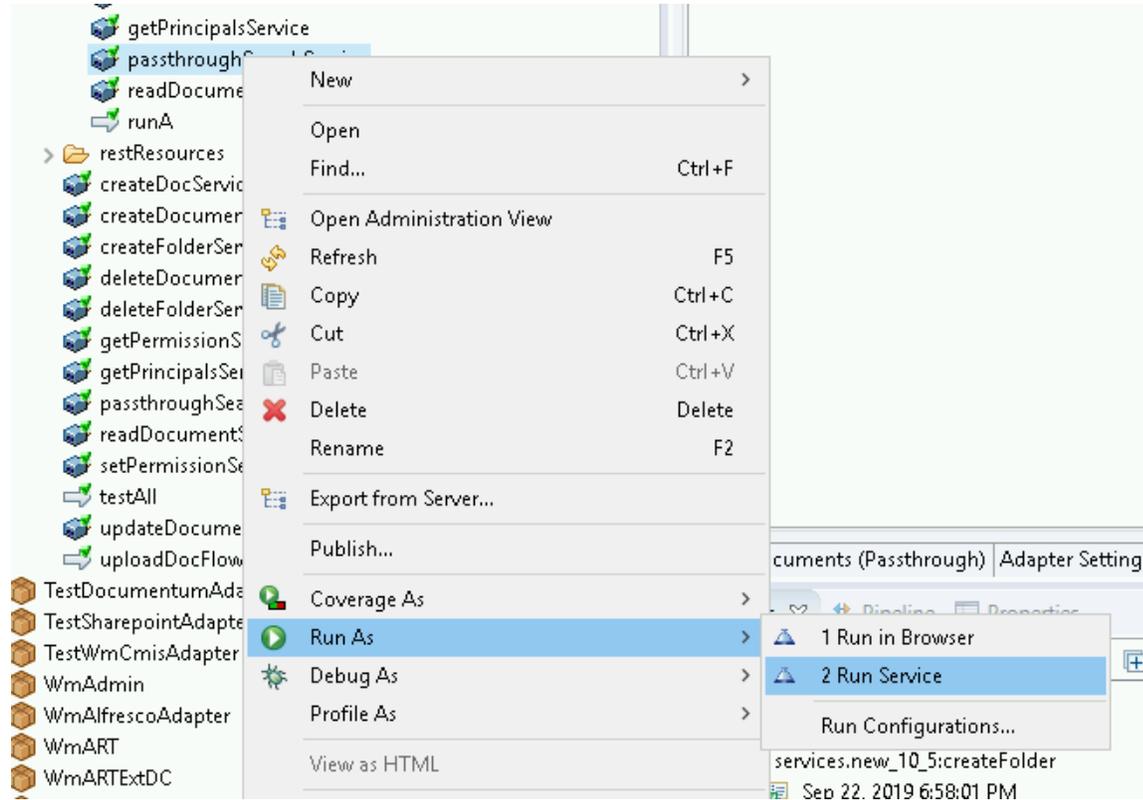
- On the left-hand side of the panel are the parameters that are taken as inputs. In this case this are two inputs required:
  - the statement of the CMIS query you wish to make
- On the right-hand side the attributes such as, the results of the search.

3. Save the new service and it will be available under services.

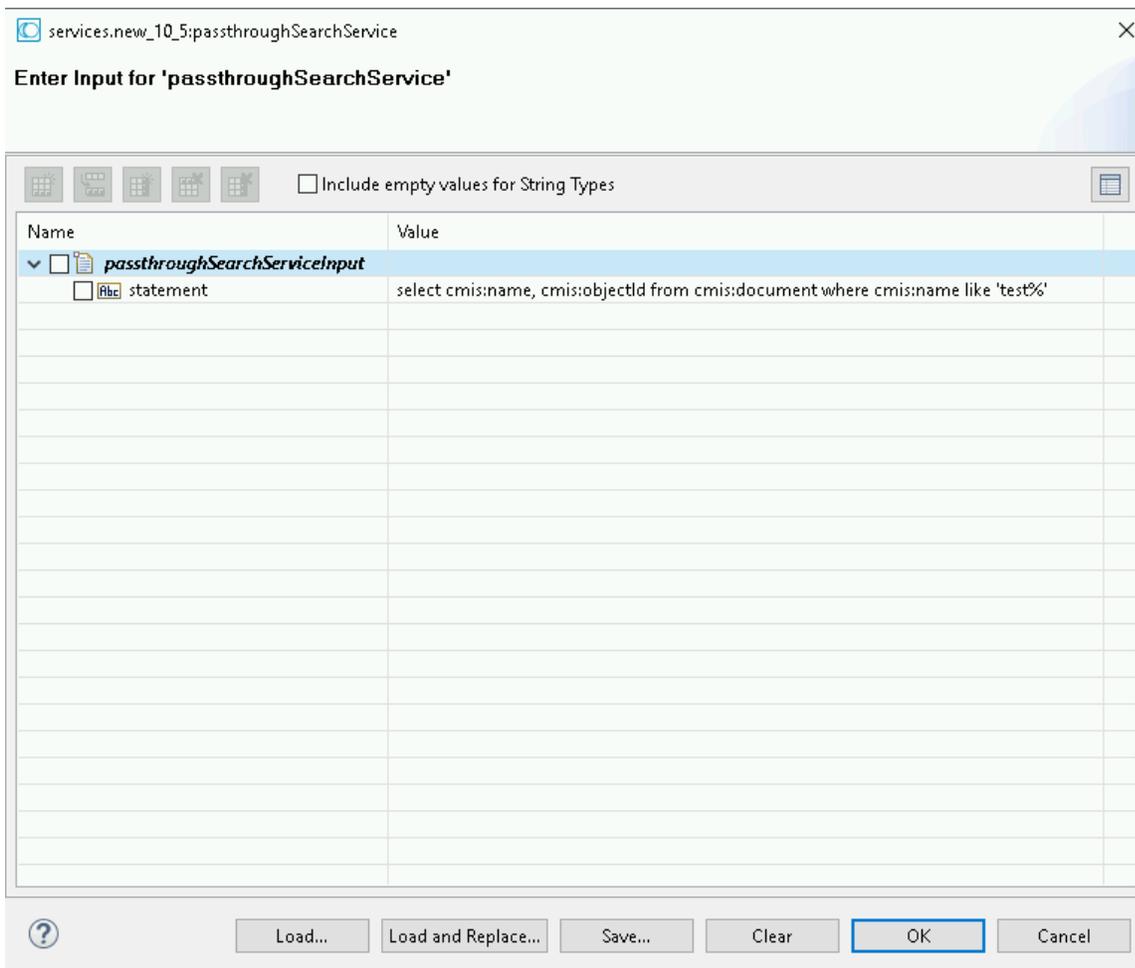
### 7.8.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.

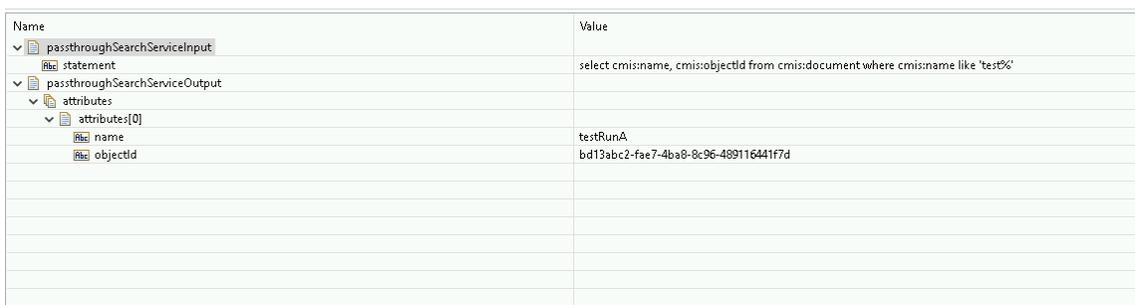


2. Enter the relevant input information in the resulting panel.



3. Click **OK**.

The service is executed and the resulting output displayed.



The results of your search are returned.

## 7.9 Update Document

### 7.9.1 Description

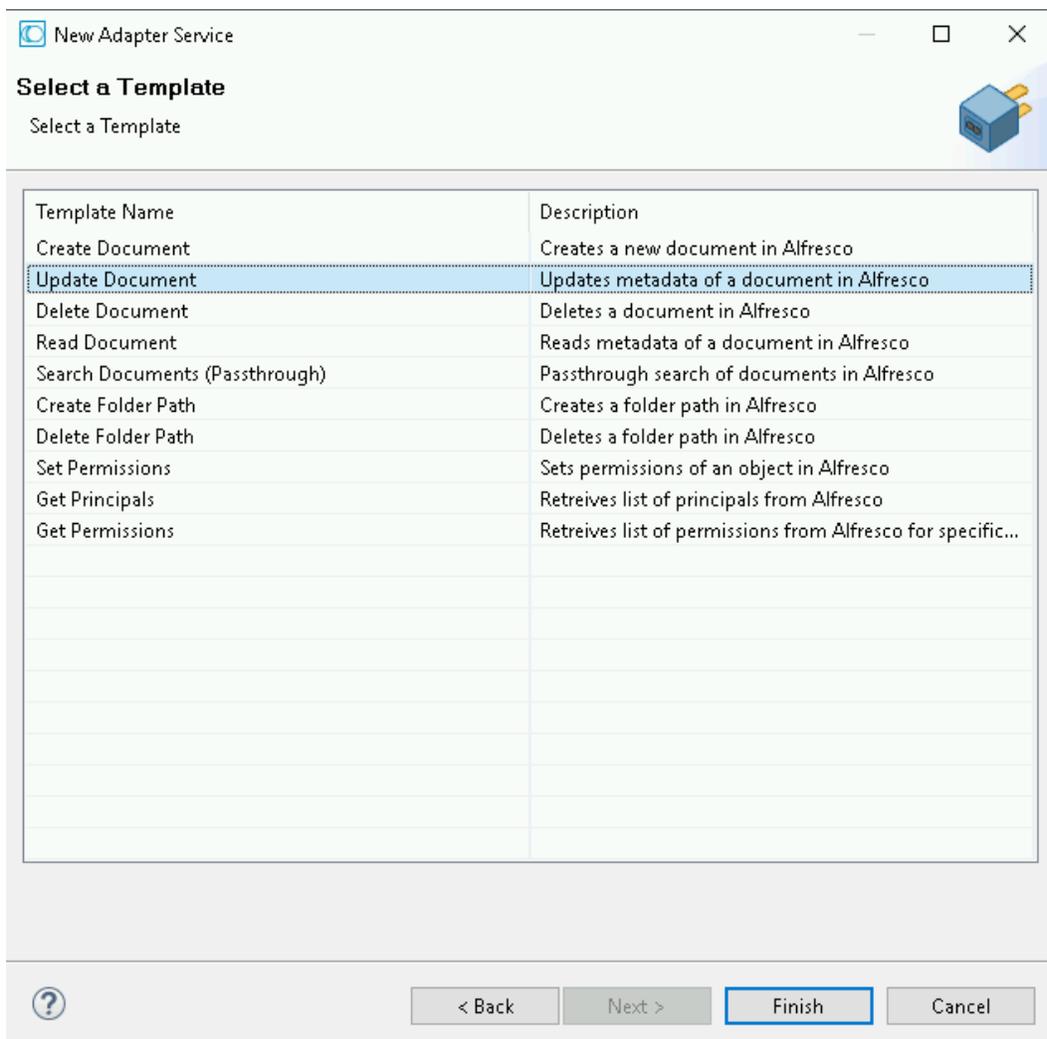
The Update Document updates the metadata of a document or content stored in Alfresco.

### 7.9.2 Configure the service

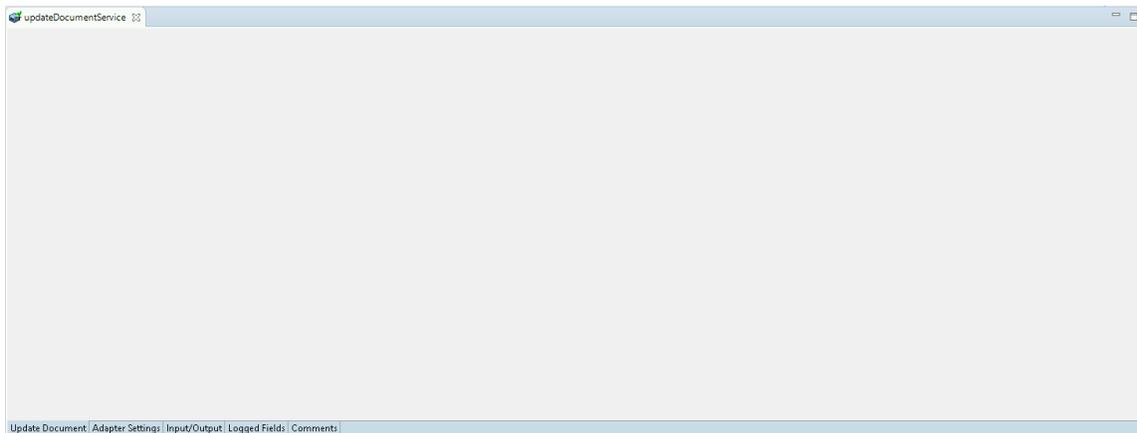
After the initial configuration of the service, as shown above, the **Select a Template** screen appears.

Perform the following steps to configure the service:

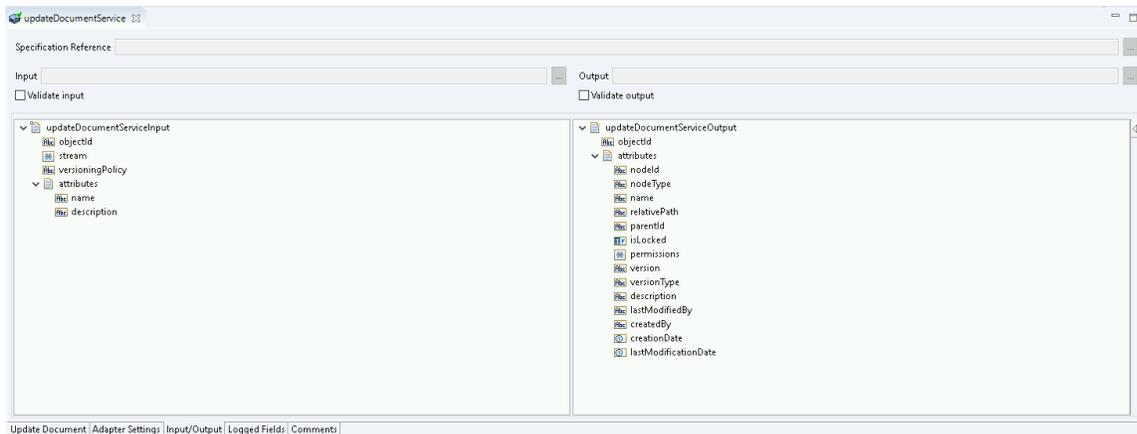
1. Select **Update Document** and click **Finish**.



The **Update Document** tab, has no properties that require configuration.



## 2. Click the Input/Output.



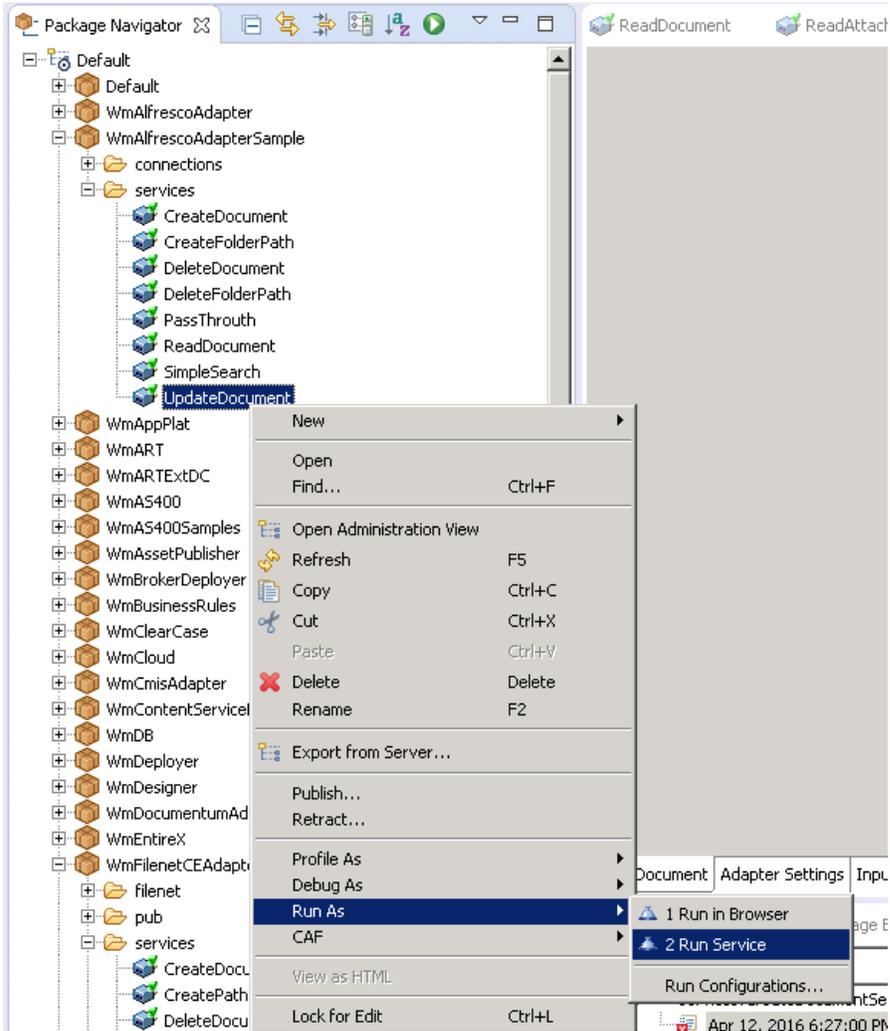
This tab shows the input and output values of the **Update Document** service such as, what is the information required and the information provided after the document is updated.

- On the left-hand side of the panel are the parameters that are taken as inputs. The input required are as follows:
    - The objectId of the document to be updated is required.
    - Field stream should point to input stream of new content
    - Field versioning Policy can have following values: MINOR/MAJOR, if no value is specified MINOR value is default one
    - A new name and description for the updated document should also be given.
  - On the right-hand side the attributes of the document is returned.
3. Save the new service and it will be available under services.

### 7.9.3 Execute the service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run -> Run As**.



2. Enter the relevant input information in the resulting panel.



Name	Value
updateDocumentInput	
objectid	1a74fc89-e8f2-44ab-b75a-73b1918cc2ce
attributes	
name	updated_name
description	updated_description
updateDocumentOutput	
objectid	1a74fc89-e8f2-44ab-b75a-73b1918cc2ce
attributes	
sizeInBytes	19671683
mimeType	application/pdf
encoding	UTF-8
nodetid	
nodeType	cm:content
name	updated_name
relativePath	/Company Home/Guest Home/Test Folder
parentid	a0c391ce-9e94-446e-95d0-c10c267c7632
isLocked	false
permissions	
version	1.0
versionType	MAJOR
description	updated_description
modifiedByUser	admin
createdByUser	admin
createdAt	9/22/2019 19:42:58 GMT
modifiedAt	9/22/2019 20:35:30 GMT

Your document is updated.

## 7.10 Get Principals

### 7.10.1 Description

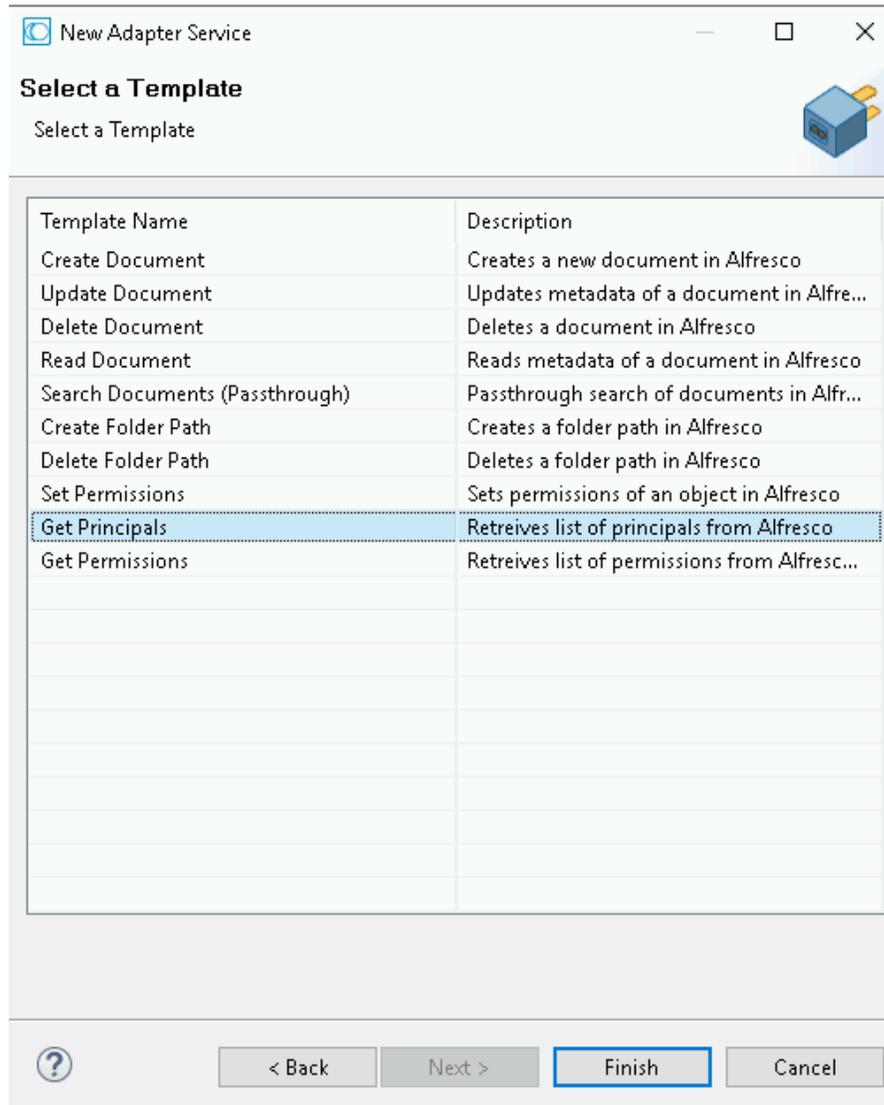
The Get Principals Service allows you to get all Users and Groups from specific Alfresco instance.

### 7.10.2 Configure the Service

After the initial configuration of the service, as shown above, the **Select a Template** screen appears.

Perform the following steps to configure the service:

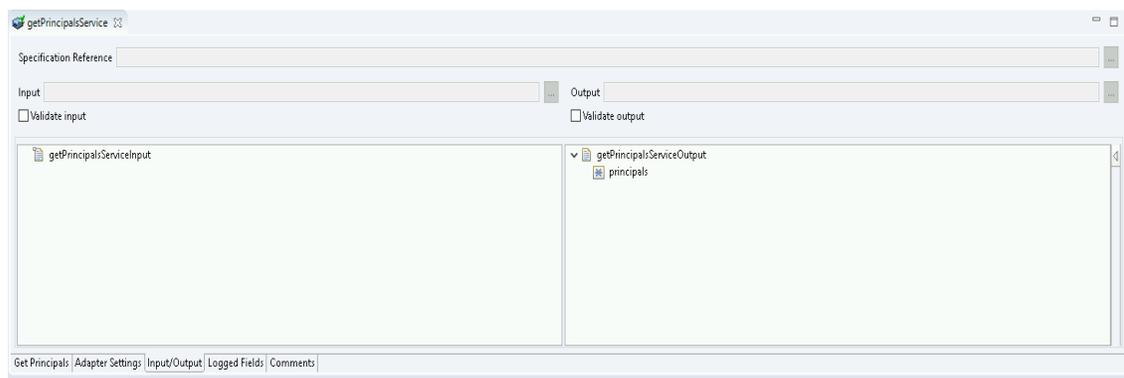
1. Select **Get Principals** and click **Finish**.



The **Get Principals** tab has no properties that require configuration.



## 2. Click the Input/Output.



This tab shows the input and output values of the **Get Principals** service such as, the information required and the information provided after the query is executed.

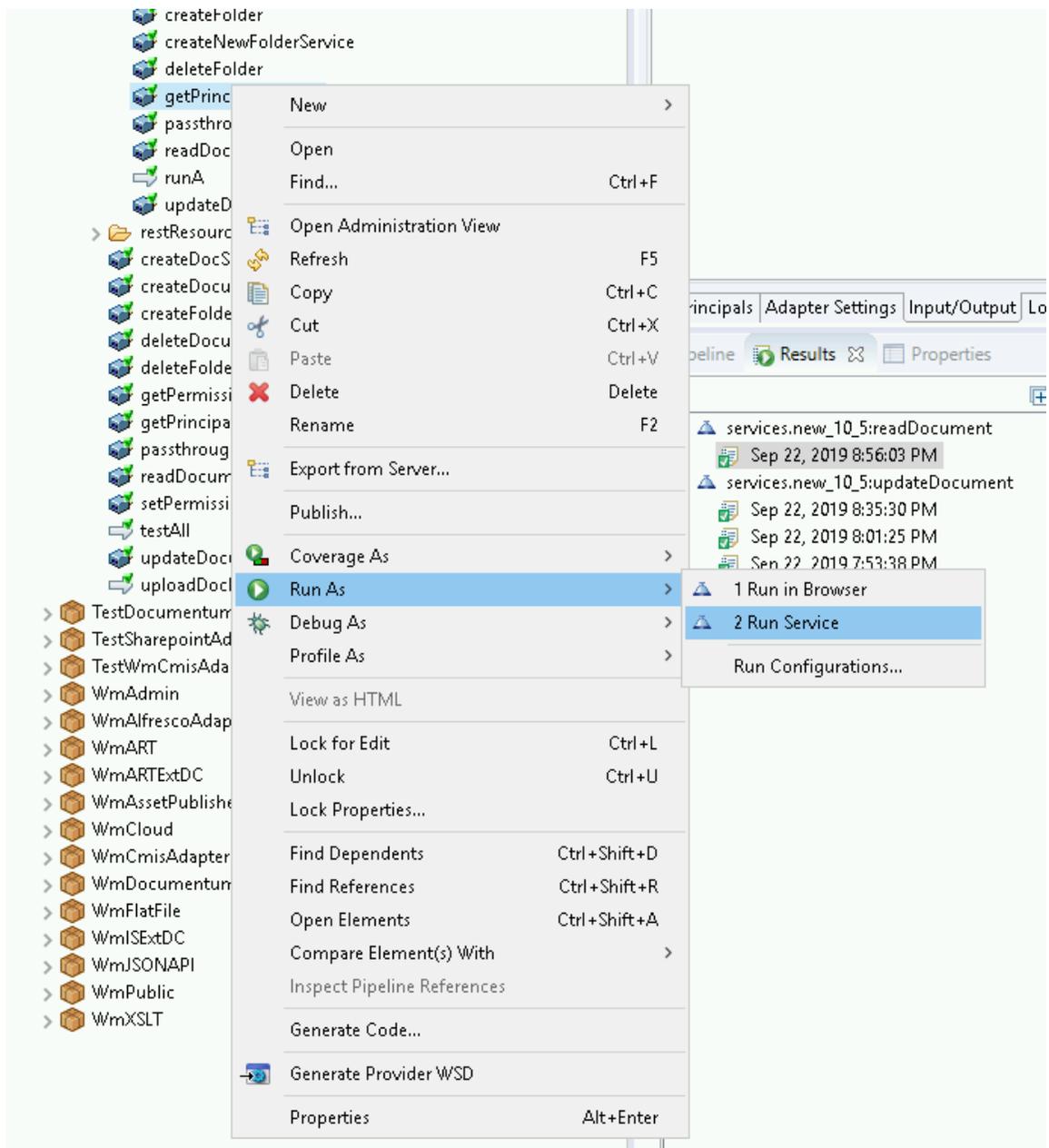
- On the left-hand side of the panel are the parameters that are taken as inputs and you can see that the list for this service is empty, so there are no input parameters.
- On the right-hand side all available principals from the specific alfresco instance are returned as a result of the service execution.

3. Save the new service and it will be available under services.

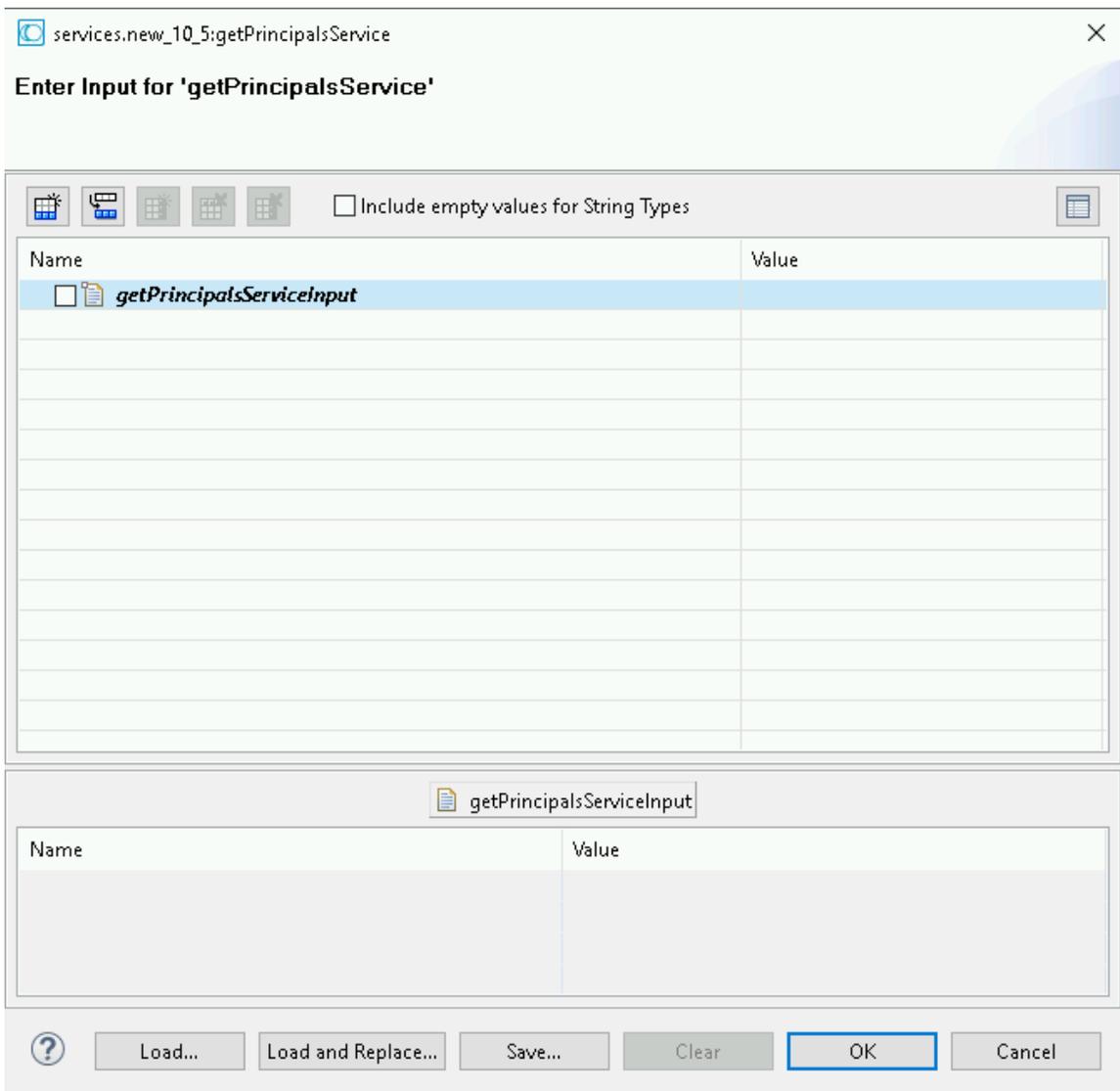
### 7.10.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.



2. Enter the relevant input information in the resulting panel.



3. Click OK.

The service is executed, and the output is displayed.

Name	Value
getPrincipalsServiceOutput	
principals	
users	
users[0]	
id	abeecher
firstName	Alice
lastName	Beecher
email	abeecher@example.com
description	Alice is a demo user for the sample Alfresco Team site.
enable	false
users[1]	
id	admin
firstName	Administrator
lastName	
email	admin@alfresco.com
description	
enable	true
users[2]	
users[3]	
users[4]	
groups	
groups[0]	
id	GROUP_ALFRESCO_ADMINISTRATORS
isRoot	true
groups[1]	
id	GROUP_ALFRESCO_MODEL_ADMINISTRATORS
isRoot	true
groups[2]	
groups[3]	
groups[4]	
groups[5]	
groups[6]	
groups[7]	
groups[8]	
groups[9]	
groups[10]	

## 7.11 Get Permissions

### 7.11.1 Description

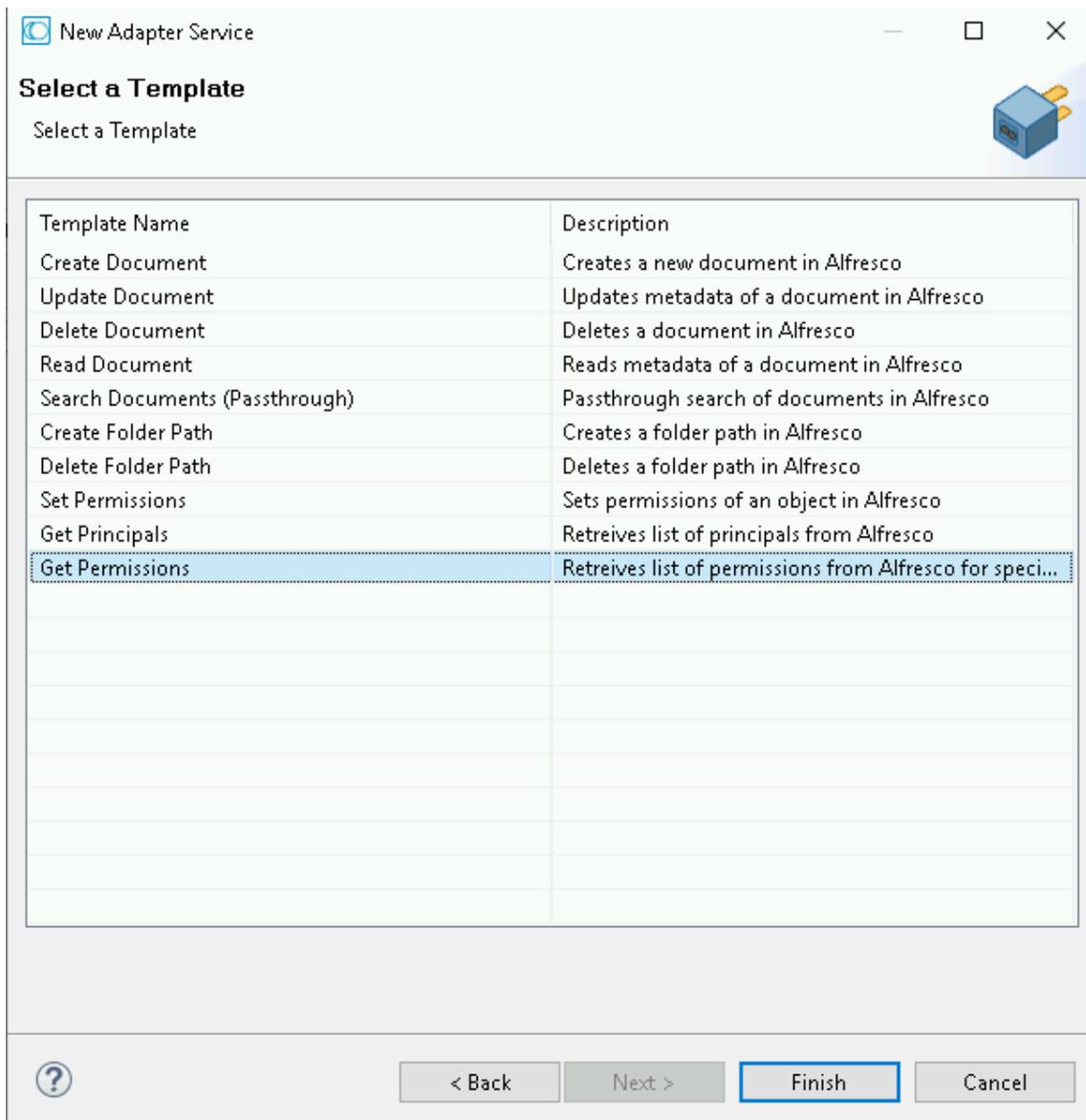
The Get Permissions Service allows you to get all permissions for specific Alfresco node.

### 7.11.2 Configure the Service

After the initial configuration of the service, as shown above, the Select a Template screen appears.

Perform the following steps to configure the service:

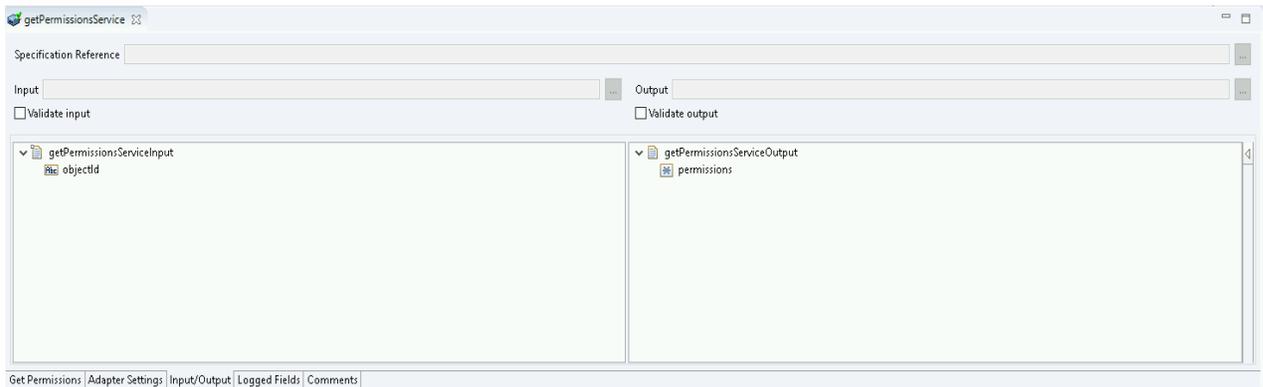
1. Select **Get Permissions** and click **Finish**.



You can now configure the template. The service template contains a series of tabs along the bottom of the panel. The **Get Permissions** tab has no properties that require configuration.



## 2. Click the Input/Output tab.



This tab shows the input and output values of the Get Principals service such as, the information required and the information provided after the query is executed.

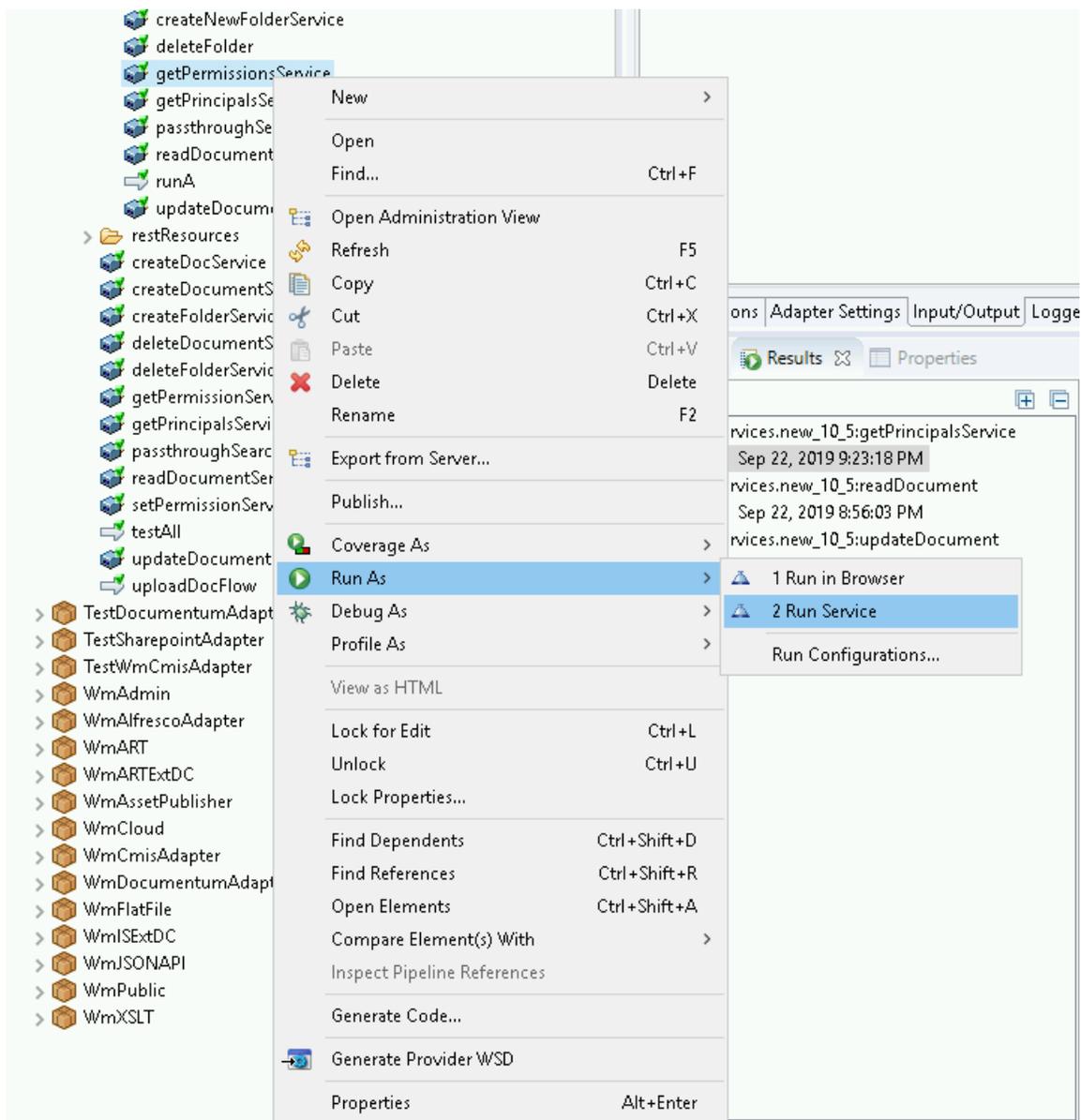
- On the left-hand side of the panel are the parameters that are taken as in-puts and you can see that the list for this service is empty, so there are no in-put parameters.
  - The objectId of the document you want to read
- On the right-hand side all available permissions from the specific alfresco node are returned as a result of the service execution.

3. **Save** the new service and it will be available under services.

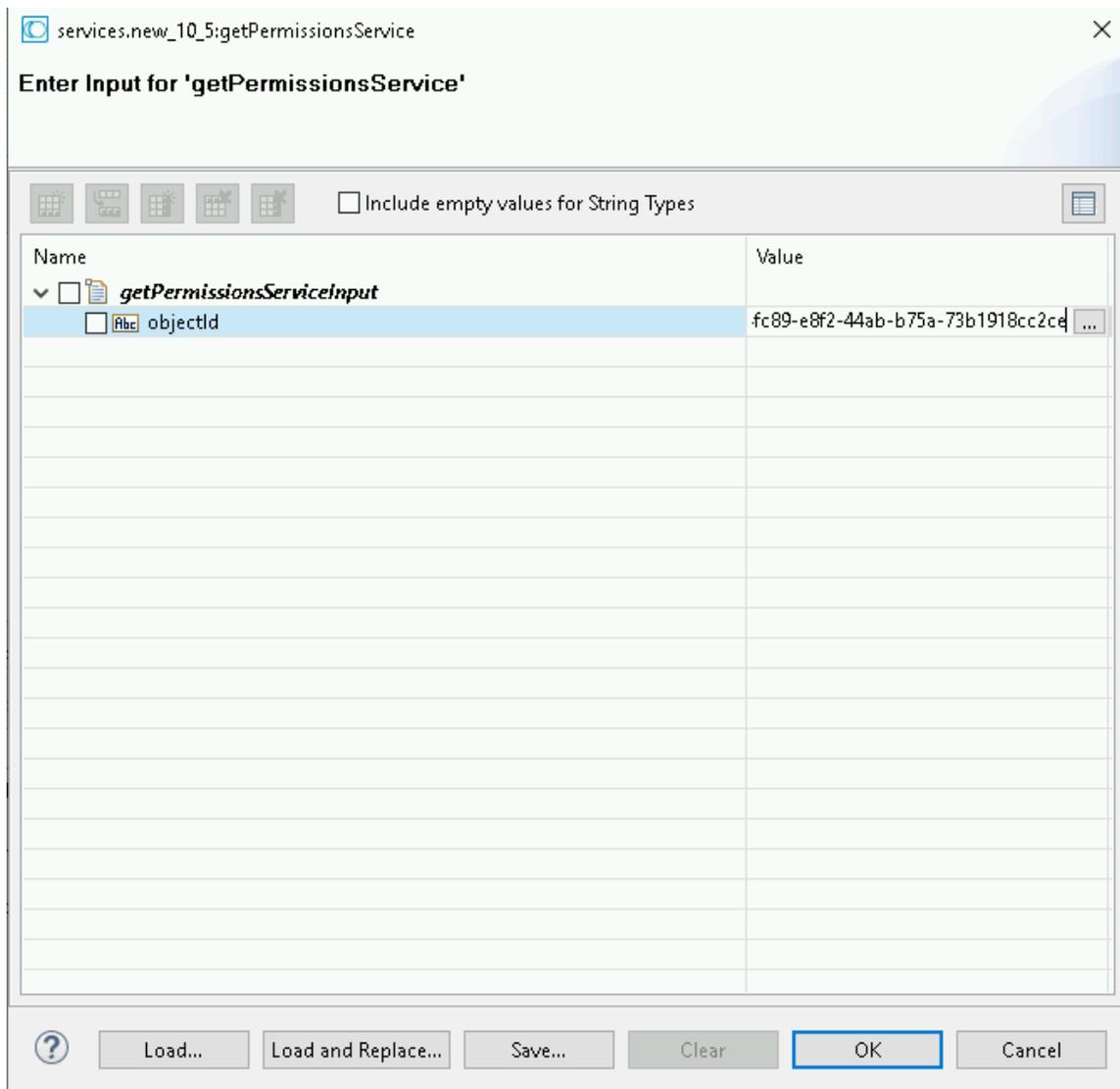
### 7.11.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As -> Run Service**.



2. Enter the relevant input information in the resulting panel.



3. Click OK.

The service is executed, and the output is displayed.



## 7.12 Set Permission

### 7.12.1 Description

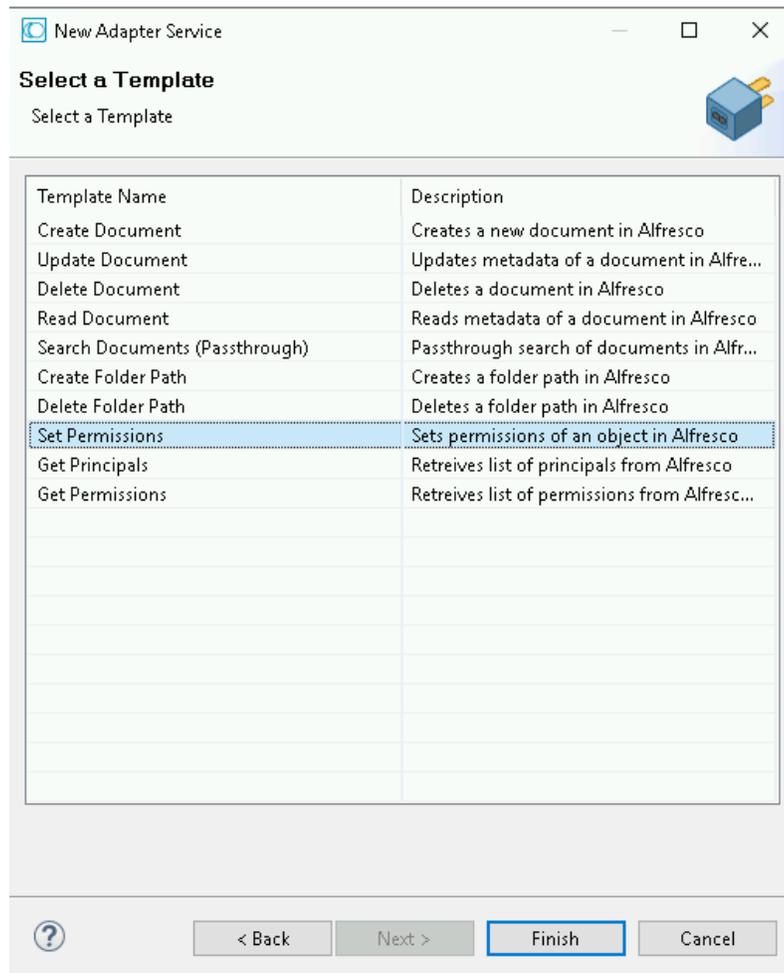
Sets Permission on the specific object in Alfresco.

### 7.12.2 Configure the Service

After the initial configuration of the service, as shown above, the Select a Template screen appears.

Perform the following steps to configure the service:

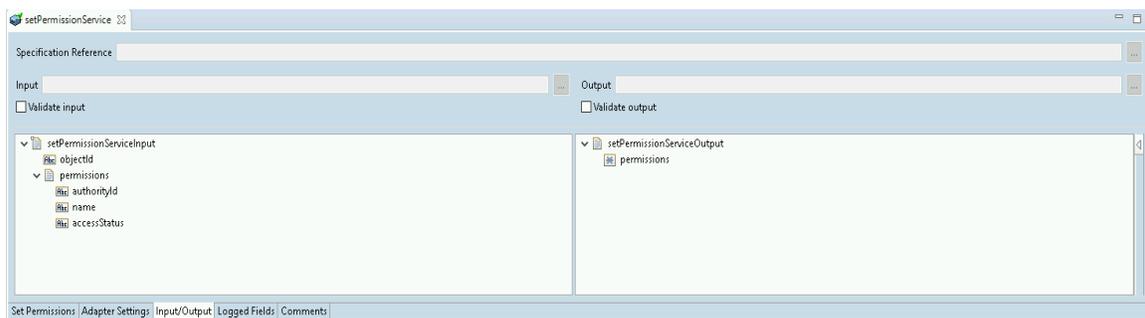
1. Select **Set Permissions** and click **Finish**.



You can now configure the template. The service template contains a series of tabs along the bottom of the panel. The **Set Permissions** tab has no properties that require configuration.



## 2. Click the Input/Output tab.



This tab shows the input and output values of the Get Principals service such as, the information required and is the information provided after the query is executed.

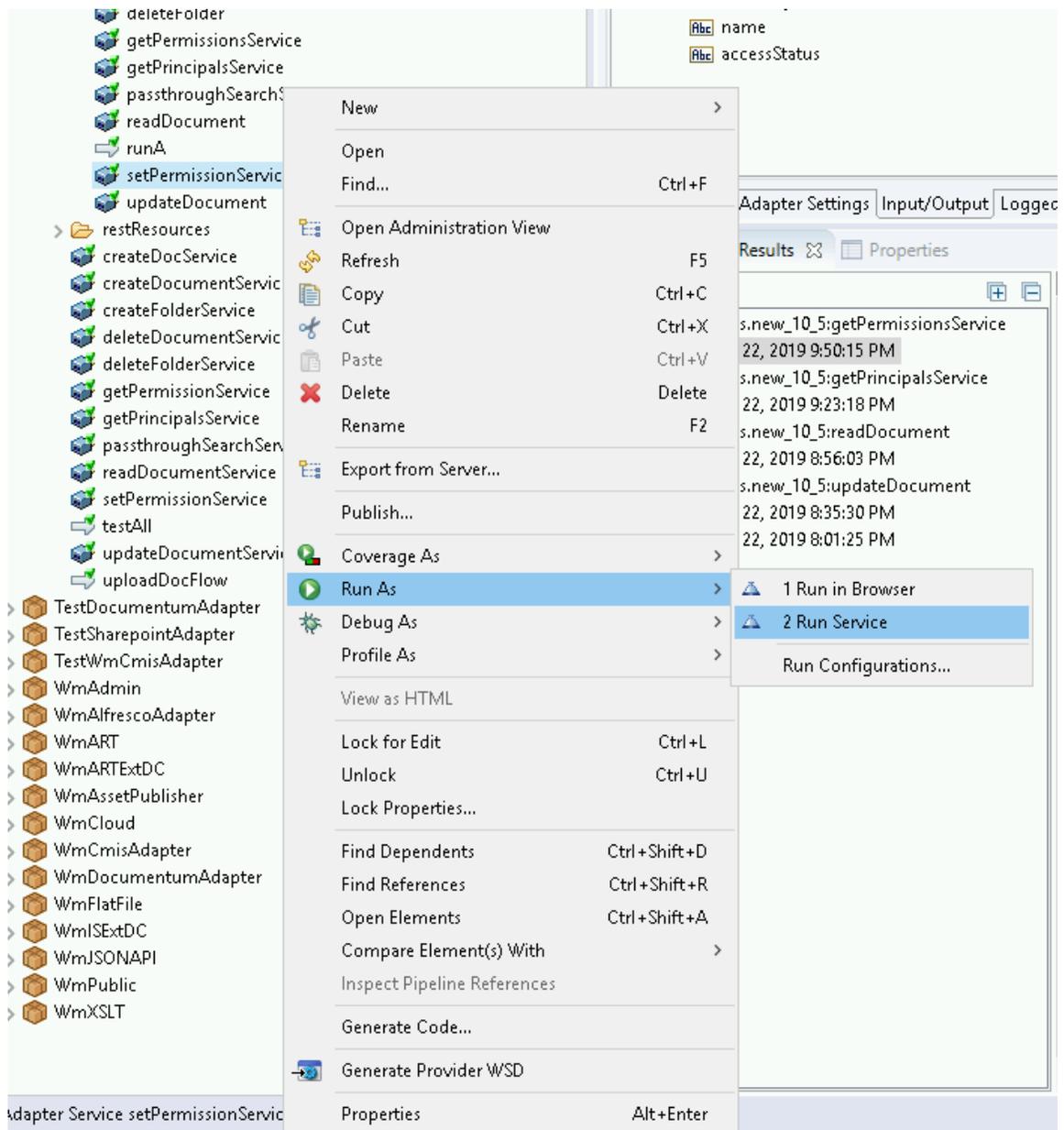
- On the left-hand side of the panel are the parameters that are taken as in-puts and you can see that the list for this service is empty, so there are no input parameters.
  - The **authorityId** of the permission we want to set on the specific document in Alfresco (e.g. GROUP\_ALFRESCO\_MODEL\_ADMINISTRATORS)
  - The **name** of the permission we want to set (e.g. Consumer)
  - The **accessStatus** of the permission we want to **add/remove** to Alfresco object. Can have two values **ALLOWED**, if we want to add permission or **DENIED** if we want to remove permission from the Alfresco node
- On the right-hand side all available permissions from the specific alfresco node that are returned as a result of the service execution.

## 3. Save the new service and it will be available under services.

### 7.12.3 Execute the Service

Perform the following steps to execute the service:

1. Right-click your newly created service and select **Run As-> Run Service**.



2. Enter the relevant input information in the resulting panel.





## 8 Configuring the Adapter Listener

You can configure the adapter's listeners from the Integration Server Administrator and Designer.

Before configuring the listener, you must have an Alfresco Adapter Connection active.

Perform the following step to configure the adapter's listener in Integration Service Administrator:

1. Into the Adapter menu select **Alfresco Adapter**:

The screenshot shows the 'Alfresco Adapter' configuration page in the Integration Server Administrator. The left sidebar contains a navigation menu with 'Adapters' expanded to show 'Alfresco Adapter...'. The main content area is titled 'Server > Statistics' and contains two sections: 'Usage' and 'Memory'.

	Current	Peak	Limit
Total Sessions	1	1	-
Licensed Sessions	0	1	2147483647
Stateful Sessions	0	0	2147483647
Service Instances	0	2	-
Service Threads	0	1	-
System Threads	158	158	-
Uptime	0h:1m:16s		

	Value	Percentage
Maximum	932352 KB	
Committed	668160 KB	
Used	324867 KB	49% (memory)
Free	343293 KB	51%

2. Select the menu **Listener** (action 1) and select **Configure new Listener** (action 2):

The screenshot shows the 'Alfresco Adapter Listeners' configuration page. The left sidebar has 'Listeners' selected with a red '1' next to it. The main content area has a list of actions with 'Configure new Listener' selected, marked with a red '2'. Below the actions is a table of existing listeners.

Listener Name	Package Name	State	Status	Edit	View	Copy	Delete
listenersalfrescoList	AlfrescoTest	Disabled	Succeeded				

3. Set configuration parameter:

**Alfresco Adapter**

Connections

**Listeners**

Listener Notifications

About

Adapters > Alfresco Adapter > Configure Listener Type

[Return to Alfresco Adapter Listener Types](#)

**Configure Listener Type > Alfresco Adapter**

Package	AlfrescoTest
Folder Name	listeners
Listener Name	InvoiceListener
Connection name	connections:Alfresco52Com
Retry Limit	5
Retry Backoff Timeout	10

**Listener Properties**

Field description :

<i><b>Field name</b></i>	<i><b>Field description</b></i>
<i>Package</i>	<i>The name of package that was implemented this Listener</i>
<i>Folder Name</i>	<i>Type the folder name listeners. This is the folder in which you will create the listener. (folder name, and Listener Name identify a single listener)</i>
<i>Listener Name</i>	<i>The name of Listener</i>
<i>Connection Name</i>	<i>The connection name of Alfresco Repository where listen the message</i>
<i>Retry Limit</i>	<i>Accept the default value 5, which specifies the number of times that the system should attempt to start the listener if the initial attempt fails. Specifically, it specifies how many times to retry the listenerStartup method before issuing an AdapterConnectionException. The value 0 means that the system makes a single attempt.</i>
<i>Retry backoff Timeout</i>	<i>Accept the default value 10, which specifies the number of seconds the system should wait between each attempt to start the listener.</i>

4. When listener is created it was disabled (Phase 3) and you must update the state from disable to enable (Phase 4). After a refresh of the page (Phase 5) you must be able to enable the listener (Phase 6).

Integration Server default :: CameraRocco :: Administrator

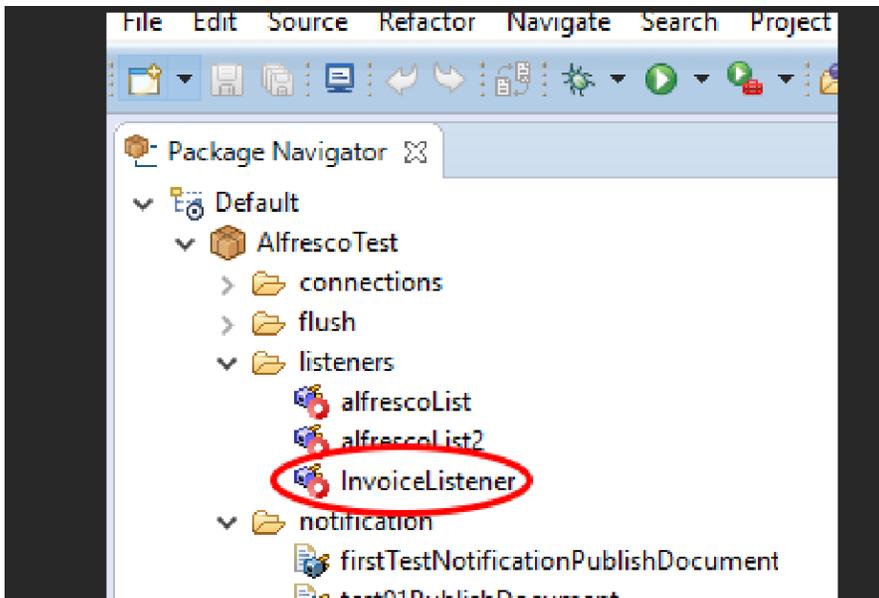
Adapters > Alfresco Adapter > Listeners

- Configure new listener
- Suspend all enabled
- Enable all suspended
- Filter Listeners

3 4 5 6

Listener Name	Package Name	State	Status	Edit	State	Status	Edit	State	Status	Edit	View
listeners:invoiceListener	AlfrescoTest	Disabled	Succeeded		Disabled	Su		Pending enabled	Pending		
listeners:alfrescoList	AlfrescoTest	Disabled	Succeeded		Disabled	Su		Disabled	Succeeded		

- If the first phase of configuration is fine, within the Software AG Designer you must see (into the folder select during configuration) the listener created:



When a message arrives you can see into the log a report for each new message like this:

WEBMETHODS Integration Server default :: CameraRocco :: Administrator

Logs > Server

Log display controls

Ascending sequence  Descending sequence

First line to display: 0 Number of entries to display: 100 Refresh

Server Log Entries as of 2017-06-18 23:40:21 CEST

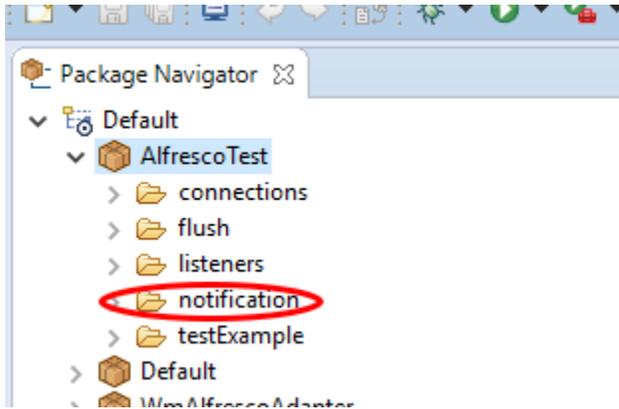
```
[627]2017-06-18 23:37:49 CEST [ADA.7073.0009] Notification Processing (D=runNotification executes: 1497821873039)
[628]2017-06-18 23:37:49 CEST [ADA.7073.0009] Notification Processing (D=com.braintribe.integration.notification.data.DmsNotificationEvent)
```

for this message sent:

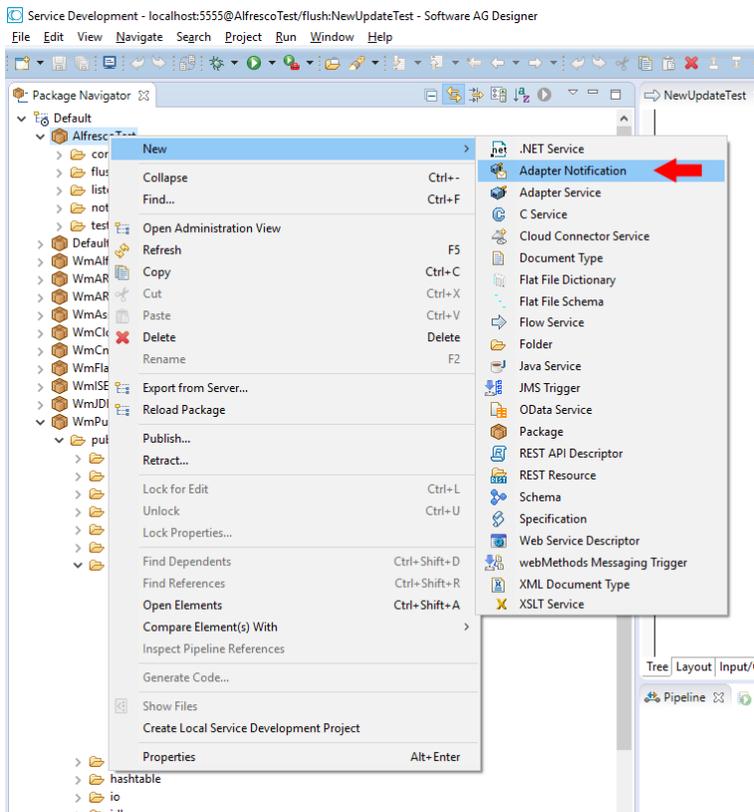
```
... ■ messageId : "1497821873039"
... ■ repositoryType : "Alfresco Community 5.2.0"
... ■ repositoryId : "-default-"
... ■ objectId : "f05185a7-6138-47f7-a0ca-9f2bef4bcfe1"
... ■ objectName : "GbEejil.png"
... ■ objectPath : "/app:company_home/st:sites/cm:test-share-document/cm:documentLibrary/cm:GbEejil.png"
... ■ actionType : "insert"
... ■ eventDate : "2017-06-18T23:37:53+02:00"
} { } beforeProperties
  ... ■ versionLabel : "-"
} { } afterProperties
  ... ■ versionLabel : "1.0"
... ■ itemType : "document"
... ■ username : "admin"
... ■ hostName : "127.0.0.1"
```

## 8.1 Create a new Adapter Notification

We can see a notification message send to adapter. To see a message arrived we must create an **Adapter Notification**. Before that the adapter notification recommends to create a new folder for the adapter:

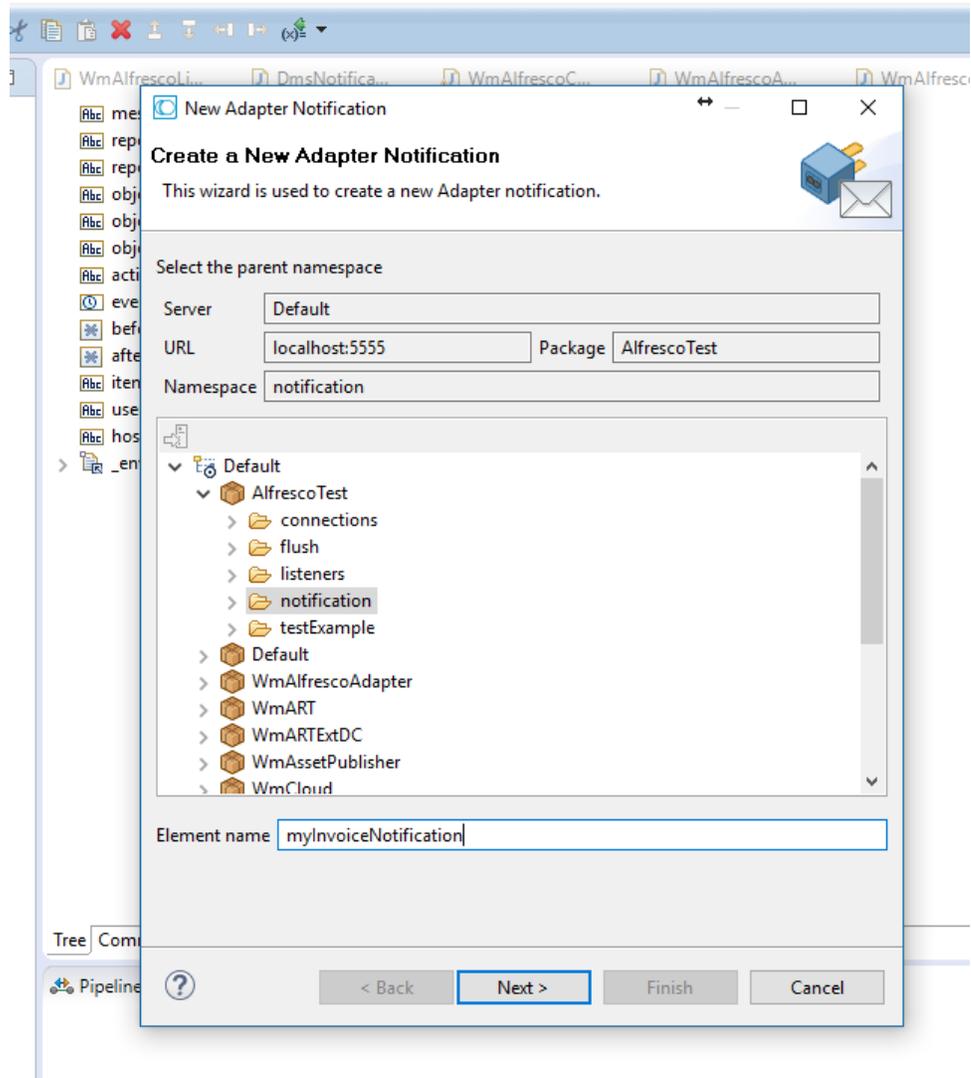


Then you can create a new Adapter Notification (right click on root object and select **Adapter Notification**):

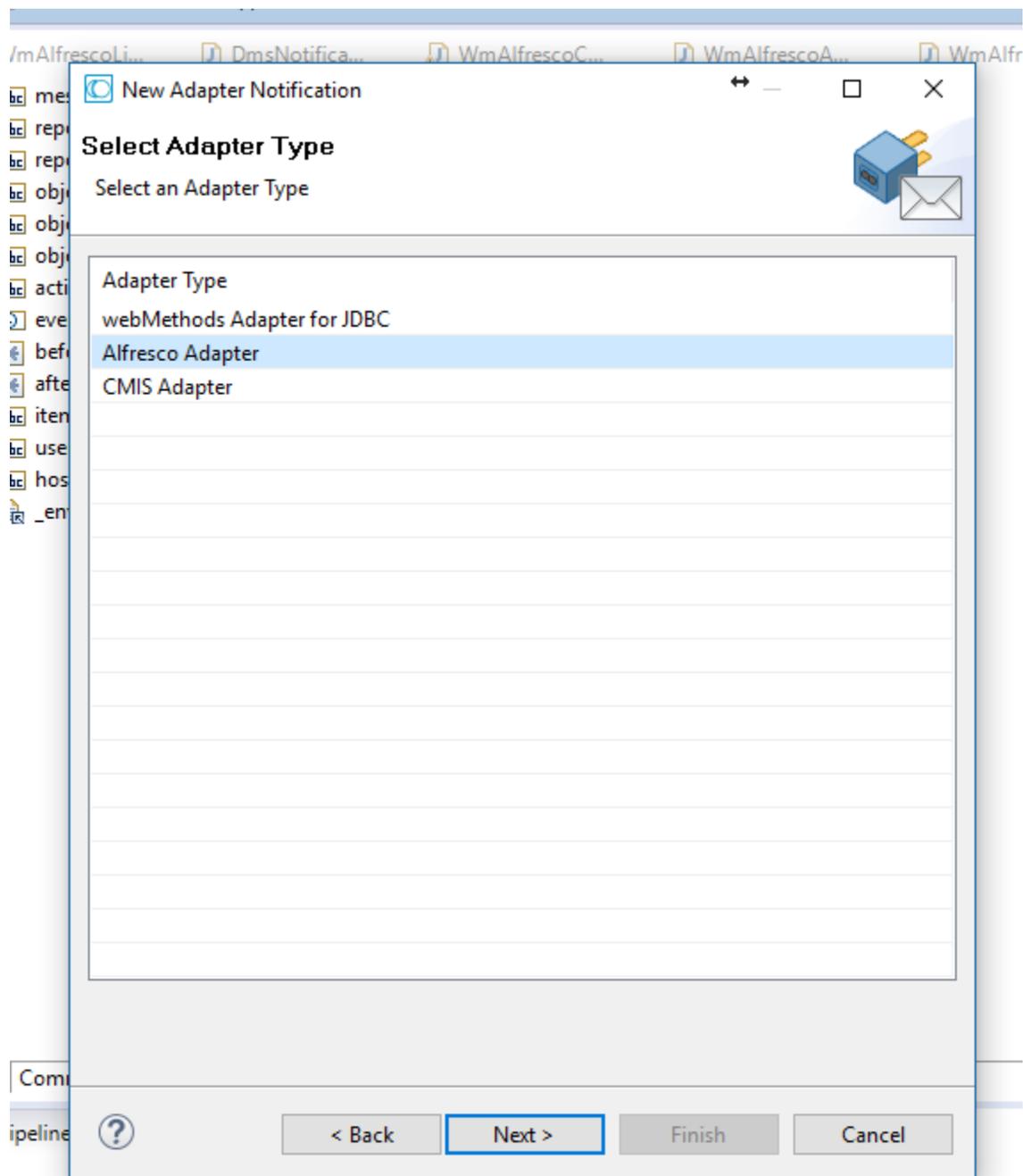


1. Set name of Adapter Notification and specify the folder that must contain it:

: AG Designer



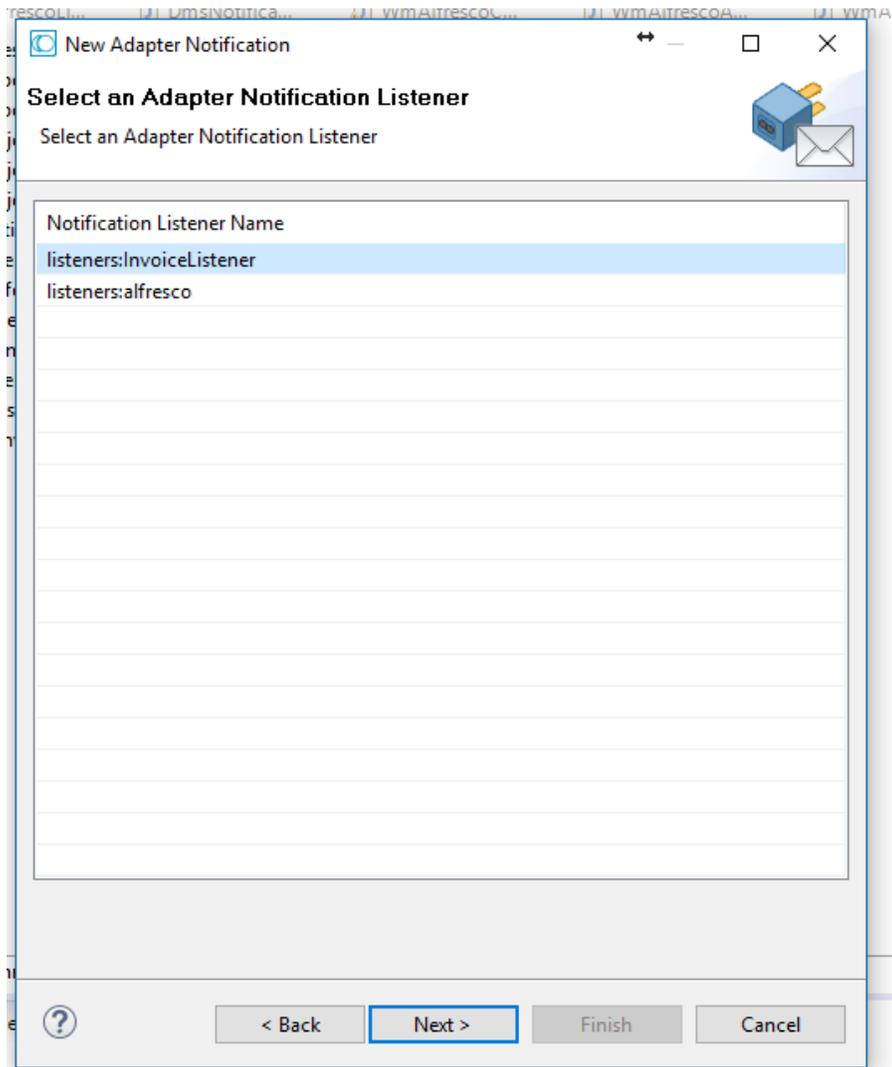
2. Select adapter type.



3. Select a template.



4. Select connection (and the webSocket) to be listened to:



5. Then *finish* the operation.

You can see all the properties of message:

Output Parameter	outputFieldNames	outputFieldTypes
messageld	messageld	java.lang.String
repositoryType	repositoryType	java.lang.String
repositoryId	repositoryId	java.lang.String
objectId	objectId	java.lang.String
objectName	objectName	java.lang.String
objectPath	objectPath	java.lang.String
actionType	actionType	java.lang.String
eventDate	eventDate	java.util.Date
beforeProperties	beforeProperties	java.lang.Object
afterProperties	afterProperties	java.lang.Object
itemType	itemType	java.lang.String
username	username	java.lang.String
hostName	hostName	java.lang.String

