

webMethods Adapter for Documentum

Installation and User's Guide

Version 9.12

October 2016

WEBMETHODS

This document applies to webMethods Adapter 9.12 for Documentum 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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Contents

1	About this Guide	6
1.1	Document Conventions	6
1.2	Online Information.....	7
2	Overview of the Adapter	8
2.1	About Adapter - webMethods Adapter for Documentum	8
2.2	Architecture Overview	8
2.3	Package Management.....	12
2.4	Adapter Connections	12
2.4.1	<i>Connection Pools</i>	13
2.5	Adapter Services	14
2.5.1	<i>Using Adapter Services</i>	15
2.5.2	<i>Changing the Connection Associated with an Adapter Service at Run Time</i>	16
2.6	Adapter Notifications.....	17
2.6.1	<i>Choice of Publish Destinations</i>	17
2.6.2	<i>Adapter Notification Templates</i>	17
2.6.3	<i>Notification Types</i>	18
2.6.4	<i>Polling Notification Support in Clusters</i>	18
2.6.5	<i>Polling Notification Support in Integration Server Clusters</i>	18
2.6.6	<i>Managing Polling Notifications</i>	19
3	Installing, Upgrading, and Uninstalling Adapter for Documentum ECM	22
3.1	Overview	22
3.2	Requirements	22
3.3	The Integration Server Home Directory.....	22
3.3.1	<i>Installing Adapter for Documentum ECM</i>	23
3.4	Uninstalling Adapter for Documentum	24
4	Package Management	25
4.1	Overview	25
4.2	Adapter for Documentum Package Management	25
4.2.1	<i>Package Dependency Requirements and Guidelines</i>	26
4.2.2	<i>Enabling Packages</i>	27
4.2.3	<i>Disabling Packages</i>	28

4.2.4	<i>Importing and Exporting Packages</i>	29
4.3	Group Access Control	29
5	Adapter for Documentum ECM Connections	30
5.1	Overview	30
5.2	Before Configuring or Managing Adapter Connections	30
5.3	Configuring Adapter for Documentum Connections	30
5.4	Viewing Adapter Connection Parameters.....	31
5.4.1	<i>Using Integration Server Administrator to View Adapter Connection Parameters</i>	31
5.4.2	<i>Using Designer to View Adapter Connection Parameters</i>	32
5.5	Editing Adapter Connections	32
5.6	Copying Adapter Connections	32
5.7	Deleting Adapter Connections.....	33
5.8	Enabling Adapter Connections	34
5.9	Disabling Adapter Connections.....	34
6	Adapter Services	36
6.1	Overview	36
6.2	Create Document	36
6.2.1	<i>Description</i>	36
6.2.2	<i>Configure the Service</i>	36
6.2.3	<i>Execute the service</i>	42
6.3	Get Document	46
6.3.1	<i>Description</i>	46
6.3.2	<i>Configure the service</i>	46
6.3.3	<i>Execute the service</i>	48
6.4	Delete Document.....	50
6.4.1	<i>Description</i>	50
6.4.2	<i>Configure the service</i>	50
6.4.3	<i>Execute the service</i>	52
6.5	Update Document	53
6.5.1	<i>Description</i>	53
6.5.2	<i>Configure the service</i>	54
6.5.3	<i>Execute the service</i>	56
6.6	Search Documents	57

6.6.1	<i>Description</i>	57
6.6.2	<i>Configure the service</i>	58
6.6.3	<i>Execute the service</i>	62
6.7	Create Folder Path.....	63
6.7.1	<i>Description</i>	63
6.7.2	<i>Configure the service</i>	64
6.7.3	<i>Execute the service</i>	66
6.8	Delete Folder Path.....	67
6.8.1	<i>Description</i>	67
6.8.2	<i>Configure the service</i>	67
6.8.3	<i>Execute the service</i>	70

1 About this Guide

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

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

- The basic concepts and tasks for working with Documentum
- 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

Convention	Description
Bold	Identifies elements on a screen.
Narrowfont	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

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 must 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 Adapter for Documentum

Documentum is an **ENTERPRISE CONTENT MANAGEMENT** platform, now owned by **EMC CORPORATION**, as well as the name of the software company that originally developed the technology.

EMC acquired Documentum for \$1.7 billion in December, 2003.^[1] The Documentum platform is part of EMC's Enterprise Content Division (ECD) business unit, one of EMC's four operating divisions.

EMC Documentum Content Server is the core of the EMC Documentum content management platform. Content Server governs the content repository and enables a set of content management, services for controlling content and processes throughout distributed enterprises. Content Server lets you store, manage, and deploy all types of content, including HTML and XML, graphics, and multimedia. Content Server provides services such as the following:

- Integrated workflow
- Lifecycle and process automation
- Version control
- Security
- Data dictionary for capturing and configuring business rules

With Content Server, users can share and reuse trusted content on demand within and between business units. Administrators can define, organize, automate, and monitor all the functions and tasks of complex business processes.

2.2 Architecture Overview

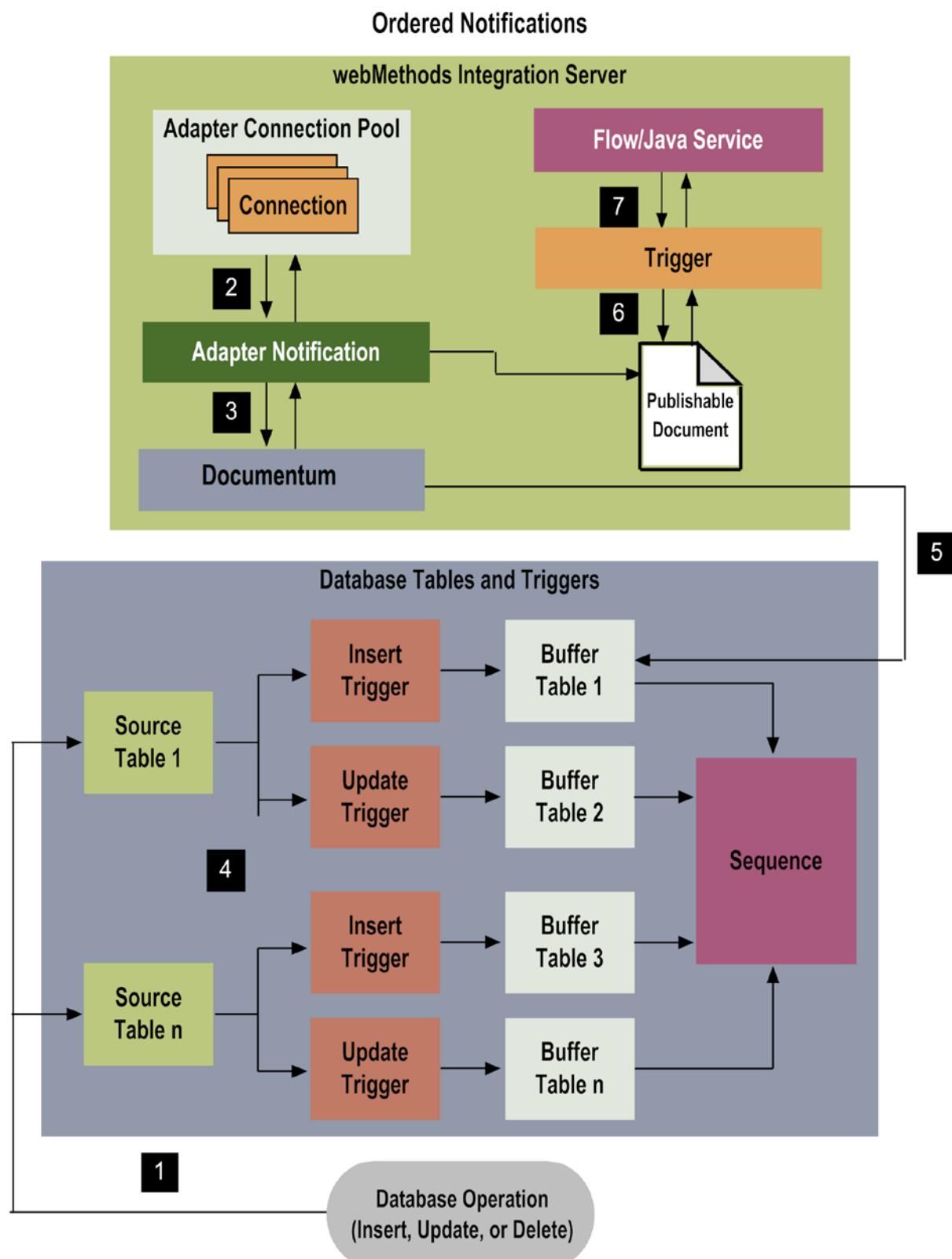
Adapter for Documentum ECM provides a set of user interfaces, services, and templates that enable you to create integrations with Documentum using Document Foundation Services (DFS). The adapter is provided as a single package that must be installed on Integration Server. For detailed installation instructions, see [“Installing, Upgrading, and Uninstalling Adapter for”](#). For software requirements, see *webMethods Adapters System Requirements*.

Because Adapter Documentum ECM uses Documentum Foundation Services as a means to communicate with the Documentum system, the adapter requires installing the DFS java libraries that you can download from Documentum partner portal.

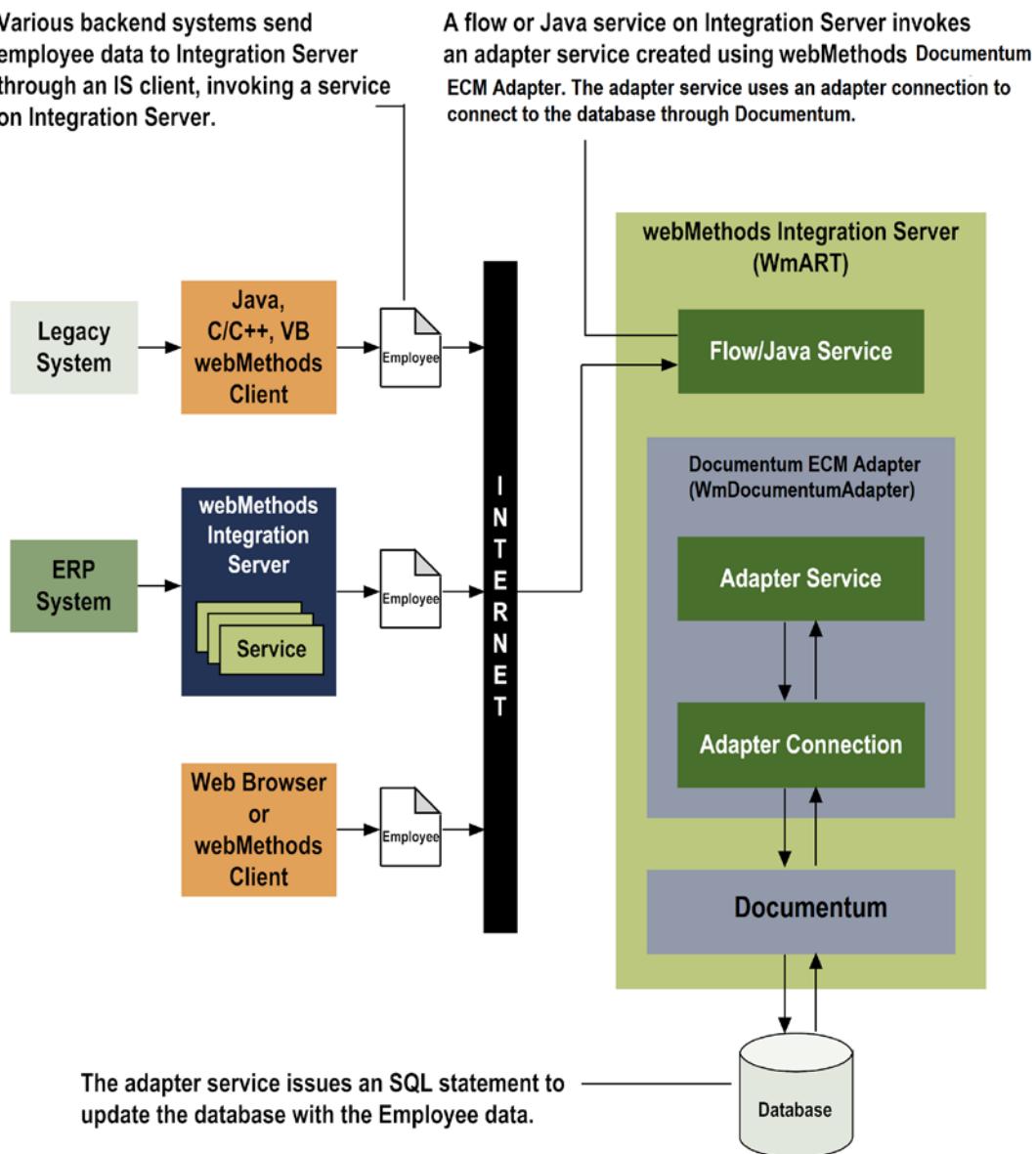
Adapter for Documentum ECM enables you to configure the following components:

- **Adapter connections.** Enable Integration Server to connect to Documentum systems at run time. You must configure an adapter connection before you can configure adapter services or adapter notifications. For a detailed description of adapter connections, see ["Adapter Connections"](#).
- **Adapter services.** Enable Integration Server to initiate and perform operations against a Documentum system. For example, an adapter service could upload an invoice document into Documentum and make it available for a trading partner to its invoices later on and see the original invoice document in PDF format. You configure adapter services using adapter services templates, which are provided with Adapter for Documentum ECM. For a detailed description of adapter services, see ["Adapter Services"](#).
- **Adapter notifications.** Monitor a Documentum system and notify Integration Server when an action (not initiated by Integration Server) occurs on a particular document type. For example, an adapter notification could notify Integration Server when an upload of a particular document type has occurred. For a detailed description of adapter notifications, see ["Adapter Notifications"](#).

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 a Documentum system.



The next diagram shows a business integration where an adapter service is used to update a database with employee data. The employee data could be provided by several different types of external Integration Server (IS) clients



The architecture for integrations using adapter notifications is similar to the architecture for integrations using adapter services shown above, but it varies according to the type of notification. The primary difference between these types of integrations is that notifications are initiated by events that occur on Documentum, not by actions that occur on Integration Server.

With adapter notifications, you can capture event data from the Documentum system and use it to initiate another action within Integration Server. For example, you could create an adapter notification to monitor an invoice document type within Documentum and whenever an invoice document is uploaded to Documentum, you could post that employee data to a webMethods Broker. Broker clients could then subscribe to that notification's publishable document.

For more information about the architecture for the different types of adapter notifications, see ["Adapter Notifications"](#).

2.3 Package Management

Adapter for Documentum ECM is provided as a package called WmDocumentumAdapter 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, adapter services, and notifications. For details, see ["Adapter for Documentum Package Management"](#).
- You should understand how package dependencies work so you make the best decisions regarding how you manage your adapter services and notifications. For details, see ["Package Dependency Requirements and Guidelines"](#).
- You control which development groups have access to which adapter services and notifications. For details, see ["Group Access Control"](#).

2.4 Adapter Connections

Adapter for Documentum connects to the Documentum system through Documentum Foundation Services API at run time. You create one or more connections at design time to use in integrations. The number of connections you create depend on how many Documentum system repositories are connecting to and your integration needs.

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

Adapter for Documentum connections contain parameters that Integration Server uses to manage connections to the database 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 Adapter for Documentum's administrative screens.

For instructions on configuring, viewing, editing, enabling, and disabling Adapter for Documentum connections, see ["Adapter for Documentum Connections"](#) . For information about setting user privileges, see *webMethods 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 the 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 re-use 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 Documentum Connections"](#) .

2.4.1.2 Built-In Services for Connections

Integration Server provides built-in services that enable you to programmatically control 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](#) for your release.

2.5 Adapter Services

To use Adapter for Documentum, 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 Documentum document types. The adapter services perform repository operations by calling Documentum Foundation Service APIs. Integration Server then uses adapter.

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

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

After you select 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 the [Designer Service Development online help](#) for your release. See "About this Guide" for specific document titles.

Adapter for Documentum provides the following adapter service templates:

Adapter Service Type	Adapter Service Template	Description
Create	Create Document	<p>Creates a document in Documentum and allows</p> <ul style="list-style-type: none"> specifying meta data (attributes) according to a document type selected specifying a folder location where to place this document in Documentum (incl. cabinet) specify a content URL so that the content behind id is treated and uploaded together

with the document

Provides the client an object identifier to later on find the document.

Create	Create Folder Path	Creates a folder path in Documentum passing back its object identifier.
Update	Update Document	Updates meta data of documents already existing in Documentum.
Delete	Delete Document	Deletes a document specifying an object identifier
Delete	Delete Folder Path	Deletes a folder path in Documentum allowing the client to specify if to delete subfolders and children
Get	Get Document	Gets information about a Documentum document, passing back meta data and contents
Search	Search Document	Searches documents in Documentum

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 "Adapter for Documentum Connections" .	Integration Server Administrator

2. Select the appropriate adapter service template and configure the adapter service. Depending on the type of adapter service, you specify:

- The adapter connection
- The document type
- The query expression used to modify or select data, attributes to choose from a document type.
- The input fields and types as needed
- The output fields and types as needed

For more information about configuring adapter services, see [Adapter Services](#).

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.

4. Manage the adapter service.

For details, see ["Package Management"](#), and ["Adapter Services"](#).

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 Documentum system. However, at run time you can override the default connection and instead use another connection to interact with the company's test Documentation system.

2.6 Adapter Notifications

An adapter notification monitors a specified document type for changes, such as an create, update, or delete operation, so that the appropriate Java or flow services can make use of the data, such as sending an invoice or publishing it to Integration Server.

Adapter for Documentum notifications are polling-based. That is, Integration Server will invoke the notification periodically based on the polling interval that you specify when you schedule the notification as described in ["Managing Polling Notifications"](#).

Important! Software AG recommends using the same polling notification on multiple Integration Server instances only in an Integration Server cluster. For more information about using polling notifications in a cluster, see ["Polling Notification Support in Clusters"](#).

Adapter notifications vary somewhat in how they work, depending on the type of the adapter notification. Be sure to review ["Notification Types"](#) to understand how their operations differ.

2.6.1 Choice of Publish Destinations

You can choose the destination to which asynchronous notifications should publish messages. Specifically, you can choose whether the asynchronous notification templates use JMS APIs to publish messages to Integration Server or webMethods Broker APIs to publish notification messages to webMethods Broker.

Note: To use the JMS protocol with asynchronous notifications, you must first configure a JMS connection alias on Integration Server. For more information, see the *Integration Server administrator's guide* for your release.

2.6.2 Adapter Notification Templates

Adapter for Documentum provides the following adapter notification templates:

Notification Type	Notification Template	Description
-------------------	-----------------------	-------------

General Notification	DocumentTypeNotification	Publishes notification of create, update or delete operations on a document type.
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2.6.3 Notification Types

With the Documentum system you administrate the notifications types and documents and in Documetum ECM Adapter you refer to these notifications only.

So there is a general notification mechanism in the adapter that is configured against the notifications in Documentum and therefore no specialist notification templates are provided..

2.6.4 Polling Notification Support in Clusters

Adapter for Documentum provides the ability to enable multiple instances of the same polling notification in your Integration Server clusters, and to coordinate their schedules and execution.

For more information about how to use polling notifications in a clustered environment, see ["Polling Notification Support in Integration Server Clusters"](#).

2.6.5 Polling Notification Support in Integration Server Clusters

Documetum ECM enables the coordinated execution of polling notifications within an Integration Server cluster. Adapter for Documentum provides the ability to enable multiple instances of the same polling notification in your cluster, and to coordinate their schedules and execution. This provides enhanced quality of service by allowing configurations for automated failover between notifications and distributed processing of polling notifications.

IMPORTANT: Documetum ECM Adapter supports enabling the same polling notification on multiple Integration Server instances connecting to the same backend database to achieve automated failover, only when the multiple Integration Servers share the same ISInternal database. If you attempt to use the same polling notification on multiple Integration Servers pointing to the same backend database but using separate ISInternal databases, you may encounter abnormal results.

Beginning with Integration Server 9.0, Documetum ECM Adapter uses Integration Server Scheduler to support polling notifications. On enabling a polling notification, a new Integration Server scheduled task is created, which polls the backend resource at the

given interval. Do not manually edit or change scheduled tasks. Each polling notification creates an Integration Server scheduled task. When a notification is disabled, the scheduled task in Integration Server is removed.

IMPORTANT: All adapter polling notifications must be in a disabled state on all nodes in the Integration Server cluster before you disable the cluster.

2.6.6 Managing Polling Notifications

You must schedule a notification and then enable it before you can use the notification. Use Integration Server Administrator along with the following procedures to do so.

Note You must have Integration Server Administrator privileges to access Adapter for Documentum's administrative screens. For information about setting user privileges, see the *Integration Server administrator's guide* for your release.

To manage polling notifications

1. Start Integration Server Administrator.
2. From the **Adapters** menu in the navigation area of Integration Server Administrator, select **Documentum Adapter**.
3. From the navigation area, select **Polling Notifications**.
4. From the **Documentum Adapter** Polling Notifications table, use the fields in the following table to manage each adapter notification:

Field	Description/Action
Notification Name	The name of the notification.
Package Name	The name of the package for the notification.
State	<p>After you schedule a polling notification, you can use this option's dropdown list to set the polling notification's state:</p> <p>Note You must schedule a polling notification before you can enable it. To schedule a polling notification, use the  icon described in these procedures.</p> <p>■ Enabled: The polling notification per-</p>

	<p>forms as scheduled.</p> <ul style="list-style-type: none"> ■ Suspended: The polling notification is removed from the scheduler but the database trigger and buffer table are not dropped. ■ Disabled: The polling notification is removed from the scheduler and the database trigger and buffer table are dropped. <p>The Suspend all enabled and Enable all suspended links help you change states quickly for multiple polling notifications. Enabling, suspending, and disabling a notification affects how its trigger and buffer tables are created and dropped. If there is no polling notification scheduled for a given adapter notification, control for this field is disabled. Use the  icon to schedule a polling notification.</p>
Edit Schedule	<p>Click the  icon to create or modify polling notification parameters.</p> <hr/> <p>Note You must disable a polling notification before you can edit it.</p>
View Schedule	<p>Click on the View Schedule icon to review the parameters for the selected polling notification. Click Return to Documentum Adapter Notification to go back to the main polling notification page.</p>
Run As User	<p>Click  to assign a user to a polling notification. By default, Run As User is set to Administrator. You can now configure the Run as User in the Integration Server Administrator to assign a user to a polling notification.</p>

5. To create or modify schedule parameters for the selected adapter notification, click on the  icon and use the following fields:

Field	Description/Action
Interval (seconds)	The name of the notification.
Overlap	Note Do not use this option; otherwise, when you enable this notification, it may lock up tables and cause Integration Server to fail.
Immediate	Enable this option to start polling immediately.

6. Click **Save Schedule**.
7. After you create a polling notification, you can enable it. Use the **State** field to enable a polling notification

3 Installing, Upgrading, and Uninstalling Adapter for Documentum ECM

3.1 Overview

This chapter explains how to install, upgrade, and uninstall webMethods Adapter 9.12 for Documentum. 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

For a list of operating systems, RDBMSs, and webMethods products supported by Adapter for Documentum ECM, see *webMethods Adapters System Requirements*.

Adapter for Documentum ECM has no hardware requirements beyond those of its host Integration Server.

3.3 The Integration Server Home Directory

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 the 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. See “About this Guide” for specific document titles.

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 classpaths. 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.

3.3.1 *Installing Adapter for Documentum ECM*

Note: If you are installing Adapter for Documentum ECM in a clustered environment, you must install the adapter on each Integration Server in the cluster, and each installation must be identical. For more information about working with Adapter for Documentum ECM in a clustered environment, see *webMethods Adapter for JDBC Guide*.

To install Adapter for Documentum ECM

- 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 9.12 for Documentum**.
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 both 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 completes, close the Installer and start the host Integration Server.

- 9 See ["Installing Documentum Foundation Service Libraries on Integration Server"](#).

3.4 Uninstalling Adapter for Documentum

To uninstall Adapter for Documentum

- 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 for Documentum**. You can also choose to uninstall documentation.
- 4 After Uninstaller completes, restart the host Integration Server.

Uninstaller removes all Adapter for Documentum-related files that were installed. However, Uninstaller does not delete files created after you installed the adapter (for example, usercreated 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 *WmDocumentumAdapter* directory.

4 Package Management

4.1 Overview

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

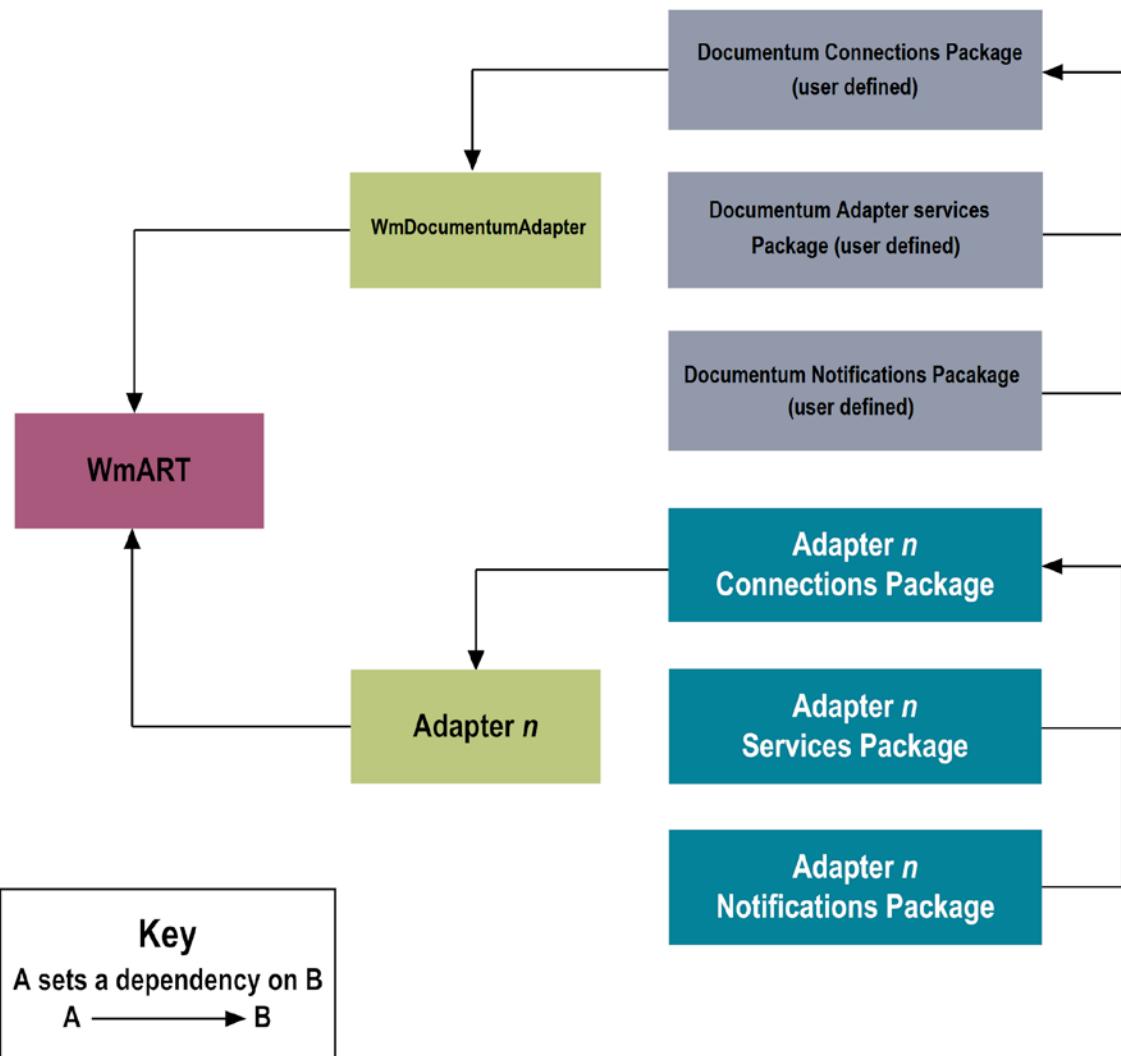
4.2 Adapter for Documentum Package Management

Adapter for Documentum ECM is provided as a package called `WmDocumentumAdapter`.

You manage the `WmDocumentumAdapter` 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 `WmDocumentumAdapter` package. Doing so will allow you to manage the package more easily.

As you create user-defined packages in which to store connections, adapter services, and adapter notifications, use the package management functionality provided in Software AG Designer and set the user-defined packages to have a dependency on the `WmDocumentumAdapter` package. That way, when the `WmDocumentumAdapter` package loads or reloads, the user-defined packages load 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 for setting package dependencies, see the *Designer Service Development Help* for your release.

- A user-defined package must have a dependency on its associated adapter package, WmDocumentumAdapter. (The WmDocumentumAdapter 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 will not allow you to enable 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 will allow you to disable a package even if another package that is enabled has a dependency on it. Therefore, you must manually disable any userdefined 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, adapter services, and notifications the same name 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*.

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

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 (WmDocumentumAdapter). Otherwise, errors will be issued when you try to access the remaining enabled user-defined packages.

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. 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

You 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.

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.

For details about importing and exporting packages, see *webMethods Service Development Help*.

4.3 Group Access Control

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 *webMethods Service Development Help*.

5 Adapter for Documentum ECM Connections

5.1 Overview

This chapter describes how to configure and manage Documentum ECM 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.

To prepare to configure or manage adapter connections

- 1 Install webMethods Integration Server and Adapter for Documentum on the same machine.
- 2 Install Documentum Foundation Service API in the Adapter for Documentum ECM package.
- 3 Install Documentation Foundation Services on Documentum System.
- 4 Install Documentum Foundation Service API Libraries on Integration Server

5.3 Configuring Adapter for Documentum 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 **Documentum 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. See "Run-Time Behavior of Connection Pools" for information of the connection settings.
5. Once the information for the new connection is complete, click **Save Connection**.

6. The new connection is saved and can be used when creating a new service from the service template. See "[Adapter Services](#)"

5.4 Viewing Adapter Connection Parameters

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

5.4.1 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 **Documentum 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 Documentum Connections](#)".

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

5.4.2 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 Documentum Connections"](#).

5.5 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's parameters using Integration Server Administrator.

To edit a connection

- 1 In the **Adapters** menu in Integration Server Administrator's navigation area, click **Documentum 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 Documentum Connections"](#).
- 4 Click **Save Changes** to save the connection and return to the Connections screen.

5.6 Copying Adapter Connections

You can copy an existing Adapter for Documentum connection to configure a new connection with the same or similar connection properties without having to re-type 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 **Adapter for Documentum**.
- 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 Documentum Connections](#)".

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

5.7 Deleting Adapter Connections

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

If you delete a Adapter for Documentum connection, the adapter services or notifications that are defined to use the connection will no longer work. However, you can assign a different connection to an adapter service and re-use 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 **Documentum 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.

5.8 Enabling Adapter Connections

A Adapter for Documentum connection must be enabled before you can configure any adapter service using 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 **Documentum 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.

5.9 Disabling Adapter Connections

Note: Adapter for Documentum connections must be disabled before you can 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 **Documentum 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 Services

6.1 Overview

The following services are available with the Documentum Adapter.

Service	Description
Create Document	Creates a new document in Documentum
Get Document	Gets metadata of a document in Documentum
Delete Document	Deletes a document in Documentum
Update Document	Updates metadata of a document in Documentum
Search Documents	Queries documents in Documentum according to the parameters defined in the service template.
Create Folder Path	Creates a folder path in Documentum
Delete Folder Path	Deletes a folder path in Documentum

6.2 Create Document

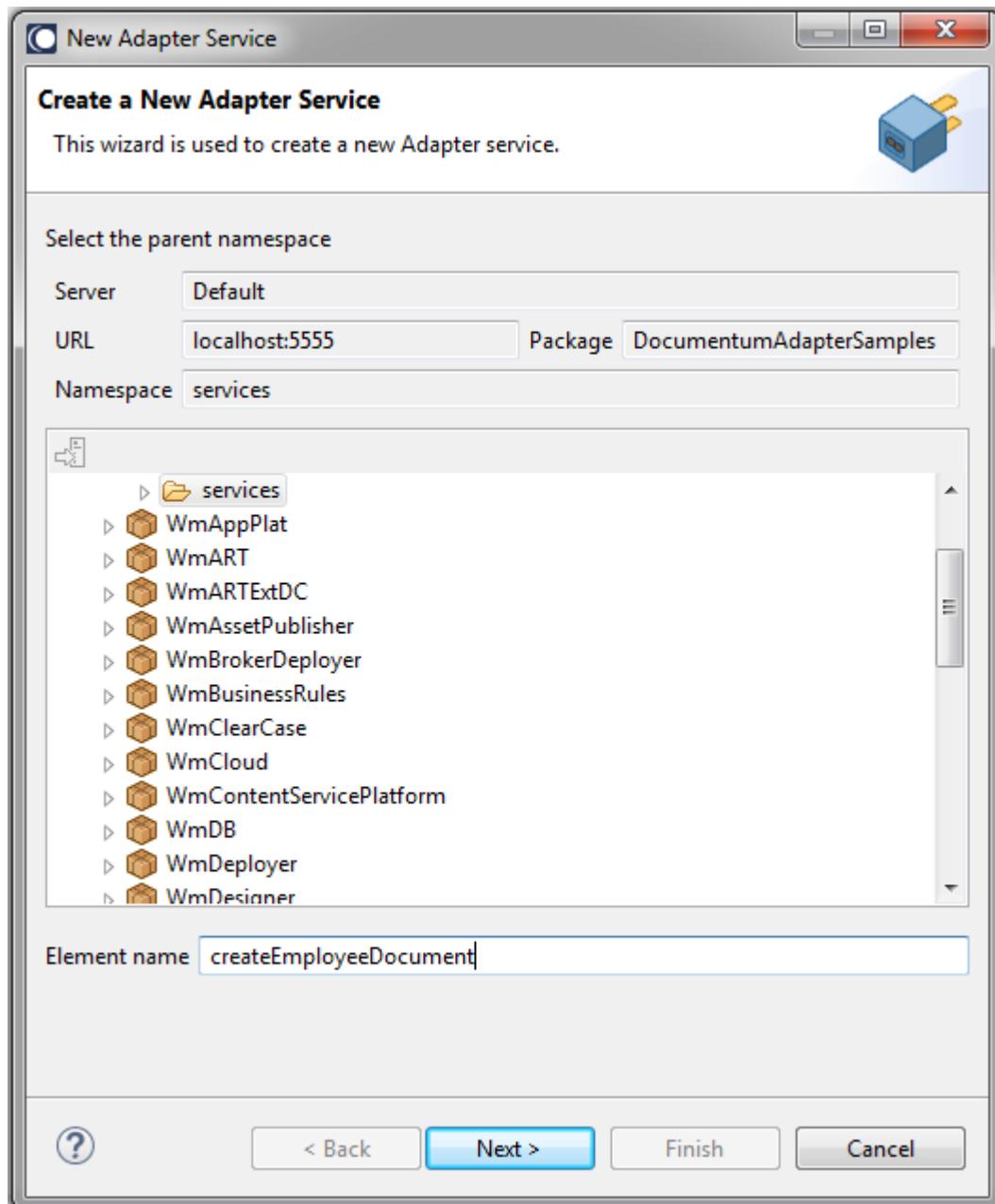
6.2.1 Description

Creates a new document in Documentum providing its attributes (meta-data), a (optional) folder location and a (optional) document URL.

6.2.2 Configure the Service

To create services folder in your DocumentAdapterSamples sample package

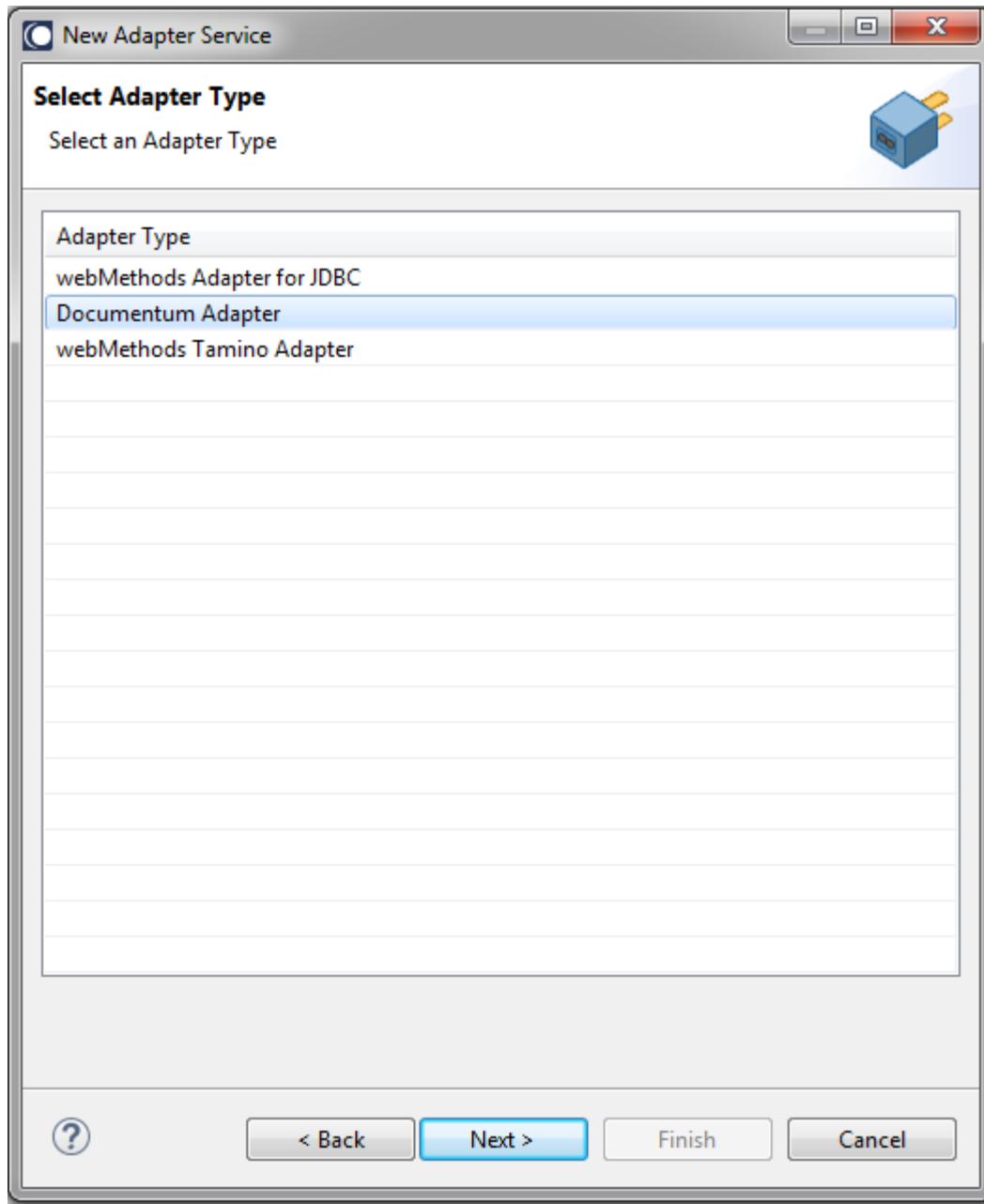
1. Right click->New Adapter Service



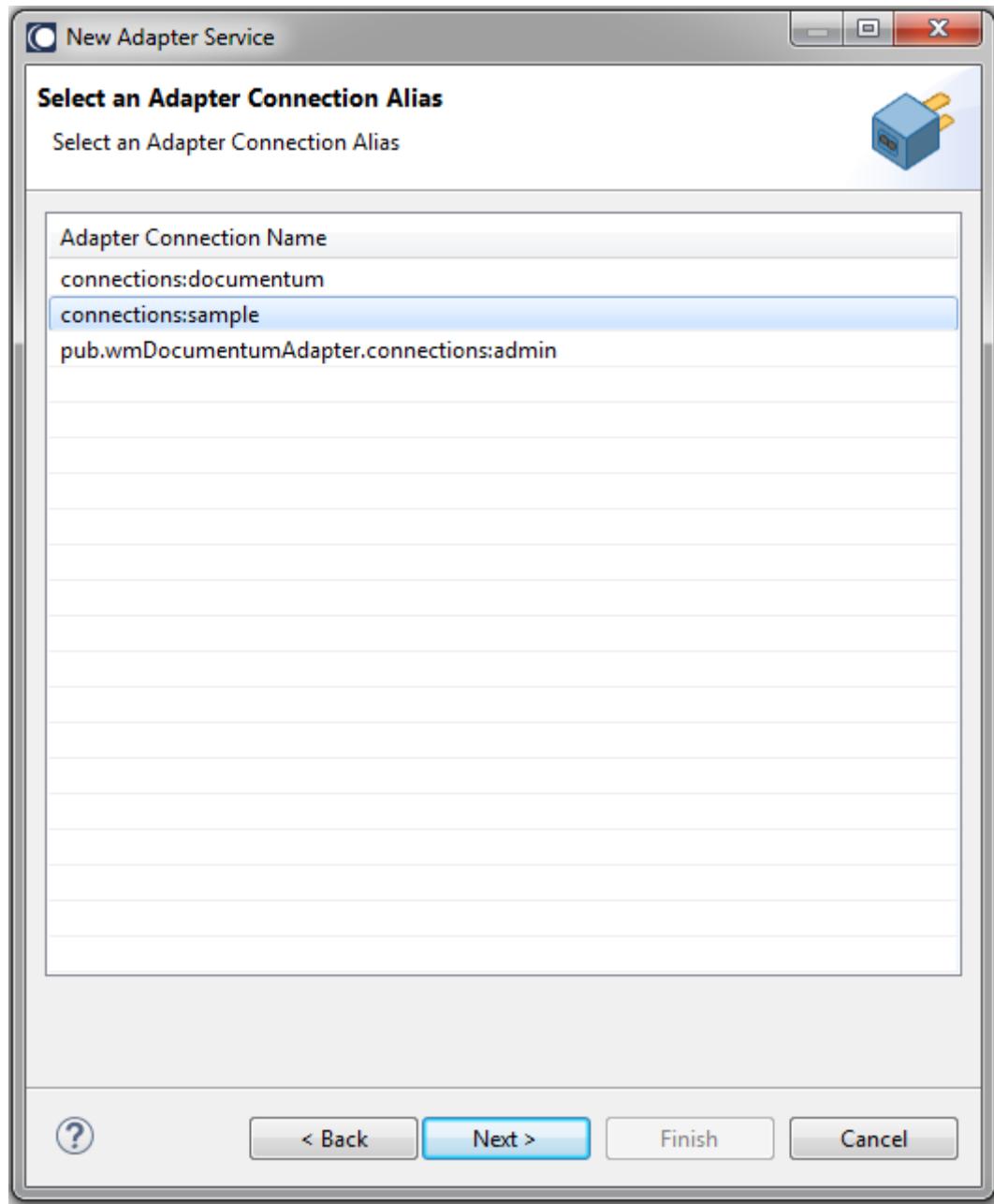
2. Enter the name of the service you want to create in the **Element name** field.

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`.

3. Select your adapter type(Documentum Adapter) and click **Next**.

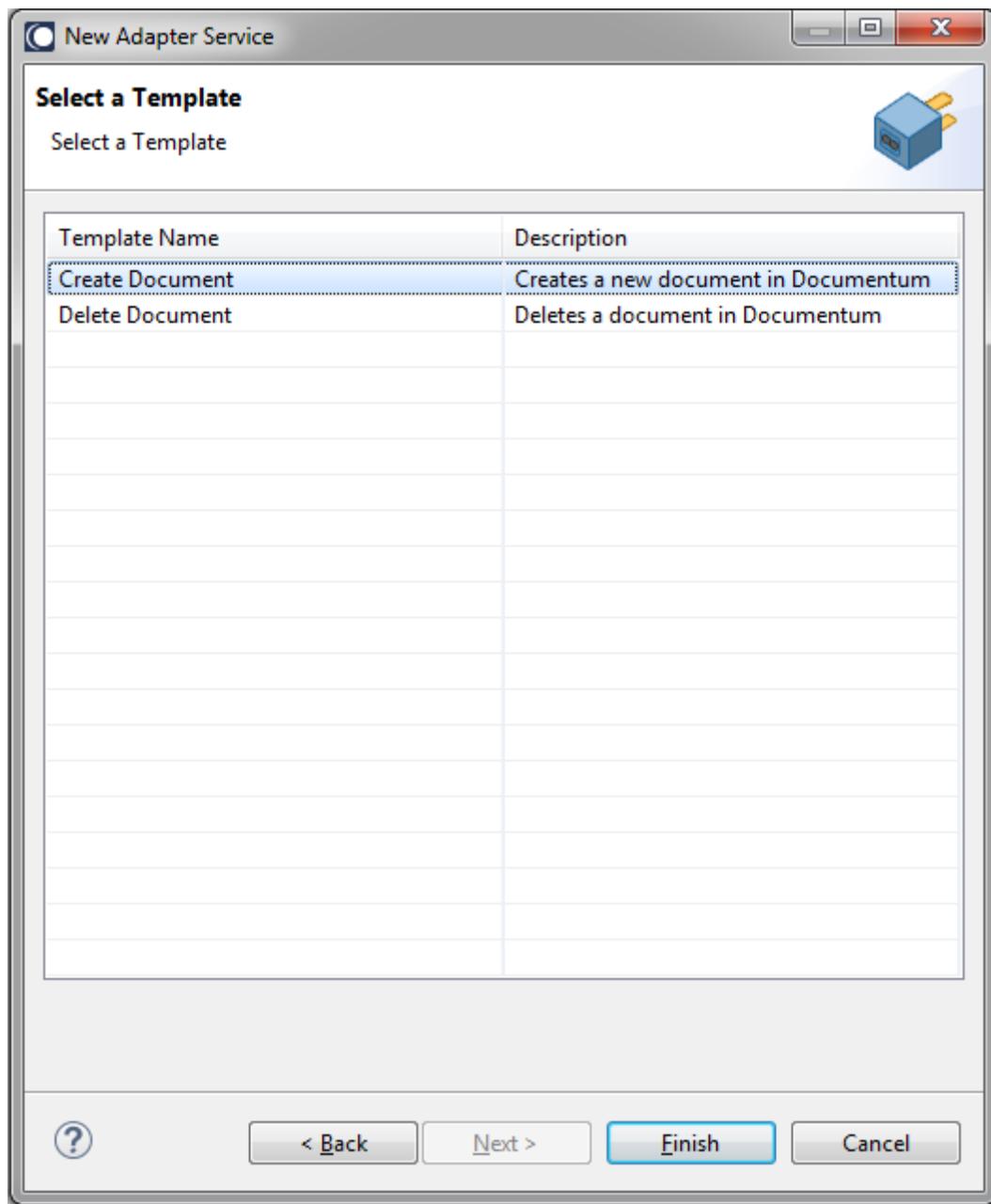


4. Select your preconfigured connection that should be associated with the service and click **Next**.



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 Documentum Adapter.



Click **Finish**.

The Documentum adapter queries all the available Documentum document types and provides you a following list:

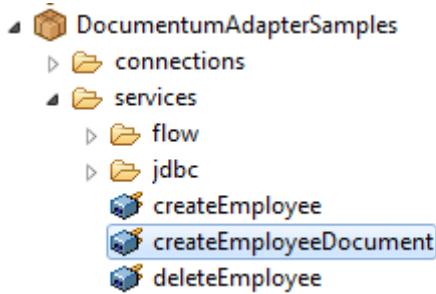
Input Field	Input Field Type
attributes.acme_employee.dayofbirth	java.util.Date
attributes.acme_employee.email	java.lang.String
attributes.acme_employee.employed_since_year	java.lang.Integer
attributes.acme_employee.firstname	java.lang.String
attributes.acme_employee.salutation	java.lang.String
attributes.acme_employee.surname	java.lang.String
attributes.dm_sysobject.a_application_type	java.lang.String
attributes.dm_sysobject.a_archive	java.lang.Boolean
attributes.dm_sysobject.a_category	java.lang.String
attributes.dm_sysobject.a_compound_architecture	java.lang.String
attributes.dm_sysobject.a_content_type	java.lang.String

Output Field	Output Field Type
oid	java.lang.String

The first entry selected and all its attributes being provided. Choose the document type you want to create.

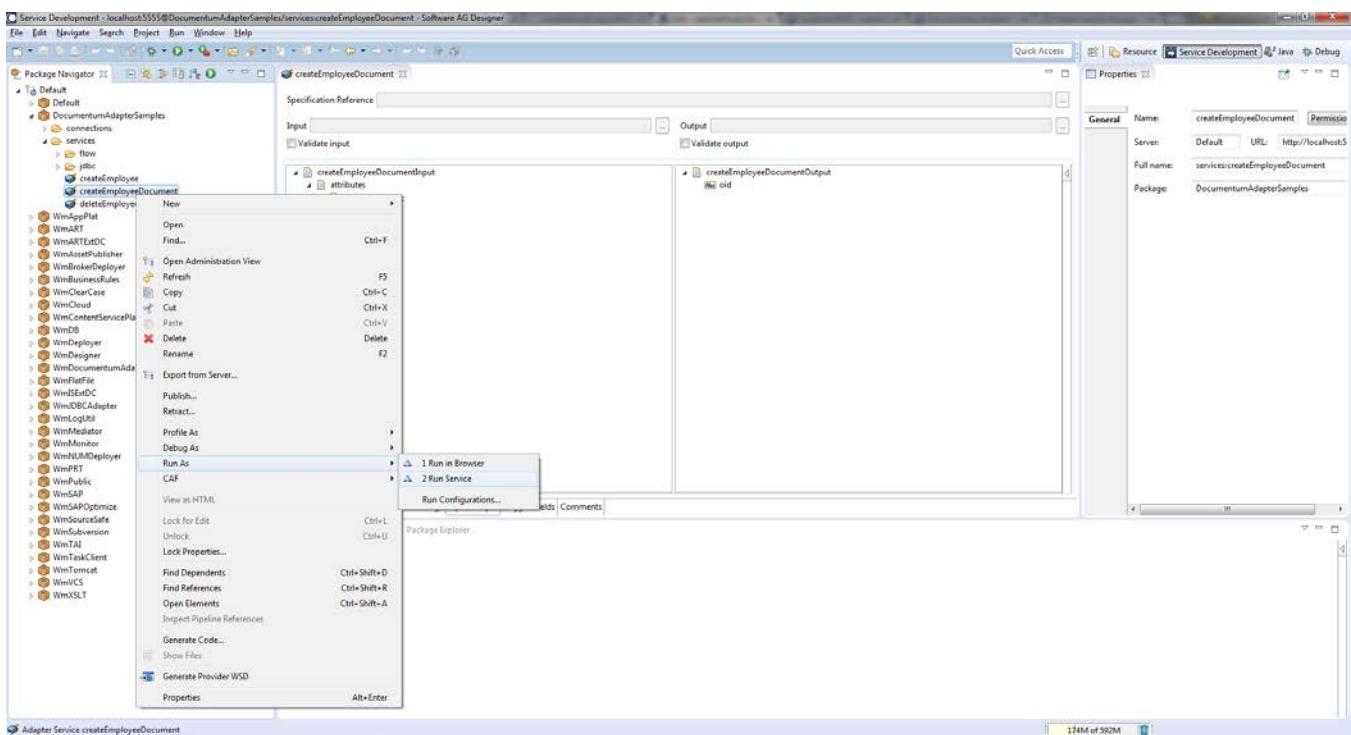
In the **Input/Output** tab you can see the webMethods docType that will be generated from the document type selected:

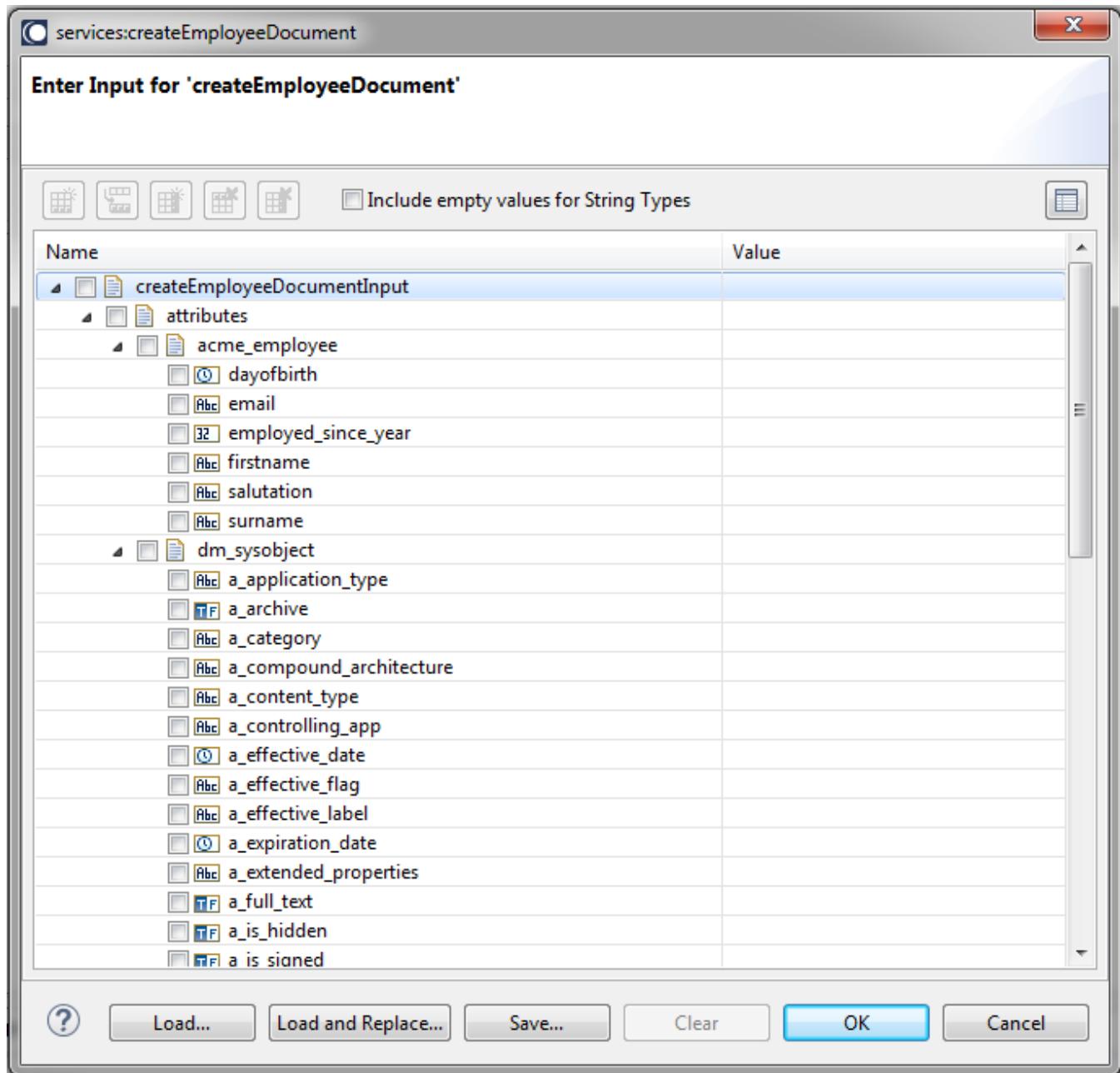
Save the new service and it will be available under services as seen below:



6.2.3 Execute the service

Select the newly created service and Right-click , Run As->Run as Service, to get the service execution dialog box.





- Attributes (under attributes/<document type>)

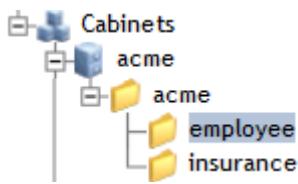
Fill in Documentum attributes like *object_name*, *title*, *firstname*, *surname* etc.

Note: If you do not fill the *object_name* and *title*, it will not appear in the Documentum web client.

- Folder Name (under location/folder)

You can select a folder from the location where this document will be imported in Documentum (start the path with the Documentum cabinet). This is an optional process.

For example in Documentum web client you can see the folders as follows:



For example, lets choose the employee cabinet and enter `/acme/acme/employee` as value of the folder name.

■ Document URL (under document/url)

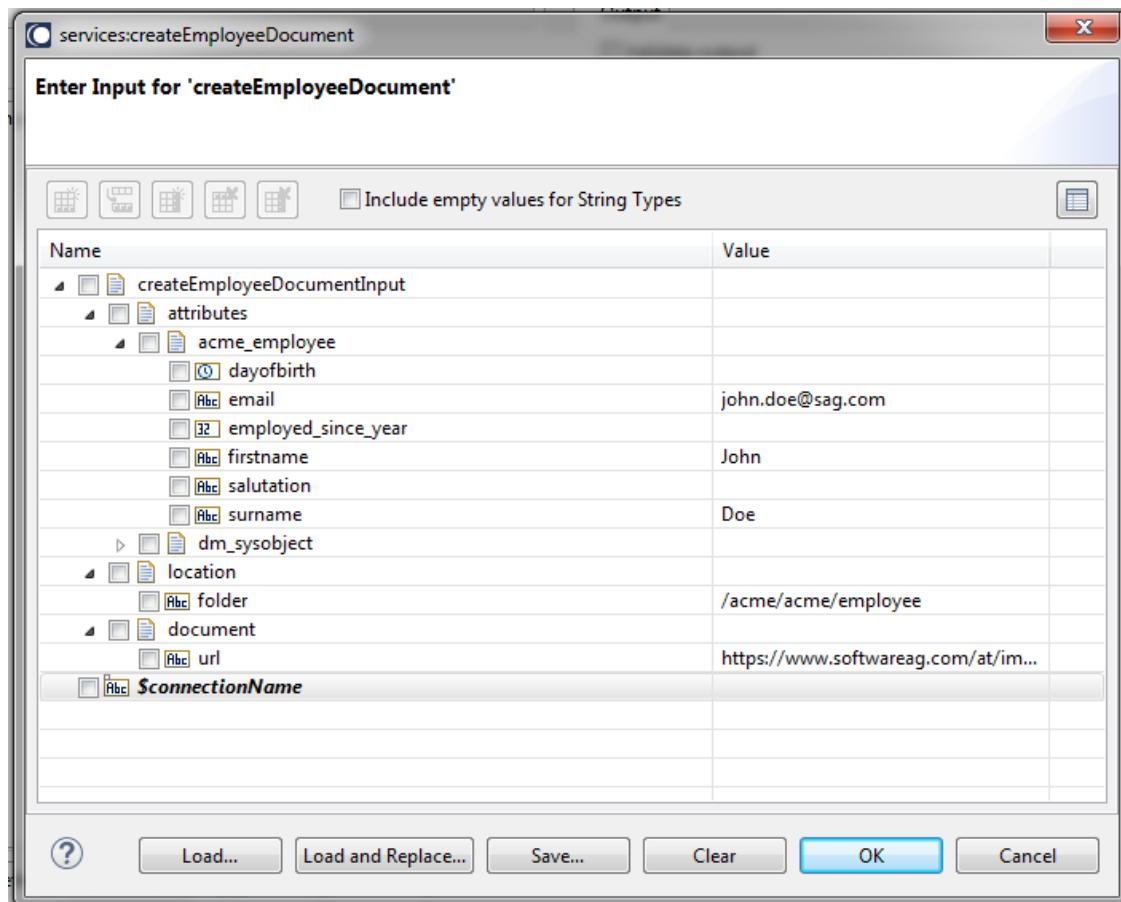
You can also attach content to the newly created document by specifying some URL that is reachable from the Documentum system. This is an optional process.

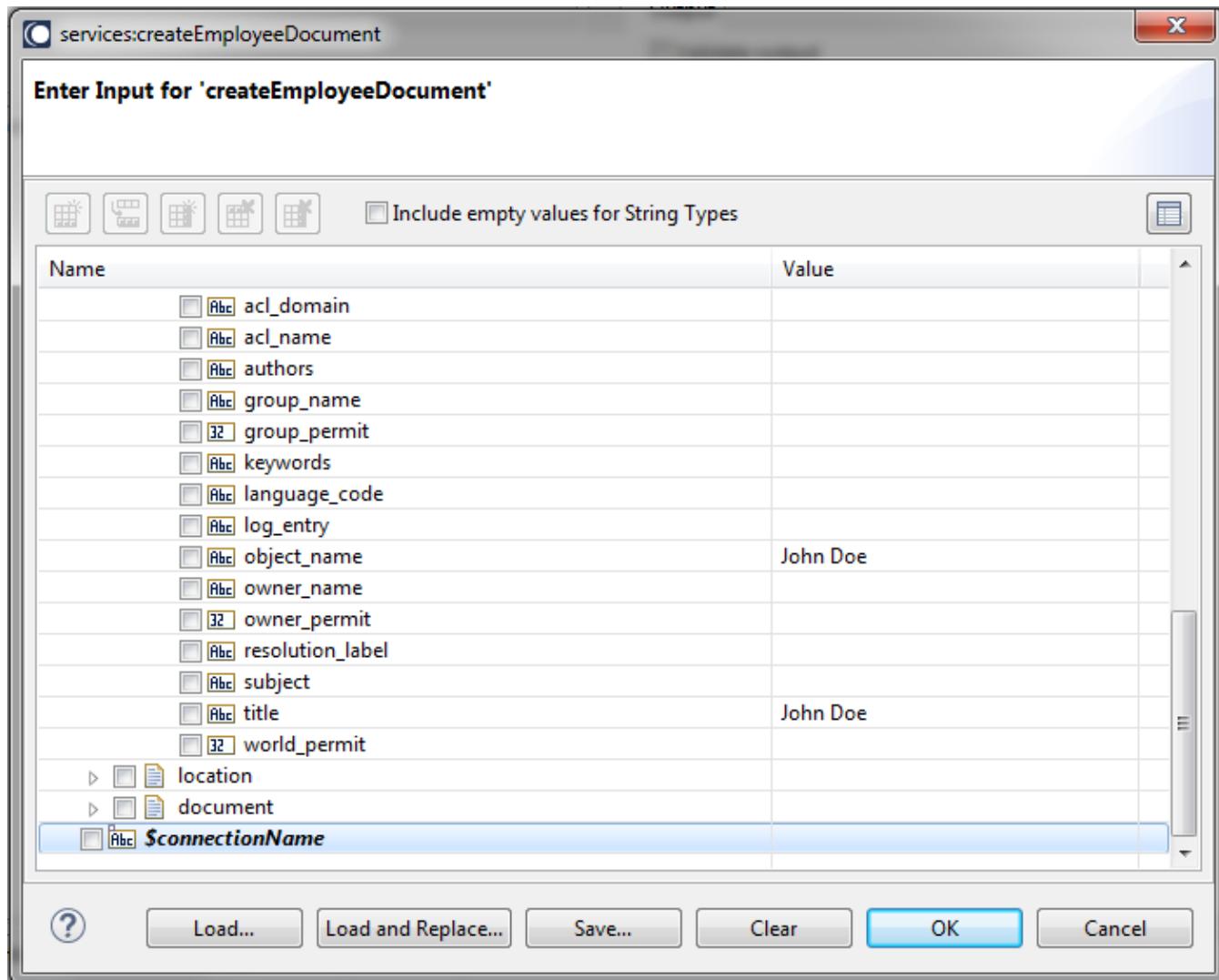
For our purpose we will choose the following as value:

https://www.softwareag.com/at/images/CEO_KH_Streibich_Digital_Enterprise_tcm48-117732.pdf

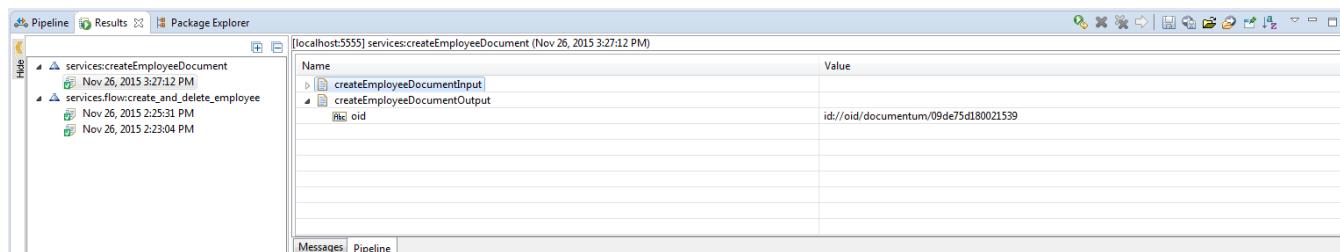
Optionally you can configure an alternative connection (non default) under `$connectionName`.

Having filled in the information, click **OK**.





Click OK to execute and you will get the following:



In the Results tab containing an ObjectIdentifier (OID) of Documentum of the newly created document

<id://oid/documentum/09de75d180021539>

If you change into Documentum web client you will see that a new document has been created

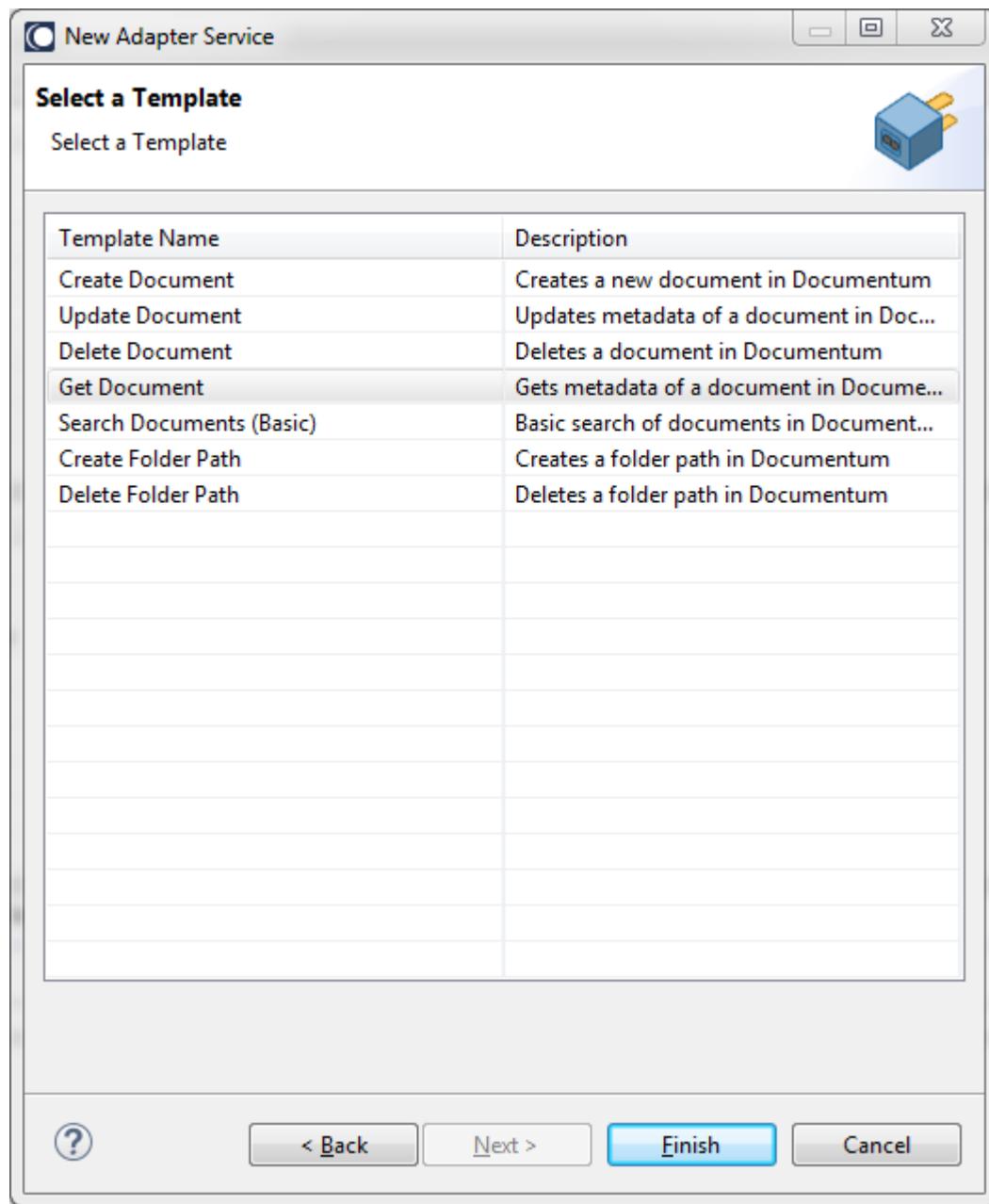
6.3 Get Document

6.3.1 Description

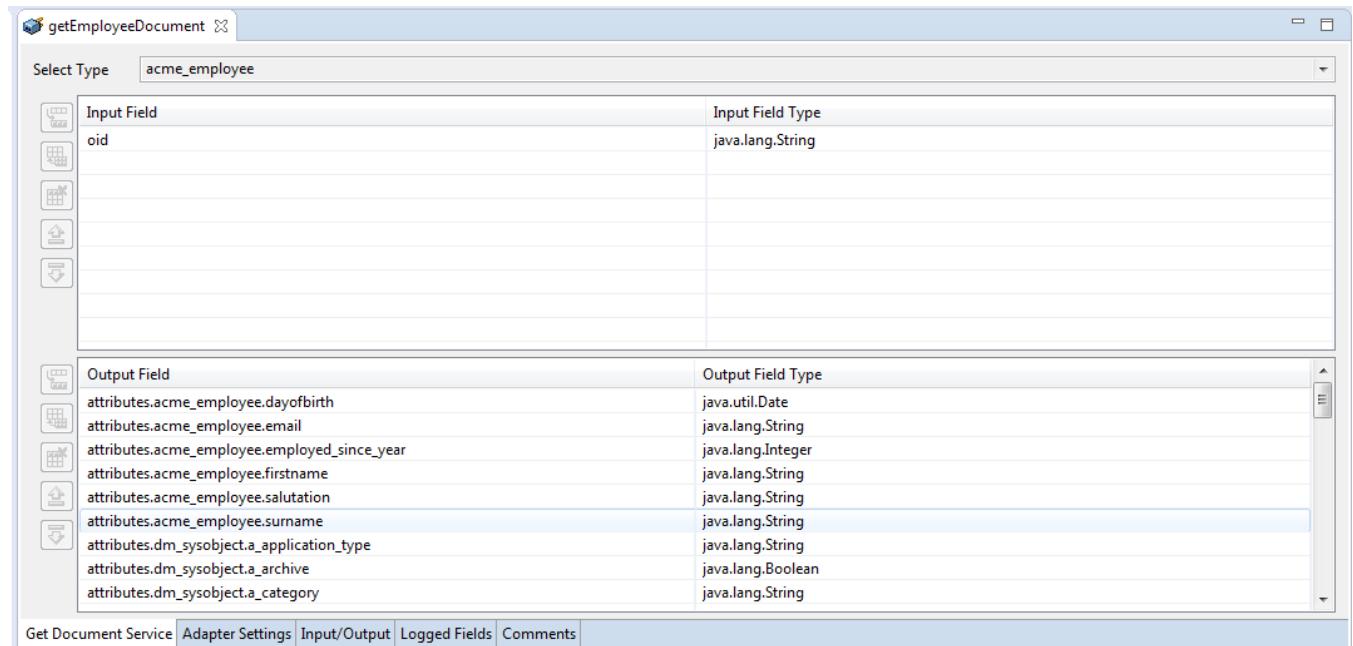
This service allows you to get back meta data and contents associated with a document in Documentum by specifying an object identifier.

6.3.2 Configure the service

Create the service as described in [create adapter services](#) by naming it `getEmployeeDocument` and choose the Get Document service template .



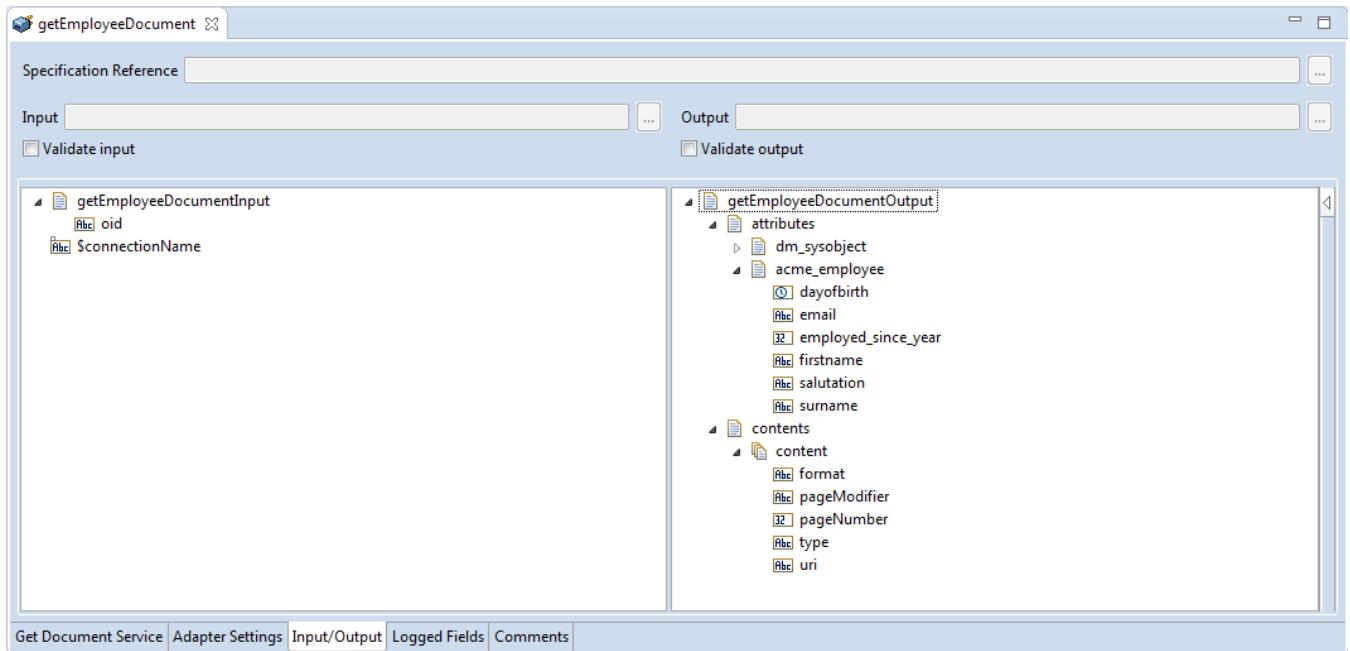
In the Software AG Designer the result will appears the following:



The screenshot below provides you with the following options:

Configuration Tab	Input	Description
Get Document Service	Select Type	<p>Allows you to select the <i>document type</i> being retrieved from Documentum in the list box; in our example we have chosen the type <i>acme_employee</i>.</p> <p>Once you choose a document type the input/output signature of the service is generated</p>
Input/Output	Input	The only input is an object identifier (attribute <i>oid</i>) which is the result of a create document service
	Output	<p>The output of the service is a node tree</p> <pre> attributes <document type> <attribute> contents content[] format pageModifier pageNumber type uri </pre>

In our example we have chosen document type *acme_employee* and this will give you the following service signature in the Input/Output tab

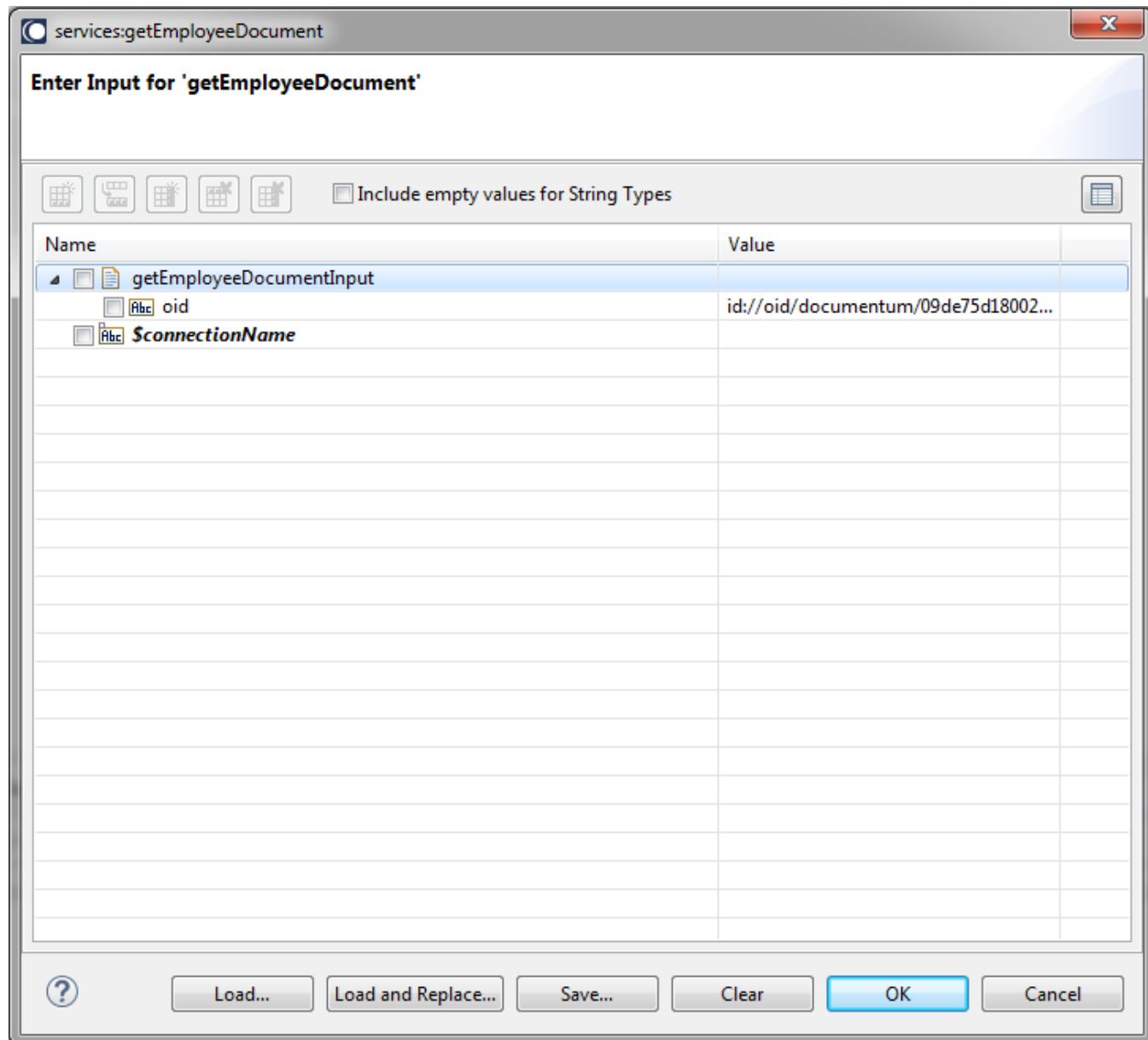


As mentioned the only input here is oid (the object identifier) and the output shows you

- Under attributes two document types, `dm_sysobject` and `acme_employee` where `acme_employee` is the document type we have chosen to get meta data and `dm_sysobject` is the supertype and it inherits attributes from (if there were also supertypes of `dm_sysobject` having additional properties they would have been shown here too as separate document type)
- Under contents a list of content nodes detailing the contents associated with the document (if any)

6.3.3 Execute the service

To run this service do a Right-click, **Run as->Run As Service** and provide an existing object identifier for input oid.



The result could appear as follows:

[localhost:5555] services:getEmployeeDocument (Nov 29, 2015 3:41:28 PM)	
Name	Value
getEmployeeDocumentInput	
oid	id://oid/documentum/09de75d18002157d
getEmployeeDocumentOutput	
attributes	
acme_employee	
dayofbirth	
email	john.doe@softwareag.com
employed_since_year	2015
firstname	John
salutation	
surname	Doe
dm_sysobject	
a_application_type	
a_archive	false
a_category	
a_compound_architecture	
a_content_type	pdf
a_controlling_app	
a_effective_date	
a_effective_flag	
a_effective_label	
a_expiration_date	
a_extended_properties	
a_full_text	true
a_is_hidden	false
a_is_signed	false
a_is_template	false
a_last_review_date	
a_link_resolved	false
a_publish_formats	
a_retention_date	
a_special_app	
a_status	
a_storage_type	filestore_01
acl_domain	documentum
acl_name	dm_45de75d18000cd05
authors	
group_name	docu
group_permit	5

- Under acme_employee you can see some data of the employee, also
- we have meta data in dm_sysobject that is automatically created by Documentum when a document is created
- Contents you see that one PDF content is associated with this employee document and that it has an URI specified where you could retrieve the document

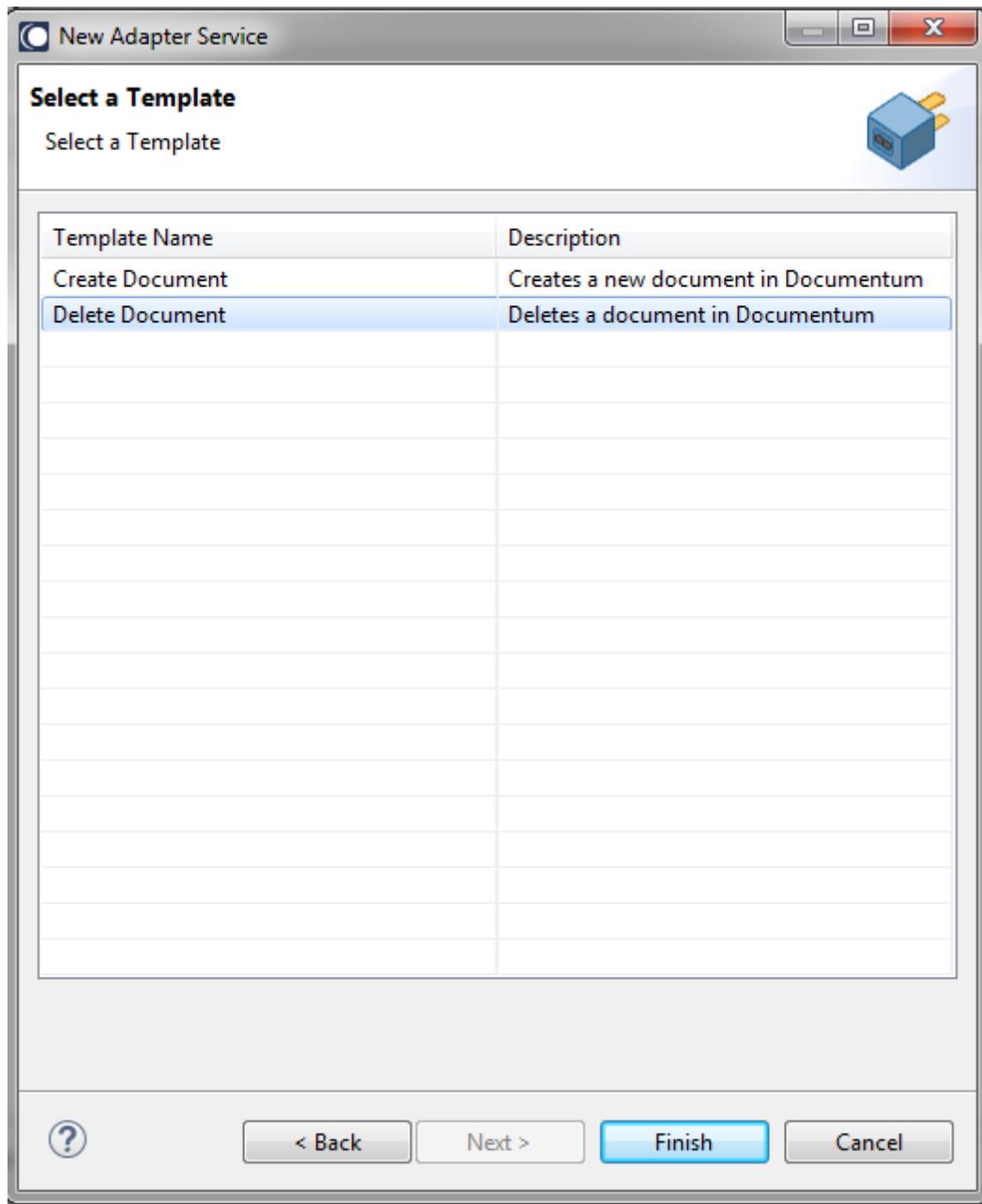
6.4 Delete Document

6.4.1 Description

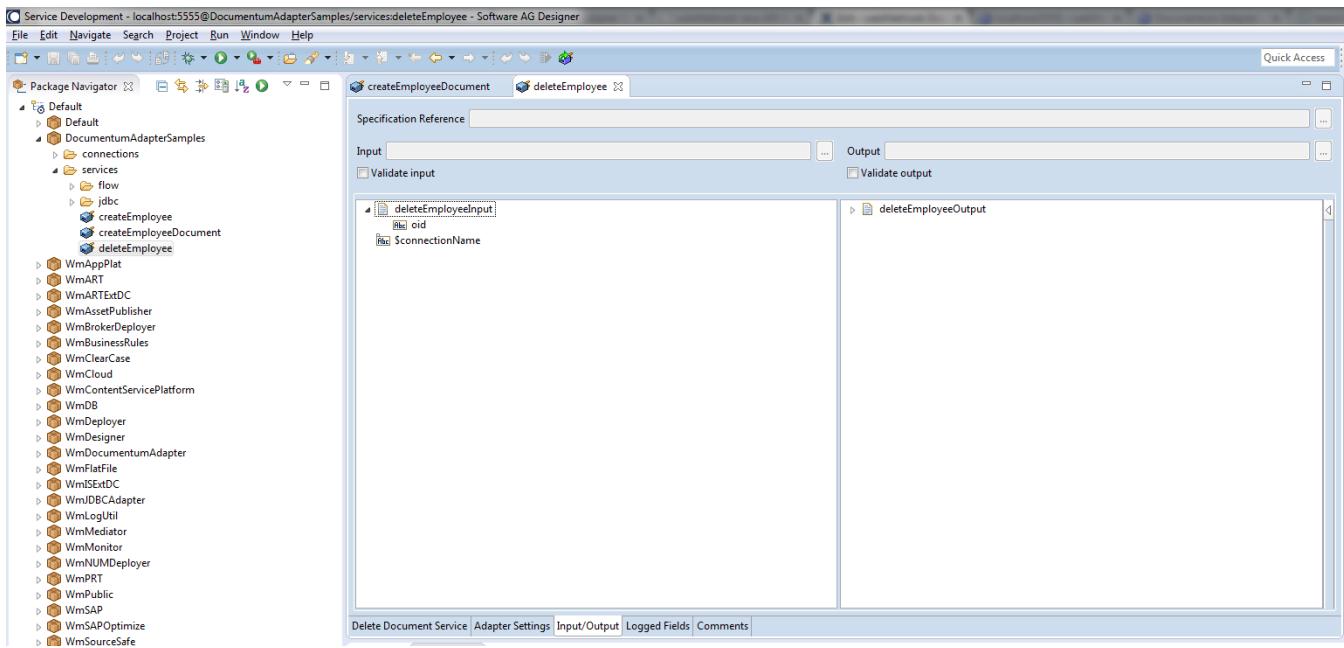
This service enables you to delete a document in Documentum, provided an object identifier like <id://oid/documentum/09de75d180021539>.

6.4.2 Configure the service

Create the service as described in [create adapter services](#) by naming it deleteEmployee and choose the Delete Document service template.



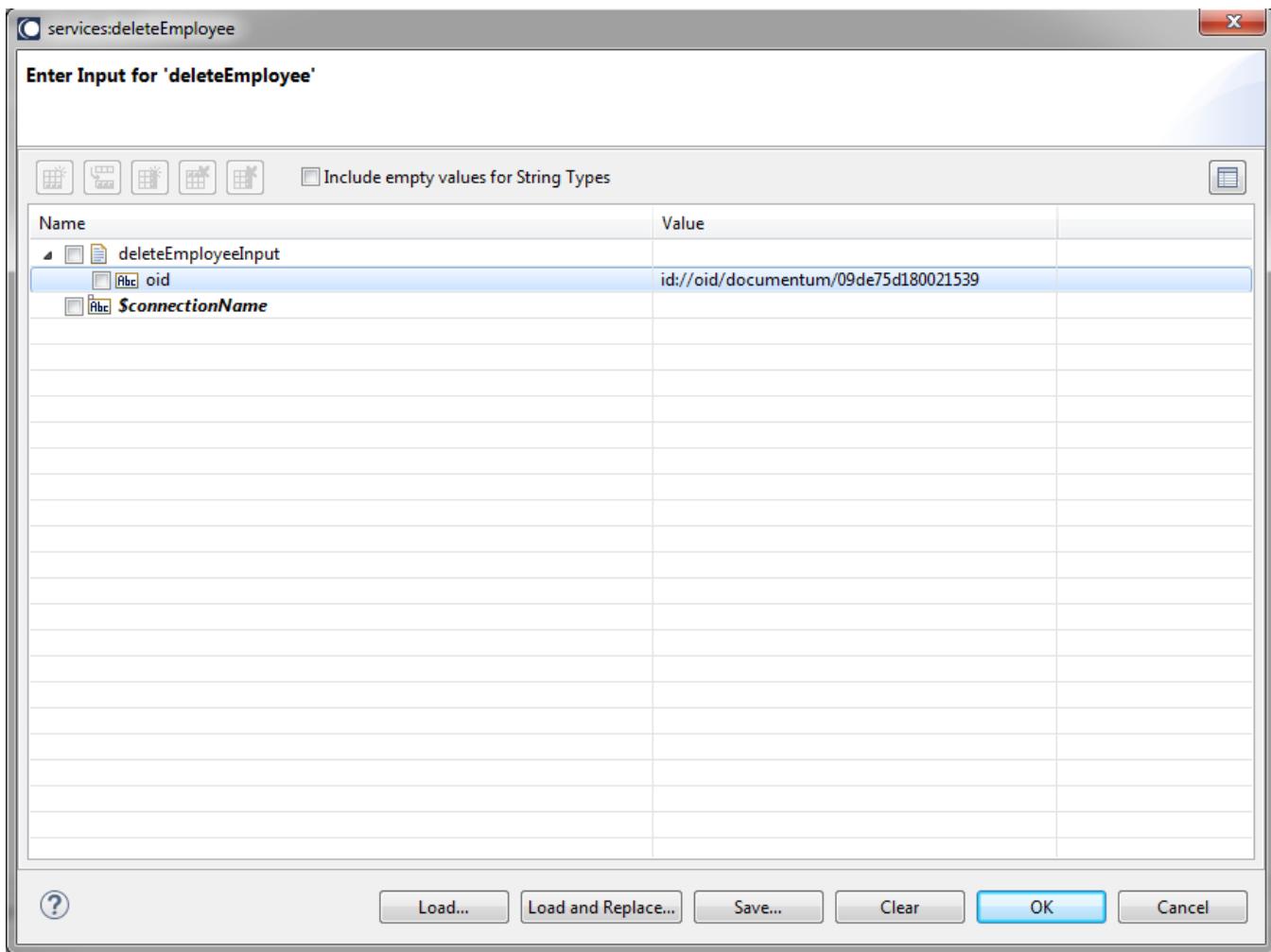
The resulting service is depicted in the following screenshot:



As you can see the only input the adapter service expects is an object identifier that is shown in the input field `oid` and so there is nothing more you have to configure.

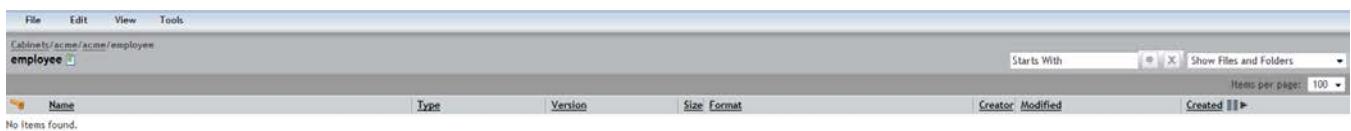
6.4.3 Execute the service

To run this service do a Right-click , Run As->Run as Service and provide some object identifier of an existing document.



If the deletion succeeds then you will get not receive any specific result and if the deletion fails then an exception is generated.

The document, which is missing from the location, is created before in the Documentum web client.



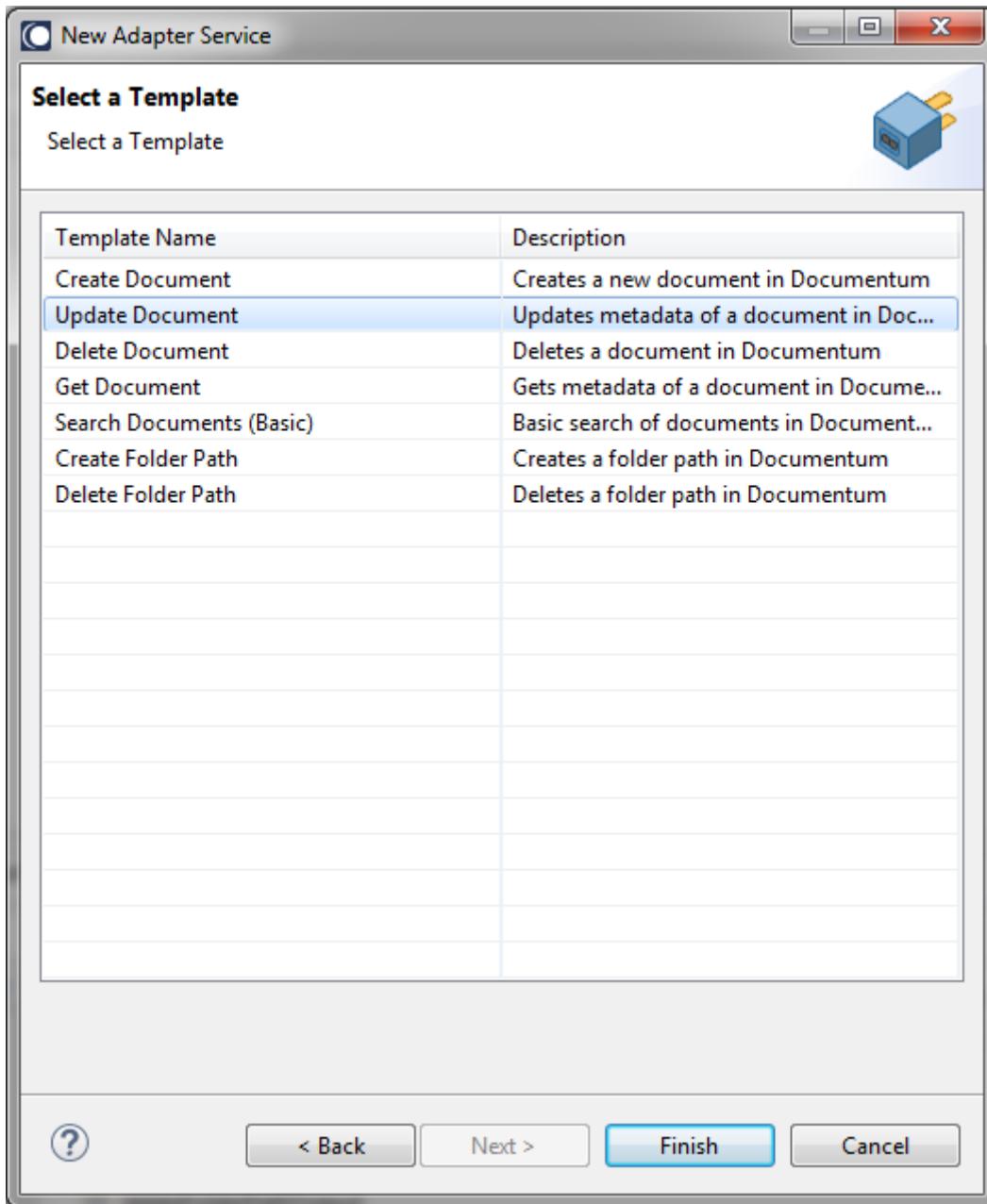
6.5 Update Document

6.5.1 Description

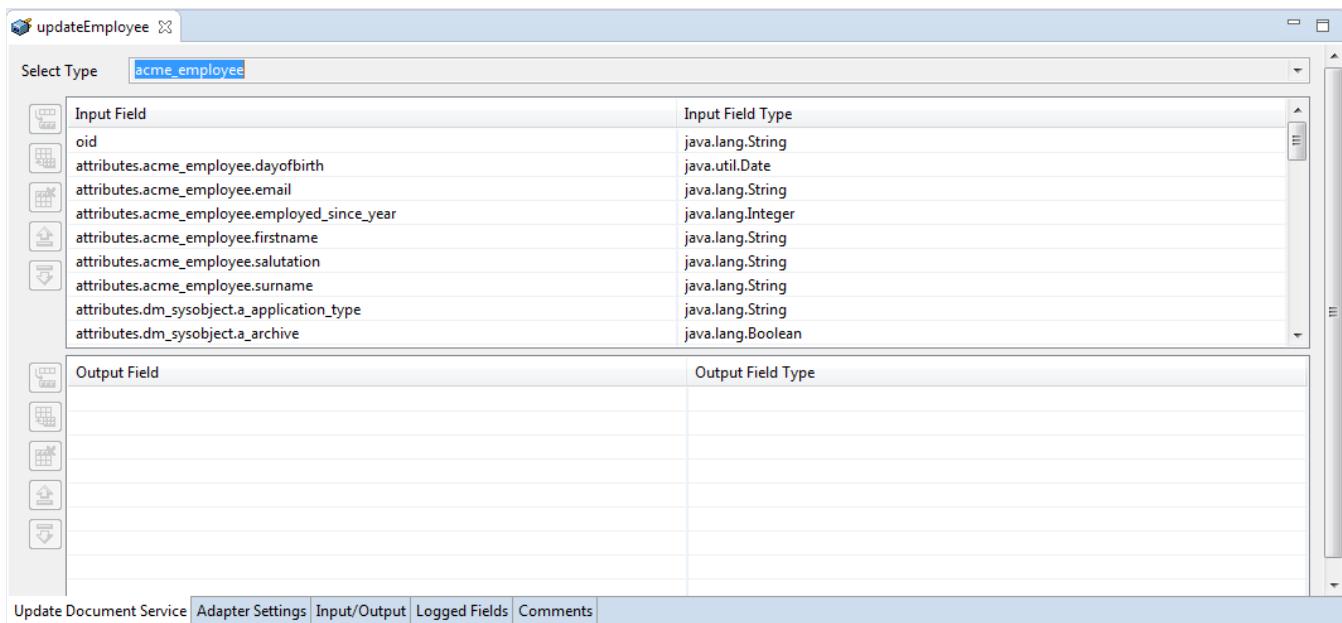
This service allows you to update the properties of a document already stored in Documentum.

6.5.2 Configure the service

Create the service as described in [create adapter services](#) by naming it updateEmployee and choose the Update Document service template .



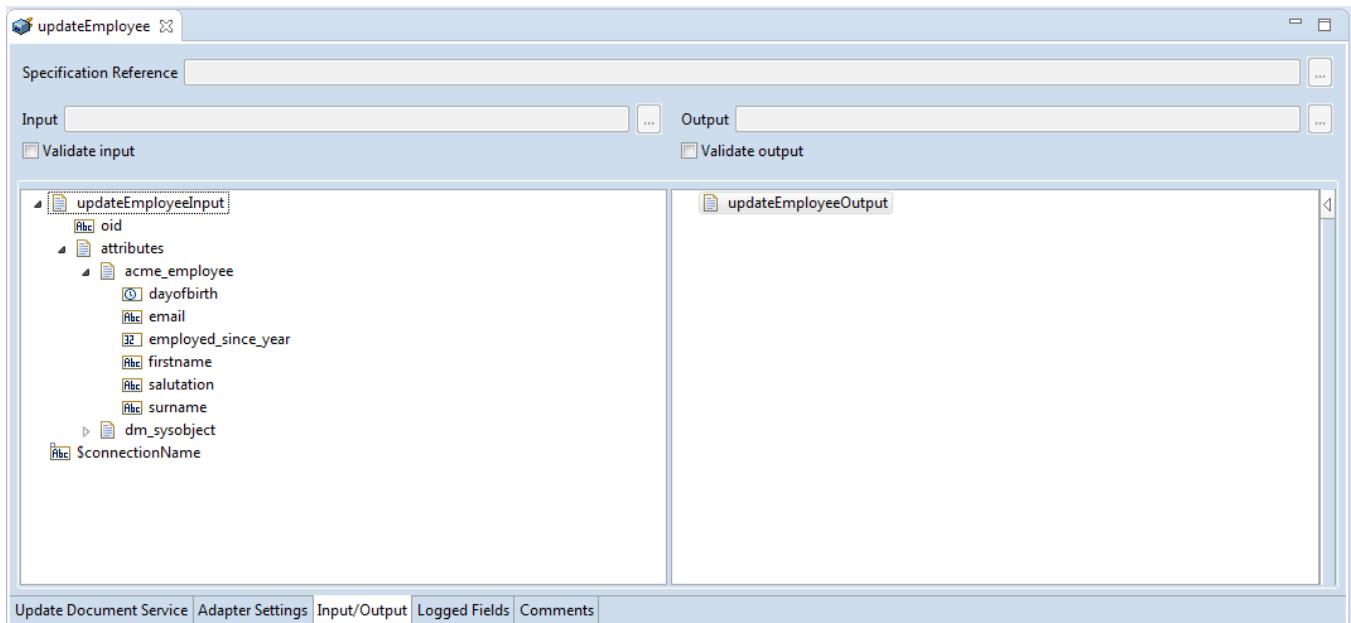
In the Software AG Designer the result looks as follows:



The screenshot below provides you with the following options:

Configuration Tab	Input	Description
Update Document	Select Type	<p>Allows you to select the <i>document type</i> being retrieved from Documentum in the list box; in our example we have chosen the type acme_employee.</p> <p>Once you choose a document type the input/output signature of the service is generated</p>
Input/Output	Input	<p>As opposed to the Get Document Service we now have the document types and their attributes in the input signature</p> <p>The output of the service is a node tree</p> <pre> attributes <document type> <attribute> </pre>
	Output	No output signature is provided as with a successful service execution you don't get anything back; on failures an Exception will be thrown

In our example we have chosen document type acme_employee and this will give you the following service signature in the Input/Output tab



Having now the document type and attributes in the input signature, you should now provide the updated properties.

6.5.3 Execute the service

As this service mandates an existing document we cannot execute it right away using right click, **Run as->Run as Service**. But you should implement a small flow service, refer **webMethods Integration Server administrator's Guide** which could look as follows:

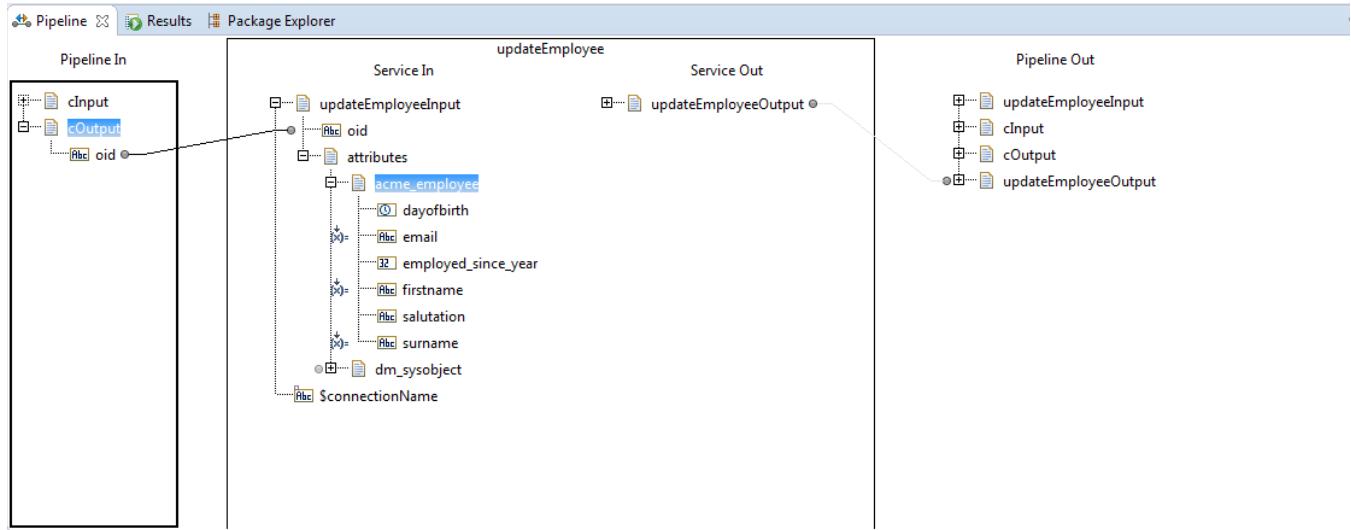


Also executes the following three Documentum adapter services :

- creates a sample employee as described in [Create Document Service](#)
- updates the employee document with new property values

- deletes the employee as described in [Delete Document Service](#)

So after the sample employee is created you have the oid in the pipeline and you can map it together with some property updates as shown in the following picture:



Execute the service using right click - Run as->Run Flow Service and it should proceed without errors.

breakpoint

Icon

Ensure to set a breakpoints on the service lines saying the following:

- services:createEmployee
- services:deleteDocument

Else you cannot see the property changes in Documentum (e.g. via webtop)

6.6 Search Documents

6.6.1 Description

You can use this search service to do basic searches in Documentum. To define a search you have to select a document type you want to search, then you can choose which properties you want to have returned in the search and make some basic search configuration (number of records returned, do a conjunction or a disjunction search)

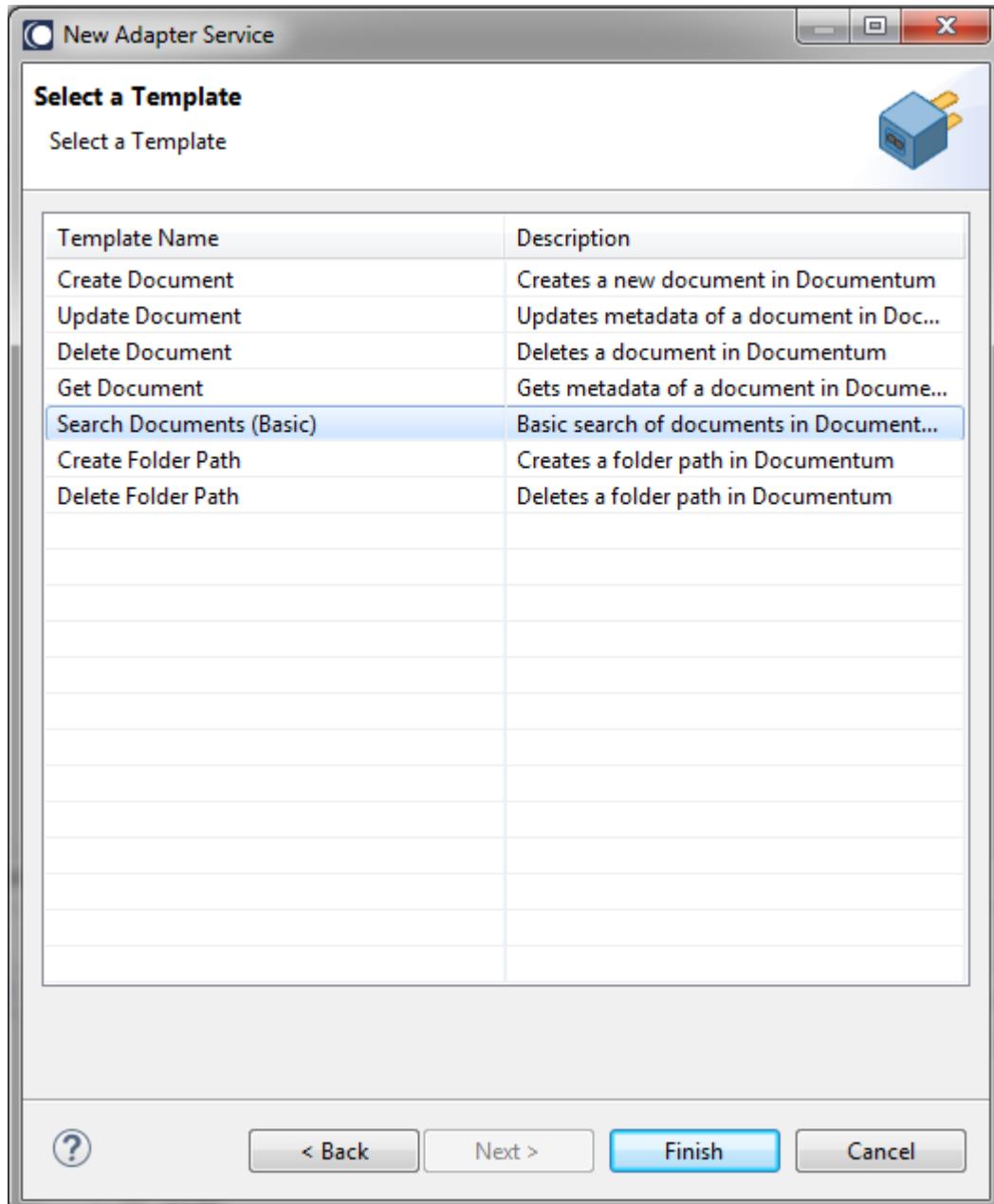
Finally, you can provide a list of search conditions that have to be applied.

As the name of the search template implies this is a basic search in the sense that you can only specify the logical root operator (conjunction or disjunction (that are to be applied to a list of property expressions

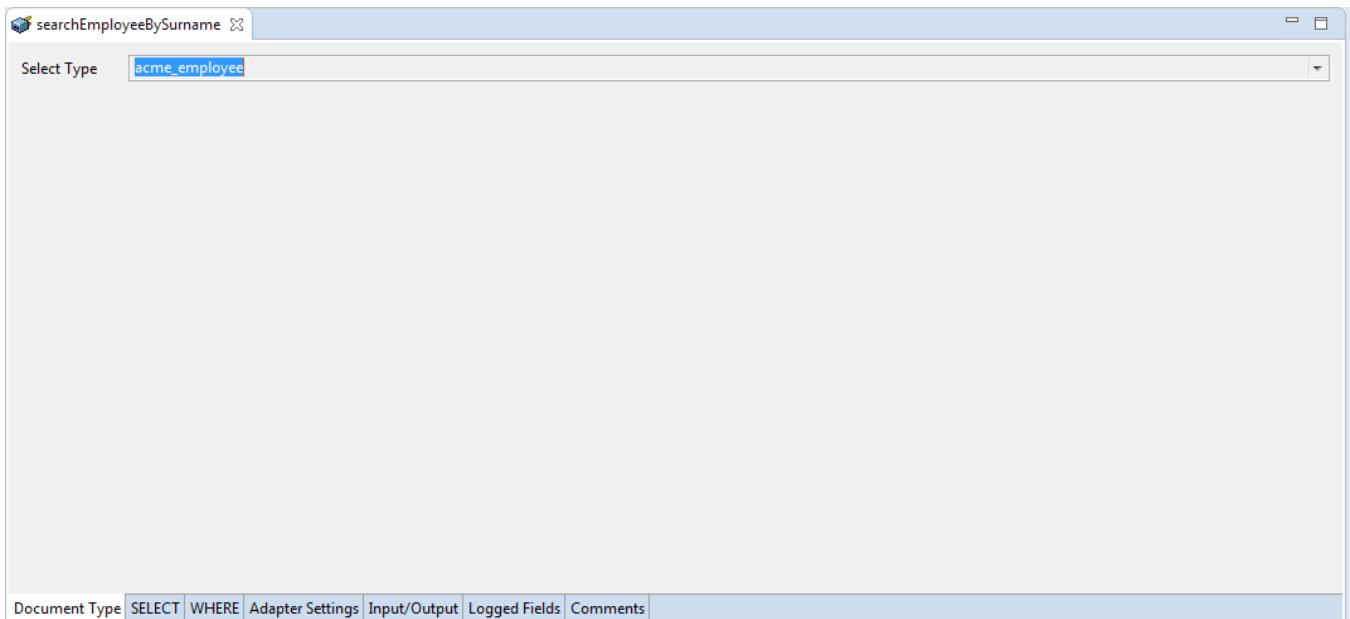
but you are not able to specify nested expressions (this will be provided in a special search called structured query search).

6.6.2 Configure the service

Create the service as described in [create adapter services](#) by naming it `searchEmployeeBySurname` and choose the **Search Documents (Basic)** service template .

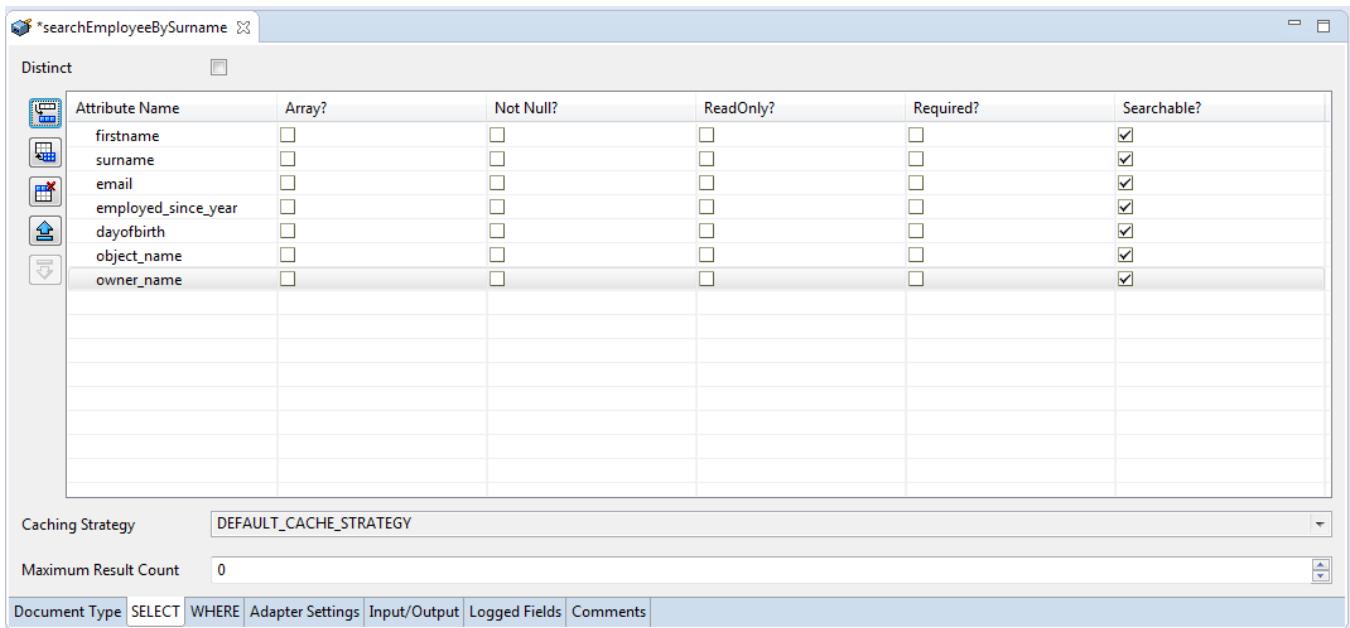


In Software AG Designer the search template is depicted as follows:



The only thing you have to select here is the document type you want to do a search. Depending on the selected document types the input/output signatures will provide you with different properties you can choose.

So, click **SELECT** tab and select the properties you want to have returned from the search as follows:



You can use the controls on the left to view.

Action	Description
	<p>Inserts a new property: the first property inserted is the first property that is defined in the chosen document type (or in one of its supertypes), sorted in alphabetical order.</p> <p>If you click in the Attribute Name table cell and choose a different property from this row</p>

Action	Description
	then the property next inserted is the next one in the property list after the one chosen
	<p>Creates one row per property available on the selected document type (or in one of its supertypes). be careful</p> <p>Icon</p> <p>In Documentum a document type can have dozens of properties inherited and in webMethods ADK there is no button to remove all records of the table, so you have to remove them one by one!</p>
	Removes the selected row
	<p>Can be used to re-order the properties in the table. Note that</p> <p>Icon</p> <p>reordering does not affect the output signature!</p>

Also, in this view you can specify the following

Attribute	Description
Distinct	Do a distinct search?
Caching Strategy	The caching strategy used in Documentum
Maximum Result Count	Limit the number of results

If you have selected the properties you want to search , then go to **WHERE** tab and specify the expressions that should apply to your search.

Property name	Operator	Value
surname	EQUAL	?

Document Type | SELECT | WHERE | Adapter Settings | Input/Output | Logged Fields | Comments

In our example, we have added one expression to filter for property surname EQUALS ?, so we search for all employees that have a surname matching the one we provide in the service template when executing the service.

Here you also have the option to specify the root expression operator which can be AND or OR and that is applied to the list of property expressions you configure here.

Once you have configured your service template , it looks like the following depicted in the below screenshot:

Specification Reference

Input ...

Validate input

Output ...

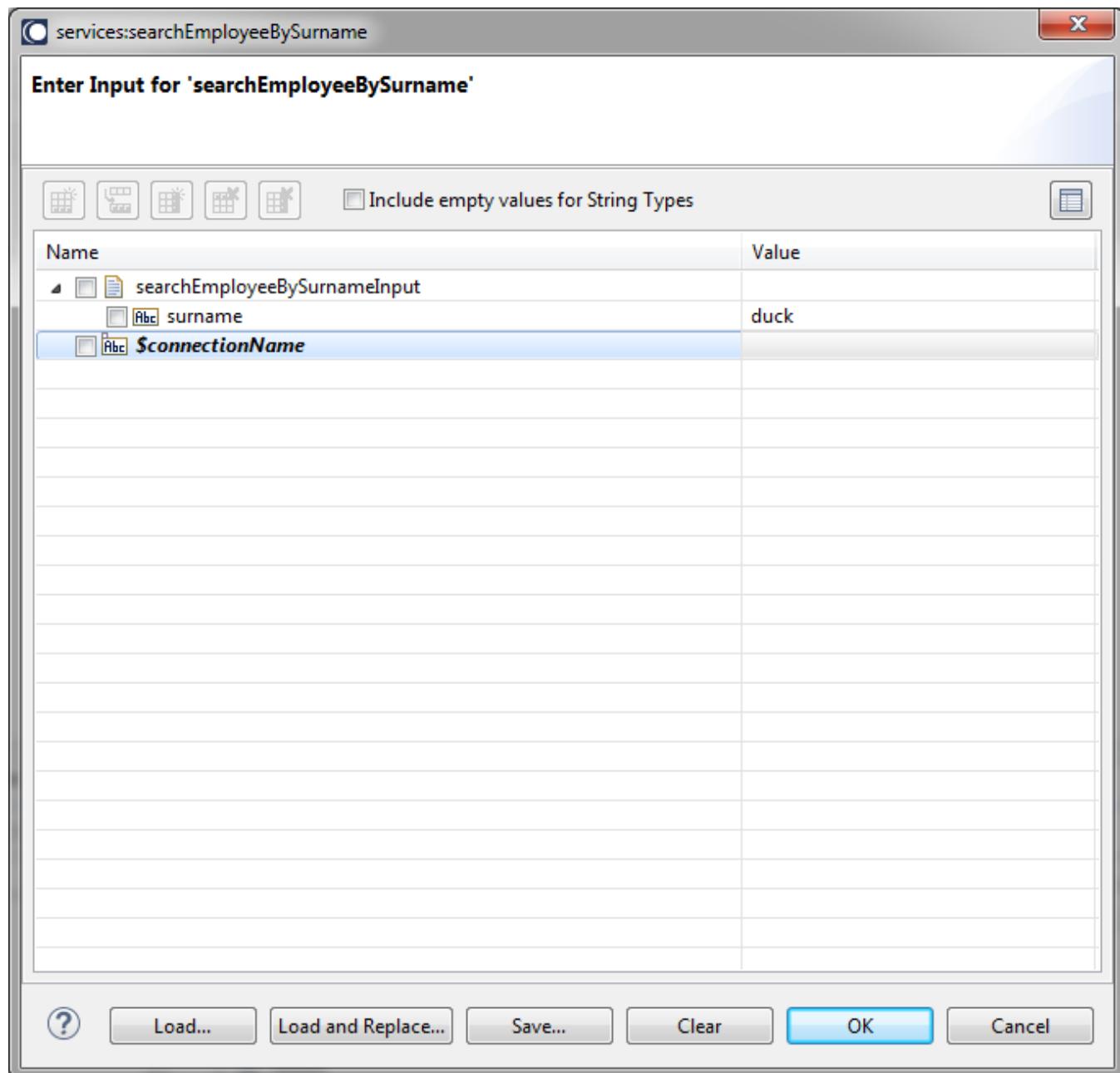
Validate output

Document Type | SELECT | WHERE | Adapter Settings | Input/Output | Logged Fields | Comments

where you have in the input signature on the left all the properties you want to specify a operator expression for (e.g. the value of the surname to filter) and on the right you have under the results node the list of properties you have configured in the SELECT tab.

6.6.3 Execute the service

To run this service do a Right-click, Run as->Run as Service and specify a value for the surname property you want to search for. Example,



Executing the search will give you something like

[localhost:5555] services:searchEmployeeBySurname (Nov 29, 2015 6:59:04 PM)	
Name	Value
searchEmployeeBySurnameInput	
surname	duck
searchEmployeeBySurnameOutput	
results	
firstname	ducky
surname	duck
email	ducky.duck@braintribe.com
employed_since_year	2000
dayofbirth	1/1/1950 0:00:00 CET
object_name	ducky duck
owner_name	documentum
results	

Messages Pipeline

and you can see that only employees named duck are passed back and that only the properties you wanted to include are passed back with the search.

6.7 Create Folder Path

6.7.1 Description

This service allows you to create a folder path in Documentum.

Folders in the Documentum are documents of type `dm_folder`. In this case, it describes the means of structuring the location where the documents are created.

If you open Documentum webtop you can see the folders that have been created in a folder tree directly under the cabinets as follows:

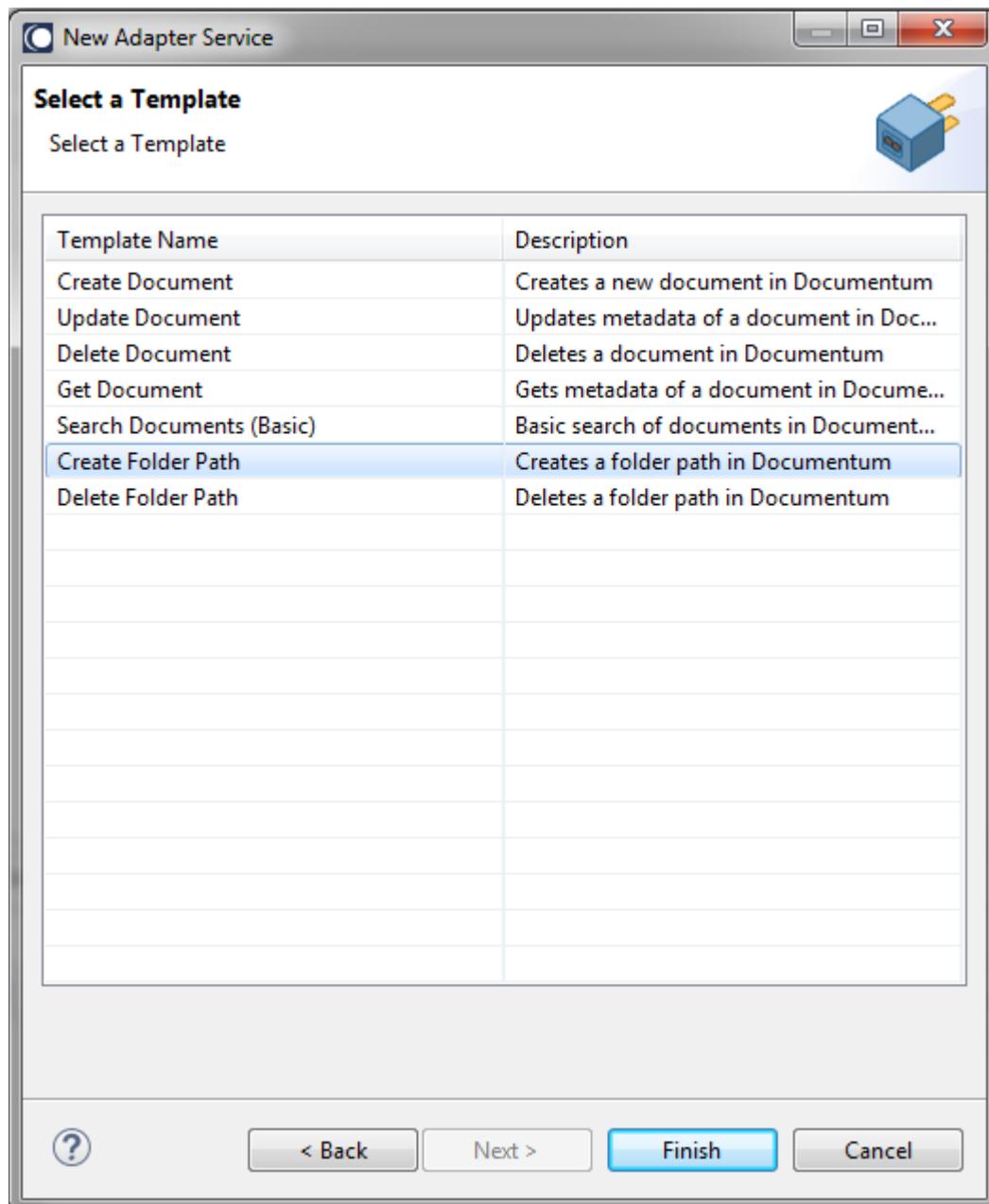


Folders unlike cabinets are just a way to structure the document locations where cabinets are the top level objects and also specify where in the storage system the physical objects are to be placed.

It is optional to have folders icon. If you create a document without specifying its folder path, then it is created by default in the user's home cabinet.

6.7.2 Configure the service

Create the service as described in [create adapter services](#) by naming it createFolderPath and choose the Create Folder Path service template.



In the Software AG Designe, the result appear as follows:

Input Field	Input Field Type
folder	java.lang.String

Output Field	Output Field Type
oid	

Create Folder | Adapter Settings | Input/Output | Logged Fields | Comments

The screenshot depicted below provides you with the following options:

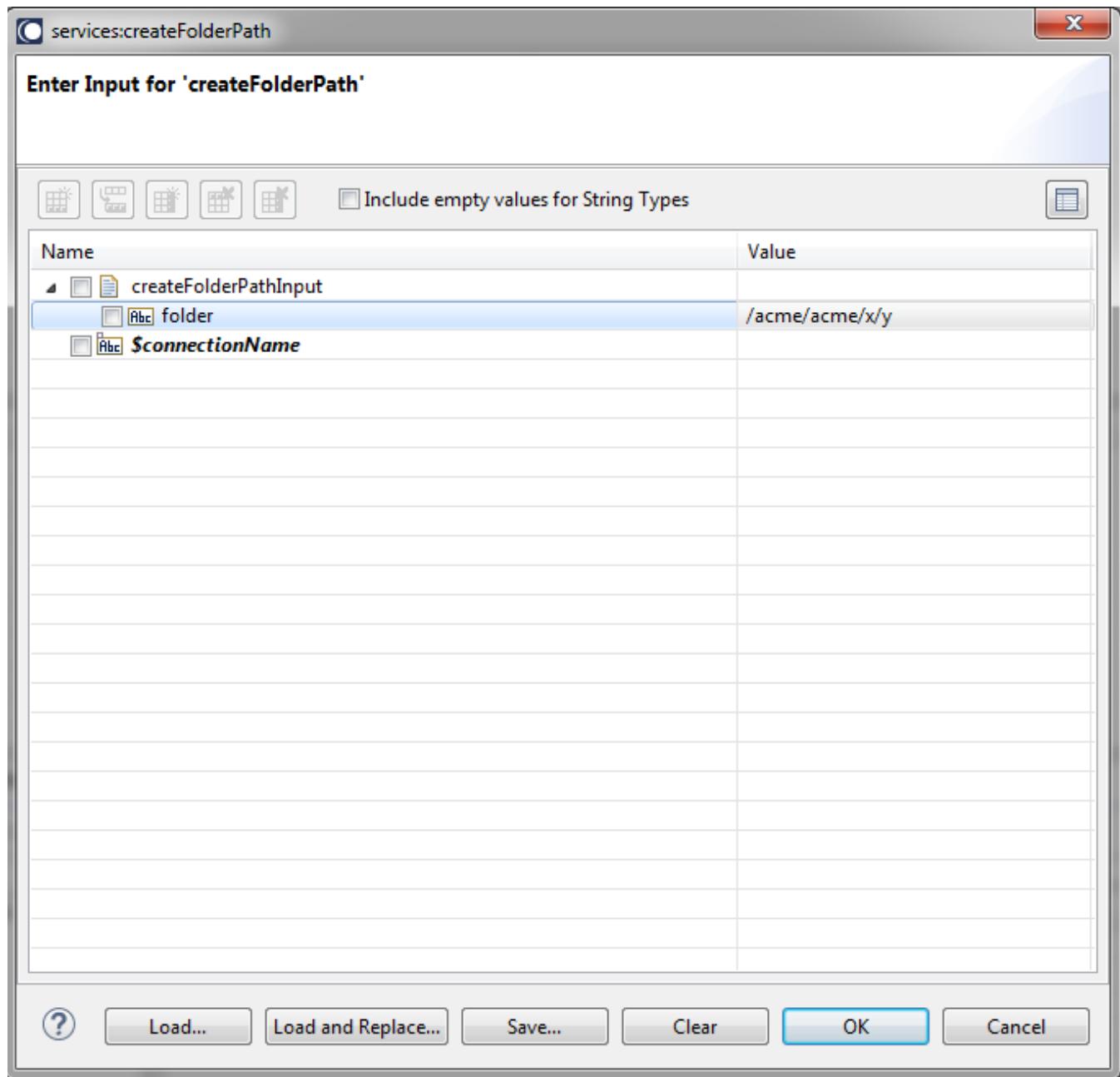
Configuration Tab	Input	Description
Create Folder	--	As we only have to specify the folder path to create there is no additional input required and everything we need is in the input/output signature
Input/Output	Input	The only input is a folder path (attribute folder) like /acme/acme/employee where the first part of the path is the cabinet under which to create the folder and the rest is the complete folder path to be created under the cabinet.
	Output	The output of the service is an object identifier (attribute oid) of the created (or existing) folder

If the folder already exists with the cabinet then only its oid is passed back and no error is thrown.

Note: You can specify arbitrary long folder paths and Documentum will create the complete path (that maybe contains a lot of subdirectories that all do not exist).

6.7.3 Execute the service

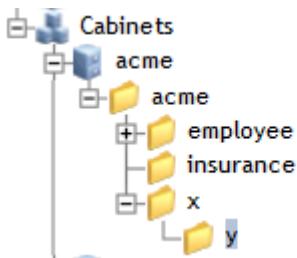
To run this service, Right-click Run as -> Run as Service and provide a folder path to be created such as, /acme/acme/x/y



The output will appear as follows:

[localhost:5555] services:createFolderPath (Nov 29, 2015 4:02:23 PM)	
Name	Value
createFolderPathInput └ folder	/acme/acme/x/y
createFolderPathOutput └ oid	id://oid/documentum/0bde75d180021540

After the service execution, the folders will also be visible in Documentum webtop.



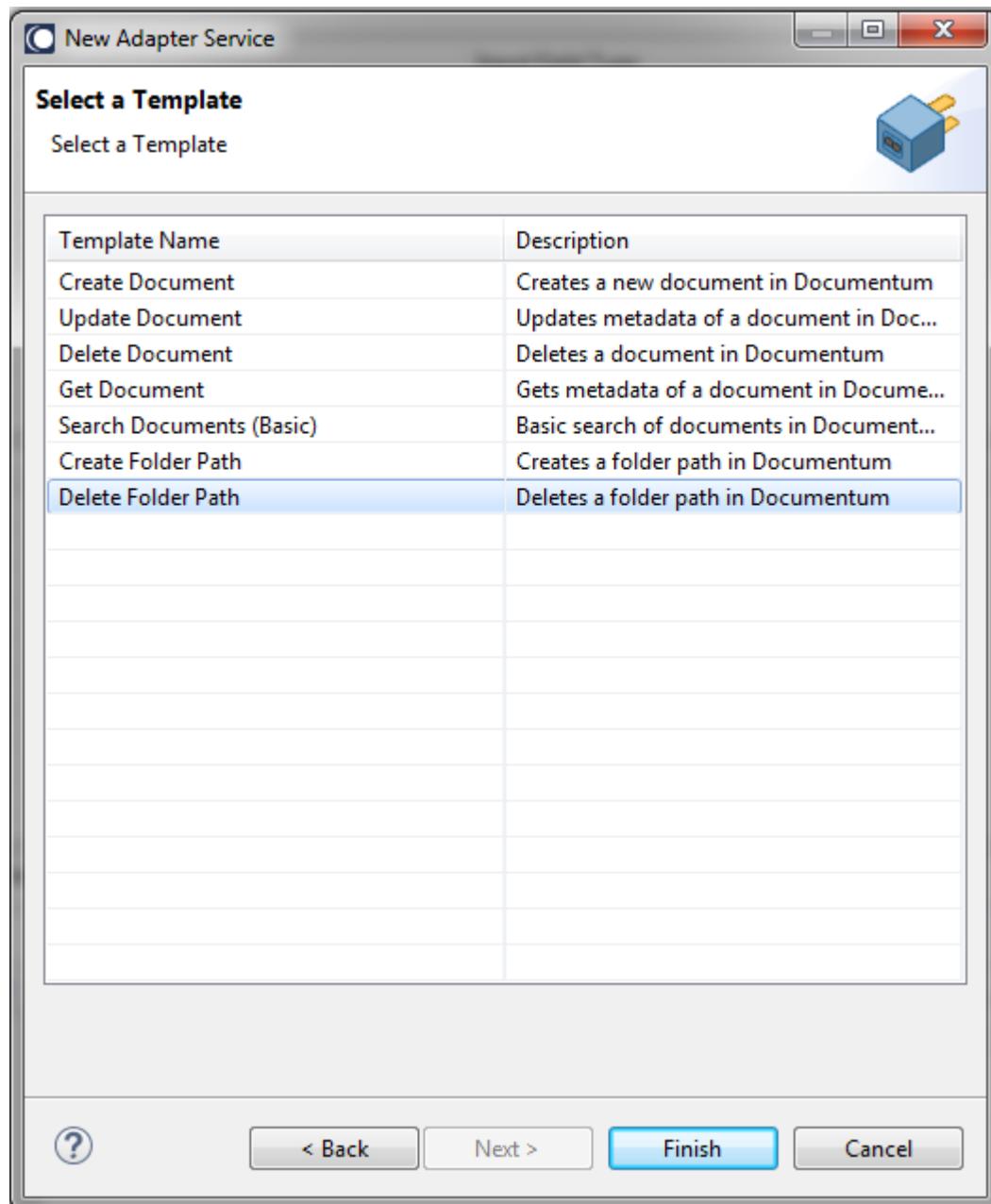
6.8 Delete Folder Path

6.8.1 *Description*

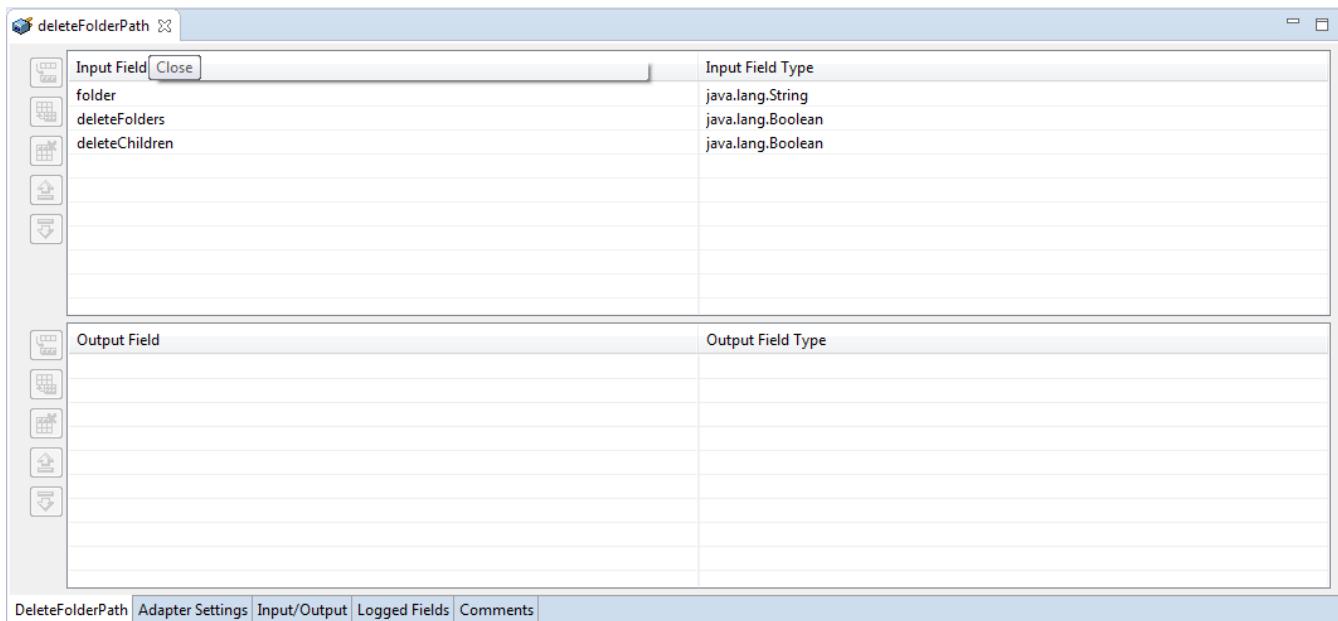
Using this service you can delete a folder path in Documentum.

6.8.2 Configure the service

Create the service as described in [create adapter services](#) by naming it deleteFolderPath and choose the **Delete Folder Path** service template.



In the Software AG Designer the result will look as follows:

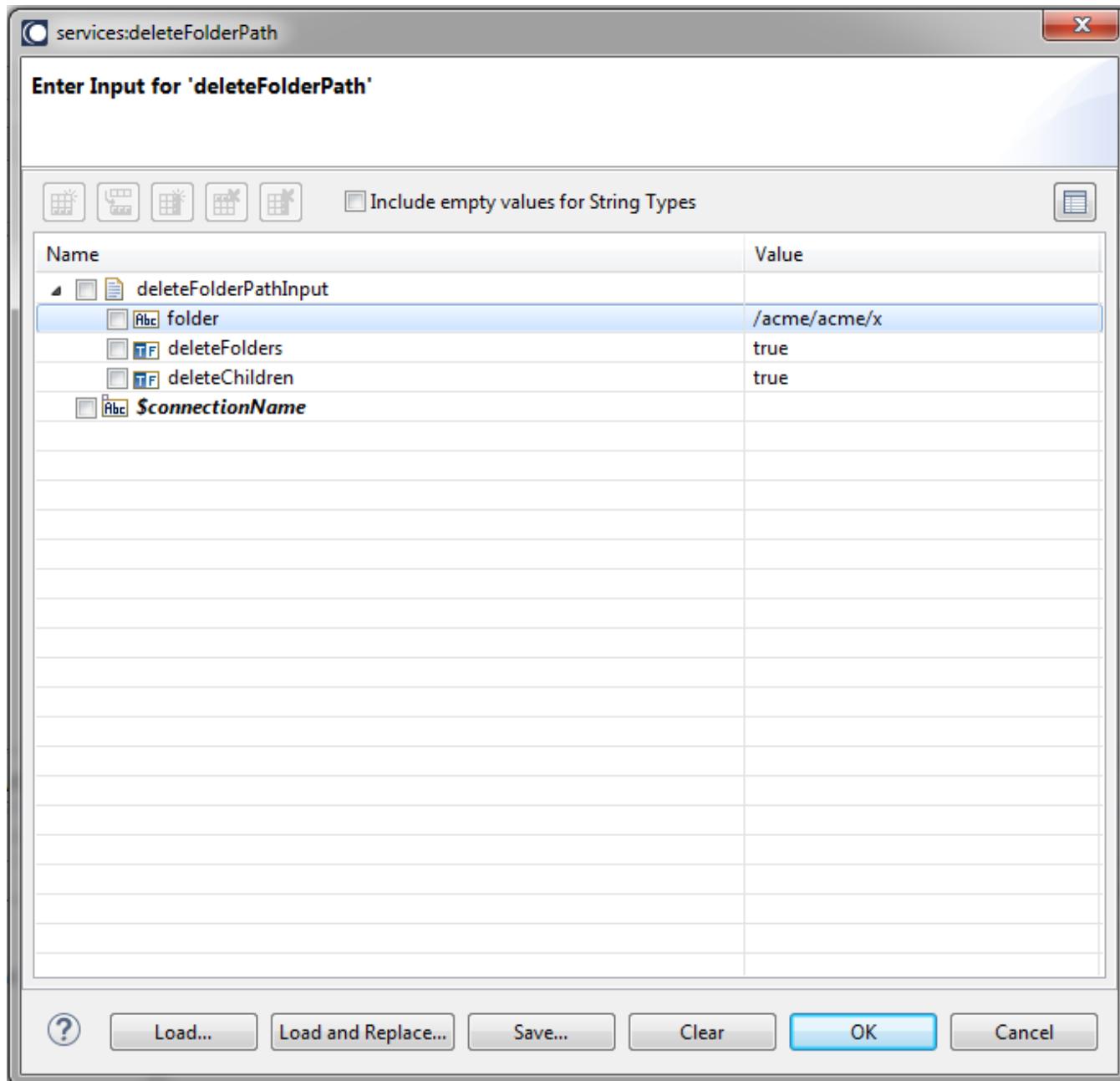


The screenshot provides you with the following options:

Configuration Tab	Input	Description
Delete Folder	Folder	The folder path to delete
	deleteFolders	If true, deletes all folders under a folder specified in folder. This setting does not specify whether none folder objects that are linked into other folders are deleted from the repository.
	deleteChildren	sets property 'deepDeleteChildrenInFolders' with the Documentum API, see Documentum API for details on it
Input/Output	Input	A tree can be, <ul style="list-style-type: none"> • folder • deleteFolders • deleteChildren
	Output	No output provided, if the peration fails an error is thrown

6.8.3 Execute the service

To run this service do a Right-click, Run as -> Run as Service and specify a folder path. Example, the one we used in [Create Folder Path Service](#)) and set deleteFolders to true to delete all sub folders.



Execute the call and if you check Documentum webtop for the parent folder `/acme/acme`, you will see that the folders beginning with root `x` have been deleted as follows:



6.8.4