Configuring On-Premise Integration Servers for webMethods Cloud

Version 9.7

October 2014

Document ID: IS-OP-97-20141015

Table of Contents

About this Guide.....5
Document Conventions..... 5
Documentation Installation..... 6
Online Information..... 6

About Configuring an On-Premise Integration Server.....7
What is an On-Premise Integration Server?..... 8
About Accounts.....8
About Applications..... 8
Deploying Assets..... 9
Steps to Configure an On-Premise Integration Server.....9

Configuring Settings.....11
About Integration Cloud Settings.....12
Specifying Settings..... 12
Editing and Deleting Settings..... 12

Configuring Accounts for Integration Cloud..... 15
Overview..... 16
Viewing the Accounts that Reside on the Server.....16
Creating Accounts on an On-Premise Integration Server..... 17
Uploading Accounts to the Integration Cloud Server..... 19
Testing Accounts.....20
Enabling and Disabling Accounts.....20
Deleting On-Premise Accounts..... 21
Editing Accounts..... 21

Managing Applications.....23
About Sharing Metadata on an On-Premise Integration Server.....24
Viewing the Applications That Reside on your Server..... 25
Defining Applications..... 25
Uploading Applications..... 26
Deleting Applications..... 28
Editing Applications..... 28

About this Guide

This guide describes how to configure Integration Server as an on-premise server for use with webMethods Integration Cloud. It contains information for administrators who configure and manage on-premise Integration Servers and for application developers who want to create services that will be accessed by integrations through Integration Cloud.

To use this guide effectively, you should understand the basic concepts described in the *webMethods Integration Server Administrator's Guide* and *webMethods Integration Cloud Help*. You should also be familiar with all the services you want to share with Integration Cloud.

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Narrowfont	Identifies storage locations for services on webMethods Integration Server, using the convention *folder.subfolder:service* .
UPPERCASE	Identifies keyboard keys. Keys you must press simultaneously are joined with a plus sign (+).
Italic	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.

Convention	Description
[ ]	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 (...).

Documentation Installation

You can download the product documentation using the Software AG Installer. The documentation is downloaded to a central directory named _documentation in the main installation directory (SoftwareAG by default).

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 and certified samples, 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, 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.

1 About Configuring an On-Premise Integration Server

- What is an On-Premise Integration Server? 8
- About Accounts 8
- About Applications 8
- Deploying Assets 9
- Steps to Configure an On-Premise Integration Server 9

What is an On-Premise Integration Server?

An *on-premise* Integration Server is any Integration Server that is configured to share service metadata with and enable for the execution of those services by integrations defined in webMethods Integration Cloud. The service metadata uploaded from an on-premise Integration Server provides the accounts and applications required to create integrations on Integration Cloud.

About Accounts

An *account* on the on-premise Integration Server is a connection that you create to enable the communication of data from the on-premise Integration Server to Integration Cloud and vice versa.

When the on-premise Integration Server receives requests, it processes the requests using the account configured to process requests for a specific stage. A *stage* is an environment configured on the Integration Cloud that represents a specific point in the development cycle of an integration service. When you configure a connection to an Integration Cloud server, the on-premise Integration Server fetches the stages you defined on the Integration Cloud server, and when you configure the account, you define the stage on which the on-premise Integration Server should listen for requests. By configuring accounts for specific stages, you limit the requests that each account processes. For more information about configuring a connection to an Integration Cloud server, see "Configuring Settings" on page 11.

For example, the Integration Cloud server might have one environment for development (Default), one for testing (Test), and another for production (Live). You would configure each on-premise account to listen for requests for a specific stage. So, if you develop an integration on the Default stage and invoke a service on the on-premise Integration Server, the account listening for requests on the Default stage receives and processes the request. For more information about defining stages in Integration Cloud, see *webMethods Integration Cloud Help*.

About Applications

A group of services that you share with Integration Cloud is called an *application*. Applications are created on the on-premise Integration Server and uploaded to the Integration Cloud. Integration Cloud can execute any service hosted by an on-premise Integration Server. When you share services in an application, you are sharing the *metadata* for the service. For Integration Server services, the metadata you share is the service name, service signature, display name, and service comments. Users of Integration Cloud can then create integrations that invoke services defined in the applications.

After you create applications, you upload them to Integration Cloud. If the application changes on the on-premise Integration Server, you must upload the application again for the changes to be replicated to Integration Cloud.

When you upload applications to the Integration Cloud server, you associate one or more accounts that the application can use to access services on the on-premise Integration Server. If the account associated with an application changes, you can upload the account to the Integration Cloud server without having to upload the application. For more information about uploading accounts, see "Uploading Accounts to the Integration Cloud Server" on page 19.

Deploying Assets

You can deploy settings, accounts, and applications as assets using webMethods Deployer. For more information, see *webMethods Deployer User's Guide*.

Steps to Configure an On-Premise Integration Server

The following table describes the process for using Integration Server Administrator to configure an on-premise Integration Server:

Step	Description
Step 1	Create a user account on the Integration Cloud server. For more information, see *webMethods Integration Cloud Help*.
Step 2	Specify the settings for the Integration Cloud server. See "Configuring Settings" on page 11.
Step 3	Create the accounts by which Integration Cloud can connect to the on-premise Integration Server. See "Configuring Accounts for Integration Cloud " on page 15.
Step 4	Define and upload the applications to share through Integration Cloud. See "Managing Applications" on page 23.

2 Configuring Settings

- About Integration Cloud Settings 12
- Specifying Settings 12
- Editing and Deleting Settings 12

About Integration Cloud Settings

The Settings screen allows you to specify the location and login details of the Integration Cloud server for which you will define accounts and applications.

Specifying Settings

Complete the following steps to specify the settings for the Integration Cloud server.

Note: For each on-premise Integration Server, you can specify settings for only one Integration Cloud server.

To specify the account settings for Integration Cloud

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Settings**.
3. Under **Settings**, complete the fields as follows:

Field	Description
User Name	User name for an account on Integration Cloud.
Password	Password identified in the user account for **User Name**.
webMethods Cloud URL	The URL of the Integration Cloud server with which to share accounts and applications created on the on-premise Integration Server.

4. Click **Update Settings**.

   Integration Server connects to the Integration Cloud specified in the **webMethods Cloud URL** and downloads the configuration information that is required to receive any incoming requests.

Editing and Deleting Settings

You can edit the account settings details to specify a different Integration Cloud server.

Note: To delete the settings, delete the information from the fields on the **Settings** screen.

To edit the account settings

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Settings**.
3. Update the settings.
4. Click **Update Settings**.

3 Configuring Accounts for Integration Cloud

- Overview 16
- Viewing the Accounts that Reside on the Server 16
- Creating Accounts on an On-Premise Integration Server 17
- Uploading Accounts to the Integration Cloud Server 19
- Testing Accounts 20
- Enabling and Disabling Accounts 20
- Deleting On-Premise Accounts 21
- Editing Accounts 21

Overview

When you create an account on the on-premise Integration Server, you specify the connection parameters that the on-premise Integration Server uses to access the Integration Cloud server for which you defined settings as described in "Specifying Settings" on page 12. Each account listens for requests from a specific stage on the Integration Cloud server. You can define as many accounts for each stage as is necessary for your needs and upload them to make them available to Integration Cloud.

You enable accounts on the on-premise Integration Server to allow them to serve any requests that originate from Integration Cloud. If an account is disabled on the on-premise Integration Server, any requests sent from Integration Cloud will time out depending on the amount of time specified in the **Time to Live** parameter. For more information about the **Time to Live** field, see "Creating Accounts on an On-Premise Integration Server " on page 17.

You can upload accounts in two ways: as part of an application or individually, separate from applications. In order to upload an account as part of an application, you must first create the account and then associate it to the application when you upload it to the Integration Cloud server as described in "Uploading Applications" on page 26.

You can upload accounts separately from applications in the event that you need to override the settings of a previously uploaded account. You might do this if you associate an account while uploading an application to the Integration Cloud server and later change the account details. This way, you can change the account details without having to upload the entire application.

Viewing the Accounts that Reside on the Server

The Accounts screen lists all of the Integration Cloud accounts that reside on your on-premise Integration Server. It also displays whether each account is enabled.

To view the accounts that reside on the on-premise Integration Server

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Accounts**.

   The Accounts screen displays the list of accounts that were created on the on-premise Integration Server. Integration Server Administrator displays the following information for each account.

Column	Description
Alias	The name of the account.

Column	Description
Description	Description of the account.
Stage	The Integration Cloud stage from which the on-premise Integration Server receives requests.
Last Uploaded Time	The last time the account was uploaded to Integration Cloud.
Upload	Displays one of the following icons to allow you to upload the account:

This icon...	Indicates that the account is...
	New or has been edited since the last time it was uploaded to Integration Cloud.
	Is synchronized with the account that has already been uploaded to Integration Cloud.

Test	Displays the ▶ icon to allow you to test the account.
Enabled	Indicates whether the account is enabled.
Delete	Displays the ✕ icon to allow you to delete the account from the on-premise Integration Server and Integration Cloud.

Creating Accounts on an On-Premise Integration Server

Perform the following procedure to create an account on an on-premise Integration Server.

To create an account

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Accounts**.
3. Click **Create On-Premise Account**.
4. Under **General Settings**, complete the fields as follows:

Field	Description
Alias Name	A unique name for the account.
Description	Description of the account.
Stage	The Integration Cloud stage from which the on-premise Integration Server receives requests. The list is populated by the stages defined on the Integration Cloud server.

5. Under **Account Settings**, complete the fields as follows:

Field	Description
Maximum Reconnection Attempts	Specify the maximum number of reconnection attempts that Integration Server should make if the connection to Integration Cloud fails. If the connection cannot be re-established, Integration Server writes messages to the error log and the account will be disabled. The default is 5 attempts.
Time to Live	Maximum amount of time (in milliseconds) that Integration Cloud waits for the on-premise Integration Server to process a request. If the on-premise Integration Server is not listening for a request or if it takes longer to process the request than the specified time, Integration Cloud issues an error. A value of 60000 (the default) indicates that requests expire in 1 minute.
Allowed On-Premise Hosts	(Optional.) The on-premise Integration Server might use multiple addresses, depending on which network or proxy it uses to access Integration Cloud. Specify a comma-separated list of IP addresses that can receive requests from Integration Cloud. Only those IP addresses specified can receive requests. If no value is specified, Integration Cloud derives the IP address of the on-premise Integration Server that uploads the account to Integration Cloud and allows only that IP address to receive requests from Integration Cloud.
Run As User	Specify the user name you want the on-premise Integration Server to use when running the service. Click 🔍 to search for and select the user. You can select users from the local or central directory. The on-premise Integration Server runs the service as if the user you specify is the authenticated user that invoked the

Field	Description
	service. If the service is governed by an ACL, be sure to specify a user that is allowed to invoke the service.

6. If you want to test the account, click **Test Account Settings**.

   Integration Server Administrator displays a status line that indicates whether the account is successful or not. The status line is displayed at the top of the screen.

7. Click **Save Changes**.

Uploading Accounts to the Integration Cloud Server

After an account is created, you upload it to the Integration Cloud server so it can be used to execute services on the on-premise Integration Server. If you change the account after it is uploaded to the Integration Cloud server, you must upload it again for the changes to become effective.

Note: If you want to upload the account as part of an application, use the procedure described in "Uploading Applications" on page 26.

To upload accounts to Integration Cloud

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Accounts**.
3. Click one of the following in the **Upload** column for the account you want to upload.

Click this icon...	If the account on the on-premise Integration Server is...
	New or has been edited since the last time it was uploaded to Integration Cloud. ■ For a new account, this icon indicates that the account has not been uploaded to Integration Cloud. ■ For an account that already exists on Integration Cloud, this icon indicates that the account on the on-premise Integration Server is not synchronized with the one on Integration Cloud.
	Synchronized with the account that has already been uploaded to Integration Cloud. **Note:**

When you upload the account, Integration Server Administrator:

- Displays a status line that indicates whether the account uploaded successfully. The status line is displayed at the top of the screen.
- Updates the **Last Uploaded Time** field to indicate the time that the account was uploaded and displays the icon to indicate that the account on the Integration Cloud is synchronized with the one on the on-premise Integration Server.

Testing Accounts

After you add an account, you can test the account settings to ensure that the account is valid. Use the following procedure to test the account.

To test the account

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Accounts**.
3. Click the icon in the **Test** column for the account you want to test.

   Integration Server Administrator displays a status line that indicates whether the account is valid. The status line is displayed at the top of the screen.

Enabling and Disabling Accounts

Integration Server does not enable accounts by default. After you create an account, you must manually enable the account before you can use it. When accounts are disabled, Integration Cloud cannot execute services on the on-premise Integration Server. After the account is enabled, Integration Server automatically establishes connectivity with Integration Cloud at startup and is ready to serve any requests originating from Integration Cloud.

Note: When an account is disabled, requests sent to the on-premise Integration Server remain in the queue until they are read or expire.

To enable or disable an account

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Accounts**.
3. Under the **Enabled** column of the **On-Premise Accounts** list, select one of the following:

Click...	To...
No	Enable a Integration Cloud account.

Click...	To...
Yes	Disable a Integration Cloud account.

Deleting On-Premise Accounts

When you no longer need an account, you can delete it. Deleting an account from the on-premise Integration Server also deletes the account from Integration Cloud.

Note: If the account is in use by any of the integration flows in Integration Cloud, the delete operation will fail.

To delete an on-premise account

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Accounts**.
3. Click the ✕ icon in the row that corresponds to the account you want to delete in the **Delete** column of the **On-Premise Accounts** list.
4. When Integration Server asks you to confirm that you want to delete the account, click **OK**.

Editing Accounts

After creating an account, you can edit the details. If you edit an account, you must upload the account for the changes to take effect on Integration Cloud.

To edit an account

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Accounts**.
3. Locate the account you want to edit and click on the name in the **Alias** column.
4. Update the information for the account.
5. Click **Save Changes**.
6. To upload the account, follow the procedure described in "Uploading Accounts to the Integration Cloud Server" on page 19.

4 Managing Applications

- About Sharing Metadata on an On-Premise Integration Server 24
- Viewing the Applications That Reside on your Server 25
- Defining Applications 25
- Uploading Applications 26
- Deleting Applications 28
- Editing Applications 28

About Sharing Metadata on an On-Premise Integration Server

You create applications on the on-premise Integration Server to share services with a Integration Cloud server. Keep the following points in mind while sharing services through an application:

- You can share only services running on the on-premise Integration Server configured to create applications on Integration Cloud.
- You can share only services contained in custom packages.
- You can share services from different packages in the same application. For example, if serviceA is located in packageA, and serviceB is located in packageB, you can add both serviceA and serviceB to the same application.
- You can share only services whose signatures are the following data types:
  - String
  - String List
  - Document
  - Document Reference
  - Document List
  - Document Reference List
- You can share only services that have an input or output signature specified.
- You cannot share service signatures that include:
  - Cyclical dependencies of document references.
  - Fields of type Object, Object List, or String Table in a Document.
  - An empty Document.
- You must configure one or more accounts to associate with the application before you can upload the application to Integration Cloud. For more information about configuring accounts, see "Configuring Accounts for Integration Cloud " on page 15.
- You must upload the application for the updates to be shared with Integration Cloud if you edit:
  - The application.
  - The signature or referenced Document of a service shared by the application.
- When you upload an application, it replaces the application and operations available on Integration Cloud with the one that you upload.

Viewing the Applications That Reside on your Server

The Applications screen lists all of the applications on the on-premise Integration Server that you can share with Integration Cloud.

To view the applications you can share with Integration Cloud from the on-premise Integration Server

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Applications**.

   The Applications screen displays the list of applications that were created on the on-premise Integration Server. Integration Server Administrator displays the following information for each application:

Column	Description
Name	Name of the application.
Description	Description of the application.
Last Uploaded Time	The last time the application was uploaded to Integration Cloud.
Upload	Displays one of the following icons to allow you to upload the application:

This icon...	Indicates that the application is...
	New or has been edited since the last time it was uploaded to Integration Cloud.
	Synchronized with the application that has already been uploaded to Integration Cloud.

Delete	Displays the ✕ icon to allow you to delete the application from the list and from Integration Cloud.

Defining Applications

Perform the following procedure to define applications to share with Integration Cloud.

To define an application to share with Integration Cloud

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Applications**.
3. Click **Define webMethods Cloud Application**.
4. Under **webMethods Cloud Applications**, complete the fields as follows:

Field	Description
Name	A unique name for the application. The application name cannot exceed 32 characters, contain reserved words and characters that are used in Java or C/C++ (such as *for*, *while*, and *if*), or the following illegal characters: "#-&@^!%*:$./\ \ `;,~+=)(|}{][><"
Description	Description of the application.

5. In the **Assign Services to Application** area, specify the services to expose to Integration Cloud as follows:
   a. Under **Package/Services**, click ⊞ to expand the services available in the package.
   b. Select each service you want to expose to Integration Cloud.
   c. Under **Display Name**, specify the name of the service as it should appear in Integration Cloud or accept the default.

      The **Display Name** field cannot contain reserved words and characters that are used in Java or C/C++ (such as *for*, *while*, and *if*) or the following illegal characters:

      "#-&@^!%*:$./\ \ `;,~+=)(\|}{][><"

      Note: Applications are displayed in Integration Cloud as *operations*. Operations are named according to the name defined by the **Display Name** field. For more information about operations in Integration Cloud, see *webMethods Integration Cloud Help*.
6. Click **Save Changes**.

Uploading Applications

After you define an application, you must upload it to the Integration Cloud server before using it in an integration flow.

To upload an application

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Applications**.
3. Click one of the following icons in the row that corresponds to the application you want to upload in the **Upload** column of the **webMethods Cloud Applications** list.

This icon...	Indicates that the application on the on-premise Integration Server is...
	New or has been edited since the last time it was uploaded to Integration Cloud. ■ For a new application, this icon indicates that the application has not been uploaded to Integration Cloud. ■ For an application that already exists on Integration Cloud, this icon indicates that the application on the on-premise Integration Server is not synchronized with the one on Integration Cloud.
	Synchronized with the application that has already been uploaded to Integration Cloud.

4. When the Upload Application page opens, from the **Select** column of the **Select Accounts** area, select one or more accounts to associate with the application.
5. Click **Upload**.
6. When Integration Server asks you to confirm that you want to upload the application, click **OK**.

   When you upload the application, the on-premise Integration Server:

   - Uploads the application to Integration Cloud, replacing the existing application.
   - Updates the **Last Uploaded Time** column of the Applications page to indicate that the application on Integration Cloud is synchronized with the one on the on-premise Integration Server.
   - Shares the service name, service signature, display name, and service comments with Integration Cloud.

   Note: If the application has been uploaded previously to Integration Cloud, uploading the application again overwrites the existing application.

Deleting Applications

When you no longer want to share applications with Integration Cloud, you can delete them. Deleting an application from the on-premise Integration Server also deletes the application and its corresponding operations from the Integration Cloud.

To delete an application

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Applications**.
3. Click the ✕ icon in the row that corresponds to the application you want to delete in the **Delete** column of the **webMethods Cloud Applications** list.
4. When Integration Server asks you to confirm that you want to delete the application, click **OK**.

Editing Applications

After creating an application, you can edit the application details. If you edit an application, you must upload the application for the changes to take effect on Integration Cloud.

To edit an application

1. Open the Integration Server Administrator if it is not already open.
2. In the **webMethods Cloud** menu of the Navigation panel, click **Applications**.
3. Locate the application you want to edit and click on the name in the **Name** column.
4. Update the information for the application.
5. Click **Save Changes**.

> **Note:** The updated application is not available for use on Integration Cloud until you upload it to Integration Cloud. Until then, Integration Cloud uses the last version of the application that you uploaded. To upload the application, follow the procedure described in "Uploading Applications" on page 26.