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webMethods SAP Adapter

Installation Guide

Version 6.5 Service Pack 1

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webMethods

Contents

Overview

This guide, in conjunction with the *webMethods Installation Guide*, explains how to install, upgrade, and uninstall webMethods SAP Adapter 6.5 SP1. If you are installing the adapter with webMethods Integration Server (prerequisite) or other webMethods products, see the *webMethods Installation Guide* for instructions on installing those products.

Requirements

For a list of the operating systems, SAP products, and webMethods products supported by SAP Adapter 6.5 SP1, see the *webMethods Adapter System Requirements*.

In general, SAP Adapter 6.5 SP1 has no hardware requirements beyond those of its host Integration Server. However, see the *webMethods SAP Adapter User's Guide* for a detailed discussion on determining hardware requirements for heavily used SAP Adapters.

Installing SAP Adapter 6.5 SP1

The instructions in this section are meant to be used with the more complete instructions in the *webMethods Installation Guide*. The instructions explain how to use the webMethods Installer wizard. However, to install the adapter on AS/400, you must use the installer's console mode, described in the *webMethods Installation Guide*.

> **Note:** If you are installing the adapter in a clustered environment, you must install it on each Integration Server in the cluster, and each installation must be identical. For more information about working with the adapter in a clustered environment, see the *webMethods SAP Adapter User's Guide*.

▶ **To install SAP Adapter 6.5 SP1**

1. Download the webMethods Installer from the webMethods Advantage Web site.

2. If you are installing the adapter on an existing Integration Server, shut down the Integration Server.

3. Start the webMethods Installer wizard.

   ■ Choose the webMethods release that includes the Integration Server on which to install the adapter. For example, if you want to install the adapter on Integration Server 7.1, choose the 7.1 release.

   ■ 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. The installer will install the adapter in the *IntegrationServer_directory*\packages directory.

   ■ In the product selection list, select **Adapters** > **webMethods SAP Adapter 6.5** > **Service Pack 1**. You can also choose to install documentation. If you are installing on a machine that hosts Developer, also select **Developer** > **Plug-in for SAP Adapter**.

4. In order to manage RFC trace files from the Integration Server Administrator, you must store the RFC trace files in the *IntegrationServer_directory*\packages\ WmSAP\logs directory. Specify the directory as follows:

System	Steps
Windows	In the server.bat file, after `SET IS_DIR`, add this line: `SET RFC_TRACE_DIR=%IS_DIR%\packages\WmSAP\logs`

UNIX	In the server.sh file, after defining `IS_DIR`, add these lines:
	 `RFC_TRACE_DIR=${IS_DIR}/packages/WmSAP/logs`
	 `export RFC_TRACE_DIR`

5. Integration Server requires access to some SAP libraries. Place these libraries in the server's classpath as described below.

   a. Download the latest 2.1.x version of the following archive files from the Connectors section of the SAP Service Marketplace:

Archive Files	Download from...
sapjco-*platform*-*.*	Connectors > SAP Java Connector > Tools and Services > Download SAP JCo Release 2.1.*

   ⚠ **Important!** Use only version 2.1.x files. Compatibility with new major releases of these files is not guaranteed

b Download the latest 1.0.x version of the following archive files from the Connectors section of the SAP Service Marketplace:

Archive Files	Download from...
sapidoc-*.*	Connectors > SAP Java Connector > Tools & Services > SAP Java IDoc Class Library > Download SAP Java IDoc Class Library 1.0.* > SAP Java Base IDoc Class Library
sapidocjco-*.*	Connectors > SAP Java Connector > Tools & Services > SAP Java IDoc Class Library > Download SAP Java IDoc Class Library 1.0.* > SAP Java Connector IDoc Class Library

c Extract libraries from the archive files into the directories specified below:

From this zip file...	Extract this file...	To this directory...
sapjco-*platform*-*.*	librfc*.*	*IntegrationServer_directory*\lib\
	sapjcorfc.	
	sapjco.jar	*IntegrationServer_directory*\packages\ WmSAP\code\jars\static\
sapidoc-*.*	sapidoc.jar	
sapidocjco-*.*	sapidocjco.jar	

d For UNIX installations, set the paths for the environment variables listed below to *jcolib_install_path*:

On...	Set this environment variable...
Linux	LD_LIBRARY_PATH
Solaris	LD_LIBRARY_PATH
IBM AIX	LIBPATH
HP-UX	SHLIB_PATH

If older versions of the native libraries are in the path, remove them.

6 Start the host Integration Server.

7 If you are running Integration Server as a service, run register dll command to start the SAP Adapter. For information on installing Microsoft DLLs, see SAP note 0000684106.

8 If Developer is installed on another machine, run the installer again, and choose to install Developer > Plug-in for SAP Adapter.

⚠ **Important!** If you installed the SAP Adapter on a Windows machine running SAP 6.40, the SAP Adapter might not appear in the Adapters list in Integration Server. This behavior occurs because as of SAP release 6.40, SAP uses the Visual Studio.NET 2003 Compiler for x86 Windows (32 bit). Required dynamic link libraries (DLLs) are usually installed with SAPinst during the installation. However, if you only use individual programs from SAP 6.40 or higher, the required DLLs might be missing from your system. See the resolution as described in SAP note 0000684106. You can find the complete SAP notes at http://service.sap.com/notes.

Upgrading to SAP Adapter 6.5 SP1

SAP Adapter 6.5 SP1 is compatible with SAP Adapter 4.6 at the public API level, and is also compatible with most of the integrations built using SAP Adapter 4.6.

However, you must migrate the SAP Server parameters, the inbound and outbound maps created using earlier versions of the SAP Adapter, and the WmPartners routing rules used in conjunction with the SAP Adapter. You cannot use SAP Adapter 6.5 SP1 to run the inbound maps, outbound maps, and the routing rules generated for the earlier SAP Adapters, or vice versa. You can manually upgrade the integrations built using SAP Adapter 4.6 to SAP Adapter 6.5 SP1 or you can use use the migration utilities of SAP Adapter 6.5 SP1 to migrate automatically. For more information, see "Manual Upgrade" on page 7 and "Automatic Upgrade" on page 12.

Compatibility Considerations

Please read the following compatibility considerations before upgrading:

■ SAP Adapter 6.5 is compatible with SAP Adapter 4.6 on the "Public Service API"; therefore, no action is required for public APIs.

   📄 **Note:** In relation to encoding/decoding IDocs, this is done in one step and there is no need to call pub.sap.idoc:encodeSDATA or pub.sap.idoc:decodeSDATA services along with the encoding/decoding services.

■ SAP Adapter 6.5 is compatible with SAP Adapter 4.6 on the Java Doc API. However the old Java IDoc API is deprecated and has been replaced. The new enhanced Java IDoc API provides easier access to IDocs at the Java level. For information about the manual steps needed, see "Java IDoc API" on page 7.

■ SAP servers are replaced by RFC connections. For information about the manual steps needed, see "SAP Servers" on page 7.

■ SAP server listeners are replaced by RFC listeners. For information about the manual steps needed, see "SAP Server Listeners" on page 8.

■ RFC outbound maps are replaced by RFC adapter services. For information about the manual steps needed, see "RFC Outbound Maps" on page 8.

- RFC inbound maps are replaced by synchronous RFC listener notifications. For information about the manual steps needed, see "RFC Inbound Maps" on page 9.

- Content based routing and mapping configuration is compatible between the both versions. For information about the manual steps needed, see "Content Based Routing and Mapping Configuration" on page 10.

- WmPartners is no longer supported because SAP Adapter 6.5 implements its own transaction store and routing engine:

  - You do not need to migrate an SAP Adapter 4.6 WmPartners transaction store into an SAP Adapter 6.5 transaction store; therefore, no action is required.

  - Routing rules are replaced by routing notifications.

  - Routing rules priority is replaced by Notification Order setup.

  For information about the manual steps needed, see "WmPartners" on page 10.

Manual Upgrade

The following manual migration instructions address each of the compatibility considerations in section "Compatibility Considerations", above. In general, SAP Adapter 4.6 constructs need to be transformed into SAP Adapter 6.5 namespace nodes. To do so, gather the configuration details from your 4.6 installation and then use this information to create the corresponding 6.5 constructs using the SAP Adapter Administrator UI or Developer.

Public Service API

No action is required for public APIs.

Java IDoc API

Software AG suggests that you replace any usage of the classes from Java package com.wm.pkg.sap.idoc in your custom application code with the corresponding classes from package com.wm.adapter.sap.idoc. For more information about these classes, see the webMethods SAP Adapter IDoc Java API which is available on the SAP Adapter 6.5 home page.

SAP Servers

With SAP Adapter 4.6, all RFC client connections from the adapter to the SAP system were defined in the SAP Adapter Administrator UI page SAP ▶ SAP Servers and persisted in the file *IntegrationServer_directory*/packages/SAP/config/sap.cnf. From this page, gather the configuration parameters and define your 6.5 RFC connections accordingly.

▶ **To configure new RFC connections in SAP Adapter 6.5**

1   In the **Adapters** menu in the Integration Server Administrator navigation area, click **SAP Adapter**.

2   On the **Connections** screen, click **Configure New Connection**.

3   On the **Connection Type** screen, click **RFC Connection**.

4   Provide the information requested. For descriptions of each field, see the *webMethods SAP Adapter User's Guide*.

⚠ **Important!** For the Connection Alias field, specify the same name as the original SAP Server.

SAP Server Listeners

With SAP Adapter 4.6, all RFC server instances that could be used to receive data from an SAP system were defined in the SAP Adapter Administrator UI page **SAP ▶ SAP Servers ▶ SAP Listeners for %serverName%** and persisted in the file *IntegrationServer_directory*/packages/SAP/config/sap.cnf. From this page, gather the configuration parameters and define your 6.5 RFC listeners accordingly.

▶ **To configure new RFC listeners in SAP Adapter 6.5**

1   In the **Adapters** menu in the Integration Server Administrator navigation area, click **SAP Adapter**.

2   In the SAP Adapter menu, click **Listeners**.

3   Select **Configure new listener** and then select **RFC listener** from the list of available listener types.

4   Provide the information requested. For descriptions of each field, see the *webMethods SAP Adapter User's Guide*.

RFC Outbound Maps

SAP Adapter 4.6 RFC outbound maps were persisted as namespace nodes and also defined in file *IntegrationServer_directory*/packages/SAP/config/sap.cnf. Using the SAP Adapter 4.6 Administrator UI, you can see a list of outbound maps (together with the inbound maps) at **SAP ▶ SAP Servers ▶ RFC Function Maps for %serverName%**. From this page, gather the Function Module names and then define your 6.5 RFC adapter services accordingly.

Note: Before migrating outbound maps you need to synchronize the map namespace nodes with the definitions as persisted in file *IntegrationServer_directory*/packages/SAP/config/sap.cnf. You do so from the SAP Adapter 4.6 Administrator UI at SAP ▶ SAP Servers ▶ RFC Function Maps for %serverName% by clicking Find Maps for %serverName%, selecting all found maps, and then clicking Add.

▶ To configure RFC adapter services in SAP Adapter 6.5

1   Start Developer.

2   For each outbound RFC, create a new adapter service:

   a   Select New ▶ Adapter Service. Click Next.

   b   Select SAP Adapter from the list of available adapter types. Click Next.

   c   Select the connection name that matches %serverName% as defined in section "SAP Servers", above. Click Next.

   d   From the list of available templates, select RFC Adapter Service. Click Next.

   e   Enter a name and select a folder where the RFC adapter service should be stored. Click Finish.

   f   On the Function Search tab, for the Function Name field, select the same RFC name you have taken from your 4.6 outbound map definitions.

      Note: If you have added modifications or extra logic to the outbound map service, these modifications cannot be directly added to the new adapter service.

   g   Click Save on the Developer.

RFC Inbound Maps

SAP Adapter 4.6 RFC inbound maps were persisted as namespace nodes (sap.inbound.*) and also defined in file *IntegrationServer_directory*/packages/SAP/config/sap.cnf. Using the SAP Adapter 4.6 Administrator UI, you can see a list of inbound maps (together with the outbound maps) at SAP ▶ SAP Servers ▶ RFC Function Maps for %serverName%. From this page, gather the Function Module names as well as the name of the service to invoke assigned to each RFC and then define your 6.5 RFC adapter notifications accordingly.

Note: Before migrating inbound maps you need to synchronize the map namespace nodes with the definitions as persisted in file *IntegrationServer_directory*/packages/SAP/config/sap.cnf. You do so from the SAP Adapter 4.6 Administrator UI at SAP ▶ SAP Servers ▶ RFC Function Maps for % serverName% by clicking Find Maps for % serverName%, selecting all found maps, and then clicking Add.

▶ **To configure RFC adapter notifications in SAP Adapter 6.5**

1   Start Developer.

2   For each inbound RFC, create a new adapter notification:

   a   Select New ▸ Adapter Notification. Click Next.

   b   Select SAP Adapter from the list of available adapter types. Click Next.

   c   Select RFC Listener Notification (synchronous) from the templat. Click Next.

   d   Select the Notification Listener Name that matches the corresponding Program ID as defined in section "SAP Server Listeners", above. Click Next.

   e   Type a unique name for the listener notification and select the appropriate folder. Click Next.

   f   Select a service to invoke. Click Next.

   g   Click Finish.

   h   On the Function Search tab, for the Function Name field, select the same RFC name you have taken from your 4.6 inbound map definitions.

      📄 Note: If you have added modifications or extra logic to the inbound map service sap.inbound.*, you must migrate these modifications manually to the processing service of the new adapter notification.

   i   Click Save on the Developer.

Content Based Routing and Mapping Configuration

Copy file cbr.cnf from the 4.6 directory *IntegrationServer_directory*/packages/SAP/config/ to the 6.5 directory *IntegrationServer_directory*/packages/WmSAP/config/.

WmPartners

Converting Routing Rules to Routing Notifications: SAP Adapter 4.6 routing rules were persisted as namespace nodes and also defined in file *IntegrationServer_directory*/packages/WmPartners/config/gateway.cnf. Using the 4.6 Administrator UI, you can see a list of routing rules at Routing ▸ Routing Rules. From this page, gather the Sender, Receiver, Message Type, and Transport values as well as any transport specific information and then define your 6.5 routing notifications accordingly.

▶ **To configure routing notifications in SAP Adapter 6.5**

1 Start Developer.

2 For each routing rule, create a new adapter routing notification:

    a Select New ▸ Adapter Notification. Click Next.

    b Select SAP Adapter from the list of available adapter types. Click Next.

    c From the list of available templates, select Routing Notification. Click Next.

    d Select the routing listener wm.sap.internal.ls:routingListener. Click Next.

    e Enter a name and select a folder where the routing notification should be stored. Click Next.

    f Select the service that should be invoked by this routing notification. Click Next and then click Finish.

        📄 Note: The service selected on the New Adapter Notification wizard will be relevant only for routing notifications that have transport IS assigned. For all other transports, select any dummy service.

    g Type in values for fields Sender, Receiver, and Message Type as taken from your 4.6 routing rule definitions to assign the routing notification for corresponding inbound messages.

    h For the Transport, select the one defined for the 4.6 routing rule.

        ⚠️ Important! SAP Adapter 6.5 does not support the same set of transports as defined with WmPartners. As a workaround you can select Integration Server as the transport in your routing notification and then code the assigned service to match your needs. For example, to transport data over FTP, the assigned service would contain public service pub.client:ftp as one invoke step plus additional mapping steps to map the values to the correct fields.

Setting the Notification Order: WmPartners 4.6 routing rules priority was persisted in file packages/WmPartners/config/RoutingRulePriorityTemplate.cnf. With SAP Adapter 6.5 there is no global template that defines the precedence of routing notification execution. Instead you can change the notification order on the routing listener level for all existing routing notifications.

▶ **To change the notification order for the routing listener in SAP Adapter 6.5**

1 In the Adapters menu in the navigation area of the administrator, click SAP Adapter.

2 In the SAP Adapter menu, click Listeners.

3 Select the routing listener (wm.sap.internal.ls:routingListener) and change the State to Disabled.

4   Click the **Edit** icon for the routing listener.

5   On the Edit Listener screen, click **Edit Notification Order**.

6   On the **Edit Notification Order** screen, use the **Up** and **Down** buttons to determine the processing order in which the SAP Adapter invokes the notifications.

7   Click **Save Changes**.

8   Click **Return to Edit Listeners**.

9   Click **Return to SAP Adapter Listeners**.

10   Change the State of the routing listener to **Enabled**.

Automatic Upgrade

The "Manual Upgrade" section provides step by step instructions to migrate your existing SAP Adapter 4.6 based application packages to be compatible with the SAP Adapter version 6.5. This approach is easy to accomplish when only a small set of SAP Adapter 4.6 constructs (for example, inbound maps) are defined. However most of the migration steps can be automated.

▶ **To automatically upgrade to SAP Adapter 6.5**

1   In the Integration Server Administrator navigation area, click **Management**.

2   In the Management page, click the **Home** icon adjacent to **WmSAP** Package Name. A new webMethods SAP Adapter 6.5 page is displayed.

3   Click **Migrate your SAP Adapter 4.6 setup to SAP Adapter version 6.5.**

Follow the instructions on the **Migrate your SAP Adapter 4.6 setup to SAP Adapter version 6.5** page to automatically migrate your SAP Adapter 4.6 setup for use with SAP Adapter 6.5.

Uninstalling SAP Adapter 6.5 SP1

The instructions in this section are meant to be used with the uninstallation instructions in the *webMethods Installation Guide*.

▶ **To uninstall SAP Adapter 6.5 SP1**

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   The webMethods Uninstaller will not delete any user-defined SAP Adapter 6.5 SP1 components such as connections, adapter services, or adapter notifications. Because these components will not work without the adapter, delete them manually, either at

the file system level or using Developer. For instructions, see the *webMethods Developer User's Guide*.

3 Start the webMethods Uninstaller, selecting the webMethods installation directory that contains the host Integration Server. In the product selection list, select **Adapters > webMethods SAP Adapter 6.5**. You can also choose to uninstall documentation.

4 Restart the host Integration Server.

5 The uninstaller removes all SAP Adapter 6.5 SP1-related files that were installed. However, the uninstaller does not delete files created after you installed the adapter (for example, jar files copied into *IntegrationServer_directory*\packages\WmSAP\ code\jars\static\ or configuration files), nor does it delete the adapter directory structure. You can go to the *IntegrationServer_directory*\packages directory and delete the WmSAP directory.

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