

Gentran Integration Suite™

Managing Services and Adapters

Version 4.3

Sterling Commerce
An IBM Company

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Managing Services and Adapters – Quick Start

In Application, *resources* are files, templates, and documents that are deployed in Application to perform various actions. A *service* is a Application resource that you can configure to carry out an activity in Application. For example, the Translation service translates data. Services that communicate with external systems to move data in and out of Application are called *adapters*. For example, the BEA Tuxedo adapter, WebSphere MQ adapter, and the SAP Suite adapter are each used to communicate with a system external to Application.

Overview of Implementing Services or Adapters

The following process lists the general tasks that you must perform to implement a service or adapter. However, because each service is different, you should always read the documentation specific to that service to learn about any unique requirements it may have.

1. Activate your Application license file, if required, from the Sterling Commerce Self-Service Licensing Web site at www.productupdates.stercomm.com.
2. Obtain and install required third-party .jar files or drivers, if applicable. For information, see the documentation for that service.
3. If necessary, create a new configuration of the service. See *Creating a Service Configuration*.
4. If necessary, enable the service configuration. See *Enabling and Disabling a Service Configuration*.
5. If you are using the service configuration as a part of a business process, complete the following:
 - ◆ Use the GPM to create the business process.
 - ◆ Check in and enable the business process.
 - ◆ Test the business process, including the service configuration, by running it.
 - ◆ After testing the business process, set it up to run on a schedule or run it as needed, according to your business requirements.

Creating a Service Configuration

In some cases, you must create a configuration of the service you want to use. You can create many configurations from one service type.

Note: If you are using a MySQL database, do not create service configurations whose names begin with an accented character.

You can save your configuration at any point in the configuration process by clicking **Save**. You can then return to it later.

To create a service configuration:

1. From the **Deployment** menu, select **Services > Configuration**.
2. In the Services Configuration page, next to **Create New Service**, click **Go!**

3. Use the Tree View or List View to locate and select a service to configure, or type the full name of the service in the Service Type field. Click **Next**.
4. Type a unique and meaningful name and description for your configuration in the appropriate fields and click **Next**.
5. Select or create a service group for this service configuration, as needed. Selections are:
 - ◆ None – You do not want to include this configuration in a group at this time.
 - ◆ Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration.
 - ◆ Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.

For more information, see *Using Service Groups*.

6. Complete the fields specific to the service. See the documentation for a specific service for more information.
7. To enable this configuration for business processes, verify that **Enable for Business Processes** is selected.
8. In the Confirm page, verify the information about the service configuration you created, and then click **Finish** to add it to Application.
9. To determine if additional configuration is necessary, see the documentation for the specific service. You may need to specify additional parameters for some services using the Service Editor in the GPM.

Enabling and Disabling a Service Configuration

When necessary for business processes, you can enable and disable service configurations. Business processes can use enabled service configurations only. When you disable a service configuration, it is not available for business processes. For example, you may need to disable a service configuration when you are testing it before making it available for use in a business process. Or you may need to disable a service configuration when you are preparing to delete it.

Note: Business processes that attempt to execute a disabled service configuration will halt at that step.

To enable or disable a service configuration from the Deployment menu:

1. From the **Deployment** menu, select **Services > Configuration**.
2. Under **Search**, in the **Service Name** field, type the name of the configuration you want to enable or disable and click **Go!**
3. From the list of service configurations, complete one of the following steps:
 - ◆ To enable, next to the configuration, select **Enabled**.
 - ◆ To disable, next to the configuration, clear the check mark from **Enabled**.

Note: If you re-enable a service configuration that uses a schedule, you must re-enable the schedule as well. Use the Deployment > Schedules menu.

Adapter configurations can also be enabled and disabled from the Operations > System > Troubleshooter menu.

Using Service Groups

In Application, you can create groups of service configurations. A group can only contain service configurations of one service type. A *service group* is a set of service configurations of the same service type that can act as peers (can be configured to perform the same activity in the same setting). In some situations, using a service group instead of a single service configuration can be an effective way to do load balancing and failover processing. For example, you might have many trading partners submitting data that gets collected by a File System adapter on your Application system. Because this might cause a bottleneck when processing the incoming data, you could create a group of File System adapters and use the group in your business process, instead of just one File System adapter. As a result, Application can balance the incoming data load across all the File System adapters in the group. This can reduce wait times, free up system resources, and provide failover capability – if one File System adapter fails, the other File System adapters in the group can still process requests.

Here are some important concepts about service groups:

- ◆ A service group can include only one service type. For example, a group can contain multiple configurations of the HTTP Server adapter, but cannot contain an HTTP Server adapter configuration and an FTP Server adapter configuration.
- ◆ Groups do not exist as actual entities in the system; groups are only stored as parameters in service configurations.
- ◆ The only way to create or edit a group is by creating or editing a service configuration.
- ◆ A service group cannot have the same name as an individual service or as another group, even if the group is for a different service type.
- ◆ To remove a service group from Application, simply remove all the service configurations from the group. Also, if you delete all the service configurations that are part of the group, the group no longer exists.
- ◆ Once a group no longer exists, you can reuse its name for a new service configuration or group.
- ◆ When writing BPML, to use a service group, refer to it in the same way that you would an individual service configuration. For example, if you had a service group named MyHTTPServers, you could use the statement `<participant name="MyHTTPServers"/>` in a business process.
- ◆ In the GPM, you can see and select service groups from the config list, the same way that you would select one individual service configuration.

Note: In the config list, service groups are not distinguished from individual service configurations.

About Services

When you install Application, a definition of each service is included. These definitions are referred to as *service types*. To use a service type in Application, there must be a *service configuration* for it. A service configuration is an instance of a particular service type. Service configurations are what Application actually uses to perform activities.

You use service configurations to perform various activities in Application, such as translating data, receiving data from another application, or tracking specific information like a Sender ID through the various stages of a business process. You can view the list of installed services from two locations on the Admin Console Deployment menu:

- ◆ **Deployment > Services > Installation/Setup**
- ◆ **Deployment > Services > Configuration**

Service Types with Predefined Configurations

Some service types come with a predefined service configuration that is ready to use. This is true for the internal and system services that are used in Application to perform system performance, monitoring, and maintenance tasks. These service configurations are installed with Application, because they must be in place and ready to perform functions the first time you start your Application system.

Sometimes, service configurations are provided because it is recommended that you use them rather than creating your own. You never need to create any other configurations for these service types—the ones provided are designed to be used in multiple business processes. One example is the set of FTP Client services. One configuration of each is provided with Application. Each service performs a particular FTP function, such as PUT, GET, or LIST. You include the services in business processes to use them. These services work with an FTP Client adapter, which performs the actual communication with a remote FTP server (an FTP server outside Application).

For example, say that every day at 5pm, your Accounts Receivable system generates the invoices for a specific trading partner. You need to send these documents to the trading partner using FTP. You would:

1. Create a configuration of the FTP Client adapter and configure it to communicate with that specific trading partner. The role of the adapter is to make the connection to the remote FTP server and pass commands and data between your system and the remote server. The services (as part of a business process) determine when the session begins and ends; which commands are issued as part of the session; and specifies what data is passed and its location, both on your system and the remote system.
2. Create a business process that performs the necessary tasks: start the session and log onto the FTP server, go to the correct directory on the server, place the invoice documents in a that directory, and log off and end the session. This business process might include the following FTP Client services:
 - ◆ FTP Client Begin Session service: when the documents are placed in a specific location on your system, the FTP Client Begin Session service starts the FTP session.
 - ◆ FTP Client CD service: once the session has started, changes to the correct directory on the trading partner's FTP server.
 - ◆ FTP Client PUT service: places the invoice documents in the specified directory.

- ◆ **FTP Client End Session service:** once the tasks defined for this session are complete, this service ends the session.

Service Types without Predefined Configurations

Some service types do not come with predefined service configurations. To use these service types, you must create at least one service configuration. To see whether a particular service type has service configurations that were installed with Application, complete the following steps after starting Application for the first time:

1. From the Admin Console, select **Deployment > Services > Configuration**.
2. Under List, select the service type you want to view from the **By Service Type** list, then click **Go!**
All configurations that exist for the service type are displayed (possibly in multiple pages). Click the name of any service configuration to see its settings, which will be displayed in a separate window.
If you complete this procedure after your company has started using Application and others have access to the system, all configurations for the service type, whether installed with Application or created after installation, are displayed. No naming convention or flag exists to differentiate configurations that were installed with Application from those you create after installation.

Guidelines for Using Services

Here are some other important concepts about services:

- ◆ One service type can have many service configurations.
- ◆ Each service configuration must have a unique name, because other Application components and programs identify service configurations by name.
- ◆ Multiple business processes can use one service configuration.
- ◆ You can create groups of service configurations (of the same service type). Service groups are used like service configurations in Application, but give you the advantage of being able to balance data loads more effectively by using several services of the same type to handle a particular task, rather than a single service. For more information about service groups, see *Using Service Groups*.
- ◆ For a service type to be displayed on a stencil in the GPM, a service configuration must exist for it. So, if a service configuration was not included with Application for a service type you need to use, you must create one.

About Adapters: Services that Connect With Other Applications

An *adapter* is a service that communicates with external systems to move data in and out of Application. Because adapters are services, each has an *adapter type*. An *adapter type* is the definition of an adapter. To use an adapter type, there must be an *adapter configuration*, which is an instance of a particular adapter type.

Guidelines for Using Adapters

Here are some important concepts about adapters:

- ◆ One adapter type can have many adapter configurations.
- ◆ Each adapter configuration must have a unique name, because other Application components and programs identify adapter configurations by name.
- ◆ Multiple business processes can use one adapter configuration.
- ◆ You can create groups of adapter configurations (of the same adapter type). Adapter groups are used in the same way as adapter configurations, but can help with load balancing and failover processing. For more information about service groups, see *Using Service Groups*.
- ◆ Adapters and business processes have a “many-to-many” relationship. Multiple business processes can use one adapter configuration, and multiple adapters can start one business process.
- ◆ Including an input adapter as the first step in a business process is discouraged because it reduces the many-to-many relationship and keeps the business process from being reused as a subprocess. Instead, configure the adapter to start the business process.

Multi-Service Adapters

Some adapters work with a group of related services; for example, the FTP Client adapter works with the FTP Client services. These adapters are not used within business processes themselves; their services are used in the business process and communicate with the adapter, which then sends data to and receives data from a system outside Application.

Bootstrap Adapters

Some Application adapters can dynamically select and run business processes. These are known as *bootstrap* adapters. Examples are the File System adapter, Command Line Adapter 2, and FTP Client adapter.

Many bootstrap adapters have a configuration parameter that enables you to change the document storage setting from the system default. You can select from the following options:

- ◆ File System – Stores documents on the file system. This is controlled by the `document_dir` setting in `jdbc.properties`. You might want to consider using this option if you are configuring one of the Server adapters (HTTP Server adapter, FTP Server adapter, Connect:Direct Server adapter) or the File System adapter. Before selecting this option, consider the following:

- ◆ If you choose to store documents on disk, you must perform certain system tasks manually for the documents, such as archiving.
- ◆ For a clustered environment, the document directory must be available using the same path on all nodes of the cluster.
- ◆ Database – Stores documents in the database. If the documents are very large, it can ultimately slow down the system by overburdening the database. This is the best method to use if the service will generate smaller files.
- ◆ Default – Uses the default storage method for this system. The default is controlled by the `defaultDocumentStorageType` setting in the `jdbc.properties` file. The standard default is Database.

Third-Party Adapters

For some adapters used with third-party software, you must install specific .jar files or drivers before you can use the adapter with Application. These third-party .jar files are available from the applicable third-party software vendors. Often, you can download the files from the vendor's Web site. If an adapter requires any third-party files, the specific information about the files is included in the documentation for that adapter. Adapters that may require third-party .jar files or drivers include:

- ◆ BEA Tuxedo adapters
- ◆ Instant Messaging Adapter Suite
- ◆ Adapter for PeopleSoft CRM CIC
- ◆ WebSphere MQ adapter
- ◆ SAP Suite adapter
- ◆ Script adapter

To install a third party .jar file:

1. Copy the .jar file to a directory on the host computer where Application is installed. Record the path and name of the directory.
2. Shut down Application if it is running.

3. Install the .jar file by running the install3rdParty script located in the *installdir/bin* directory. You can access the following instructions for using the command by typing in “install3rdParty” at the command line:

```
Usage: ./install3rdParty.sh vendorName vendorVersion <-j | -l | -p | -r |
-d > filelist [-nodeploy]
```

using:

```
-j for jar/zip files
-l for shared libraries
-p for properties files
-r for resource properties files
-d for database jar/zip files
```

```
./install3rdParty.sh ibm_sap 3_5 -j /usr/local/lib/sap/*.jar
./install3rdParty.sh ibm_sap 3_5 -j /usr/local/lib/sap/infobus.jar
./install3rdParty.sh oracle 1_2 -d /usr/local/lib/jar/*.jar
./install3rdParty.sh oracle 1_2 -d /usr/local/lib/jar/classes12.zip
./install3rdParty.sh ibm_sap 3_5 -j /usr/local/lib/sap/infobus.jar
./install3rdParty.sh ibm_sap 3_5 -l /usr/local/lib/sap/*.so
./install3rdParty.sh ibm_sap 3_5 -l
/usr/local/lib/sap/libivjsid35.so
./install3rdParty.sh ibm_sap 3_5 -p /usr/local/lib/sap/*.properties
./install3rdParty.sh ibm_sap 3_5 -p
/usr/local/lib/sap/some.properties
./install3rdParty.sh mqseris 2_0 -r
/usr/local/lib/mqs/service.properties
```

4. Restart Application. You can now use this adapter.

Copying, Deleting, Editing, or Finding Services and Adapters

Copying a Service Configuration

You can copy an existing service configuration to create a service configuration with slightly different settings. Copying is especially helpful when you want to create several configurations for one service, and you want to duplicate some configuration settings without doing a lot of manual entry.

The settings you specify for the new (copied) service configuration do not affect existing configurations. When you create a new configuration from a copy, give the configuration a unique, meaningful name to differentiate it from existing ones. For example, you have a Command Line Adapter 2 configuration called RunBatchFile1. You need to create another configuration that will be used for running a different command line file. You have determined that most of the settings will be the same as those for RunBatchFile1, so the fastest way to create the new configuration is to copy RunBatchFile1 and edit only the settings that need to be different for your new configuration.

To copy a service configuration and create a new configuration:

1. From the Admin Console **Deployment** menu, select **Services > Configuration**.
2. Under List, select the service configuration you want to copy from the **by Service Type** list and click **Go!**
3. From the list of configurations, click **Copy** next to the configuration that you want to copy.
4. Make any necessary changes to the name or description and click **Next**. Continue this process until you reach the Confirm page.

Each service configuration must have a unique and meaningful name because service configurations are identified by name.

5. To enable this configuration for business processes, verify that **Enable for Business Processes** is selected.
6. In the Confirm page, verify the information about the configuration you copied, and then click **Finish**.

Deleting a Service Configuration

In Application, you can delete individual service configurations (except system service configurations). Some reasons you might delete a configuration are:

- ◆ Reduce the number of pages of service and adapter configurations displayed.
- ◆ Reuse resource names (and allow the service type to be changed).

Here are some important concepts about deleting service configurations:

- ◆ Only user accounts that have SII_DELETE and BPMANAGE permissions can delete configurations.
- ◆ You cannot delete a service type or a system service configuration.
- ◆ Deletion of a service configuration is permanent and cannot be restored.
- ◆ If the service configuration runs on a schedule, the schedule is deleted with the service configuration.

- ◆ When a user account is required by a service configuration (for example, to access a mailbox), and that user account is deleted, the service configuration will not run and generates an error message.
- ◆ After you confirm that you want to delete a service configuration, Application deletes it and creates a log entry that contains the name of the service configuration, date and time of deletion, and the user account who performed the deletion.
- ◆ After a service configuration has been deleted, you can reuse the name.

Before you delete a service configuration, you must complete the following tasks:

- ◆ Use the Export Resources function to save a copy of the service configuration to offline storage.
- ◆ Disable the service configuration (enabled services cannot be deleted).
- ◆ Identify any uses of that service configuration prior to deleting it. Depending on the service type, the configuration may be used by one or more business processes; it may initiate a business process; or it may run independently – for example, a File System adapter configuration can run without being part of a business process.
- ◆ Change any business process that uses this configuration to use a different one. A business process that contains a deleted service configuration will fail when run.

To delete a service configuration:

1. From the **Deployment** menu, select **Services > Configuration**.
2. Under List, select the service type of the service configuration you want to delete from the **by Service Type** list and click **Go!** Application displays a list of service configurations for that service type.
3. From the list of service configurations, click **Delete** next to the service configuration that you want to delete. Application displays a warning message.
4. Verify that you want to delete this service configuration and click **OK**.
5. Application displays a Resource Summary, which includes the service type, name and description for this service configuration. Verify that the information shown is for the service configuration that you want deleted and click **Next**.
6. Application displays a Confirm page, reminds you that this action cannot be reversed. Verify that you have backed up the service configuration, and that the information shown is for the service configuration you want to delete. When ready to delete the service configuration, click **Delete** to remove the service configuration.

Editing a Service Configuration

You can edit the settings of a service configuration before or after including the configuration in a business process. You also can edit a service configuration while business processes that use it are running. Business processes that use the service configuration you are editing finish processing with the previous configuration.

All business processes that start after the edited configuration is saved use the edited configuration.

To edit a service configuration:

1. From the **Deployment** menu, select **Services > Configuration**.

2. Under **Search**, type the name of the configuration you want to edit in the **Service Name** field and click **Go!**
3. From the list of service and adapter configurations, click **Edit** next to the configuration you want to update.
4. Make any necessary changes to the name or description and click **Next**. Continue this process until you reach the Confirm page.
5. To enable this configuration for business processes, verify the **Enable for Business Processes** is selected.
6. In the Confirm page, verify the information about the configuration, and then click **Finish** to update your changes.

Finding and Determining Which Service Types Are Installed



To determine which service types are installed with Application:


1. From the **Deployment** menu, select **Services > Installation/Setup**.
2. In the Services Installation/Setup page, you can view service types in several ways:
 - ◆ If you know all or any part of a service name, type the name in the Service Type field, and then click **Go!** All services that include the text you typed in the field are displayed.
 - ◆ If you do not know the name of the service type you are searching for, under List Alphabetically, select **ALL**, and then click **Go!** All service and adapter types that are installed display on multiple pages.
 - ◆ If you know the first alphanumeric character of the service type name, under List Alphabetically, select the first character, and then click **Go!**
3. In the Services Installation/Setup page, click **edit** next to service type, and then complete the fields, as necessary.

Finding and Selecting a Service

When you create or edit a service configuration in the Admin Console, you must select the name of the service to work with. There are three ways to select a service.

From the Admin Console, select **Deployment > Services > Configuration**. From the Select Service Type page, select a service using one of the following methods:

1. To see services types arranged by category, click the Tree View icon:  .
 The Select a Service Type window displays. Find the category of service that you want to use and open that branch. Select the service type, and click **Save**. Your selection is entered in the Service Type field. Click **Next**.
2. To see services arranged alphabetically, click the List View icon:  . The Select a Service Type window displays. Do one of the following to select a service type:

- ◆ Type a partial or complete name in the **Filter by Type** field and click the Filter icon: . The names that contain the text entered in the field display in the list. Select the service type desired and click **Save**. Your selection is entered in the Service Type field. Click **Next**.
 - ◆ Select a service type from the list of all services and click **Save**. Your selection is entered in the Service Type field. Click **Next**.
3. Type the name of the service type in the **Service Type** field. This must be the full name; partial names are not accepted. Click **Next**.

Obtaining the Status Report From a Service

You can use the `Status_Rpt` to get the status report from a service to put into process data. To do so, add the following assign statement to the service configuration in the GPM or directly to the BPML code:

```
<assign to="." from="Status_Rpt('Report')"></assign>
```

where the 'Report' value can be any name. It is used for the name of the node in `ProcessData` for the report. The status report will be written to `ProcessData` under this node.

The following example shows BPML for the input message that includes the assign statement to get the status report:

```
<input message="Xin">
<assign to="." from="*"></assign>
<assign to="." from="Status_Rpt('Report')"></assign>
</input>
```

`DOMToDoc` can also be used in conjunction with the `Status_Rpt` to write the information to a document instead of `ProcessData`.

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