IBM InfoSphere Optim
Version 2 Release 2 Modification 3

Using IBM Optim Manager

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Note
Before using this information and the product it supports, read the information in "Notices" on page 35.

Version 2 Release 2 Modification 3 (November 2011)

This edition applies to version 2, release 2, modification 3 of IBM Optim solution components and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

About this publication

This document describes how to configure and use IBM Optim Manager to run and manage services that are located in a registry.

Chapter 1. InfoSphere Optim solution components

Use IBM® InfoSphere® Optim™ solution components to run InfoSphere Optim services that are published to a registry. Use IBM Optim Designer to develop and test InfoSphere Optim services. When you are done developing a service, you can publish the service to a registry for further testing or for production use.

Optim Manager

IBM Optim Manager is a web application that you can use to configure, run, monitor, and manage services. You also use Optim Manager to configure the components that are used to run these services. Optim Manager is also known as the *manager*.

To run services that you develop with IBM Optim Designer, access the manager through Optim Designer. (Optim Designer is also known as the *designer*.) When you are done developing the service, use the manager to publish the service to a registry. Alternatively, use the manager to export the service to the file system.

To run and manage services that have been published to a registry, access the manager through an application server. The manager is delivered as a web archive (WAR) file that you can deploy to any supported application server. For example, you can deploy the manager to WebSphere® Application Server Community Edition. You can then access the manager on the application server and use the manager to run and manage services in the registry of your choice.

You can deploy the management server WAR file and the manager WAR file either to the same application server or to separate application servers.

Optim Management Server

IBM Optim Management Server is a web application that manages and monitors service requests for services in a registry and repository. Optim Management Server can also host a registry and repository. Optim Management Server is also known as the *management server*.

The management server is delivered as a web archive (WAR) file that you can deploy to any supported application server. For example, you can deploy the management server to WebSphere Application Server Community Edition. You can deploy the management server and the manager either to the same application server or to separate application servers.

Registry and repository

The *registry* is a subsystem where services and other resources are enrolled. The registry is used to locate the services and resources. The *repository* is a persistent storage area for data and other application resources.

The registry and repository are installed with the management server and reside on the same computer as the management server.

Optim Proxy

IBM Optim Proxy is a constantly running process that receives service requests from the management server and forwards the service requests for processing. Optim Proxy monitors the running service requests until the service requests are complete. Optim Proxy is also known as the *proxy*.

The component to which the proxy forwards a service request depends upon the type of service.

- For some types of services, the proxy might start an instance of the component on the proxy computer. (For example, when the proxy receives an executor service request, the proxy starts an executor instance on the proxy computer.) For faster processing of these services, install the proxy on a computer that has fast connections to the data sources that you are processing.
- For other types of services, the proxy forwards the service request to a service execution component on another computer. When the service request is complete, the proxy returns the status of the service request to the manager and the management server.

Optim Executor

IBM Optim Executor is a process that runs services that specify the executor as their service execution component (service type of **Executor**). Optim Executor provides the framework needed by the service to communicate with a database or with any other type of resource needed by the service. Optim Executor is also known as the *executor*.

Services that specify the executor as their service execution component are also known as *data management services*.

When you run or execute a service, an instance of the executor is launched, and the executor processes the service. When the executor completes a service, the executor reports to the component that launched the executor that the service is complete. The executor then ends.

The executor is installed on the same computer as the designer or the proxy.

To run a service that uses lookup data, ensure that the executor has access to the lookup data. Load the lookup data into a database on the executor computer or on a computer that has a fast connection to the executor computer.

Other service execution components

Some types of services might require a service execution component other than the executor. For example, a service might be developed to run on Optim on distributed platforms.

You might need to configure the designer or the proxy to run services that use these other service execution components. For information about how to configure the designer to run services that use a specific service execution component, see the designer user information. For information about how to configure the proxy to run services that use a specific service execution component, see the proxy configuration information.

Optim Service Publisher

IBM Optim Service Publisher is a command-line utility that generates services from requests in an Optim Directory and publishes the services to a registry. After the services are generated and published, you can use the manager to run the services. (Optim Service Publisher is also known as the *publisher*.)

You can use the publisher to generate a service for an individual request in an Optim Directory. You can also use the publisher to generate services for many requests at a time.

When the publisher generates a service, the service is set to run with the parameters from the original Optim request in the Optim Directory. To change the parameters that are used by a publisher service, you must change the parameters in the original Optim request. You cannot use the manager to change the parameters that are used by a publisher service.

How services in a registry are run by using the manager and other components

Components must work together to complete a service request successfully.

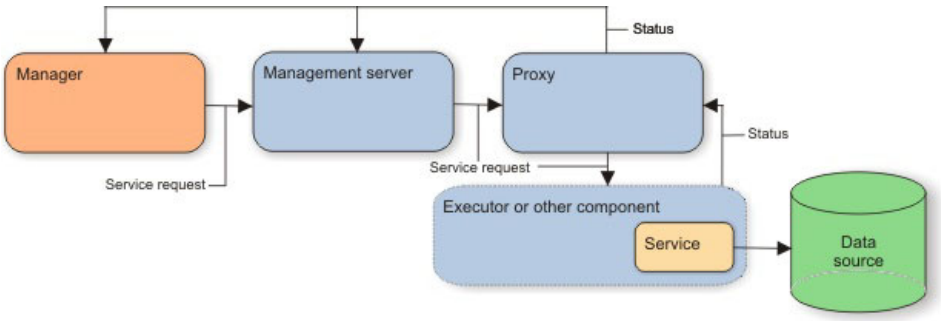


Figure 1. Components running a service

This diagram shows how components work together to run a service:

1. The application server administrator starts the management server and the manager, and the administrator of the proxy computer starts the proxy. The management server, the proxy, and the manager are designed to run continuously.
2. An operator uses the manager to run or schedule a service.
3. The manager sends the service request to the management server to which the service is assigned.
4. The management server forwards the service request to the proxy to which the service is assigned.
5. The proxy starts the service by using the component specified in the service. For services that the executor runs, the proxy starts an instance of the executor to process the service request. For services that another component runs, the proxy passes the service request to that component.
6. The executor or the other service execution component runs the service.
7. The service performs the tasks in its service plan.
8. For services that are run by the executor, the proxy continuously monitors the executor while the executor runs the service.
9. When the service is complete, the executor or the component that ran the service returns the service request status to the proxy. The executor instance also closes itself.
10. The proxy returns the service request status to the management server and the manager.

Chapter 2. Starting the manager on an application server

To run and manage services that are located in a registry, you must first start the manager on its application server. After the manager is started on the application server, you can access the manager at any time.

Before you can start the manager, you must install the manager. You must also perform initial configuration of the manager and the components that the manager uses to run services. For example, you must deploy the manager WAR file to the application server.

To start the manager on an application server:

1. Start the application server. If the application server is set to start the manager web application automatically, then the manager is started immediately after the application server. If you deployed the manager to the version of WebSphere Application Server Community Edition that is delivered with the manager, then complete the following step. In this step, *shared_installation_directory* is the installation directory that you specified for the manager.
   - Microsoft Windows computers: Click **Start** > **All Programs** > **IBM Optim** > **Start WAS-CE**, or run the script *shared_installation_directory*\WebSphere\AppServerCommunityEdition\bin\startup.bat.
   - Linux or UNIX computers: Run the script *shared_installation_directory*/WebSphere/AppServerCommunityEdition/bin/startup.sh.
2. If necessary, start the manager web application by using the application server console. If you deployed the manager to the version of WebSphere Application Server Community Edition that is delivered with the manager, then complete the following steps:
   a. Use a web browser to access and sign into the Administrative Console. The default location is at http://*hostname*:*port*/console/, where *hostname* is the host name or IP address of the WebSphere Application Server Community Edition computer and *port* is the port number. The default port number is 8080. Use user ID system and password manager to access the Administrative Console.
   b. Click **Web App WARs**.
   c. Click **Start** for the component with an URL of /optim.

To automate the starting of the manager after you restart the computer, configure the application server as a Windows service or Linux or UNIX daemon.

Accessing the manager on an application server

To run and manage services that are located in a registry, you must use an instance of the manager that is deployed to an application server.

To access the manager on an application server, use a web browser to access and sign into the manager. The location is as follows, where *hostname* and *port* are the host name and port of the application server on which the manager is deployed.

- For the default color scheme, use http://*hostname*:*port*/optim/console.
- For a high-contrast color scheme with black text on a white background, use http://*hostname*:*port*/optim/console#contrast=bw.
- For a high-contrast color scheme with white text on a black background, use http://*hostname*:*port*/optim/console#contrast=wb.
- For a version of the manager that is suitable for use with a screen reader, use http://*hostname*:*port*/optim/console?accessible=true.

If you deploy the manager to the version of WebSphere Application Server Community Edition that is delivered with the manager, then the default port is 8080.

If you cannot access the manager, ensure that the following statements are true.

- The manager is started on the application server on which the manager is deployed.
- You can access the application server on which the manager is deployed from your computer.
- Your web browser is supported by the manager and uses a supported version of the Adobe Flash Player plug-in.

You can use the browser to bookmark the location for future access.

Accessibility features for the manager

The manager contains features to make the user interface easier to see, read, and use.

Using assistive technologies

The manager allows you to use assistive technologies to hear the information that is displayed in the user interface. Assistive technologies include screen readers and digital voice synthesizers.

To use the screen reader with the manager, use a web browser to access the manager at the following location.

`http://hostname:port/optim/console?accessible=true`

hostname and *port* are the host name and port of the application server on which the manager is deployed.

For more information on how to use assistive technologies with the manager, see the product documentation for the assistive technologies that you use.

Changing font size

You can use **Preferences** to specify the font size to use in the interface. The changes that you make to the font size are saved to the local computer. The manager uses the saved font size the next time that any user accesses the manager on the local computer.

High-contrast color scheme

Instead of using the default color scheme, you can use high-contrast color schemes that make the manager easier to read. You can use **Preferences** to specify the color scheme to use in the interface. The changes that you make to the color scheme are saved to the local computer. The manager uses the saved color scheme the next time that any user accesses the manager on the local computer.

You can override the color scheme set in **Preferences** by changing the URL that you use to access the manager. To use black text on a white background, ensure that the URL ends with `#contrast=bw`. To use white text on a black background, ensure that the URL ends with `#contrast=wb`.

Keyboard navigation

Press Tab or Shift+Tab to move focus in the interface from object to object, and press Space to select the object that has focus.

If there are many parts to an object (such as a set of tabs), you can select a part by completing the following steps:

1. Press Tab or Shift+Tab to move focus to the object.
2. Press the arrow keys to change the focus to the part.
3. Press Space to select the part.

Within a navigation tree, press Right Arrow to expand nodes of the tree, and press Left Arrow to collapse nodes of the tree.

The manager contains lists that are organized using folders.

- To collapse a folder within a list:
  1. Press Tab to select the list.
  2. Press the arrow keys to select the folder.
  3. Press - on the numeric keypad.
- To expand a folder within a list:
  1. Press Tab to select the list.
  2. Press the arrow keys to select the folder.
  3. Press + on the numeric keypad.
- To collapse or expand a folder within a list:
  1. Press Tab to select the list.
  2. Press the arrow keys to select the folder.
  3. Press * on the numeric keypad.
- To move an object from one folder to another folder within a list in **Service Management**:
  1. Press the arrow keys to select the object that you want to move.
  2. Press Ctrl+M. A dialog with a list of folders is displayed.
  3. Press Tab to select the list of folders.
  4. Press the arrow keys to select the folder to which you want to move the object.
  5. Press Tab to select **OK**.
  6. Press Space.

To sort items in a list alphabetically by column:

1. Press Tab or Shift+Tab to move focus to the list.
2. Press Down Arrow to move the focus to a row in the list.
3. Press Up Arrow until the focus moves to the headers of the list.
4. Press Left Arrow or Right Arrow to move the focus to the column by which you want to sort first.
5. Press Space to sort the list by the column with focus. Press Ctrl+Space to switch between ascending and descending sort.
6. To add a secondary sort to the list, press Left Arrow or Right Arrow to move the focus to the secondary sort column, and press Ctrl+Space.
7. To sort the list by a different column, press Left Arrow or Right Arrow to move the focus to the column, and press Space.

Within a date box, press Ctrl+Down Arrow to display the calendar. Press Page Down and Page Up to change the month on the calendar, and press the arrow keys to select a day in the calendar. When the focus is on a date, press Enter to select the date. To dismiss the calendar without selecting a date, press Esc.

Tabular view of pie chart information

In the **Service Management** pane on the **Dashboard** page, to change the pie chart to a table that can be read using a screen reader, press Tab to select **Tabular View** and press Space. To change the table back to

a pie chart, press Tab to select **Chart View** and press Space.

More information

The manager uses Adobe Flex technology, which has specific keyboard navigation shortcuts. More information about the accessibility features of Flex is available from Adobe at the following website (link opens in new window):

http://livedocs.adobe.com/flex/3/html/help.html?content=accessible_5.html

Chapter 3. Configuring the manager

To run services that are published to a registry, an administrator must first install and start the components that you use to run these services. The administrator can then connect the manager with the other components and assign services to management servers and proxies.

Before you begin, you must use a web browser to access and sign into the manager. The default location is at `http://hostname:port/optim/console/`, where *hostname* and *port* are the host name and port of the application server on which the manager is deployed. If you install the version of WebSphere Application Server Community Edition that is delivered with the management server and the manager, and you deploy the manager to that copy of WebSphere Application Server Community Edition, then the default port is 8080.

If you cannot access the manager, ensure that the manager is started by the administrator of the application server on which the manager is deployed, that you can access the application server from your computer, and that your web browser is supported by the manager and uses a supported version of the Adobe Flash Player plug-in.

Setting the registry location

Before you run services that are located in a registry, the manager must be set to access the registry. The registry contains location and configuration information for services and for the other components.

Only users with a user role of admin can set the registry location.

By default, the manager is set to look for the registry at `http://localhost:8080/server/registry`. This location is valid if the manager and the management server are deployed to the same application server, and the application server uses port 8080. To avoid potential issues with using `localhost` as the host name, or to use a registry on a different management server, replace `localhost` with the management server host name or IP address and replace `8080` with the port used by the application server. If you do not have this information, ask the administrator of the application server to which the management server is deployed.

To set the registry location in the manager:

1. Access the manager on the application server.
2. Click **Preferences**.
3. Click **Global Preferences**.
4. Enter the registry location into **Registry location** and click **Validate Registry Location**.
5. If the registry location is valid, click **Save**.

Adding a management server to the manager

Before you can run any services that are located in a registry, you must assign the services to a management server. Before you can assign services to a management server, you must add the management server to the manager.

Only users with a user role of admin can add a management server to the manager.

Before you can add a management server to the manager, the management server must register itself in the registry. If you use multiple management servers, complete the following steps to ensure that all management servers register themselves in the registry.

1. Ensure that there is an unobstructed network connection between the computer that hosts the registry and the other management servers.
2. Run the management server on the computer that hosts the registry.
3. Run the other management servers.

To add a management server to the manager:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Management Servers**.
4. Click **Add**.
5. Click the Uniform Resource Identifier (URI) of the management server that you want to add to the manager, enter the logical name that you want to use for the management server within the manager, and click **OK**. If the dialog does not list the URI of the management server that you want to add, complete the following steps.
   a. Ensure that there is an unobstructed network connection between the management server that you want to add and the management server that hosts the registry.
   b. Shut down and restart the management server that you want to add.

   If the dialog still does not list the URI of the management server that you want to add, complete the following steps.
   a. Shut down and restart the management server that hosts the registry.
   b. Shut down and restart the management server that you want to add.

Adding a license to a management server

Use the manager to add a license to a management server. A license allows the executor to run the types of service that are specified in the license. For example, if you add a data privacy license to a management server, the management server allows the executor to run services that mask data in databases.

Only users with a user role of admin or dba can add a license to the management server. To add a license to a management server, a user must have access to the **Configuration** > **Management Servers** tab.

Before you can add a license to a management server, you must add the management server to the manager.

This task applies only to licenses for services that are run using the executor (service type of **Executor**). For service execution components other than the executor, you must manage licenses using the procedures that are specified for that service execution component. For information on how to manage licenses for service execution components other than the executor, see the documentation for the service execution component.

To add a license to the management server with the manager:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Management Servers**.
4. Click **Add License**.
5. Select the management server for which you want to add a license, enter the license key and license file name for the management server license, and click **Upload License**.

Adding a proxy to the manager

You must add a proxy to the manager before you can use the proxy to run services that are located in a registry.

Only users with a user role of admin can add a proxy to the manager.

Before you can add a proxy to the manager, the proxy must register itself in the registry. To ensure that the proxy registers itself in the registry, complete the following steps.

1. Ensure that there is an unobstructed network connection between the proxy computer and the management server that hosts the registry.
2. Run the management server that hosts the registry.
3. Run the proxy.

To add a proxy to the manager:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Proxies**.
4. Click **Add**.
5. Click the Uniform Resource Identifier (URI) of the proxy that you want to add, enter the logical name that you want to use for the proxy, and click **OK**. If the dialog does not list the URI of the proxy that you want to add, complete the following steps.
   a. Ensure that there is an unobstructed network connection between the proxy computer and the management server that hosts the registry.
   b. Shut down and restart the proxy.

   If the dialog still does not list the URI of the proxy that you want to add, complete the following steps.
   a. Shut down and restart the management server that hosts the registry.
   b. Shut down and restart the proxy.

Adding a database driver to the repository

Use the manager to add a database driver to the repository. You can use the executor to run a service in the registry only if the repository contains the database driver that is specified in the service.

Only users with a user role of admin or dba can add a database driver to the repository. To add a database driver to the repository, a user must have access to the **Configuration** > **Database Drivers** tab.

This task applies only to JDBC database drivers for services that are run with the executor (service type of **Executor**).

For services that use native data store access, you must install the relational database client software on the proxy computer. You must then configure the proxy to use the relational database client software.

For service execution components other than the executor, you must install database drivers by using the procedures that are specified for that service execution component. For information about how to manage database drivers for service execution components other than the executor, see the documentation for the service execution component.

To add a database driver to the repository with the manager:

1. Access the manager on the application server.
2. Click **Configuration**.

3. Click **Database Drivers**.
4. Click **Add Database Driver**.
5. Complete the dialog and click **Upload Driver File**.

Reassigning a service to a different management server or proxy

Use the manager to change the assignment of a service to a different management server or proxy. The manager automatically assigns a management server and proxy to every service if at least one management server and proxy are added to the manager. If you want the service to use a different management server or proxy when the service runs, you must reassign the service.

Only users with a user role of admin, dba, or operator can reassign a service. Before you can reassign a service, you must add at least one management server and proxy to the manager. To reassign a service, a user must have access to the **Service Management** tab.

To reassign a service by using the manager:

1. Access the manager on the application server.
2. Click **Service Management**.
3. Open the **Services** folder, click the service, and click **Reassign**.
4. Complete the wizard.

Changing the service plan of a service

A service plan contains default values that a service uses to transform the data in a data source (such as the user name and password to access the data source). After a service is added to a registry, you can use the manager to change the values in a service plan. You can also restore the service plan to its default values.

Only users with a user role of admin, dba, designer, or operator can change the service plan of a service. To change the service plan of a service, a user must have access to the **Service Management** tab. If the service belongs to service groups, the user must have access to the service groups to which the service belongs.

To change the service plan of a service by using the manager:

1. Access the manager on the application server.
2. Click **Service Management**.
3. Open the **Services** folder and click the service.
4. Click **Service Plan**, change the service plan, and click **Save**. Changes that you make to the service plan are saved until you change the service plan again or restore the service plan to its default values.

Promote service from one registry to another registry

You can promote a service from one registry to another registry. For example, you have separate registries for services that are to be tested by Quality Assurance (QA) and services that are ready for production. When a service is through the QA process, you can promote the service from the QA registry to the production registry.

Only users with a user role of admin or dba can promote a service from one registry to another registry. To promote a service, a user must have access to the **Service Management** tab. If the service belongs to service groups, the user must have access to the service groups to which the service belongs.

To promote a service from one registry to another by using the manager:

1. Access the manager on the application server.

2. Click **Service Management**.
3. Open **Services**, click the service, and click **Promote**.
4. Complete the wizard.

Exporting a service to a file

You can export a service from the registry to a .jar file that is saved to the local file system for your computer. The .jar file contains an XML Metadata Interchange (XMI) file with a definition of the service and all related objects.

Only users with a user role of admin, dba, or operator can export a service to a file. To export a service to a file, a user must have access to the **Service Management** tab. If the service belongs to service groups, the user must have access to the service groups to which the service belongs.

To export a service from the registry to a file by using the manager:

1. Access the manager on the application server.
2. Click **Service Management**.
3. Open **Services**, click the service, and click **Export As File**.
4. Use the dialog to select the location to which you want to save the service and click **OK**.

Importing a service from a file

You can import a service from a .jar file into the registry. If the service exists in the registry, the service is added to the registry as a new version of the same service.

Only users with a user role of admin or dba can import a service from a file. To import a service from a file, a user must have access to the **Service Management** tab.

The service is imported into the registry that is set in **Preferences** in the manager.

The manager does not support the migration of services that were developed with a previous version of Optim solution components. You might not be able to import a service that was developed with a previous version of Optim solution components. If you can import such a service, the service might fail to run successfully. For more information about the compatibility of the manager with services that were developed with a previous version of Optim solution components, see the system requirements.

To import a service from a file into the registry by using the manager:

1. Access the manager on the application server.
2. Click **Service Management**.
3. Click **Import Service from File**.
4. Use the dialog to select the file from the file system and click **Open**.

Creating a service set

A service set is an ordered list of services. When you run a service set, the manager runs each service in the service set, one at a time, in the specified order. Create a service set to automate the execution of related services.

All services in a service set must be assigned to the same management server and proxy. If necessary, you must reassign the services to different management servers and proxies before you can create a service set that includes those services.

Before you create a service set, ensure that the services that are to be in the service set are tested and stable. Service sets are version-specific. When you run a service set, the manager runs the specific version of each service that was added to the service set. To use a more recent version of a service, you must create another service set that specifies the more recent version of the service.

To create a service set:

1. Access the manager on the application server.
2. Click **Service Management**.
3. Click **Create Service Set**.
4. Use the dialog to select and order the services within the service set. If you want the service set to continue running subsequent services in the service set after a service fails, clear **Stop on Failure**.
5. When you have selected all of the services that you want to select for the service set, and the services are in the correct order, click **OK**

Creating a service group

A service group is a collection of services that are to be run or scheduled only by specific users. Create service groups to control which users can run which services.

Only users with a user role of admin can create a service group.

To create a service group:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Users and Groups**.
4. Click **Group Management**.
5. Click **Add Group**.
6. Enter a name and description for the service group and click **OK**.
7. Select the service group in the list and click **Add Services to Group**.
8. Select a service that you want to add to the service group and click **OK**.

Granting user access to a service group

A service group is a collection of services that are to be run or scheduled only by specific users. If a service is in a service group, a user can run the service only if the user is granted access to the service group.

Only users with a user role of admin can grant user access to a service group.

To grant user access to a service group:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Users and Groups**.
4. Click **User Management**.
5. Select the user and click **Grant User Access**.
6. Select the service group and click **OK**.

Creating a user-defined tab in the manager

For instances of the manager that are deployed to an application server, you can create user-defined tabs that contain web applications or websites.

Only users with a user role of admin can create a user-defined tab in the manager.

To create a user-defined tab in the manager:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Tabs**.
4. Click **Add User-Defined Tab**.
5. Enter the tab label and description that you want to use and the Uniform Resource Locator (URL) for the web application or website, and click **OK**.

Changing access to tabs in the manager

For instances of the manager that are deployed to an application server, all manager users are allowed to see all tabs by default. A user can see all tabs even if the user is not allowed to perform any actions on the tabs. You can simplify the manager interface by hiding tabs from users who do not have a user role of admin.

Only users with a user role of admin can change access to tabs in the manager.

To change access to tabs in the manager:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Tabs**.
4. Clear **Show** for the tabs that you want to hide from users who do not have the admin user role. Select **Show** for the tabs that you want to make available to all users.

The changes take effect when users sign out of the manager.

Creating a manager user account for a user of an external system

For some product solutions, the manager might support the creation of user accounts that are based on user accounts on an external system. These product solutions might require you to create user accounts in this way to use the integration between the manager and the external system.

Only users with a user role of admin can create a manager user account for a user of an external system.

Before you create a manager user account for a user of an external system, you must complete the following tasks:

- Configure the manager and management server to integrate with the external system. For information about how to configure integration with the external system, see the documentation for the product solution.
- Add a license to a management server if the product solution requires a license.

To create a manager user account for a user of an external system:

1. Access the manager on the application server.
2. Click **Configuration**.
3. Click **Users and Groups**.

4. Click **User Management**.
5. Click **Add Optim User**.
6. Select the external system user, select the roles that you want the user to have, and click **Create**.

Chapter 4. Using the manager

After the manager is configured, users can run services, schedule services, and monitor the progress of services using the manager.

Before you begin, you must use a web browser to access and sign into the manager. The default location is at `http://hostname:port/optim/console/`, where *hostname* and *port* are the host name and port of the application server on which the manager is deployed. If you install the version of WebSphere Application Server Community Edition that is delivered with the management server and the manager, and you deploy the manager to that copy of WebSphere Application Server Community Edition, then the default port is 8080.

If you cannot access the manager, ensure that the manager is started by the administrator of the application server on which the manager is deployed, that you can access the application server from your computer, and that your web browser is supported by the manager and uses a supported version of the Adobe Flash Player plug-in.

Running a service or service set

Use the manager to run a service that has been published to the registry, or to run a service set.

You can run a service that has been published to the registry only if the service is ready to run. A service that is ready to run meets the following criteria:

- The service is assigned to a management server that is active and connected to the manager. If a license is required to run a service, the management server must also contain a valid license for the service.
- The service is assigned to a proxy that is active and connected to the manager and the management server. The proxy must also be able to run the service type associated with the service. For service types **Executor** and **Distributed**, the service execution component must be installed and configured, and the proxy must be configured to run the service execution component.
- The database driver that is specified in the service is loaded into the repository.

You can run a service set only if all services in the service set are ready to run.

To run a service or service set, a user must have access to the **Service Management** tab. If the service belongs to service groups, the user must have access to the service groups to which the service belongs.

To run a service or service set by using the manager:

1. Access the manager on the application server.
2. Click **Service Management**.
3. Open the **Services** folder and click the service, or open the **Service Sets** folder and click the service set.
4. Click **Service Plan** and review the service plan properties. You can change the service plan properties and click **Save** to save the changes. Any changes that you make to the service plan are saved until you change the service plan again or until you restore the service plan to its default values. If you are running a service set, you can change the service plan properties of any of the services in the service set. These changes are made to the services themselves and not to the service set.
5. Click **Run** and complete the wizard.

Scheduling a service or service set

Use the manager to schedule a service that has been published to the registry, or to schedule a service set. You can schedule the service to be run at a specific time or at a specific interval. If the service already has an active schedule for a management server, you can use the manager to change that schedule.

You can schedule only services that have been published to the registry. You cannot schedule services that are being developed in the designer.

You can schedule a service that has been published to the registry only if the service is ready to run. A service that is ready to run meets the following criteria:

- The service is assigned to a management server that is active and connected to the manager. If a license is required to run a service, the management server must also contain a valid license for the service.
- The service is assigned to a proxy that is active and connected to the manager and the management server. The proxy must also be able to run the service type associated with the service. For service types **Executor** and **Distributed**, the service execution component must be installed and configured, and the proxy must be configured to run the service execution component.
- The database driver that is specified in the service is loaded into the repository.

You can schedule a service set only if all services in the service set are ready to run.

Only users with a user role of admin, dba, designer, or operator can schedule a service or service set. To schedule a service or service set, a user must have access to the **Service Management** tab. If the service belongs to service groups, the user must have access to the service groups to which the service belongs.

A service or service set can have a schedule for each management server.

To schedule a service or service set by using the manager:

1. Access the manager on the application server.
2. Click **Service Management**.
3. Open the **Services** folder and click the service, or open the **Service Sets** folder and click the service set.
4. Click **Service Plan** and review the service plan properties. You can change the service plan properties and click **Save** to save the changes. Changes to the service plan are saved until you change the service plan again or until you restore the service plan to its default values. If you are scheduling a service set, you can change the service plan properties of any of the services in the service set. These changes are made to the services themselves and not to the service set.
5. Click **Service Schedule**. If the service or service set already has an active schedule for the selected management server, the wizard shows you the active schedule. If the service or service set does not have an active schedule for the selected management server, click **Create Schedule**.
6. Enter or change the schedule details and click **Save**.

Stopping a service

If you use the manager to run a service that is published to a registry, you can use the manager to stop the service before it completes. You might want to stop a service that is running longer than you had planned for it to run.

You can stop only services with service type **Executor**. You can stop a service only if the service is in a **Start** state.

You cannot stop services that are executed from the designer.

To stop a service, a user must have access to the **Service Monitoring** tab. Otherwise, any user can stop services that were run or scheduled by any other user.

Stopping a service does not undo any changes that the service made to the database.

To stop a running service using the manager:

1. Access the manager on the application server.
2. Click **Service Monitoring**.
3. In the first section of the **Service Monitoring** page, click the instance that corresponds with the service that you want to stop. You might need to use a different service monitoring filter to see the instance that corresponds with the service that you want to stop.
4. Click **Stop**, and click **OK** to confirm.

Monitoring the status of service instances using the manager

The manager allows you to monitor the status of the services that you run.

Dashboard

When you access the manager on an application server, you can use the **Dashboard** interface. Use **Dashboard** to monitor the status of the manager, its associated management servers and proxies, and any services that are run by using the manager.

Service Monitoring

Under **Service Monitoring**, you can review the service instance records that are generated when a service or service set is run. The service instance records contain status information for each service instance.

If you access the manager on an application server, service groups determine which service instance records are displayed under **Service Monitoring**. A user can see a service instance record only if the user has access to all service groups to which all of the associated services belong. For example, user `smith` does not have access to any service groups. User `smith` therefore cannot see any service instance records for any services that belong to a service group. User `smith` also cannot see any service instance records for any service sets that contain services that belong to a service group.

Service Management

Under **Service Management**, you can review a graph that indicates the ratio of services that are ready to services that are not ready. Services that are ready to run meet all of the following criteria:

- The service is assigned to a management server that is active and connected to the manager. If a license is required to run a service, the management server must also contain a valid license for the service.
- The service is assigned to a proxy that is active and connected to the manager and the management server. The proxy must also be able to run the service type associated with the service. For service types **Executor** and **Distributed**, the service execution component must be installed and configured, and the proxy must be configured to run the service execution component.
- The database driver that is specified in the service is loaded into the repository.

Double-click the graph to jump to the location where you can run services that are ready.

To view the information in the graphs in tables, click **Tabular View**.

Configuration

Under **Configuration**, you can review the status of the management servers and proxies that

have been added to the manager. You can also see whether there are any connection issues between the manager and the management servers and proxies. Connection issues can indicate that there is a network issue or that the management servers or proxies are not running.

Service Monitoring

Use **Service Monitoring** to view a list of service instance records on the manager. A service instance record is created whenever a service or service set is run. Service instance records show the status of each service instance and indicate whether the service instance completed successfully.

Service Monitoring contains two sections:

- The first section contains a list of service instance records.
- The second section contains more detailed information about the service instance that is selected in the first section. You can use this information to diagnose problems if the service does not complete successfully.
  - **Service Results** shows statistics for services that are run with the executor (service type of **Executor**).
  - **Service Output** shows the trace log output for services that are run with the executor and that failed. For services that are run with service execution components other than the executor, **Service Output** shows the result output.

If you access the manager on an application server, you can create filters to limit the types of service instance records that are displayed in **Service Monitoring**. You can filter the list by status, service type, service request type, management server, and service start time. Filters are saved with your user record and are available until you delete the filter.

If you access the manager on an application server, service groups determine which service instance records are displayed under **Service Monitoring**. A user can see a service instance record only if the user has access to all service groups to which all of the associated services belong. For example, user `smith` does not have access to any service groups. User `smith` therefore cannot see any service instance records for any services that belong to a service group. User `smith` also cannot see any service instance records for any service sets that contain services that belong to a service group.

Chapter 5. Using command-line processing

You can run one or more services by submitting service requests to the management server from the command line.

Before running a service, you must assign the service to a proxy and a management server by using the manager. The proxy and management server must be running to process the service request. You must also install InfoSphere Data Architect and IBM Optim Designer to obtain the files that you need to run command-line processing.

There are two options for using the command line:

- The **runservice** script allows you to enter run services by using fewer arguments, and you can customize this script to fit your needs.
- The **java -jar com-ibm-nex-client-tool.jar** command can be used in a script that you prepare yourself.

runservice script

The runservice script is located in the *ida_folder*\optim\designer\runservice folder, where *ida_folder* is the folder in which InfoSphere Data Architect is installed. You must open the command line in the *ida_folder*\optim\designer\runservice folder. The folder contains two script files, one for Microsoft Windows (**runservice.bat**) and one for Linux and UNIX (**runservice.sh**).

The **runservice** script requires that you add the root folder of a Java 6.0 JRE or JDK installation to the PATH environment variable.

The **runservice** script uses the following syntax when you run services that are assigned to a management server and proxy:

```
runservice {--service | -s} servicename:version
{--url | -u} serverURL {--continueOnError | -c}
```

--service | -s *servicename*:*version*

The service name and version number (in *n.n.n* format). Required.

Service names are case-sensitive. If a service name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

For example: `-s demosvc:1.0.0`.

--url | -u *serverURL*

The location of the management server that hosts the registry and repository that contains the service. The location `http://localhost:8080` is used by default.

For example: `-u http://mgmtserver1:8080`.

--continueOnError | -c

This parameter sets the script to continue sending services to the proxy for execution, even if a service fails to be started by the proxy.

The **runservice** script uses the following syntax when you run an exported service request:

```
runservice {-r|--serviceRequest} requestfilepath
{-u|-url} proxyURL {-j|--jarMap} mapfilepath
{-v|--overrideValues} overridefilepath {-l|--logLevel} loglevel
{-t|--timeout} seconds|never {-p|--serviceResponse} responsefilepath
```

--serviceRequest | -r *requestfilepath*

The complete file path for the exported service request. Required.

Service request file names are case-sensitive. If the file name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

For example: `-r demosvc.jar`.

--url | -u *proxyURL*

The location of the proxy that you want to use to run the service. The location `http://localhost:12000` is used by default.

For example: `-u http://proxy1:12000`.

--jarMap | -j *mapfilepath*

The complete file path for the map file.

Map file names are case-sensitive. If the file name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

--overrideValues | -v *overridefilepath*

The complete file path for the override file.

Map file names are case-sensitive. If the file name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

--logLevel | -l *loglevel*

The log level for the service (that is, the lowest severity of messages to include in the log). Possible values are, from low to high: .

- `OFF`
- `SEVERE`
- `WARNING`
- `INFO`
- `CONFIG`
- `FINE`
- `FINER`
- `FINEST`
- `ALL`

For example: `-l INFO`.

--timeout | -t *timeoutseconds*

Specifies the number of seconds to wait for a response before ending (or never wait). The **runservice** script waits 600 seconds by default.

--serviceResponse | -p *serviceresponsefile*

The complete file path of the file to which the service response is written.

java -jar com-ibm-nex-client-tool.jar command

The `com-ibm-nex-client-tool.jar` file is located in the *ida_folder*`\optim\designer\runservice` folder, where *ida_folder* is the folder in which InfoSphere Data Architect is installed. You must open the command line in the *ida_folder*`\optim\designer\runservice` folder.

The `java -jar com-ibm-nex-client-tool.jar` command uses the following syntax, where *java_folder* is the root folder of a Java 6.0 JRE or JDK installation. To avoid being required to enter the root folder every time that you enter this command, add the root folder to the PATH environment variable.

```
java_folder/java -jar com-ibm-nex-client-tool.jar
{--service | -s} servicename:version
{--url | -u} serverURL {--continueOnError | -c}
```

--service | -s *servicename*:*version*

The data management service name and version number (in *n.n.n* format). Required.

Service names are case-sensitive. If a service name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

For example: `-s demosvc:1.0.0`.

--url | -u *serverURL*
The location of the management server that hosts the registry and repository that contains the service. Required.

For example: `-u http://mgmtserver1:8080`.

--continueOnError | -c

This parameter sets the script to continue sending services to the proxy for execution, even if a service fails to be started by the proxy.

Running multiple services

You can use the command line to run multiple services deployed to the same management server. The services are started one at a time in the specified order. run in parallel

Specify each service and version pair separated by a comma. Do not leave a space before or after a comma.

For example:

```
runservice -s service1:1.0.0,service2:1.0.0 -u http://mymgmtserver:8080 -c
```

Spaces in service names

If a service name contains a space or contains multibyte character set (MBCS) characters, the name must be enclosed in double quotation marks (" "). For example:

```
runservice -s "service name":1.0.0 -u http://mymgmtserver:8080
```

Running exported service request

You can use the command line to run a service request that has been exported to a file.

For example:

```
runservice -r C:\services\service1.jar -u http://myproxy:12000
```

Override file

An *override file* is an XML file that contains service request parameters. If you specify an override file when you run an exported service request, the `runservice` script uses the parameters in the override file when running the request.

You can use the `runservice` script to generate an override file that contains the parameters that are in a service request.

```
runservice {-g|--generateOverrideTemplate} requestfilepath
{-v|--overrideValues} overridefilepath {-i|--includeComments} {true|false}
```

--generateOverrideTemplate | -g *requestfilepath*

The complete file path for the exported service request. Required.

Service request file names are case-sensitive. If a service request file name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

--overrideValues | -v *overridefilepath*
The complete file path for the new override file.

For example: `-v C:\override\requestfileoverride.xml`.

--includeComments | -i

Specify whether you want to include comments in the override file. Valid values are `true` and `false`. By default, no comments are included in the override file.

After you generate the override file, you can change the parameters in the override file. If you run a service request, you can specify the changed override file, and the `runservice` script uses the changed parameters to run the service request.

The override files use the same XML namespace as the service requests (`http://www.ibm.com/nex/ecore/2.2.0/svc`). The root element of the override file is always Overrides. The general format is a nested hierarchy of override groups and attributes derived from the override group and attribute descriptors found within the service request. When the `runservice` script generates an override template, the group and attribute elements are named by using the override group and attribute descriptor names.

```
<?xml version="1.0" encoding="UTF-8"?>
<svc:Overrides xmlns:svc="http://www.ibm.com/nex/ecore/2.2.0/svc">
    <svc:ParentGroup uuid="...">
        <svc:ChildGroup uuid="...">
            <svc:Attribute1 value="..." uuid="..." />
            <svc:Attribute2 value="..." uuid="..." />
            <svc:Attribute3 value="..." uuid="..." />
            ...
        </svc:ChildGroup>
        ...
    </svc:ParentGroup>
    ...
</svc:Overrides>
```

The override file must be encoded with UTF-8.

Map file

A *map file* is a file that the proxy uses to match the JDBC driver in a service request to a JDBC driver on the proxy. If the JDBC driver in a service request matches a line in the map file, the proxy uses the JDBC driver specified on that line. If the JDBC driver in a service request does not match any lines in the map file, the proxy uses the exact JDBC driver specified on the service request. (The proxy can be configured to use a more recent version of the JDBC driver if one exists on the proxy.)

The map file that is used by the `runservice` script is similar to a standard Java .properties file. Empty lines are ignored. Lines starting with the pound (#) character are treated as comments. All other lines must adhere to the following format:

```
<regex>=<path>
```

`<regex>` is a valid regular expression pattern that is to be used to match the name of a designer-provided .jar name. `<path>` is a fully qualified path to an actual .jar file on a proxy.

For example, a map file contains the following lines:

```
db2jcc4.*\.jar=/opt/IBM/sqllib/java/db2jcc4.jar
db2jcc4_license_cu.*\.jar=/opt/IBM/sqllib/java/db2jcc4_license_cu.jar
```

If a service request is set to use the JDBC driver `db2jcc4-9.1.jar`, the proxy runs the service request with the JDBC driver `/opt/IBM/sqllib/java/db2jcc4.jar`. If a service request is set to use the JDBC driver `db2jcc4_license_cu-9.1.jar`, the proxy runs the service request with the JDBC driver `/opt/IBM/sqllib/java/db2jcc4_license_cu.jar`

Encrypting a password

You can use the `runservice` script to encrypt a clear-text password in a service request.

```
runservice {-e|--encryptPassword} password
```

--encryptPassword | -e *password*

The clear-text password that you want to encrypt. Required.

Looking up the start table

You can use the `runservice` script to display the start table (and other tables) in a service request.

```
runservice {-a|--startTable} requestfilepath
{-o|--otherTables } {true|false}
```

--startTable | -a *requestfilepath*

The complete file path for the exported service request whose start table is to be displayed. Required.

Service request file names are case-sensitive. If the file name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

--otherTables | -o

Specify whether the other tables in the service request are to be included in the output. Valid values are `true` and `false`. By default, all tables are included.

Displaying a service request

You can use the `runservice` script to display the information in a service request.

```
runservice {-d|--displayService} requestfilepath
{-x|--xsltStylesheet} stylesheetpath
```

--displayService | -d *requestfilepath*

The complete file path for the exported service request whose information is to be displayed. Required.

Service request file names are case-sensitive. If the file name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

--xsltStylesheet | -x *xsltfilepath*

The complete file path for the XSLT stylesheet that is to be used to format the service request.

XSLT stylesheet file names are case-sensitive. If the file name contains a space or contains multibyte character set (MBCS) characters, you must enclose the name in double quotation marks.

Command line examples

This section includes examples of service requests that are submitted using management server commands.

The following syntax uses the `java -jar com-ibm-nex-client-tool.jar` command to run a service, where `..\..\..\..\Java60\jre\bin\` is a relative path from the folder that contains the `com-ibm-nex-client-tool.jar` file to the folder that contains a Java 6.0 JRE installation.

```
..\..\..\..\Java60\jre\bin\java -jar com-ibm-nex-client-tool.jar -s service1:1.0.0 -u http://localhost:8080/server/job
```

The following syntax uses the **runservice** script to run a service where the management server does not use the default URL.

```
runservice -s service1:1.0.0 -u http://server1:8080/server/job
```

The following syntax uses the **runservice** script to run multiple services.

```
runservice -s service1:1.0.0,service2:1.2.0
```

The following syntax uses the **runservice** script to run a service with a space in the service name.

```
runservice -s "service one":1.0.0
```

Chapter 6. Publishing an Optim request as a service to a registry

Use the publisher to generate a service from a specified request and publish the service to a registry. After a request is published to a registry, you can access the manager on an application server and use the manager to run the request. Requests can be published individually, or multiple requests can be published at a time by using a text file that contains a list of the requests.

You must install the publisher on a computer that meets the following conditions:

- The computer must be either an Optim workstation or an Optim server.
- The computer must be able to access the Optim Directory that contains the requests that you want to publish.

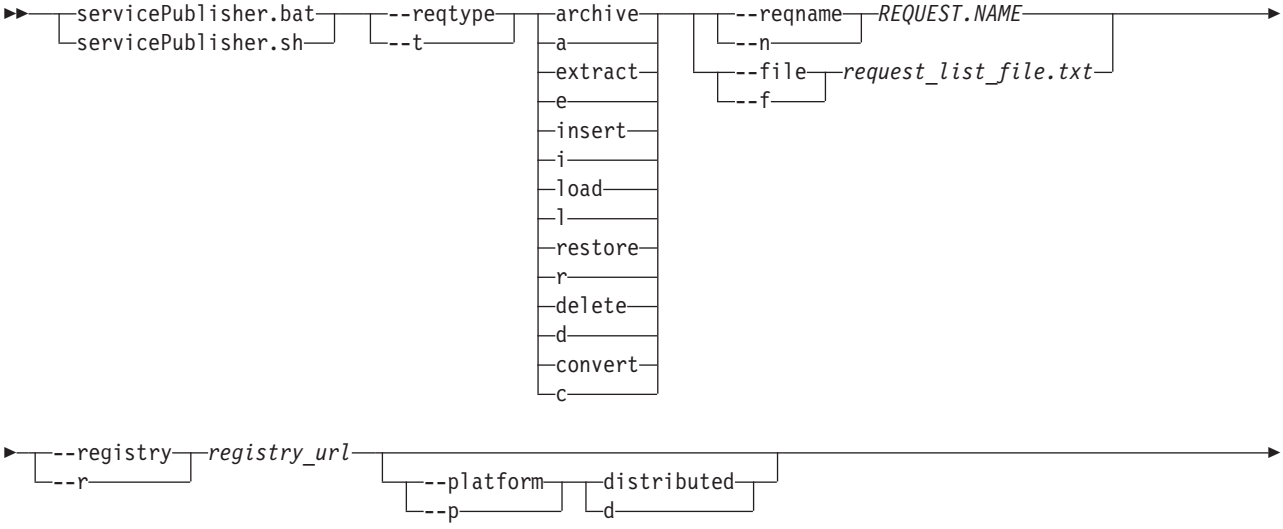
You must also configure each proxy that is used to run the services so that the proxy can access the Optim Directory that contains the requests. When the service is run, the proxy reads the request in the Optim Directory and uses the request settings to run the service. For example, the proxy uses the local access definition and table map from the Optim Directory. The request settings cannot be changed in the manager.

To publish many requests at a time, create a text file that contains a list of the requests. Each request must be on its own line of the text file. All requests in the file must be of the same request type.

To publish an Optim request as a service to a registry, run the appropriate `servicePublisher` script on your computer. The `servicePublisher` scripts are located in the installation directory that you specified for the Optim Service Publisher installation package.

- On a Microsoft Windows computer, run `servicePublisher.bat`.
- On a Linux or UNIX computer, run `servicePublisher.sh`.

The following diagram illustrates the syntax of the `servicePublisher` scripts.



The servicePublisher script accepts the following parameters.

--reqtype or --r

The --reqtype parameter defines the request type of the requests to be published. If you publish requests by using a request list file, all requests in the file must be of the same request type.

Mandatory

Yes

Valid values

- archive or a
- extract or e
- insert or i
- load or l
- restore or r
- delete or d
- convert or c

Default value

None

Case sensitive

No

--reqname or --n

The --reqname parameter defines the name of the request as it exists in the Optim Directory. The --reqname parameter allows for a user to publish one service request from the command line.

Mandatory

Either --reqname or --file must be specified, but both cannot be specified

Valid values

Any valid request defined in the Optim Directory (no validation is performed)

Example

```
OPTDMO.HRDATA
```

Default value

None

Case sensitive

No

--file or --f

The --file parameter defines a file that contains a series of request names as they exist in the Optim Directory. The request names are separated by a carriage return and line feed. The --file parameter allows for a user to publish multiple service requests of the same type from the command line.

Mandatory

Either --reqname or --file must be specified, but both cannot be specified

Valid values

Any valid file containing requests defined in the Optim Directory (no validation is performed)

Example

```
C:\requests\extractRequests.txt
```

Default value
None

Case sensitive
Yes

--registry or --r
The --registry parameter defines the location of the registry to which the service request is published.

Mandatory
Yes

Valid values
Any valid registry location (no validation is performed)

Example
```
http://mgmtserverhostname:8080/server/registry
```

Default value
None

Case sensitive
No

--platform or --p
The --platform parameter defines the service execution component of the request.

Mandatory
No

Valid values
distributed or d

Default value
distributed

Case sensitive
No

--server or --s
The --server parameter defines the name of the Optim server that is to be used by each service request. When the publisher creates a service for a request, the publisher uses this Optim server in the service plan. The server in this parameter must be a valid server on the proxy that is used to run the services. If no value is specified, then the service is set to use the default Optim server for the proxy on which the service is run.

Mandatory
No

Valid values
Any valid server on the proxy (no validation is performed)

Default value
None

Case sensitive
No

--directory or --d
The --directory parameter defines the Optim Directory that is to be used by each service request. When the publisher creates a service for a request, the publisher uses this Optim Directory in the service plan. If no value is specified, then the service is set to use the default Optim Directory for the proxy on which the service is run.

Mandatory
No

Valid values
Any valid Optim Directory on the proxy (no validation is performed)

Default value
None

Case sensitive
No

When you enter the following command on a single line on a Windows computer, the publisher creates services that are based on the extract request in the `C:\requests\extractRequests.txt` file. The services are published to the registry `http://mgmtsserverhostname:8080/server/registry`.

```
servicePublisher.bat --p distributed --t extract --r http://mgmtsserverhostname:8080/server/registry
--f C:\requests\extractRequests.txt
```

When you enter the following command on a single line on a Linux computer, the publisher creates a service that is based on the extract request EXT.MYEXTRACT. The service is published to the registry `http://mgmtsserverhostname:8080/server/registry`.

```
servicePublisher.sh --p distributed --t extract --r http://mgmtserverhostname:8080/server/registry
--n EXT.MYEXTRACT
```

Appendix. Optim Manager user interface reference

The user interface of IBM Optim Manager allows you to run and manage Optim services.

The Optim Manager user interface contains the following tabs and the **Preferences** dialog.

- **Dashboard**
- **Configuration**
- **Service Management**
- **Service Monitoring**

Some tabs might not be available to some users or in some situations. The manager might also contain user-defined tabs that are not in the standard user interface.

Dashboard

When you access the manager on an application server, you can use the **Dashboard** interface. Use **Dashboard** to monitor the status of the manager, its associated management servers and proxies, and any services that are run by using the manager.

Service Monitoring

Under **Service Monitoring**, you can review the service instance records that are generated when a service or service set is run. The service instance records contain status information for each service instance.

If you access the manager on an application server, service groups determine which service instance records are displayed under **Service Monitoring**. A user can see a service instance record only if the user has access to all service groups to which all of the associated services belong. For example, user `smith` does not have access to any service groups. User `smith` therefore cannot see any service instance records for any services that belong to a service group. User `smith` also cannot see any service instance records for any service sets that contain services that belong to a service group.

Service Management

Under **Service Management**, you can review a graph that indicates the ratio of services that are ready to services that are not ready. Services that are ready to run meet all of the following criteria:

- The service is assigned to a management server that is active and connected to the manager. If a license is required to run a service, the management server must also contain a valid license for the service.
- The service is assigned to a proxy that is active and connected to the manager and the management server. The proxy must also be able to run the service type associated with the service. For service types **Executor** and **Distributed**, the service execution component must be installed and configured, and the proxy must be configured to run the service execution component.
- The database driver that is specified in the service is loaded into the repository.

Double-click the graph to jump to the location where you can run services that are ready.

To view the information in the graphs in tables, click **Tabular View**.

Configuration

Under **Configuration**, you can review the status of the management servers and proxies that have been added to the manager. You can also see whether there are any connection issues

between the manager and the management servers and proxies. Connection issues can indicate that there is a network issue or that the management servers or proxies are not running.

Configuration

When you access the manager on an application server, you can use the **Configuration** interface. Use **Configuration** to view and configure the connections between the manager, management servers, and proxies.

Users with administrator access to the manager (user role admin) can use **Configuration** to perform the following tasks.

- Adding management servers and proxies.
- Adding licenses for your management servers.
- Uploading JDBC database drivers to the repository.
- Creating service groups and granting user access to these service groups
- Creating user-defined tabs that are displayed within the manager
- Configuring the tabs that can be viewed by users who do not have user role admin

Administrators can perform these tasks immediately after setting the location of the registry to be used by the manager. An administrator must add at least one management server and proxy before any user can run any services from the manager.

Users with database administrator access to the manager (user role dba) can use **Configuration** to perform the following tasks.

- Adding licenses for your management servers, if users who do not have administrator access are allowed to view **Configuration** > **Management Servers**
- Uploading JDBC database drivers to the repository, if users who do not have administrator access are allowed to view **Configuration** > **Database Drivers**

Service Management

Use **Service Management** to configure, run, and manage services and service sets.

Accessed from the designer

If you access the manager from the designer, **Service Management** lists the services that exist currently in the designer. You can use **Service Management** to run a service, publish the service to the registry set in **Preferences**, or export the service to a file.

Accessed on an application server

If you access the manager on an application server, **Service Management** contains two sections:

- a section that displays a list of services in the registry and a list of service sets in the registry
- a section that displays detailed information about the service or service set that is selected in the first section

Select a service or service set to display additional information about the service or service set:

- **Service Details** shows overview information about the selected service or about each service in the selected service set. You can use this information to diagnose issues that prevent you from running the service. For example, the platform status shows whether the service execution component is configured for the proxy. Also, the driver status shows whether the repository contains a database driver that

matches the driver required by the service. If the service requires software that enables native database access, the native data store status shows whether the native database software is installed and configured on the proxy.

- **Service Plan** shows the service plan for the selected service or for each service in the selected service set. The service plan contains the parameters that are used to run the service. Many types of service allow you to change the values of the parameters that are used to run each service. If you can change the parameter values, you can also reset the parameters to their default values.
- **Service Schedule** shows all existing schedules for the selected service or service set. You can schedule a service or service set once on each management server. You can set the schedule to run once, to repeat after a certain number of hours passes, after a certain number of days passes, or on a certain day of the month. If the day of the month that you specify does not exist in a month, the schedule does not run during that month. If you set the schedule to repeat, you can set the schedule to repeat indefinitely or to repeat until a certain date and time.

Service Monitoring

Use **Service Monitoring** to view a list of service instance records on the manager. A service instance record is created whenever a service or service set is run. Service instance records show the status of each service instance and indicate whether the service instance completed successfully.

Service Monitoring contains two sections:

- The first section contains a list of service instance records.
- The second section contains more detailed information about the service instance that is selected in the first section. You can use this information to diagnose problems if the service does not complete successfully.
  - **Service Results** shows statistics for services that are run with the executor (service type of **Executor**).
  - **Service Output** shows the trace log output for services that are run with the executor and that failed. For services that are run with service execution components other than the executor, **Service Output** shows the result output.

If you access the manager on an application server, you can create filters to limit the types of service instance records that are displayed in **Service Monitoring**. You can filter the list by status, service type, service request type, management server, and service start time. Filters are saved with your user record and are available until you delete the filter.

If you access the manager on an application server, service groups determine which service instance records are displayed under **Service Monitoring**. A user can see a service instance record only if the user has access to all service groups to which all of the associated services belong. For example, user `smith` does not have access to any service groups. User `smith` therefore cannot see any service instance records for any services that belong to a service group. User `smith` also cannot see any service instance records for any service sets that contain services that belong to a service group.

Preferences

Use **Preferences** to set the preferred operation settings for the manager.

User Preferences

User Preferences are available if you access the manager on an application server. Each user can set **User Preferences** for the time intervals at which the manager refreshes its display.

Global Preferences

Global Preferences are available if you access the manager from the designer or if an administrator accesses the manager on an application server.

- Designer users can use **Global Preferences** to set the location of the registry to which they can publish services. Designer users can also set the time intervals at which the manager refreshes its display.
- Administrators can use **Global Preferences** to complete the following tasks.
  - Set the location of the registry whose services can be run from the manager
  - Set the default time intervals for all manager users and the security settings for the manager (such as timeout)
  - Enable service sets and enable secure connections with the management server.

Display Preferences

Each user can use **Display Preferences** to set the color scheme and font size that is used on the local computer. Each user can also select the confirmation dialogs that the user wants to see.

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