

IBM Operational Decision Manager
Version 8 Release 6

Installation Guide



Note

Before using this information and the product it supports, read the information in "Notices" on page 53.

This edition applies to version 8, release 6, modification 0 of Operational Decision Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

© **Copyright IBM Corporation 2008, 2014.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Installing	1
Before you install.	1
Composition of Operational Decision Manager	1
Operational Decision Manager licenses	2
Installable components	2
Software requirements	3
Downloading the product installers.	5
Security	6
Communication protocols	7
Third-party tools	8
Open source software	8
Eclipse	8
Apache Ant.	8
Installing Operational Decision Manager	9
Installing the product with the launchpad	9
Starting the launchpad	10
Installing with the launchpad	11
Installing the product with Installation Manager	13
Installation Manager overview	14
User privileges	14
Package groups and the shared directory	15
Languages.	16
Setting up Installation Manager preferences	16
Running Installation Manager	17
Installing Operational Decision Manager in a compatible IBM product	19
Installing the product in an existing Eclipse environment	20
Installing the required plug-ins and patch level.	20
Extending an existing Eclipse environment	20
Features you can install	21
Installing on multiple workstations	26
Setting the response file for Installation Manager	27
Setting the response file for required software	27
Setting the response file for Decision Center	28
Setting the response file for Decision Server Rules	29

Setting the response file for Decision Server Events	30
Setting the response file for Embedded Rules	32
Setting the response file for the WebSphere Application Server profile templates	32
Installing Operational Decision Manager silently	33
Installing Rule Solutions for Office	35
Checking your installation	35
Folders in the installation directory	36
Menu shortcuts	37
Shortcut commands	38
Starting Rule Designer.	40
Opening Rule Designer	40
Opening Rule Designer in a specific locale	41
Upgrading Operational Decision Manager	42
Uninstalling Operational Decision Manager.	42
What's next?	44
Installing and accessing the documentation locally	44
Downloading the product documentation on your computer	44
Accessing the local contextual help in Rule Designer	45
Running a shared information center on an internal network.	46
Stopping the local help	47
Redirecting contextual help in Rule Execution Server	47
Starting the sample server	48
Troubleshooting the installation.	49
Setting up your environment to automate processes	50
Post-installation configuration	50

Notices	53
Trademarks	55

Installing

You can install IBM® Operational Decision Manager either through the launchpad or through Installation Manager. When you install the product, you can also choose to install a sample server to test the product features, and to run samples and tutorials on WebSphere® Application Server.

Before you install, make sure that you have a valid license for the products that you want to install.

After you install, you can use the silent installation to install Operational Decision Manager on multiple workstations in a network.

Before you install

To improve your installation experience, ensure that you understand the Operational Decision Manager installation concepts and requirements.

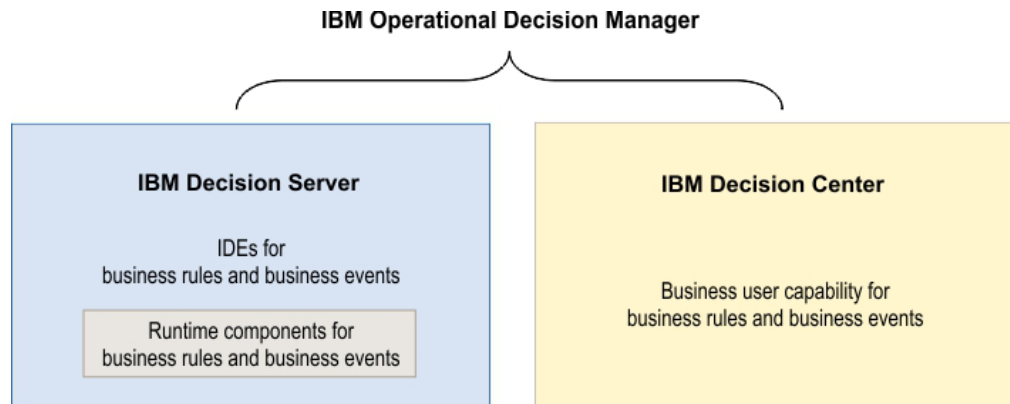
Composition of Operational Decision Manager

When you install Operational Decision Manager, you select a set of components that you install on a distributed operating system. Your product license specifies the components that you can install.

You select the components that you want to install through IBM Installation Manager or through the launchpad. Depending on your license, some components are optional or required. For example, you must select the appropriate profile templates when you install through Installation Manager. However, the profile templates are installed by default through the launchpad.

Any time after you install Operational Decision Manager, you can use Installation Manager to update your installation to add more components. Installation Manager checks that your system has the prerequisite software before you install the new components.

The following figure shows the installable high-level Operational Decision Manager components:



By default, the installation directory for both Decision Server and Decision Center components is the same, that is, they share the same Installation Manager package group directory.

Operational Decision Manager licenses

Your license type determines which components you can install. Install only the components that are available under your license agreement.

Various Operational Decision Manager license types are available.

Table 1. License types and corresponding installable components

License type	Installable components
Decision Server	<ul style="list-style-type: none"> • Decision Server Rules • Rules profile templates for WebSphere Application Server • Decision Server Events • Events profile templates for WebSphere Application Server • Business Rules Embedded
Decision Server Rule Edition	<ul style="list-style-type: none"> • Decision Server Rules • Rules profile templates for WebSphere Application Server
Decision Server Express [®]	<ul style="list-style-type: none"> • Decision Server Rules • Rules profile templates for WebSphere Application Server <p>Decision Server Express grants you access to limited capabilities. For example, you cannot use Decision Server in a cluster environment. Check the terms of your license for more information.</p>
Decision Server Event Edition	<ul style="list-style-type: none"> • Decision Server Events • Events profile templates for WebSphere Application Server
Decision Center	<ul style="list-style-type: none"> • Decision Center • Decision Center profile templates for WebSphere Application Server
Decision Center Express	<ul style="list-style-type: none"> • Decision Center • Decision Center profile templates for WebSphere Application Server <p>Decision Center Express grants you access to limited capabilities. For example, you cannot use Decision Center in a cluster environment. Check the terms of your license for more information.</p>

Installable components

IBM Operational Decision Manager is composed of several components that provide a variety of features. Depending on the type of license that you have, you

can install some or all of the components and their respective features. Ensure that you install only the components for which you have a valid license.

When you install through Installation Manager, you select from the following components:

- Decision Center
- Decision Server Rules
- Decision Server Events
- WebSphere Application Server 8.6 Profile templates for Rules
- WebSphere Application Server 8.6 Profile templates for Events
- Business Rules Embedded

In addition to the product components, you can use Installation Manager or the launchpad to install the required Operational Decision Manager software requirements.

For more information about what software is required, see “Software requirements.”

Related information:

“Installing the product with Installation Manager” on page 13

Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

Software requirements

Before you install Operational Decision Manager, make sure that you have the required software and environments, and sufficient disk space.

If you install Operational Decision Manager through Installation Manager, the software requirements are not installed for you. Alternatively, you can use the launchpad to install the software requirements, including Installation Manager, before you begin the product installation.

The following table displays the software requirements that are supplied as part of the installer.

Table 2. Software requirements for Operational Decision Manager.

Software requirements	Description
Installation Manager 1.7.1	Install Operational Decision Manager product packages through Installation Manager 1.7.1. If you have a version of Installation Manager, ensure that you have the minimum version requirement: Installation Manager 1.7.1.

Table 2. Software requirements for Operational Decision Manager. (continued)

Software requirements	Description
WebSphere Application Server Network Deployment 8.5.5	<p>Use WebSphere Application Server Network Deployment V8.5.5 only if you intend to deploy a sample server or a stand-alone server. You use WebSphere Application Server Network Deployment to run the samples and tutorials, to install the Event runtime, and to use the Event widgets.</p> <p>Note: To install WebSphere Application Server Network Deployment on Linux and AIX® systems, you must set the process resource limits in the <code>/etc/security/limits.conf</code> file. If the value for the number of open files is too low, errors can occur when opening files or establishing connections. To change the open file limit, edit the <code>/etc/security/limits.conf</code> file, and add the following values:</p> <pre>hard nofile 100000 soft nofile 100000</pre>
WebSphere eXtreme Scale 8.6.0	<p>WebSphere eXtreme Scale is required only if you intend to use the Event runtime.</p> <p>WebSphere eXtreme Scale is used to install the Event runtime. You must install WebSphere eXtreme Scale in the directory of WebSphere Application Server.</p>
Eclipse 4.2.2	<p>When you install through Installation Manager, you can choose to extend an existing Eclipse. If you choose to extend your Eclipse, ensure that you have the required version: Eclipse 4.2.2</p> <p>Note:</p> <p>You must update the standard Version of Eclipse 4.2.2. Go to the Known Limitations page to follow the steps that you must take to set update your Eclipse.</p>

For more information about the system and software requirements, see IBM Operational Decision Manager detailed system requirements

Related tasks:

“Installing with the launchpad” on page 11

Run the launchpad to install a typical installation of your Operational Decision Manager product components. When you install through the launchpad, you install your product components and all the available installation features. The launchpad also installs the required software.

Related information:

“Installing the product with Installation Manager” on page 13

Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

Downloading the product installers

To install Operational Decision Manager, you must copy or download the installation disks onto your workstation. If you download the files, you must extract them with an archiving utility of your choice.

About this task

You can install the installation files either through IBM Passport Advantage®, physical DVDs, or a downloadable compressed product offering. Ensure that your installation disks are copied to the same directory.

Procedure

1. Choose the tar file that corresponds to your target operating system.
To avoid any issue with the file extraction, make sure that the path to the directory is short. You can, for example, extract the tar files to the root of your hard disk: `<InstallDir>/ODM86`.
2. Extract the files:
 - If you use WinZip, clear **TAR file smart CR/LF conversion** in **Option > Configuration > Miscellaneous**.
 - If you are an AIX user, you must use both the native UNIX **tar** command and the GNU version of this command because the native utility does not support long file names.

Results

As a result of the extraction, you obtain four folders that are named `disk1`, `disk2`, `disk3`, and `disk4`. Each folder contains the following common elements:

- The launchpad executable file to install the product components along with the required software.
- A set of response files to install the product in silent mode.

Additionally, each folder contains the following components:

- The `disk1` folder contains WebSphere Application Server (WAS directory), IBM SDK Java™ Technology Edition Version 7.0.4.1 for WebSphere (WASJDK7 directory), the Installation Manager repositories (IM and IM64), and WebSphere eXtreme Scale (WXS repository).
- The `disk2` folder contains the Decision Server Rules (DecisionServerRules) directory, the Rules profile templates for WebSphere Application Server (ProfileTemplateRules) directory, and the Embedded rules (ER) directory.
- The `disk3` folder contains the DecisionServerEvents directory and the Events profile templates for WebSphere Application Server (ProfileTemplateEvents).
- The `disk4` folder contains the Decision Center (DC) directory and the Decision Center profile templates for WebSphere Application Server (ProfileTemplateDC).

Related concepts:

“Installing the product with the launchpad” on page 9

Use the launchpad to run a typical installation of Operational Decision Manager. When you install through the launchpad, you install everything that you need to get you up and running with the components that you select. Ensure that you install only the components for which you have a valid license.

“Installing on multiple workstations” on page 26

In some cases, Operational Decision Manager must be installed within a specific configuration on multiple computers. You can install the product components by running Installation Manager in silent installation mode to automate the process, and deploy the products to multiple systems.

“Software requirements” on page 3

Before you install Operational Decision Manager, make sure that you have the required software and environments, and sufficient disk space.

Related information:

“Installing the product with Installation Manager” on page 13

Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

Security

To help you configure applications safely, application servers check access to the resources and manage access rights.

Operational Decision Manager is certified to support Federal Information Processing Standards (FIPS) 140-2 and the National Institute of Standards and Technology (NIST) Special Publications 800-131a security standard.

The FIPS 140-2 standard is an information technology security accreditation program to certify cryptographic modules for use in government departments and regulated industries that collect, store, transfer, share, and disseminate sensitive but unclassified information.

To configure WebSphere Application Server V8.5.5 to run in NIST SP800-131A mode (transition mode or strict mode), go to the following page: [Configuring WebSphere Application Server for SP800-131 standard strict mode](#).

Configuration of a secure mode on an application server provides ways to increase the security of the application that you deploy.

In secure mode, an application server:

- Checks access to the resources: access to a class using the Java reflection mechanism is not permitted without the appropriate security rights.
- Manages access rights: Rule Execution Server Console access is managed with this mechanism.

By default, Rule Execution Server is installed with a minimum of security. The Rule Execution Server Console application defines three specific roles: `resAdministrators`, `resDeployers`, and `resMonitors`. The roles control access to the various JSP/Servlets.

There is no specific permissions implementation for Rule Execution Server MBeans. All that is required to access the MBeans using JMX are the correct credentials.

Java 2 Security provides a policy-based, fine-grain access control mechanism that increases overall system integrity. Java 2 Security is independent of Java EE role-based authorization. Java 2 Security can be disabled and enabled independently of global security. However, on certain application servers when

global security is enabled, Java 2 Security is also enabled. Note that Java 2 security can be disabled even though global security is enabled.

Note: Security configuration of Rule Execution Server might relate to your application, domain, or server-scoped security policy in your enterprise. Review security settings for applications that call Rule Execution Server with your Java EE application architect or system administrator as appropriate.

You complete the installation of Decision Center and Rule Execution Server by using an Installation Settings wizard. For Decision Center, the Installation Settings wizard helps you create the correct groups in your application server when you set up security access. For Rule Execution Server, the Installation Settings wizard helps you create the correct type of database schemas.

Communication protocols

Rule Execution Server support HTTP and the secured HTTPS communication protocol. You can customize the protocol factory.

Communication with Rule Execution Server supports the HTTP or HTTPS communication protocols. Communication with Rule Execution Server can occur from Decision Center or Rule Designer.

You can customize the communication in two ways:

- To support nontrusted certificates in secure mode.
- To support custom protocols.

Secure mode

By default, HTTPS supports only trusted certificates. As a consequence, when you communicate with Rule Execution Server in secure mode, you cannot connect using a demo certificate that is not trusted by the default JVM. Your application server raises an SSL handshake exception if you try to connect using a nontrusted demo certificate. To enable communication to work with nontrusted certificates, add the following Java system property in the start script of the application server:

```
-Dilog.rules.res.allowSelfSignedCertificate=true
```

To allow HTTPS on nontrusted self-signed certificates for Ant tasks, set the Java system property `ilog.rules.res.allowSelfSignedCertificate` to `true`, as follows:

```
<property name="ilog.rules.res.allowSelfSignedCertificate" value="true"/>
```

Custom protocols

You can customize the protocol factory for a specific protocol by using the following system properties:

- `custom.protocol.factory`: The fully qualified name of the protocol factory.
- `custom.protocol.scheme`: The protocol name for which the protocol factory is customized.
- `custom.protocol.defaultPort`: The default port used for the protocol if no port is specified in the URL.

You must launch the JVM that initiates the HTTP communication with these system properties and your implementation of the protocol factory class `org.apache.commons.httpclient.protocol.ProtocolSocketFactory` in the class path.

The protocol factory specified in `custom.protocol.factory` is instantiated and registered if both the following conditions are satisfied:

- The HTTP client is instantiated.
- The protocol in the URL used for communication is the same as the value of the property `custom.protocol.scheme`.

You can implement the protocol in one of the following ways:

- Execute an Ant task with the system properties:

```
-Dcustom.protocol.factory=com.ilog.MyProtocolFactory  
-Dcustom.protocol.scheme=https -Dcustom.protocol.defaultPort=443
```

- Add the properties to the `build.xml` file:

```
<property name="custom.protocol.factory" value="com.ilog.MyProtocolFactory"/>  
<property name="custom.protocol.scheme" value="https"/>  
<property name="custom.protocol.defaultPort" value="443"/>
```

Third-party tools

When you install Operational Decision Manager, you also install some open source third-party software tools.

Open source software

Operational Decision Manager includes a number of third-party open-source libraries and tools to enhance your user experience with the product.

- “Eclipse”
- “Apache Ant”

IBM gratefully acknowledges the work of the Open Source community and the many independent developers that build and support these Open Source packages.

The open source packages are provided to enhance Operational Decision Manager. The packages are not supported by IBM and IBM does not endorse their suitability for production use. For support, refer to the relevant user community through the Home Page for each package.

Eclipse

Optionally, you can install Eclipse if you do not already have a version of this IDE installed.

The standard Operational Decision Manager installer provides Eclipse as an optional environment for the convenience of users. Eclipse is required for successful application development with Operational Decision Manager, but users can choose to install Operational Decision Manager onto an existing, version compatible, Eclipse installation. You do not have to incorporate Eclipse into applications that you develop using Operational Decision Manager. However, certain features might require that specific Eclipse libraries be included in the final application.

Apache Ant

Apache Ant is installed to provide a preconfigured build and deployment scripts.

Version 1.7.1 of Ant, the Java-based build tool, is provided in the <InstallDir>/shared/tools/ant directory.

For more information about Ant, see <http://ant.apache.org>.

Ant is installed as part of the Operational Decision Manager installation. It provides a preconfigured build and deployment scripts. These scripts are integral to development of applications that incorporate Operational Decision Manager and can be useful as an element of the final application. However, they are not mandatory elements of Operational Decision Manager applications. In Operational Decision Manager powered applications, all product features are fully functional even if Ant has not been incorporated into the final application.

Installing Operational Decision Manager

Install Operational Decision Manager through one of two installation methods. Depending on your installation needs, you can install the product through the launchpad or through Installation Manager. After you complete the installation, you can perform a silent installation to deploy Operational Decision Manager on multiple workstations in a network.

Installing the product with the launchpad

Use the launchpad to run a typical installation of Operational Decision Manager. When you install through the launchpad, you install everything that you need to get you up and running with the components that you select. Ensure that you install only the components for which you have a valid license.

You can find and start the launchpad from <disk1>. When you install through the launchpad, you install all of the features, the default environments, and the software requirements for the components that you select. For example, the launchpad installs Installation Manager and the appropriate profile templates for WebSphere Application Server. The default application server for Operational Decision Manager is WebSphere Application Server.

After you install, the sample server does not require any configuration. The profile is created the first time that you start the sample server.

Related tasks:

“Installing with the launchpad” on page 11

Run the launchpad to install a typical installation of your Operational Decision Manager product components. When you install through the launchpad, you install your product components and all the available installation features. The launchpad also installs the required software.

“Uninstalling Operational Decision Manager” on page 42

Use Installation Manager to uninstall components or the entire Operational Decision Manager product.

Related information:

“Installing the product with Installation Manager” on page 13

Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

Starting the launchpad

Double-click one of the launchpad executable files, either `launchpad.exe` or `launchpad64.exe`. You can find the launchpad executable files in `<disk1>` of the installation disks.

Before you begin

Save and extract the installation files on your workstation.

Review your user privileges carefully. If you decide to change the default installation directory for Windows 7, ensure that you are aware of the user privilege¹ limitations for directories under Program Files and Program Files (x86). Your user privileges depend on your installation of Installation Manager, and you must install the product with the same user privileges.

Important:

On Windows 7, the Program Files and Program Files (x86) directories are protected. As a consequence, if you do not install the product as an administrator, you might encounter difficulties to run certain programs. To avoid this issue, install the product in a directory other than Program Files and Program Files (x86).

You must have a web browser to run the launchpad. The launchpad supports Firefox and Internet Explorer.

About this task

Start the launchpad from `<disk1>` of the installation disks.

On Windows, if you want to install the product as an administrator, the user privileges that are required for installing it depend on your version of Windows.

- On Windows 7: You must log in with an account that has administrator privileges to install or update IBM Installation Manager and the other products. Run the installer as Administrator by right-clicking the program file or shortcut and selecting **Run as Administrator**.

If you want to install the Operational Decision Manager components with an existing version of Installation Manager that you have on your workstation, make sure that the **User Account Control** setting in the **Control Panel** is not set at the lowest value. If this value is set to the minimum, the launchpad automatically opens in administrator mode and installs a new version of Installation Manager in addition to your existing version of Installation Manager.

- On other supported Windows versions: If you want to install as an administrator, you must have a user ID that belongs to the Administrator group.

Procedure

To start the launchpad, double-click the launchpad executable file:

- On Windows, start `launchpad.exe`, or `launchpad64.exe`. The executable file determines whether the launchpad is run in 32-bit or 64-bit mode. It does not determine whether you install a 32-bit or a 64-bit Operational Decision Manager installation.

1. "User privileges" refer to the administrator and nonadministrator installation options.

To install the product as an administrator on Windows 7, right-click the executable file and select **Run as Administrator**

- On Linux, start `./launchpad.sh`.

What to do next

The launchpad guides you through the installation process. Select the components and options that respond to your installation needs.

Related information:

“Installing with the launchpad”

Run the launchpad to install a typical installation of your Operational Decision Manager product components. When you install through the launchpad, you install your product components and all the available installation features. The launchpad also installs the required software.

Installing with the launchpad

Run the launchpad to install a typical installation of your Operational Decision Manager product components. When you install through the launchpad, you install your product components and all the available installation features. The launchpad also installs the required software.

Before you begin

Review your license and install only the components for which you have a valid license.

About this task

The launchpad guides you through the installation. When you start the launchpad, you must first select from the components under Decision Server and Decision Center. Select the components for which you have a valid license.

Through the launchpad, you can also select your configuration options.

Procedure

To install IBM Operational Decision Manager through the launchpad:

1. Start the launchpad. You can start the launchpad from `<disk1>`.
2. On the Welcome page, select your product licenses under Decision Server and Decision Center. Click **Next** to continue your installation.
3. Select your installation options.
 - a. Are you installing for production purposes? After you install, is your product used to server users and clients? If so, select **Yes**. If not, select **No**.
 - b. For Decision Server, select whether you want to install the rules or events capabilities, or both.
 - c. The default application server is WebSphere Application Server. If you want to install artifacts for other application servers, select **JBoss**, **Tomcat**, or **Oracle WebLogic**.
 - d. If you want to install the tutorials and samples, select **Yes**.

Select **Next**.

4. Under Installation Information, specify a directory in which to install your product.

- a. In Windows 7, if you run the launchpad in user mode, the default installation directory is C:\Users\IBM_ADMIN\IBM\ODM86
 - b. In Windows 7, if you run the launchpad as an administrator, the default installation directory is C:\Program Files\IBM\ODM86
 - c. To specify a location other than the default location, click **Browse**. Note, however, that on Windows 7, the Program Files and Program Files (x86) directories are protected. Install the product in a directory other than Program Files or Program Files (x86) to avoid any user privilege difficulties.
5. Specify a user name and password. You use the user name and password to sign in to Decision Center, the WebSphere Application Server administration console, and use other applications such as the Event widgets. Enter a user name and password that do not have spaces. The following is an example of an acceptable user name and password:
- **User Name:** ODMadmin
 - **Password:** ODMadmin

Important:

For security reasons, you must change your password and remove the temporary response files that are created by the launchpad after the installation is complete. These files are generated during the installation process in these directories:

- On Windows: %TEMP%\IBM_LaunchPad_Typical_Install_<hash_key>
- On UNIX: /tmp/IBM_LaunchPad_Typical_Install<hash_key>

6. Click **Next**.
7. Review the license agreement and installation summary, and select the check box to agree to the terms. If you do not select the check box, you cannot continue with the installation.
8. Click **Install Software**. The installation begins.

During the installation, the installer prompts you to confirm that you want to run the Installation Manager and other installation programs, click **Yes** to accept.

The installation runs in the background. Do not close the launchpad even if the progress bar shows 100% completion. Wait until the following message is displayed: Installation completed successfully.

If you cancel the installation before its completion, the files and folders that are already copied onto your computer are not deleted. You must uninstall the products that the launchpad already installed with the Installation Manager, and manually delete the remaining files before you run the launchpad again. For more information, see “Uninstalling Operational Decision Manager” on page 42.

9. Click **Next** to exit the launchpad.

Results

When the installation is complete, your product components are installed on your workstation.

By default, they are installed in the following directories:

- Operational Decision Manager: <IBM_InstallDir>/ODM86/ODM, where <IBM_InstallDir> refers to your IBM installation directory.

- WebSphere eXtreme Scale and WebSphere Application Server:
<IBM_InstallDir>/ODM86/WAS/AppServer, where <IBM_InstallDir> refers to your IBM installation directory.

What to do next

Start the sample server with the **Start** menu shortcut. A profile is configured on WebSphere Application Server Network Deployment to run the included samples and tutorials.

Related concepts:

“Post-installation configuration” on page 50

After you install and check your installation, consult the configuration topics for information about setting up your product. Depending on the installation option that you select, you might have some configuration work to do.

“Installing the product with the launchpad” on page 9

Use the launchpad to run a typical installation of Operational Decision Manager. When you install through the launchpad, you install everything that you need to get you up and running with the components that you select. Ensure that you install only the components for which you have a valid license.

“Software requirements” on page 3

Before you install Operational Decision Manager, make sure that you have the required software and environments, and sufficient disk space.

Related information:

“Installing the product with Installation Manager”

Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

Installing the product with Installation Manager

Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

You must have an existing Installation Manager to install Operational Decision Manager through Installation Manager. You must also ensure that you have the required software.

When you install through Installation Manager, you select your Operational Decision Manager components, features, and environments. Contrary to the launchpad, you can select more finely the features that you want to install.

To install the Operational Decision Manager components, Installation Manager must access the repositories for the components that you want to install. Edit the preferences in Installation Manager to set the path to these repositories.

Related concepts:

“Installing the product with the launchpad” on page 9

Use the launchpad to run a typical installation of Operational Decision Manager. When you install through the launchpad, you install everything that you need to get you up and running with the components that you select. Ensure that you

install only the components for which you have a valid license.

“Software requirements” on page 3

Before you install Operational Decision Manager, make sure that you have the required software and environments, and sufficient disk space.

“Upgrading Operational Decision Manager” on page 42

When you upgrade Operational Decision Manager, you uninstall your current product version and then install Operational Decision Manager V8.6.

Related tasks:

“Installing with the launchpad” on page 11

Run the launchpad to install a typical installation of your Operational Decision Manager product components. When you install through the launchpad, you install your product components and all the available installation features. The launchpad also installs the required software.

“Uninstalling Operational Decision Manager” on page 42

Use Installation Manager to uninstall components or the entire Operational Decision Manager product.

Installation Manager overview

Install and maintain your IBM products with IBM Installation Manager.

Operational Decision Manager makes use of the basic Installation Manager features:

- Select a language pack within the installer.
- Update an existing product package.
- Modify an existing product package.
- Roll back a product package.
- Uninstall a product package.

When you use Installation Manager, select your user privileges carefully. You must also be aware of a few concepts, such as package groups, the shared directory, and the Eclipse languages.

User privileges:

You can install Operational Decision Manager as an administrative user (root) or as a nonadministrative user (nonroot).

You must use the same user to install the required software, for example you must install Operational Decision Manager and WebSphere Application Server using the same user.

For more information on the Installation Manager guidelines, see Group road maps and the user interface and Install as an administrator, non-administrator, or group in the Installation Manager documentation.

Administrator user

If you want the administrator user (root) to install products on a computer, run the `install` executable file that is in the Installation Manager directory.

Nonadministrator user

If you want a specific user to install products on a computer, run the `userinst` executable file that is in the Installation Manager directory.

If you want a group of users to install products on a computer, run the groupinst executable file. If you install Installation Manager using the group mode, you can install Installation Manager by using one account and offerings by using another account that is in the same group.

Note:

The group mode is not supported on Windows.

For more information, see Installation commands in the Installation Manager documentation.

Package groups and the shared directory:

Installation Manager always installs Operational Decision Manager in a package group, which is used to group multiple packages into one manageable location.

Installation Manager specifies a default “Package group” and a “Shared resources directory.”

Package group

A package group is a directory where compatible packages share common components such as a user interface or workbench.

You can create a package group or install the packages into an existing compatible package group. Some packages cannot share a package group, in which case the option to use an existing package group is disabled.

You might want to install the product in an existing package group if you installed supported versions of compatible products such as IBM Integration Designer or Rational® Application Developer, or Rational Software Architect, and you want to extend it with Rule Designer and Event Designer features. For more information, see “Installing Operational Decision Manager in a compatible IBM product” on page 19.

When you install several packages at the same time, all the packages are installed into the same package group. After you create the package group, you cannot change the installation directory. The installation directory contains files and resources that are specific to Operational Decision Manager.

Shared resources directory

The shared resources directory is where Eclipse plug-ins and other files are located so that they can be used by one or more product package groups. You can specify the shared resources directory only the first time that you install a package. The name of the shared resources directory depends on the first product that you have installed.

You cannot change the directory location until you uninstall all packages.

Important: Installation Manager manages the contents of the shared resources directory. You must not edit or modify any files in this directory.

Related tasks:

“Installing Operational Decision Manager in a compatible IBM product” on page 19

You can install Operational Decision Manager in a compatible IBM product package group to share functions and a common user interface.

Languages:

During the installation, you can select the languages to install. English is selected by default and it is always installed.

Language selection applies only to Eclipse features. A language pack is installed for each language that you select so that you can start Eclipse in the locale for these languages.

If you are extending an existing Eclipse, you must select the languages for which you already have the language packs installed. If you select a language that is not already installed in your existing Eclipse, you might get an error. To solve this issue, clear the languages that are not installed in your Eclipse.

The Rule Designer user interface is installed with all the supported locales. Therefore, even if you do not install a certain locale, for example French, the Rule Designer views and editors in Eclipse are still shown in this language (French) if you start Eclipse in this locale.

Setting up Installation Manager preferences

Before you install through Installation Manager, you must add the Operational Decision Manager installation directories to the Installation Manager preferences.

Procedure

1. Start Installation Manager from the Windows **Start** menu or from a command line.
2. Click **File > Preferences** and specify the repository locations:
 - IBM Decision Server Rules: <extractionDir>/disk2/DecisionServerRules/repository.config
 - Rules profile templates for WebSphere Application Server: <extractionDir>/disk2/ProfileTemplateRules/repository.config
 - IBM Decision Server Events: <extractionDir>/disk3/DecisionServerEvents/repository.config
 - Events profile templates for WebSphere Application Server: <extractionDir>/disk3/ProfileTemplateEvents/repository.config
 - IBM Decision Center: <extractionDir>/disk4/DC/repository.config
 - Decision Center profile templates for WebSphere Application Server: <extractionDir>/disk4/ProfileTemplateDC/repository.config
 - Business Rules Embedded: <extractionDir>/disk2/ER/repository.config

Installation Manager retrieves the product packages from the specified repository locations.

For more information on how to set repository locations, see Repository preferences.

What to do next

After you point to the installation directories, you can start the Installation Manager installation and select your installation repositories.

Related information:

“Running Installation Manager”

Start Installation Manager to install one or more Operational Decision Manager components on your workstation. You must have an existing Installation Manager and the required software to install through the Installation Manager.

“Installable components” on page 2

IBM Operational Decision Manager is composed of several components that provide a variety of features. Depending on the type of license that you have, you can install some or all of the components and their respective features. Ensure that you install only the components for which you have a valid license.

“Downloading the product installers” on page 5

To install Operational Decision Manager, you must copy or download the installation disks onto your workstation. If you download the files, you must extract them with an archiving utility of your choice.

Running Installation Manager

Start Installation Manager to install one or more Operational Decision Manager components on your workstation. You must have an existing Installation Manager and the required software to install through the Installation Manager.

Before you begin

Install Installation Manager 1.7.1 and the required software to install Operational Decision Manager through Installation Manager.

Specify the repository locations in the Installation Manager preferences. For more information, see “Setting up Installation Manager preferences” on page 16.

About this task

When you install Operational Decision Manager through Installation Manager, you select the product packages for which you have a valid license. Then, you can select the features that you want to install.

Follow the Installation Manager panels to select the options that correspond to your installation needs:

- Select your product packages
- Review the license agreements
- Select a package group and installation directory
- Select languages
- Select features
- Locate your instance of WebSphere Application Server
- Enter a user name and password
- Identify your installation needs: production or nonproduction
- Select your licenses

Procedure

Install Operational Decision Manager with Installation Manager:

1. From the Installation Manager welcome page, select **Install**.
2. Select the installation packages that correspond to your installation needs and license entitlements. Then, click **Next**.

Ensure that you select the profile templates that correspond to your installation. For example, if you select Decision Center, make sure that you also select the Decision Center profile templates for WebSphere Application Server.

You can install one or all of the packages on the same workstation. For more information about the features included in each package, see “Features you can install” on page 21.

3. Review the license agreements for the selected packages. If you agree, select **I accept the terms of the license agreements**, and then click **Next**. If you select **I do not accept the terms in the license agreements**, you cannot continue with the installation.
4. Select a package group:
 - a. Select **Create a new package group** to create a new package group for Operational Decision Manager.
The default package group is ODM86 and its name is IBM Operational Decision Manager.

Important:

On Windows 7, you can change the default installation directory to a location outside of Program Files and Program Files (x86) to avoid user privilege conflicts.

The Program Files and Program Files (x86) directories are protected. You must install Operational Decision Manager with the same user privileges that you use to install Installation Manager to run your programs correctly. For example, if you want to install under Program Files, you might have to install as an administrator. To avoid issues, install the product in a directory outside the Program Files or Program Files (x86). For more information, see “Package groups and the shared directory” on page 15

- b. Click **Next** to continue.
For more information, see “Package groups and the shared directory” on page 15 and “Installing Operational Decision Manager in a compatible IBM product” on page 19.
5. Option: If you want to extend your packages to an existing version of Eclipse, click **Extend an existing Eclipse**, and then click **Browse** to locate your `eclipse.exe` file.
6. Select the languages to install for this package, and then click **Next**.
For more information, see “Languages” on page 16.
7. Select the product features that you want to install, and then click **Next**.
A set of features is already selected by default. For more information on the features, see “Features you can install” on page 21.
8. Select **Application Server Location**, and browse to your installation of WebSphere Application Server where you want to deploy the applications, and then click **Next**. For example `<IBM_InstallDir>/WebSphere/AppServer`.
By default, Operational Decision Manager supports JDK7. If you have an existing WebSphere Application Server that runs JDK6, you must upgrade your JDK version by using the installation option IBM WebSphere SDK Java Technology Edition version 7.0.4.1.
9. Select **Server Security**, and enter a user ID and password for the sample server profile on WebSphere Application Server, and then click **Next**. Your user ID and password must not contain any white spaces. For example:

- User ID: odmadmin
- Password: odmadmin

You use the user ID and password to connect to the WebSphere Application Server administrative console, the Event Widgets and the Events Administration console.

10. Select the configuration that you require on the Licenses panel. If you intend to use your installation to server end-users and clients, select **Yes**. If not, select **No**.
11. On the Summary page, review the selected features before you install the packages, and then click **Install**.
12. Wait until the installation is complete, and then click **Finish**.

Results

The product is installed in the directory that you specify when you install. The default installation directory is `<IBM_InstallDir>/ODM86`, where `<IBM_InstallDir>` refers to your IBM installation directory.

The products and features that are installed depend on what you selected in Installation Manager, see “Checking your installation” on page 35.

What to do next

To find out what your next steps are and how to get started with your installation, see “Post-installation configuration” on page 50.

Related concepts:

“Troubleshooting the installation” on page 49

If you encounter difficulties installing the products, you can check the installation logs or the limitations and known issues technote.

Related information:

“Installing the product in an existing Eclipse environment” on page 20

Installation Manager installs by default a new instance of Eclipse. However, if you already have a supported version of Eclipse, you can choose to extend your existing Eclipse.

Installing Operational Decision Manager in a compatible IBM product

You can install Operational Decision Manager in a compatible IBM product package group to share functions and a common user interface.

About this task

You can install Operational Decision Manager in the package groups of one of the following products:

- IBM Eclipse SDK
- Rational Application Developer
- Rational Developer for z (RDz)
- Rational Software Architect

Before you start the installation, make sure that the repository locations of these products are not selected in the preferences of Installation Manager.

Go to the following support page to check the supported versions:

- IBM Operational Decision Manager detailed system requirements

Procedure

1. When prompted to select a package group in Installation Manager, select **Use the existing package group**.
Installation Manager displays the list of package groups available. The package groups that are not compatible are disabled.
2. Select the destination package group.
The installation directory is automatically filled with the path to the selected product.
3. Continue the installation.

Related concepts:

“Package groups and the shared directory” on page 15

Installation Manager always installs Operational Decision Manager in a package group, which is used to group multiple packages into one manageable location.

Installing the product in an existing Eclipse environment

Installation Manager installs by default a new instance of Eclipse. However, if you already have a supported version of Eclipse, you can choose to extend your existing Eclipse.

Installing the required plug-ins and patch level:

Before you install the product in an existing Eclipse environment, make sure that it contains the required plug-ins, and that the current patch level is installed.

Before you begin

Rule Designer requires Eclipse SDK 4.2.2. Be sure to install the appropriate patch level. For more information about obtaining the right patch level, see Operational Decision Manager V8.5 Known Limitations. Follow the procedure that is documented on the known limitations page.

Procedure

1. Install and extract the correct patch.
2. Select **Eclipse > Help > Install new software**.
3. Enter a name in the Name field and click **OK**.
4. Clear the **Group items by category**. The six software features display.
5. Click **Next** twice.
6. Accept the terms of the license agreement.
7. When the installation is complete, select **Yes** to restart.

Results

You can now extend your Operational Decision Manager components in Eclipse.

Extending an existing Eclipse environment:

If the required plug-ins are installed, you can extend your current Eclipse environment.

Before you begin

The Eclipse instance to extend must contain an initialization (.ini) file. If there is no such file, you must create one in the same folder as your Eclipse .exe file. The .ini file must have the same name as the Eclipse executable file. For example, eclipse.exe and eclipse.ini.

About this task

The package files are installed in the package group directory that you select, but the package functions are available in your Eclipse.

Procedure

1. In Installation Manager, when you are prompted to define your Eclipse, select the check box **Extend an existing Eclipse**.
2. Browse to your compatible Eclipse IDE installation.
3. Continue the installation.

Features you can install

In Installation Manager, you can select the features that you want to install within each Operational Decision Manager component.

A default set of features is preselected but you can add or remove features depending on your needs. For a detailed description of the installable components and features, see the following sections:

- “Decision Center features”
- “Decision Server features” on page 23
- “Profile templates for WebSphere Application Server” on page 26
- “Business Rules Embedded” on page 26

Installation Manager automatically enforces any dependencies between features and prevents you from clearing these dependencies.

After you finish installing the packages, you can add or remove features from your product with the **Modify Packages** wizard in Installation Manager.

Decision Center features

The following table describes the features available for selection in the IBM Decision Center component.

Table 3. Decision Center features

Feature	Description
<p>Decision Center</p>	<p>An environment for business users to author, manage, and test their business and event rules. It includes a repository for storing business and event rules, and web interfaces (Decision Center Business Console and Decision Center Enterprise Console) for business users to manage decisions.</p> <p>By default, Decision Center is installed on the sample server profile on WebSphere Application Server. After you complete the installation of the product, you can also configure and deploy Decision Center on a different WebSphere Application Server profile, or install it on other supported application servers. However, the Decision Center Business Console is supported on WebSphere Application Server V8.5.5 only.</p>
<p>Decision Center: Installation artifacts for other application servers > Decision Center for Tomcat</p>	<p>Provides the archives to deploy and configure Decision Center on Tomcat. The archives are copied to <code><InstallDir>/teamserver/applicationservers/tomcat</code>.</p> <p>For more information, see Configuring.</p>
<p>Decision Center: Installation artifacts for other application servers > Decision Center for JBoss</p>	<p>Provides the archives to deploy and configure Decision Center on JBoss. The archives are copied to <code><InstallDir>/teamserver/applicationservers/JBoss</code>.</p> <p>For more information, see Configuring.</p>
<p>Decision Center: Installation artifacts for other application servers > Decision Center for WebLogic Server</p>	<p>Provides the archives to deploy and configure Decision Center on WebLogic Server. The archives are copied to <code><InstallDir>/teamserver/applicationservers/WebLogic</code>.</p> <p>For more information, see Configuring.</p>
<p>Rule Solutions for Office (for Windows only)</p>	<p>Rule Solutions for Office provides a way for business users to create and edit business rules in Microsoft Word or Excel.</p> <p>This option copies the installer for Rule Solutions for Office to your installation directory. The executable file for the installer is copied to <code><InstallDir>/Rule Solutions for Office/RuleSolutionsForOffice.exe</code>, see “Installing Rule Solutions for Office” on page 35</p>
<p>Samples and Tutorials</p>	<p>Installs the projects for the samples and tutorials, and provides the sample server profile to run the samples and tutorials on WebSphere Application Server.</p> <p>WebSphere Application Server is a prerequisite for this option.</p>

Table 3. Decision Center features (continued)

Feature	Description
Local help system	<p>The local help system option is selected by default. Eclipse users who want to access the local help through the F1 key must install the product documentation locally.</p> <p>For more information, see Installing and accessing the documentation locally.</p> <p>Important: The local help system does not work on 64-bit platforms, such as Red Hat Enterprise Linux (RHEL) that do not have a 32-bit compatibility library installed.</p>

Decision Server features

The following table shows the features in the IBM Decision Server package.

Table 4. Components shared between Decision Server Rules and Decision Server Events.

Shared components	Description
Samples and Tutorials	<p>Installs the projects for the samples and tutorials, and provides the sample server profile to run the samples and tutorials on WebSphere Application Server.</p> <p>WebSphere Application Server is a prerequisite for this option.</p>
Update sites for installation into other Eclipse products	<p>Provides compressed files that contain the Eclipse update sites (and a copy of the Designer plug-ins) to install Rule Designer and Event Designer features into an existing Eclipse. This feature provides an alternative way of installing the Designer plug-ins into a supported Eclipse after the installation of Operational Decision Manager.</p> <p>For more information, see Extending Eclipse with the Rule Designer update sites.</p>
Local help system	<p>The local help system option is selected by default. Eclipse users who want to access the local help through the F1 key must install the product documentation locally.</p> <p>For more information, see Installing and accessing the documentation locally.</p> <p>Important: The local help system does not work on 64-bit platforms, such as Red Hat Enterprise Linux (RHEL) that do not have a 32-bit compatibility library installed.</p>

Table 5. Decision Server Rules

Decision Server Rules Features	Description
Rule Designer	Rule Designer is a development environment within Eclipse to design business rule applications. It is aimed at developers, business analysts, and architects. The Rule Designer views and editors are available from the Rule perspective in Eclipse.
Rule Designer > Scorecard Modeler	Scorecard Modeler is a set of extra plug-ins that are integrated into Rule Designer. You can use Scorecard Modeler to create scorecards, integrate them into your business rules, and share them across multiple platforms.
Rule Execution Server	<p>Rule Execution Server is an execution platform for business rules that embeds the rule engine. It also provides a console to manage and monitor the execution of business rules.</p> <p>By default, Rule Execution Server is installed on the sample server profile on WebSphere Application Server. After you complete the installation of the product, you can also configure and deploy Rule Execution Server on a different WebSphere Application Server profile, or install it on other supported application servers.</p> <p>Select your intended use in accordance with your license type:</p> <p>Non-production license Select this option if you want to use the product for development purposes.</p> <p>This license can be deployed only as part of development and test environment for internal non-production activities.</p> <p>Production license Select this option if you want to use the product for production.</p>
Rule Execution Server: Installation artifacts for other application servers > Rule Execution Server for Tomcat	<p>Provides the archives to deploy and configure Rule Execution Server on Tomcat. The archives are copied to <InstallDir>/executionserver/applicationserver/tomcat.</p> <p>For more information on how to use the archives to deploy and configure Rule Execution Server, see Configuring Rule Execution Server.</p>

Table 5. Decision Server Rules (continued)

Decision Server Rules Features	Description
Rule Execution Server: Installation artifacts for other application servers > Rule Execution Server for JBoss	<p>Provides the archives to deploy and configure Rule Execution Server on JBoss. The archives are copied to <InstallDir>/executionserver/applicationservers/JBoss.</p> <p>For more information on how to use the archives to deploy and configure Rule Execution Server, see Configuring Rule Execution Server.</p>
Rule Execution Server: Installation artifacts for other application servers > Rule Execution Server for WebLogic Server	<p>Provides the archives to deploy and configure Rule Execution Server on WebLogic Server. The archives are copied to <InstallDir>/executionserver/applicationservers/ WebLogic.</p> <p>For more information on how to use the archives to deploy and configure Rule Execution Server, see Configuring Rule Execution Server.</p>

Table 6. Decision Server Events

Decision Server Events features	Description
WebSphere Application Server is a prerequisite for Decision Server Events.	
Event Designer	A development environment within Eclipse to design, develop, test, deploy, and monitor event applications. Event Designer is available from the Event perspective in Eclipse.
Runtime > Event Runtime	<p>The event runtime is an execution platform that manages real-time business event coordination. The event runtime requires WebSphere eXtreme Scale and must be deployed and configured on WebSphere Application Server.</p> <p>Select your intended use in accordance with your license type:</p> <p>Non-production license Select this option if you want to use the product for development purposes.</p> <p>This license can be deployed only as part of development and test environment for internal non-production activities.</p> <p>Production license Select this option if you want to use the product for production.</p>
Runtime > Event Tester Enabler	If Event Tester Enabler is selected, then the Event Tester widget is available.

Table 6. Decision Server Events (continued)

Decision Server Events features	Description
Runtime > Event Connectors (Legacy)	Event connectors provide data connections between the event runtime and external systems. Legacy connectors include email and ftp.
Event Widgets for Decision Server	The Event Tester widget provides a way to test the event logic in a business process. This widget is aimed at testing and must be used only on a test installation. Do not use it on a production installation as it might affect performance.
Integration Components	You can install integration components into the tooling of WebSphere ESB and WebSphere Message Broker to allow these products to send and receive data from Decision Server Events.

Profile templates for WebSphere Application Server

When you install one of the Decision Server Events, Decision Server Rules, or Decision Center features, you must also install the corresponding profile templates. There are three profile templates:

- Rules profile templates for WebSphere Application Server
- Events profile templates for WebSphere Application Server
- Decision Center profile templates for WebSphere Application Server

These components contain the events and rules template profiles and runtime that are required to deploy Operational Decision Manager on a WebSphere Application Server.

For details on profile templates, see Operational Decision Manager profile templates.

Business Rules Embedded

With Business Rules Embedded, you can use business rules to dynamically configure the behavior of an Eclipse Rich Client Platform (RCP) application or a Dojo-based web application.

For detailed information about this component, see Business Rules Embedded.

Installing on multiple workstations

In some cases, Operational Decision Manager must be installed within a specific configuration on multiple computers. You can install the product components by running Installation Manager in silent installation mode to automate the process, and deploy the products to multiple systems.

You perform a silent installation by running Installation Manager with response files that correspond to the products that you want to install. Template response files are provided with the installer to help you perform a silent installation.

Setting the response file for Installation Manager

Configure the response file for Installation Manager to install Installation Manager silently.

About this task

In silent mode, there is no interaction with the Installation Manager user interface.

Operational Decision Manager is bundled with Installation Manager version 1.7.1. Installation Manager version 1.7.1 or later is required to install the Operational Decision Manager products.

Procedure

To install Installation Manager silently:

1. Go to the location where you extracted the Operational Decision Manager installation disks and go to `<InstallDir>/disk1/IM/`.
If you use Windows 64-bit or Linux 64-bit, the directory is `<InstallDir>disk1/IM64`.
2. Go to the directory `diskX/responsefiles`.
The `responsefiles` directory is available from any disk.
3. In the file `IM_Silent.xml`, replace `!IM_REPOSITORY!` with the path to the directory where the Installation Manager installer is located. A typical value is `<install_root>/disk1/IM`.

What to do next

After you install Installation Manager, you must set the response files for the Operational Decision Manager prerequisites and components that you want to install.

Setting the response file for required software

WebSphere Application Server and WebSphere eXtreme Scale are prerequisites to the installation of the other Operational Decision Manager packages. WebSphere eXtreme Scale is required if you want to install Decision Server Events. You can install them silently using the provided response files.

About this task

Installation Manager uses response files to run the installation in silent mode. The following procedure explains how to set up the provided response files to run a silent installation for WebSphere Application Server and WebSphere eXtreme Scale.

Procedure

Setting up the response file for WebSphere Application Server

1. Go to the location where you extracted the Operational Decision Manager installation disks and go to: `diskX\responsefiles`.
Response files are available on any disk.
2. Open the `was_and_jdk_silent.xml` silent file in a text editor.
3. Replace `!WAS_REPOSITORY!` with the path where the WebSphere Application Server installer is located. For example: `<install_root>\disk1\WAS`.

4. Replace !WAS_JDK_REPOSITORY! with the path where your WebSphere Application Server JDK is located. For example: <install_root>\disk1\WASJDK7.
5. Replace the variable !WAS_PROFILE! by any string. This value is used by Installation Manager to give a name to the WebSphere Application Server installation profile. The default value is WebSphere Application Server V8.5.5.
6. Replace the variable !WAS_INSTALL_LOCATION! by the path to the directory where you want to install WebSphere Application Server. For example: c:\Program Files\IBM\WAS.
7. If you want to install WebSphere Application Server in 64-bit mode, replace the variable !BIT_64! by the value indicated in the file.
8. Replace the variable !WAS_SDK6_BIT_VERSION! by the value com.ibm.sdk.6_32bit or com.ibm.sdk.6_64bit depending on whether you want to install a 32-bit or a 64-bit WebSphere Application Server.
9. Save the was_and_jdk_silent.xml silent file.

Setting up the response file for WebSphere eXtreme Scale

10. Go to the location where you extracted the Operational Decision Manager installation disks and go to diskX/responsefiles.
11. Open the WXS_Silent.xml silent file in a text editor.
12. Set the variable !WAS_PROFILE! found in <offering id='com.ibm.websphere.wxs.was8.v86' profile='!WAS_PROFILE!' features='xs.core.feature,xs.client.feature,xs.liberty.feature,xs.server.feature,xs.co installfixes='none'/> to the same value as your !WAS_PROFILE!.

Note:

If you install on an existing WebSphere Application Server installation, you must set the value of the !WXS_PROFILE! to the installation package group name in Installation Manager. When you install, you can find the installation package group name under Package Group Name. After you install, you can find package group name under Installed Packages and Fixes in Installation Manager.

13. Replace !WXS_REPOSITORY! with the location of your WebSphere eXtreme Scale repository.
14. Replace !WAS_INSTALL_LOCATION! with the location of your WebSphere Application Server installation.
15. Save the WXS_Silent.xml silent file.

Setting the response file for Decision Center

Configure the response file for the silent installation of Decision Center.

About this task

Installation Manager uses response files to run the installation in silent mode. The following procedure explains how to set up the provided response files to run a silent installation for Decision Center.

Consult the list of features in the table for a list of the available Decision Center features.

Table 7. List of features to install

Product	List of features
Decision Center	<ul style="list-style-type: none"> • Decision Center • Rule Solutions for Office • jdk • base • com.ibm.wbdm.dts.tomcat.feature • com.ibm.wbdm.dts.jboss.feature • com.ibm.wbdm.dts.weblogic.feature • com.ibm.wdc.rules.samples.feature

Procedure

1. Go to the location where you extracted the Operational Decision Manager installation disks and go to diskX/responsefiles. Response files are available on any disk.
2. Open the dc_silent.xml in a text editor. Under Mandatory Variables to be replaced, you have a list of variables that must be replaced throughout the file.
3. Replace *!DC_IM!* with your Decision Center repository location.
4. Replace *!ODM_INSTALL_LOCATION!* with the installation path for your Operational Decision Manager profile.
5. Replace *!WAS_INSTALL_LOCATION!* with the installation location for WebSphere Application Server.
6. Replace *!ODM_PROFILE!* with a profile name for Operational Decision Manager.
7. Replace *!WAS_USER!* to create a WebSphere Application Server user profile.
8. Replace *!WAS_PASSWORD!* to create a password for your WebSphere Application Server profile.
9. Replace *!DC_FEATURES!* with the Decision Center features that you want to install. Table 1 lists the Decision Center features that you can install.
10. Replace *!DC_LIC!* with full or express, depending on your license.

What to do next

Ensure that you replace the variables in the dc_pt_silent.xml response file for the Decision Center profile templates for WebSphere Application Server.

Setting the response file for Decision Server Rules

Configure the response file for the silent installation of Decision Server Rules.

About this task

Installation Manager uses response files to run the installation in silent mode. The following procedure explains how to set up the provided response files to run a silent installation for Decision Server Rules.

Consult the list of features in the table for a list of the available Decision Server Rules features.

Table 8. List of features to install

Product	List of features
Decision Server Rules	<ul style="list-style-type: none"> • com.ibm.wds.jdk.feature • com.ibm.wds.rules.studio.feature • com.ibm.wds.rules.res.feature • com.ibm.wds.updatesites.feature • base • com.ibm.wds.rules.res.tomcat.feature • com.ibm.wds.rules.res.jboss.feature • com.ibm.wds.rules.res.weblogic.feature • com.ibm.wds.rules.samples.feature

Procedure

1. Go to the location where you extracted the Operational Decision Manager installation disks and go to diskX/responsefiles. Response files are available on any disk.
2. Open the ds_rules_silent.xml silent file in a text editor. Under Mandatory Variables to be replaced, you have a list of variables that must be replaced throughout the file.
3. Replace *!DSR_IM!* with the DecisionServerRules Installation Manager directory.
4. Replace *!ODM_INSTALL_LOCATION!* with the installation path for your Operational Decision Manager profile.
5. Replace *!WAS_INSTALL_LOCATION!* with the installation location for WebSphere Application Server.
6. Replace *!ODM_PROFILE!* with a profile name for Operational Decision Manager.
7. Replace *!DS_RULES_FEATURES!* with a comma-separated list of the Decision Server Rules features that you want to install. Table 1 lists the Decision Server Rules features that you can install.
8. Replace *!DSR_LICENSE!* with full, rules, or express, depending on your license.
9. Replace *!WAS_USER!* to create a WebSphere Application Server user profile.
10. Replace *!WAS_PASSWORD!* to create a password for your WebSphere Application Server profile.
11. Replace *!DSR_PRODUCTION!* with True or False. True is for production purposes. False is for non-production purposes.
12. Save the ds_rules_silent.xml silent file.

What to do next

Ensure that you set the variables in the ds_pt_rules_silent.xml response file for the Decision Server Rules profile templates for WebSphere Application Server.

Setting the response file for Decision Server Events

Configure the response file for the silent installation of Decision Server Events.

About this task

Installation Manager uses response files to run the installation in silent mode. The following procedure explains how to set up the provided response files to run a silent installation for Decision Server Events.

Consult the list of features in the table for a list of the available Decision Server Events features.

Table 9. List of features to install

Product	List of features
Decision Server Events	<ul style="list-style-type: none">• com.ibm.wds.jdk.feature• com.ibm.wds.studio.events.feature• com.ibm.wds.events.runtime.feature• com.ibm.wds.events.connectors.feature• com.ibm.wds.event.widgets.feature• com.ibm.wds.events.propertiesui.feature• com.ibm.wds.update sites.feature• base• com.ibm.wds.events.samples.feature

Procedure

1. Go to the location where you extracted the Operational Decision Manager installation disks and go to *diskX\responsefiles*. Response files are available on any disk.
2. Open the *ds_events_silent.xml* silent file in a text editor. Under Mandatory Variables to be replaced, you have a list of variables that must be replaced throughout the file.
3. Replace *!DSR_IM!* with the DecisionServerEvents Installation Manager directory.
4. Replace *!ODM_INSTALL_LOCATION!* with the installation path for your Operational Decision Manager profile.
5. Replace *!WAS_INSTALL_LOCATION!* with the installation location for WebSphere Application Server.
6. Replace *!ODM_PROFILE!* with a profile name for Operational Decision Manager.
7. Replace *!DS_EVENTS_FEATURES!* with a comma-separated list of the Decision Server Events features that you want to install. Table 1 lists the Decision Server Events features that you can install.
8. Replace *!DSE_LICENSE!* with *full* or *events*, depending on your license.
9. Replace *!WAS_USER!* to create a WebSphere Application Server user profile.
10. Replace *!WAS_PASSWORD!* to create a password for your WebSphere Application Server profile.
11. Replace *!DSE_PRODUCTION!* with *True* or *False*. *True* is for production purposes. *False* is for non-production purposes.
12. Save the *ds_events_silent.xml* silent file.

What to do next

Ensure that you set the variables in the `ds_pt_events_silent.xml` response file for the Decision Server Events profile templates for WebSphere Application Server.

Setting the response file for Embedded Rules

Configure the response file for the silent installation of Embedded Rules.

About this task

Installation Manager uses response files to run the installation in silent mode. The following procedure explains how to set up the provided response files to run a silent installation for Embedded Rules.

Procedure

1. Go to the location where you extracted the Operational Decision Manager installation disks and go to `diskX/responsefiles`. Response files are available on any disk.
2. Open the `er_silent.xml` silent file in a text editor. Under Mandatory Variables to be replaced, you have a list of variables that must be replaced throughout the file.
3. Replace `!ER_IM!` with the Embedded Rules Installation Manager directory.
4. Replace `!ODM_PROFILE!` with a profile name for Operational Decision Manager.
5. Replace `!ODM_INSTALL_LOCATION!` with the installation path for your Operational Decision Manager profile.
6. Save the `er_silent.xml` silent file.

Setting the response file for the WebSphere Application Server profile templates

If Decision Center and Decision Server are to be deployed on WebSphere Application Server, you can set up a response file to install the corresponding profile templates and runtime silently.

About this task

Installation Manager uses response files to run the installation in silent mode. The following procedure explains how to set up the provided response files to run a silent install for Profile templates for WebSphere Application Server.

Procedure

1. Go to the location where you extracted the Operational Decision Manager installation disks and go to: `diskX/responsefiles`.
Response files are available on any disk.
2. In the file `dc_pt_silent.xml`:
 - a. Replace the `!PT_DC_IM!` variable with the `ProfileTemplateDC` repository.
 - b. Replace the `!ODM_INSTALL_LOCATION!` variable with the path to your Operational Decision Manager profile templates. For example,
`<install_root>/disk1/responsefiles/`
 - c. Replace the `!WAS_INSTALL_LOCATION!` variable with the path to your WebSphere Application Server installation.
 - d. Replace the `!ODM_Profile!` variable with a profile name for your installation of WebSphere Application Server.
 - e. Replace the `!DC_LIC!` variable with your Decision Center license.

3. In the `ds_pt_rules_silent.xml` file:
 - a. Replace the `!PT_RULES!` variable with the path to the `ProfileTemplateRules`. For example: `<InstallDir>/disk2/ProfileTemplateRules`.
 - b. Replace the `!ODM_INSTALL_LOCATION!` variable with the path to your Operational Decision Manager profile templates. For example, `<install_root>/disk1/responsefiles/`
 - c. Replace the `!WAS_INSTALL_LOCATION!` variable with the path to your WebSphere Application Server installation.
 - d. Replace the `!ODM_Profile!` variable with a profile name for your installation of WebSphere Application Server. The profile corresponds to the Installation Manager profile, not to the WebSphere Application Server profile.
 - e. Replace the `!DSR_License!` variable with your Decision Server Rules license.
 - f. If your installation is for production purposes, enter `true`. If your installation is not for production purposes, enter `false`.
4. In the `ds_pt_events_silent.xml` file:
 - a. Replace the `!PT_EVENTS!` variable with the path to the `ProfileTemplateEvents`. For example: `<InstallDir>/disk3/ProfileTemplateEvents`.
 - b. Replace the `!ODM_INSTALL_LOCATION!` variable with the path to your Operational Decision Manager profile templates. For example, `<install_root>/disk1/responsefiles/`
 - c. Replace the `!WAS_INSTALL_LOCATION!` variable with the path to your WebSphere Application Server installation.
 - d. Replace the `!ODM_Profile!` variable with a profile name for your installation of WebSphere Application Server. The profile corresponds to the Installation Manager profile, not to the WebSphere Application Server profile.
 - e. Replace the `!DSE_License!` variable with your Decision Server Events license.
 - f. If your installation is for production purposes, enter `true`. If your installation is not for production purposes, enter `false`.

Installing Operational Decision Manager silently

After all the response files are set up, you can start a silent installation.

About this task

The following procedure explains how to perform a silent installation of Operational Decision Manager with Installation Manager. The installation must be performed in the shown order.

Procedure

1. To install Installation Manager, run one of the following commands from `<InstallDir>/disk1/IM` or from `<InstallDir>/disk1/IM64`:
 - If you are an administrator, enter:
`installc.exe -input <path_to_silent_file>/IM_Silent.xml -acceptlicense`
 Alternatively, you can enter: `installc.exe -silent -acceptLicense`
 - If you are not an administrator, enter:
`userinstc <path_to_silent_file>/IM_Silent.xml -acceptlicense`
 Alternatively, you can enter: `userinstc -silent -acceptLicense`
2. To install WebSphere Application Server:
 - **On Windows systems:**

- a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory eclipse/tools.
 - c. Type the command `imcl.exe -input <path_to_response_file>/was_and_jdk_silent.xml -acceptLicense`.
- **On UNIX systems:**
 - a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory eclipse/tools.
 - c. Type the command `./imcl input <path_to_response_file>/was_and_jdk_silent.xml -acceptLicense`.
3. To install WebSphere eXtreme Scale:
 - **On Windows systems:**
 - a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory eclipse/tools.
 - c. Type the command:


```
imcl.exe -input <path_to_response_file>\wxs_Silent.xml -acceptLicense
```
 - **On UNIX systems:**
 - a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory eclipse/tools.
 - c. Type the command:


```
./imcl input <path_to_response_file>/wxs_Silent.xml -acceptLicense
```
4. To install the Operational Decision Manager components:
 - **On Windows systems:**
 - a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory eclipse/tools.
 - c. Type the command:
 - Decision Center: `imcl.exe -input <path_to_response_file>\dc_silent.xml -acceptLicense`
 - Decision Server Rules: `imcl.exe -input <path_to_response_file>\ds_rules_silent.xml -acceptLicense`
 - Decision Server Events: `imcl.exe -input <path_to_response_file>\ds_events_silent.xml -acceptLicense`
 - Embedded Rules: `imcl.exe -input <path_to_response_file>\er_silent.xml -acceptLicense`
 - **On UNIX systems:**
 - a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory eclipse/tools.
 - c. Type the command:
 - Decision Center: `./imcl input <path_to_response_file>/dc_silent.xml -acceptLicense`
 - Decision Server Rules: `./imcl input <path_to_response_file>/ds_rules_silent.xml -acceptLicense`
 - Decision Server Events: `./imcl input <path_to_response_file>/ds_events_silent.xml -acceptLicense`
 - Embedded Rules: `./imcl input <path_to_response_file>/er_silent.xml -acceptLicense`
5. To install profile templates for WebSphere Application Server:

- **On Windows systems:**
 - a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory `eclipse/tools`.
 - c. Type the command:
 - Decision Center profile templates: `imcl.exe -input <path_to_response_file>\dc_pt_silent.xml -acceptLicense`
 - Decision Server Rules profile templates: `imcl.exe -input <path_to_response_file>\ds_pt_rules_silent.xml -acceptLicense`
 - Decision Server Events profile templates: `imcl.exe -input <path_to_response_file>\ds_pt_events_silent.xml -acceptLicense`
- **On UNIX systems:**
 - a. Go to the directory where you installed Installation Manager.
 - b. Go to the directory `eclipse/tools`.
 - c. Type the command:
 - Decision Center profile templates: `./imcl input <path_to_response_file>/dc_pt_silent.xml -acceptLicense`
 - Decision Server Rules profile templates: `./imcl input <path_to_response_file>/ds_pt_rules_silent.xml -acceptLicense`
 - Decision Server Events profile templates: `./imcl input <path_to_response_file>/ds_pt_events_silent.xml -acceptLicense`

Installing Rule Solutions for Office

Once the installation of Decision Center is complete, you can manually run the installer for Rule Solutions for Office.

Before you begin

If you installed the product with Installation Manager, make sure that you selected the **Rule Solutions for Office** feature, see “Features you can install” on page 21.

You must have a supported version of Microsoft Office to install Rule Solutions for Office. For details, see Working with Microsoft Office.

About this task

Rule Solutions for Office is an optional component that provides a way for business users to create and edit business rules in Microsoft Word or Excel. The **Rule Solutions for Office** feature in Installation Manager copies the installer for Rule Solutions for Office to your installation directory.

Procedure

1. Navigate to `<InstallDir>/Rule Solutions for Office/`
2. Double-click the `RuleSolutionsForOffice.exe` file to run it.
3. Follow the steps in the installation wizard.

Checking your installation

You can verify the content of the installation directory and use shortcuts to access product components and information.

Folders in the installation directory

After you finish installing the Operational Decision Manager components, you can verify the content of the installation directory.

In your file system, go to your <InstallDir> folder: for example, C:\Program Files\IBM\ODM86. The Operational Decision Manager components are installed in the following folders:

Table 10. Component-folder mapping

Component	Folders
Decision Server Rules	
Rule Designer	studio
Rule Execution Server	executionserver
Getting started tutorials	gettingstarted
Shared third-party tools	shared
Sample server	shared/samplesServer
.NET engine and migration tool	dotnet
Configuration files and plug-ins for Rule Designer	configuration
Local help system and XML schemas	doc
Extensions to Rule Designer	dropins
Files to package plug-ins into a feature during Eclipse configuration processing	features
Eclipse plug-ins	plugins
JDK (Windows only)	jdk
License agreement files	license
Provisioning system files	p2
Decision Server Events	
Legacy event connectors	connectors
Files that support the event runtime engine. This directory also includes the compressed files for downloading and installing the Event Tester, and the Event Capture and Event Replay widgets.	runtime
Events connectors	ca
Configuration files	config
Configuration files and plug-ins for Event Designer	configuration
Extensions to Event Designer	dropins
Integration with other IBM products such as WebSphere Message Broker and WebSphere ESB	integration
Decision Center	teamservice, Rule Solutions for Office (optional)
Business Rules Embedded	rules-sdk

IBM Installation Manager installs the Eclipse plug-ins in the shared resources directory. The shared resources directory contains resources that can be shared by one or more package groups. This directory is managed by IBM Installation Manager and you must not modify anything in this directory.

The Eclipse plug-ins are also copied to <InstallDir>/studio/update-sites providing that you selected the corresponding option in IBM Installation Manager when installing the product. The update sites are delivered as ZIP files that you can extract to view the plug-ins.

If you install the component Profile templates for WebSphere Application Server, the corresponding folders are located in the following directories:

<WAS_InstallDir>/profileTemplates/rules for rules profiles.

<WAS_InstallDir>/profileTemplates/wbe for events profiles.

Menu shortcuts

For each component that you install in Windows, the installer adds shortcuts to the menu. You can access the shortcuts through the start menu.

Your choice of installation determines what shortcuts the installer adds to the shortcut menu. If, for example, you choose Rule Designer, the shortcut for Rule Designer is added. If you choose Rule Execution Server, the shortcut for the Rule Execution Server console is added.

Start menu navigation	Shortcuts
Start > All Programs > IBM > Package_Group	<p>The following is available under the package group level:</p> <ul style="list-style-type: none"> • Event Designer opens Eclipse in the Event perspective. • IBM Knowledge Center opens the product documentation online. • Information center for Operational Decision Manager (local) starts the local version of the product documentation. • Rule Designer opens Eclipse in the Rule perspective. • Rule Solutions for Office opens rule solutions for Office. This shortcut is only available if you install Rule Solutions for Office. To install Rule Solutions for Office, you must select the corresponding option in Installation Manager. You then run the installation manually by using the provided .exe file in <InstallDir>/Rule solutions for Office.
Start > All Programs > IBM > Package_Group > Getting Started Tutorials	<p>The following is available under Getting Started tutorials:</p> <ul style="list-style-type: none"> • Decision Center Business console opens the Getting Started for the Business console. • Decision Center Enterprise console opens the Getting Started for the Enterprise console. • Decision Server Events opens the Getting Started for Events. • Decision Server Rules opens the Getting Started for Business Rules.

Start menu navigation	Shortcuts
Start > All Programs > IBM > Package_Group > Help and Support	You can use this shortcut to find the following documentation and support information: <ul style="list-style-type: none"> • Collect Data for Problem Analysis opens the IBM Support Assistant Data Collector for collecting diagnostic data. • Online Support opens the IBM Support home page.
Start > All Programs > IBM > Package_Group > Sample Server	You can use this shortcut to access the following sample server tools and functions. <ul style="list-style-type: none"> • Events tools: <ul style="list-style-type: none"> – Connectors opens the tooling for Events legacy connectors. – Event Widgets opens the web application in a web browser. – Properties opens the Properties tool. • Administrative console opens the WebSphere Application Server administrative console. • Decision Center Business console opens the Decision Center Business console and targets a database that contains the provided sample projects in the en_US persistence locale. • Decision Center Enterprise console opens the Decision Center Enterprise console, and targets a database that contains the provided sample projects in the en_US persistence locale. • Events Administration console opens the Administration user interface for Events. • Rule Execution Server Console opens the Rule Execution Server console. • Samples console (en_US) opens Eclipse in the Samples console perspective with the en_US locale (American English). • Start server starts the sample profile on WebSphere Application Server. • Stop server stops the sample profile on WebSphere Application Server.

Shortcut commands

A list of the components that you can access via shortcut commands.

The installer adds relevant shortcuts in batch (.bat) files on Windows and Bash shell script (.sh) files on Linux.

You can consult the shortcut commands for your respective operating system environment:

- “Windows”
- “Linux” on page 39

Windows

Shortcuts	Windows commands
Administrative console (Sample Server)	<InstallDir>/shared/bin/Administrativeconsole.bat
Connectors	<InstallDir>/connectors/bin/connectors.bat
Decision Center Enterprise console (Sample Server)	<InstallDir>/shared/bin/dcecopener.bat
Decision Center Business console (Sample Server)	<InstallDir>/shared/bin/dcbcopener.bat
Events Administration console	<InstallDir>/shared/bin/EventRuntimeopener.bat
Event Designer	<InstallDir>/eclipse.exe -init -consolelog -perspective com.ibm.wbe.BusinessEvents
Getting Started for Decision Server Rules	<InstallDir>/images/GettingStartedServerRules.bat
Getting Started for Decision Center Business console	<InstallDir>/images/GettingStartedCenterBusinessConsole.bat
Getting Started for Decision Center Enterprise console	<InstallDir>/images/GettingStartedCenterEnterpriseConsole.bat
Getting Started for Decision Server Events	<InstallDir>/images/GettingStartedServerEvents.bat
Information center (remote)	<InstallDir>/images/InfoCenterOnline.bat
Collect Data for Problem Analysis	<InstallDir>/shared/isadc/index.html
Properties	<InstallDir>/connectors/bin/propertiesui.bat
Rule Execution Server console (Sample Server)	<InstallDir>/shared/bin/dsopener.bat
Rule Designer	<Eclipse_InstallDir>/eclipse.exe -init -consolelog -perspective ilog.rules.studio.ui.perspectives.RuleEditingPerspective
Samples console (en_US)	<Eclipse_InstallDir>/eclipse.exe -init -consolelog -nl en_US -perspective ilog.rules.studio.samples.console.perspectives.SamplesPerspective
Start server (Sample Server)	<InstallDir>/shared/bin/startserver.bat
Stop server (Sample Server)	<InstallDir>/shared/bin/stopserver.bat

Linux

Shortcuts	Linux commands
Administrative console (Sample Server)	<InstallDir>/shared/bin/Administrativeconsole.sh
Connectors	<InstallDir>/connectors/bin/connectors.sh
Decision Center Enterprise console (Sample Server)	<InstallDir>/shared/bin/dcecopener.sh
Decision Center Business console (Sample Server)	<InstallDir>/shared/bin/dcbcopener.sh
Events Administration console	<InstallDir>/shared/bin/EventRuntimeopener.sh
Event Designer	<InstallDir>/eclipse -init -consolelog -perspective com.ibm.wbe.BusinessEvents
Getting Started for Decision Server Rules	<InstallDir>/images/GettingStartedServerRules.sh

Shortcuts	Linux commands
Getting Started for Decision Center Business console	<InstallDir>/images/GettingStartedCenterBusinessConsole.sh
Getting Started for Decision Center Enterprise console	<InstallDir>/images/GettingStartedCenterEnterpriseConsole.sh
Getting Started for Decision Server Events	<InstallDir>/images/GettingStartedServerEvents.sh
Information center (remote)	<InstallDir>/images/InfoCenterOnline.sh
Collect Data for Problem Analysis	<InstallDir>/shared/isadc/start_isadc.sh
Properties	<InstallDir>/connectors/bin/propertiesui.sh
Rule Execution Server console (Sample Server)	<InstallDir>/shared/bin/dsopener.sh
Rule Designer	<Eclipse_InstallDir>/eclipse -init -consolelog -perspective ilog.rules.studio.ui.perspectives.RuleEditingPerspective
Samples console (en_US)	<Eclipse_InstallDir>/eclipse -init -consolelog -nl en_US -perspective ilog.rules.studio.samples.console.perspectives.SamplesPerspective
Start server (Sample Server)	<InstallDir>/shared/bin/startserver.sh
Stop server (Sample Server)	<InstallDir>/shared/bin/stopserver.sh

Starting Rule Designer

Open Rule Designer from the start menu shortcut, or from the Eclipse that contains Rule Designer. You can update the configuration file to open Rule Designer in a specific locale.

Opening Rule Designer

You can open Rule Designer from the start menu shortcut, or by starting the Eclipse that contains Rule Designer.

About this task

You can open Rule Designer from the start menu shortcut, or by starting the Eclipse that contains Rule Designer.

By default, Rule Designer opens in the locale of your operating system. If you want to change the locale of Rule Designer, see “Opening Rule Designer in a specific locale” on page 41.

Procedure

To open Rule Designer, do one of the following actions:

- Click **Start > All Programs > IBM > *package_group* > Rule Designer** .
package_group refers to the package group specified in IBM Installation Manager during installation. The default package group is Operational Decision Manager V8.6.
- Start the Eclipse in which you have installed Rule Designer, and switch to the **Rule** perspective.

Results

On IBM AIX and SUN Solaris, Rule Designer runs in headless Eclipse. This means that you can only start Rule Designer from the command line.

If you have used a previous version of Rule Designer, perform a full clean and then rebuild your existing projects in the Eclipse workspace the first time you start V8.6. For more information, see *Migrating from JRules V7*.

The Eclipse Welcome page (**Help > Welcome**) provides an entry point to the overview, tutorials, and samples.

Related information:

“Opening Rule Designer in a specific locale”

You can start Rule Designer in a locale other than the locale of your operating system. If you are using a bidirectional locale, you can also change the display orientation of Eclipse.

Opening Rule Designer in a specific locale

You can start Rule Designer in a locale other than the locale of your operating system. If you are using a bidirectional locale, you can also change the display orientation of Eclipse.

About this task

By default, Rule Designer opens in the locale of your operating system. You can change the locale by adding a property to the `config.ini` file.

Note:

Rule Designer opens in the specified locale if you have selected the locale in IBM Installation Manager, when installing Decision Server.

Procedure

To change the locale of Rule Designer:

1. Open `<InstallDir>/configuration/config.ini`.

<InstallDir> refers to the installation directory of Operational Decision Manager. However, if you installed Operational Decision Manager in an existing Eclipse, the `config.ini` file is located in the configuration folder of your Eclipse installation directory.

2. Add the following properties:

- `osgi.nl=<locale>`: to specify the locale, for example `osgi.nl=fr_FR`.
- (Optional) `eclipse.orientation=<orientation>`: to change the display orientation of Eclipse, for example `eclipse.orientation=ltr`.
`ltr` defines a left-to-right orientation, and `rtl` defines a right-to-left orientation.

For bidirectional locales such as Arabic and Hebrew, the rule editors are localized and displayed from right to left. However, the rest of the Rule Designer interface is not localized. If you start Eclipse in a bidirectional locale, it is displayed from right to left, but Rule Designer remains in English. You can use the `ltr` value to display Rule Designer from left to right, and the editors from right to left.

3. Save the changes.

Note:

- You can also use the **-nl <locale>** argument in the command line to start Eclipse. For example, **-nl fr_FR**.
- You can also use the **-dir <orientation>** argument in the command line to start Eclipse with a specific orientation. For example, **-dir ltr**.

Related information:

“Opening Rule Designer” on page 40

You can open Rule Designer from the start menu shortcut, or by starting the Eclipse that contains Rule Designer.

Defining a calendar format

Upgrading Operational Decision Manager

When you upgrade Operational Decision Manager, you uninstall your current product version and then install Operational Decision Manager V8.6.

You can add or remove components and features through the **Modify** option in Installation Manager. However, to update your product version, you must reinstall Operational Decision Manager. You cannot use the **Update** option in Installation Manager to update Operational Decision Manager.

Before you update, stop all processes that might access existing Operational Decision Manager databases. In particular, if you use Derby databases, stop the Derby Java process, and ensure that your current database directory does not have a residual Derby lock file. The presence of the Derby lock file causes the installation to fail. To remove the Derby lock file, go to `<InstallDir>/shared/data/derby/resdb` and remove the `db.lock` file.

Uninstall your current version of Operational Decision Manager through Installation Manager, and then install Operational Decision Manager V8.6 either through the launchpad or through Installation Manager.

Related tasks:

“Uninstalling Operational Decision Manager”

Use Installation Manager to uninstall components or the entire Operational Decision Manager product.

Related information:

“Installing the product with Installation Manager” on page 13

Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

Uninstalling Operational Decision Manager

Use Installation Manager to uninstall components or the entire Operational Decision Manager product.

Before you begin

Before you uninstall, stop all processes that might access existing Operational Decision Manager databases. In particular, if you use Derby databases, stop the Derby Java process, and ensure that your current database directory does not have

a residual Derby lock file. The presence of the Derby lock file causes the installation to fail. To remove the Derby lock file, go to <InstallDir>/shared/data/derby/resdb and remove the db.lock file.

Stop all the applications that run with the product, including the server, the local help, and any instance of Rule Designer or Event Designer.

Manually delete the ODMSample8600 profiles for WebSphere Application Server and WebSphere eXtreme Scale before you uninstall. The ODMSample8600 profiles are created when you install the Sample server from the launchpad. For more information, see Deleting profiles.

If your packages have any dependencies, you must uninstall the packages and their respective dependencies.

You must have the same user privileges to uninstall Operational Decision Manager as you use to install the product on your workstation. Log in to your workstation with the same user account that you use to install the product packages.

Uninstall Operational Decision Manager with the correct instance of Installation Manager:

- If you installed the product as an administrator, you must use the administrator instance of Installation Manager to uninstall it. You can access the administrator instance through the **IBM Installation Manager** start menu shortcut. Right click **IBM Installation Manager**, and then select **Run as administrator**.
- If you installed the product as a nonadministrator user, you must use the nonadministrator instance of Installation Manager to uninstall it. You can access the nonadministrator instance through the **IBM Installation Manager** start menu shortcut.

About this task

Remove components and features through the **Modify** option in Installation Manager. Remove the entire Operational Decision Manager product through the **Uninstall** option in Installation Manager.

Procedure

1. Close the programs that you installed with Installation Manager.
2. Start Installation Manager from the **Start** menu.
3. Depending what you want to uninstall, click **Modify** or **Uninstall**. Select **Modify** to uninstall components and features. Select **Uninstall** to uninstall the entire Operational Decision Manager product.
4. Select the components that you want to uninstall, then click **Next** and **Uninstall**.

Related concepts:

“Upgrading Operational Decision Manager” on page 42

When you upgrade Operational Decision Manager, you uninstall your current product version and then install Operational Decision Manager V8.6.

“Installing the product with the launchpad” on page 9

Use the launchpad to run a typical installation of Operational Decision Manager. When you install through the launchpad, you install everything that you need to get you up and running with the components that you select. Ensure that you install only the components for which you have a valid license.

Related information:

“Installing the product with Installation Manager” on page 13
Use Installation Manager to run a custom installation of Operational Decision Manager. When you install through Installation Manager, you can select the Operational Decision Manager components, features, and environments that you want to install. Ensure that you install only the components for which you have a valid license.

What's next?

Review the following topics after you install Operational Decision Manager.

Installing and accessing the documentation locally

You can access the product documentation over the internet. However, you can install a local version of the documentation if you want to work offline or do not have an internet access. If you are an Eclipse user, you must install the documentation locally to be able to consult it from within the IDE.

Downloading the product documentation on your computer

To consult the product documentation locally, you must download the documentation files on your computer.

Before you begin

The **Local help system** option is checked by default in the Installation Manager. To consult the documentation locally, you must first start the local help and then download the documentation files. Note that the download of the files requires you to have access to the internet. This access will no longer be required later.

About this task

Important:

The local help system does not work on 64-bits platforms such as Red Hat Enterprise Linux (RHEL) that do not have a 32-bits compatibility library installed.

Procedure

1. Start the help system in one of the following ways:
 - In the **Start** menu, click **All Programs** > **IBM** > *package_group* > **Information center for Operational Decision Manager (local)**.
package_group refers to the package group specified in IBM Installation Manager during installation. The default package group is Operational Decision Manager.
 - Run the following script:
 - `<InstallDir>/doc/help_start.bat` on Windows
 - `<InstallDir>/doc/help_start.sh` on Linux.


To run the information center in a locale other than English, add the locale argument (`-nl xx_XX`) to the `<InstallDir>/doc/help_start.bat` or `<InstallDir>/doc/help_start.sh` file, before the `-vmargs` argument. For example:

```
-eclipsehome eclipse -nl fr_FR -configuration configuration_iehs
```

A new browser window opens. The documentation does not display because you still must download the documentation content.

Important:

If you installed the product on Windows 7 in the Program Files or Program Files (x86) directory without administrator privileges, you might not be able to start the help system. To avoid potential issues, be sure to install the product with administrator rights or in a different directory.

2. Click  **Update** in the toolbar to display a list of the documentation sets that are already installed.
3. Click **Next** to display a list of documentation sets that you can install. The list includes documentation sets in English and other supported languages.
4. Click **Install**. The Update wizard installs the documentation.
5. Click **OK**, then click **Finish**.
6. Refresh the page to view the documentation.

Results

The documentation is installed on your computer.

Accessing the local contextual help in Rule Designer

To access the product documentation and the contextual help from within Rule Designer or Event Designer, you must download the documentation files locally.

Before you begin

By default, the local help system is installed on your machine unless you uncheck the corresponding option in Installation Manager. You must then download the files onto your local disk through an Internet connection. For more information, see “Downloading the product documentation on your computer” on page 44.

About this task

To use the local contextual help from Rule Designer, you must start the local instance of the information center. The installer inserts the necessary parameters to access the help from Rule Designer.

If you want to change the parameters to point to a different instance of the information center, for example a shared information center server running on an internal network, you can modify the values in Rule Designer.

Procedure

To access the local help in Rule Designer:

1. Check that the settings to use the local help are set correctly in Rule Designer:
 - a. Click **Window > Preferences > Help > Content**.
 - b. Make sure **Include remote help and give it priority** is selected.
 - c. Select the link to the information center and click **Edit**.
 - d. Make sure that the local information center has the following values:
 - **Name:** Operational Decision Manager information center
 - **Host:** localhost
 - **Path:** /help
 - **Use port:** 3333
 - e. Click **OK**, and then click **Apply** and **OK**.

2. Start the local help:
 - In the **Start** menu, click **All Programs > IBM > *package_group* > Information center for Operational Decision Manager (local)**.
 - Run the `<InstallDir>/doc/help_start.bat` (Windows) or `<InstallDir>/doc/help_start.sh` (Linux)

Important:

If you installed the product on Windows 7 in the Program Files or Program Files (x86) directory without administrator privileges, you might not be able to start the help system. To avoid potential issues, be sure to install the product with administrator rights or in a different directory.

3. On the **Help** menu, click **Help Contents**.

If you have already installed the documentation, the local information center for the Operational Decision Manager product family, Decision Center, and Decision Server is displayed.

If the documentation has not been installed, follow the steps as described in “Downloading the product documentation on your computer” on page 44.

Running a shared information center on an internal network

You can run the information center on an internal network.

Before you begin

Before running the information center on an internal network, make sure that you have installed the documentation locally as described in “Downloading the product documentation on your computer” on page 44.

About this task

If you have selected the **Local help system** option, you can set the help system up so that the information center runs on an internal network.

Procedure

To start the information center on an internal network:

1. Run `<InstallDir>/doc/IC_start.bat` on Windows or `<InstallDir>/doc/IC_start.sh` on Linux.
 - By default, the shared information center runs on port 9999.
2. Optional: To modify the default port, edit the `IC_start.bat` or `IC_start.sh` file, and modify the port argument. For example, `-port <port_number>`.

When the shared information center is started, it is accessed using browsers from other systems at the address `http://<hostname>:<port>/help`.

Note: To access different locales in the information center, specify the locale at the end of the URL. For example, `http://<ic_hostname>:9999/help/index.jsp?lang=xx_XX`

The locales include `de_DE`, `es_ES`, `fr_FR`, `it_IT`, `ja_JP`, `ko_KR`, `pl_PL`, `pt_BR`, `ru_RU`, `zh_CN`, and `zh_TW`.

3. Optional: Configure the help preferences in Rule Designer to access the information center:
 - a. Click **Window > Preferences > Help > Content**.

- b. Select **Include remote help and give it priority**, then click **New**.
- c. Enter the values for the information center that you want to connect to, for example:
 - **Name:** Operational Decision Manager information center
 - **Host:** *<ic_hostname>*
 - **Path:** /help
 - **Use port:** 9999
- d. Click **OK**, and then click **Apply** and **OK**.

The contextual help now uses your new parameters.

Stopping the local help

Before uninstalling the Operational Decision Manager offerings in Installation Manager, you must stop the information center process to avoid encountering uninstallation issues.

To stop the local information center:

- On Windows, run `<InstallDir>/doc/help_end.bat`.
- On Linux, run `<InstallDir>/doc/help_end.sh`.

To stop the shared information center:

- On Windows, run `<InstallDir>/doc/IC_end.bat`.
- On Linux, run `<InstallDir>/doc/IC_end.sh`.

Redirecting contextual help in Rule Execution Server

Change the address to which the contextual help in Rule Designer points. By default, Rule Execution Server points to the online documentation. However, you can redirect the contextual help in Rule Designer to point to a local or network instance of the documentation.

About this task

To redirect the contextual help, you must first update the context parameter in the EAR file of the Rule Execution Server, and then redeploy the EAR file.

Procedure

1. Update `Jrules-res_management-WAS85.ear`.
 - a. In a file manager, go to `<installDir>/ODM/executionserver/applicationServers/WebSphere85`.
 - b. Extract `jrules-res-management-WAS85.ear` and `jrules-res-management.war`.
 - c. Open `WEB-INF`.
 - d. Open `web.xml` in a text editor.
 - e. Set the following parameters to the appropriate contextual help addresses.
 - `ilog.rules.res.HELP_CONTEXT`
 - `ilog.rules.res.HELP_INDEX`
 - `ilog.rules.res.HELP_TOPIC`
 For more information, see “Installing and accessing the documentation locally” on page 44.
 - f. Save `web.xml`.
 - g. Recreate the archive.
2. Redeploy `Jrules-res_management-WAS85.ear`.

- a. Start the sample server. `<InstallDir>/IBM/Operational Decision Manager V8.6/Sample Server/Start Server`.
To start the sample server, you can also go to `<InstallDir>/shared/bin`, and then start `startserver.bat` or `startserver.sh`, depending on your operating system.
- b. Start the WebSphere Application Server administrative console. `<InstallDir>/IBM/Operational Decision Manager V8.6/Sample Server/Administrative console`.
To start the sample WebSphere Application Server administrative console, you can also go to `<InstallDir>/shared/bin`, and then start `AdministrativeConsole.bat` or `AdministrativeConsole.sh`, depending on your operating system.
- c. Sign in. You must enter the credentials that you provide when you install the product.
- d. Select **Applications > Application Types > WebSphere enterprise applications**. The Enterprise Applications table displays.
- e. Select **jrules-res-management-WAS85**.
- f. Click **Update**.
The Application update options display.
- g. Under Specify the path to the replacement ear file, browse to and select your EAR file `jrules-res-management-WAS85.ear`.
Under Local file system, browse to `<InstallDir>/ODM/executionserver/applicationservers/WebSphere85` and select `jrules-res-management-WAS85.ear`.
- h. Click **Next**, and continue to click **Next** until you get an option to Finish, and then click.
- i. Click **Finish**.
The Save option appears at the bottom of the screen.
- j. Click **Save**.
- k. Sign out of the administrative console.

Results

When you sign in to the Rule Execution Server console, the help link opens the offline contextual help.

Starting the sample server

Before you develop, test, and run the samples and tutorials, you must start the Sample Server. You can start the sample server from the Start menu.

About this task

No additional configuration is required start the sample server.

When you start the sample server for the first time, the ODMSample profile is configured on WebSphere Application Server Network Deployment to run the included samples and tutorials.

Start the sample server from the **Start** menu shortcut.

Procedure

From the **Start** menu, click **All Programs > IBM > *package_group* > Sample Server > Start server**. *package_group* refers to the package group specified in IBM Installation Manager when you install the product. The default package group is Operational Decision Manager V8.6. The profile creation takes several minutes to complete. Wait until the build completes successfully.

What to do next

You can perform a number of introductory tasks using the environment that is installed for you by the sample server installer:

- Perform the Getting started tutorials, and other component-specific tutorials, see Tutorials
- Run the samples from the samples console in Eclipse, see Product samples.

For more information, see Using the sample server

Note:

- If you are using the sample server profile to run Events, you can use the same username and password to log in to the Event Widgets and to the Events Administration console.
- Single sign-on (SSO) authentication is activated for the sample server. With SSO, users can log in once and gain access to all applications without being prompted to log in again for each of them. If you use different sign-on credentials for the applications on the sample server, for example when performing certain samples and tutorials, you get an error message when you attempt to sign in to the second application.

To avoid this issue, you must sign out of the first console and then sign in to the second console. Alternatively, you can sign in to all of the applications on the server by using the credentials that you entered at installation time.

Troubleshooting the installation

If you encounter difficulties installing the products, you can check the installation logs or the limitations and known issues technote.

When you contact IBM support, make sure that you have the following information at hand:

- Version of Installation Manager installed
- Components installed and version numbers
- Operating system
- Installation Manager logs

Installation logs

If you have difficulties installing the product through Installation Manager, retrieve the installation logs to find out more information on the issues encountered.

- **Installation Manager:**
 - Windows 2000, XP, and 2003: C:\Documents and Settings\All Users\Application Data\IBM\Installation Manager\logs
 - Windows Vista, 7, and 2008: C:\ProgramData\IBM\Installation Manager\logs

- UNIX: /var/ibm/InstallationManager/logs

For more information, see Finding IBM Installation Manager troubleshooting logs.

- **Launchpad:**

- Windows: %TEMP%\IBM_LaunchPad_Typical_Install_<hash_key>\
%TEMP% is the environment variable that defines the location of your Temp directory. <InstallType> refers to the type of installation that you selected. If the launchpad fails before even starting the installation, no installation type is indicated in the folder name.
- UNIX: /tmp/IBM_LaunchPad_Typical_Install<hash_key>/

Limitations and known issues

To find a list of the current limitations and known issues, check the technote Known limitations in Operational Decision Manager V 8.6.

Setting up your environment to automate processes

To deploy RuleApps to Rule Execution Server, automate managerial tasks within Decision Center, and run many of the samples, you must have Ant installed on your computer.

About this task

The required version of Ant is 1.7.1 (or later). If Ant is not installed, or your version is older than version 1.7.1, you must set up your environment to use the correct version of Ant.

You can download Ant from <http://ant.apache.org/>, or you can use the Ant 1.7.1 distribution packaged in the following directory: <InstallDir>/shared/tools/ant.

Procedure

To test and set up your environment to use Ant:

1. Set the *ANT_HOME* environment variable to **<InstallDir>/shared/tools/ant**.
2. Set the *JAVA_HOME* environment variable to the path to your JDK installation (version 1.7.1).
3. Add the directory **<InstallDir>/shared/tools/ant/bin** to your *PATH* environment variable.
4. Test your current version of Ant by typing the following in a Windows command prompt or UNIX shell:

```
ant -version
```

Post-installation configuration

After you install and check your installation, consult the configuration topics for information about setting up your product. Depending on the installation option that you select, you might have some configuration work to do.

Your post-installation configuration depends on the components that you install and your use of the product. You might, for example, use an application server other than WebSphere Application Server. You might, for example, want to use your product installation for production purposes. Both examples require configuration after you install.

Configuring your application server

The default application server is WebSphere Application Server. If you select the artifacts for another application server when you install, you must configure your product. Consult the appropriate configuration topics. For more information, see the configuration topics.

- Configuring Operational Decision Manager on Tomcat
- Configuring Operational Decision Manager on JBoss
- Configuring Operational Decision Manager on Oracle WebLogic Server

Configuring your application on a production server

After you install Rule Designer and Event Designer, some configuration is required before you can start to design your application in Decision Server:

- To execute your rule-based application, see Configuring Rule Execution Server.
- To execute your application with event processing, see Configuring Decision Server Events.
- To deploy the Operational Decision Manager runtime profile templates for WebSphere Application Server, see Operational Decision Manager profile templates
- For business users to edit and test rules in Decision Center, see Configuring.

For more information, see “Configuring your application on a production server.”

To get a better understanding of the development lifecycle with Operational Decision Manager, see Business rule application development.

Related tasks:

Configuring Decision Server Events on WebSphere Application Server

“Installing with the launchpad” on page 11

Run the launchpad to install a typical installation of your Operational Decision Manager product components. When you install through the launchpad, you install your product components and all the available installation features. The launchpad also installs the required software.

Related information:

Configuring Rule Execution Server on WebSphere Application Server

Configuring the Decision Center consoles on WebSphere Application Server

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM United Kingdom Laboratories,
Mail Point 151,
Hursley Park,
Winchester,
Hampshire,
England SO21 2JN

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those

websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM United Kingdom Laboratories,
Mail Point 151,
Hursley Park,
Winchester,
Hampshire,
England SO21 2JN

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or

imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corp. _enter the year or years_.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.



Printed in USA