WebSphere® Process Server

Version 6.0

IBM

Installing

September 29 2005

This edition applies to version 6, release 0, of WebSphere Process Server (product number 5724-L01) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Installing

The Installing section describes how to prepare for, install, and configure an installation of IBM WebSphere Process Server for Multiplatforms, Version 6.0.

WebSphere Process Server documentation PDFs

The following sections provide detailed information on how to: obtain overview information about IBM(R) WebSphere(R) Process Server; plan for use of the Business Process Choreographer and Common Event Infrastructure components; prepare your operating system for installation; use WebSphere Process Server Installation and Profile Wizards; prepare for coexistence scenarios; uninstall WebSphere Process Server; and configure, patch, and troubleshoot the installation.

"Overview of installing" on page 2
>   Contains links to overview information on the benefits of WebSphere Process Server, how it is packaged, its hardware and software requirements, product version information, resources for learning, and instructions for installing the documentation.

"Planning to use Business Process Choreographer and Common Event Infrastructure" on page 14
>   Presents how to plan for use of the Business Process Choreographer and Common Event Infrastructure components.

"Preparing the operating system for installation" on page 20
>   Offers links to platform-specific instructions on how to prepare your operating platform for installing WebSphere Process Server.

"Installing the product" on page 44
>   Describes the types of procedures available to install the product. Also included are links to more detailed installation topics.

"Coexisting" on page 71
>   Provides links to topics about which coexistence scenarios are supported, and how to set up the scenarios.

"Configuring the product after installation" on page 83
>   Describes what you might do after installing the product. Provides links to detailed information on configuring additional process server profiles and configuring components such as the Business Process Choreographer and Common Event Infrastructure.

"Applying service" on page 268
>   Details how to use the IBM Update Installer for WebSphere Software to install interim fixes, fix packs, and refresh packs. The Update Installer for WebSphere Software is also known as the update installer program, the UpdateInstaller program, and the Update Installation Wizard.

"Uninstalling the product" on page 289
>   Includes links to more detailed topics on how to uninstall the product using the Uninstallation Wizard or silently, and how to remove components such as the Business Process Choreographer and Common Event Infrastructure from a WebSphere Process Server installation.

"Troubleshooting installation" on page 328
>   Describes how to identify and handle a variety of problems that are

encountered during installation activities. Related topics detail common error messages and generated log files.

Overview of installing

This topic contains links to overview information on the benefits of WebSphere Process Server, how it is packaged, its hardware and software requirements, product version information, resources for learning, and instructions for installing the documentation.

Review the topics accessible from these links:
- "Benefits of WebSphere Process Server" -- Describes the benefits of the WebSphere Process Server product.
- "Packaging" on page 3 -- Describes how to obtain WebSphere Process Server and how the product is packaged.
- "Hardware and software requirements" on page 6 -- Details how to obtain the latest hardware and software requirements to ensure a successful installation.
- "Product version information" on page 7 -- Outlines how to obtain product version information.
- "Installation: Resources for learning" on page 12 -- Provides links to relevant supplemental information about product installation and customization.
- "Installing the documentation" on page 13 -- Details how you install a local copy of the WebSphere Process Server Information Center on your computer.

Benefits of WebSphere Process Server

This topic describes the benefits the WebSphere Process Server product provides.

Install only what you need

Separate installation routines exist for WebSphere Process Server and related products, so you can install only what you need on a particular machine. Installation routines exist for the following components on the primary product CDs.
- WebSphere Process Server (with WebSphere Application Server Network Deployment, which can be installed silently when WebSphere Process Server is installed)
- IBM HTTP Server
- Web Server plug-ins for WebSphere Application Server
- Application Clients for WebSphere Application Server
- WebSphere Application Server Toolkit

The installation procedure for WebSphere Process Server (with the underlying silent installation of WebSphere Application Server Network Deployment) is described in this information center. The installation procedures for IBM HTTP Server, the Web server plug-ins, the Application Clients, and the Application Server Toolkit, are described in the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

For more information on how the products are packaged, including products installable from the supplemental CDs, see "Packaging" on page 3.

Small footprint

You can install one copy of the core files (binary system files and such) on a machine, then use *profiles* to define multiple process server runtime environments -- each with its own administrative interfaces -- that share the core files. The core product files do not change unless you install a refresh pack, fix pack, or interim fix to the product. You use the Installation Wizard to install the core files, then use the Profile Wizard to create multiple profiles.

This feature has many positive ramifications for preparing, installing, maintaining, and removing installations.

Create managed nodes directly

You can directly configure managed nodes (with a nodeagent but no process servers) and add them to a cell. Create new process servers in the node using the administrative console. It is not necessary to create a stand-alone process server to build a cell.

Simplified service

The installation program installs the system files (shared binary files), which you do not update until you install a service fix. Creation and configuration of process servers do not change the system files.

"Applying service" on page 268 describes how to use the IBM Update Installer for WebSphere Software to install interim fixes, fix packs, and refresh packs.

Packaging

The WebSphere Process Server package contains three sets of CD-ROMs. The primary set of CD-ROMs includes the software that you need to install WebSphere Process Server, to set up your WebSphere Process Server environment, and to assemble and deploy applications. The supplemental CD-ROMs are optional and provide additional value and tool support for your production and development environments. Sections of this topic explain how to acquire WebSphere Process Server and describe the contents of the CD-ROM sets in more detail.

- "How to acquire WebSphere Process Server"
- "CD-ROMs in the primary WebSphere Process Server set" on page 4
- "CD-ROMs in the supplemental sets" on page 4

How to acquire WebSphere Process Server

You can obtain the product code in any of the following ways:

- From the product CD-ROMs.
- From the Passport Advantage$^{(R)}$ site, where licensed customers can download installation images. These electronic images map one-for-one to the CD-ROMs listed in Table 1 on page 4 and Table 2 on page 5.

To buy the software, contact your IBM representative or IBM reseller, or visit the WebSphere Process Server home page at http://www.ibm.com/software/integration/wps and select the *How to buy* link in the left column.

CD-ROMs in the primary WebSphere Process Server set

The primary WebSphere Process Server set contains the CD-ROMs that are listed in
Table 1:

Table 1. Contents of primary CD-ROM set

CD-ROM label	Versions of the CD-ROM	Comments
WebSphere Process Server CD 1	Six different platform versions of this CD-ROM are available: • AIX[(R)] • HP-UX • Linux[(TM)] (Intel[(R)]) • Linux on iSeries[(TM)] and pSeries[(R)] • Solaris[(TM)] • Windows[(R)] 2000, Windows XP, and Windows Server 2003	Each platform-specific CD-ROM contains the following installable components: • WebSphere Process Server in the WBI directory. • WebSphere Application Server Network Deployment in the WAS directory. Use the Launchpad application in the root directory to install and view information about any of the installable components in the primary set, except the IBM Eclipse Help System, which must be installed by following the procedure in "Installing the documentation" on page 13.
WebSphere Process Server CD 2	Six different platform versions of this CD-ROM are available: • AIX • HP-UX • Linux (Intel) • Linux on iSeries and pSeries • Solaris • Windows 2000, Windows XP, and Windows Server 2003	Each platform-specific CD-ROM contains the following installable components: • IBM HTTP Server in the IHS directory. • Web server plug-ins in the plugin directory. • WebSphere Application Server Application Clients in the AppClient directory. • IBM Eclipse Help System in the IEHS directory. The Windows platform CD-ROM has the Data Direct Java[(TM)] Database Connectivity (JDBC) drivers in the Data Direct directory.
WebSphere Application Server Toolkit	One CD-ROM is available for each of the following platforms: • Linux (Intel) • Windows 2000, Windows XP, and Windows Server 2003	Two platform-specific CD-ROMs (one each for Linux (Intel) and Windows platforms) provide basic assembly and deployment tooling for publishing to an application server, such as WebSphere Application Server Network Deployment. You can also use the tool to perform basic unit testing, debugging, and profiling functions.

CD-ROMs in the supplemental sets

The supplemental WebSphere Process Server sets contain the CD-ROMs that are
listed in Table 2 on page 5:

Table 2. Contents of supplemental CD-ROM sets

CD-ROM label	Versions of the CD-ROM	Comments
WebSphere Process Server Edge Components	Six different platform versions of this CD-ROM are available: • AIX • HP-UX • Linux (Intel) • Linux on iSeries and pSeries • Solaris • Windows 2000 and Windows Server 2003	Address the needs of highly available, high-volume environments with the Edge components. The Edge components include sophisticated load balancing, caching, and centralized security capabilities. See the WebSphere Application Server Network Deployment Edge Components Web page for more information.
DB2(R) Universal Database(TM) Enterprise Server Edition for WebSphere Process Server	Six different platform versions of this CD-ROM are available: • AIX (including AIX for DBCS language environments) • HP-UX • Linux (Intel) • Linux on iSeries and pSeries • Solaris • Windows	DB2 Universal Database V8.2 has numerous innovative enhancements. Improved integration with WebSphere Process Server, key development tools, and platforms help make programmers more efficient than ever. A broad array of autonomic or self-managing capabilities can free more administrator time to focus on driving business value. The ease of use in DB2 V8.2 and the self-managing characteristics might even eliminate the need for dedicated administrators in smaller implementations.
Tivoli(R) Directory Server for WebSphere Process Server	Six different platform versions of this CD-ROM are available: • AIX • HP-UX • Linux (Intel) • Linux on iSeries and pSeries • Solaris • Windows	The IBM Tivoli Directory Server product is a powerful Lightweight Directory Access Protocol (LDAP) infrastructure. Tivoli Directory Server provides a foundation for deploying comprehensive identity management applications and advanced software architectures. See IBM Tivoli Directory Server for more information.

Table 2. Contents of supplemental CD-ROM sets (continued)

CD-ROM label	Versions of the CD-ROM	Comments
IBM Tivoli Access Manager Servers for WebSphere Process Server	Five different platform versions of this CD-ROM are available: • AIX • HP-UX • Linux (Intel) • Solaris • Windows	IBM Tivoli Access Manager for e-business integrates with e-business applications right out of the box, to deliver a secure, unified, and personalized e-business experience. By providing authentication and authorization APIs and integration, Tivoli Access Manager for e-business helps you secure access to business-critical applications and data that might be spread across the extended enterprise. See IBM Tivoli Access Manager for e-business for more information.
WebSphere Partner Gateway Advanced Edition	Four different platform versions of this CD-ROM, plus a Data Interchange Services (DIS) CD-ROM for Windows, are available: • AIX • Linux (Intel) • Solaris • Windows 2000 and Windows Server 2003 • DIS for Windows XP, Windows 2000, and Windows Server 2003	WebSphere Partner Gateway offers a consolidated gateway solution to support EDI and Internet standards that can extend enterprise processes to external trading partners. It provides consolidated partner services for process integration with the WebSphere software platform. Business-to-business (B2B) gateway consolidation centralizes a company's B2B communications with trading partner communities, providing a central point of control for interactions among partners, and providing a security-rich environment at the edge of the enterprise.
WebSphere MQ Server	Four different platform versions of this CD-ROM are available: • AIX • Linux (Intel) • Solaris • Windows	WebSphere MQ is a prerequisite for use of WebSphere Partner Gateway. It provides standards-based reliable and secure connectivity between applications and systems.
WebSphere MQ Clients	Two CD-ROMs contain the following platforms: • AIX, HP-UX, Solaris, Windows • Linux (Intel)	Clients for WebSphere MQ Server.

Hardware and software requirements

This topic includes links to additional information on the hardware requirements and software corequisites and prerequisites needed for installing WebSphere Process Server, Version 6.0.

See WebSphere Process Server detailed system requirements at
http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link
to the List of supported hardware and software for WebSphere Process Server,
Version 6.0. If there is a conflict between the information provided in this topic and
the information on this Web page, the information on the Web page takes
precedence. The information in this topic is provided as a convenience only.

Required disk space

Disk space requirements are platform-specific. See "Required disk space" on page
32 for information about the disk space required to install WebSphere Process
Server and related products on your operating system.

Supported operating systems

See WebSphere Process Server detailed system requirements at
http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link
to the List of supported hardware and software for WebSphere Process Server,
Version 6.0.

The installation program for WebSphere Process Server verifies that a supported
operating system is installed. The verification includes checking for required
patches.

Always consult the List of supported hardware and software for WebSphere
Process Server, Version 6.0 Web site to determine whether your operating system is
supported. The Web site lists all supported operating systems and the operating
system fixes and patches that you must install to have a compliant operating
system.

Refer to the documentation for non-IBM prerequisite and corequisite products to
learn how to migrate to their supported versions.

Product version information

The properties/version directory in the *install_root* directory contains important
data about the product and its installed components, such as the build version and
build date. This information is included in WBI.product and *component-
name*.component files.

Note: For clarity, only the Linux and UNIX(R) versions of commands and file paths
are shown below.

The properties/version/history directory in the *install_root* directory contains a
collection of records for installed interim fixes and fix packs. This information is
included in *interim fixID*.efixApplied, *interim fixID*.efixDriver, *fix packID*.ptfApplied,
and *fix packID*.ptfDriver files. A driver file has useful information about the entire
contents of an interim fix or fix pack. The applied file has relevant information
about the interim fixes or fix packs that are currently applied. Event.history files
are also present. They contain a detailed log about updates you have applied,
either successfully or unsuccessfully. Time-stamped, detailed logs record each
update process in the properties/version/log directory of the *install_root* directory.

The following information describes the XML data files that store product
information for WebSphere Process Server. By default, the document type

declarations (DTDs) for these files are in the properties/version/dtd folder of the *install_root* directory, or the server root directory. For more information, see the Directory locations section.

Product information files

The following XML files in the properties/version directory represent installed items and installation events such as product edition, version, component, and build information:

- WBI.product

  One file whose existence indicates the particular WebSphere Process Server product that is installed. The type of product installed is indicated by the <id> tag. Data in the file indicates the version, build date, and build level. An example follows.

  ```
  <?xml version="1.0" encoding="UTF-8"?>
  <!DOCTYPE product PUBLIC "productId" "product.dtd">
  <product name="IBM WebSphere Process Server">
    <id>WBI</id>
    <version>6.0.0.0</version>
    <build-info date="6/10/05" level="o0523.34"/>
  </product>
  ```

- *component-name*.component

  Any number of component files that each indicate the presence of an installed component, which is part of the product. Data in the file indicates the component build date, build version, component name, and product version. An example follows.

  ```
  <?xml version="1.0" encoding="UTF-8"?>
  <!DOCTYPE component PUBLIC "componentId" "component.dtd">
  <component build-date="6/10/05" build-version="o0523.34"
     name="relationshipManager"
   spec-version="6.0.0.0"/>
  ```

- *extension.id*.extension

  Any number of extension files that each indicate the presence of an extension that you install as a user extension, as part of a service engagement, or as installed by a third party product. The *extension.id*.extension files are not created, logged, or removed by WebSphere Process Server.

- *fix-id*.efix

  Any number of interim fix files that each indicate the presence of an installed fix.

- *ptf-id*.ptf

  Any number of files, that each indicate the presence of an installed refresh pack or fix pack.

The following XML files in the properties/version/history directory describe fixes and fix packs that are currently installed. These XML files are related to installation items by the primary ID information, which is shown in the following examples as italicized text.

- event.history

  Lists update events that have occurred. An update event is an operation that installs or uninstalls an interim fix or a fix pack. The file is sorted by the date and time of the events that are listed.

- *fix-id*.efixDriver

  Interim fix-driver defining information

- *fix-id*.efixApplied

Interim fix installation details
- *pft-id*.pftDriver

  Fix pack-driver defining information
- *pft-id*.pftApplied

  Fix pack installation details

Reports

WebSphere Process Server provides the ability to generate Version reports and History reports from the data in the files. The following report-generation scripts are available in the *install_root*/bin directory.

The following report generation scripts extract data from XML data files in the properties/version directory:
- versionInfo script

  Lets you use parameters to create a version report on Linux, UNIX, or Windows platforms. For more information about the versionInfo command, see versionInfo command in the WebSphere Application Server Network Deployment, Version 6.0 information center.
- genVersionReport script

  Generates the versionReport.html report file in the bin directory on Linux, UNIX, or Windows platforms. The report includes the list of components and installed and uninstalled maintenance packages. For more information about the genVersionReport command, see genVersionReport command in the WebSphere Application Server Network Deployment, Version 6.0 information center.

The following report generation scripts extract data from XML data files in the properties/version/history directory:
- historyInfo script

  Lets you use parameters to create a history report on Linux, UNIX, or Windows platforms. For more information about the historyInfo command, see the historyInfo command in the WebSphere Application Server Network Deployment, Version 6.0 information center.
- genHistoryReport script

  Generates the historyReport.html report file in the bin directory on Linux, UNIX, or Windows platforms. The report includes the list of components and a history of installed and uninstalled maintenance packages. For more information about the genHistoryReport command, see genHistoryReport command in the WebSphere Application Server Network Deployment, Version 6.0 information center.

Logs and component backups

WebSphere Process Server products use two other directories when performing update operations, for logging and backups:
- *install_root*/logs/update, the logs directory for product updates.

  The location of log files that describe events that occur during the use of the update installer program.
- *install_root*/properties/version/backup, the product updates backup directory.

  WebSphere Process Server backs up components before applying interim fixes and fix packs. If you uninstall an interim fix or fix pack, WebSphere Process Server restores the backed-up component JAR file.

File naming convention:

- Time stamp: YYYYMMDD_HHMMSS

  For example: `20050324_211832` is 24-Mar-2005, 9:18:32 pm, GMT. All time stamps are in GMT.

- ID: Interim fix ID or fix pack ID

  For example: `apar6789c` is an interim fix ID; PTF_1 is a fix pack ID.

- Operation: install | uninstall

- Interim fix log file names: *timeStamp_fixId_operation*.log

  For example, the update installer program creates these logs: *install_root*/logs/update/20050324_211832_apar6789c_install.log and *install_root*/logs/update/ 20050324_211912_apar6789c_uninstall.log

- Interim fix component log file names: *timeStamp_fixId_componentName_operation*.log

  For example, the update installer program creates these logs: *install_root*/logs/update/20050324_211832_apar6789c_ras_install.log and *install_root*/logs/update/ 20050324_211912_apar6789c_ras_uninstall.log

- Fix pack log file names: *timeStamp_ptfId_operation*.log

  For example, the update installer program creates these logs: *install_root*/logs/update/20050924_211832_was60_fp1_install.log and *install_root*/logs/update/ 20050924_211912_was60_fp1_uninstall.log

- Fix pack component log file names: *timeStamp_ptfId_componentName_operation*.log

  The update installer program creates these logs: *install_root*/logs/update/20050324_211832_was60_fp1_ras_install.log and *install_root*/logs/update/20030325_211912_was60_fp1_ras_uninstall.log

- Backup JAR file names: *timeStamp_ptfId_componentName_*undo.jar or *timeStamp_fixId_componentName_*undo.jar, for example: 20020924_211832_apar6789c_ras_undo.jar

  Do not delete a backup JAR file. You cannot remove a component update if the corresponding backup JAR file is not present.

Update processing might also use a temporary directory, if necessary. A Java property specifies this directory as described in the next section.

Directory locations

Product information files are located relative to the WebSphere Process Server *install_root* directory, or the server root directory. Directories are in the following default file paths:

- Version directory: *install_root*/properties/version.
- History directory: *install_root*/properties/version/history.
- Updates log directory: The update installer program stores log files in the *install_root*/logs/update directory.
- Updates backup directory: *install_root*/properties/version/backup.
- DTD directory: *install_root*/properties/version/dtd.
- Temporary directory: Specified by the java.io.tmpdir Java system property.

Operational description

WebSphere Process Server updates the product version history information while performing events that install or uninstall fixes or fix packs including the following:

- WebSphere Process Server adds an interim fix file (with an extension of .efix) to the version directory to indicate that an interim fix is currently installed.
- WebSphere Process Server removes an interim fix file from the version directory when it uninstalls the corresponding fix.
- WebSphere Process Server adds an interim fix driver file (with an extension of .efixDriver) to the history directory when an interim fix is installed. An interim fix driver file contains defining information for a fix.
- WebSphere Process Server removes an interim fix driver file when it removes the corresponding fix.
- WebSphere Process Server adds an interim fix application file (with an extension of .efixApplied) to the history directory when it installs an interim fix. An interim fix application file contains information that identifies component updates that have been applied for a fix. The application file also provides links to component log and backup files.
- WebSphere Process Server removes an interim fix application file when it removes the corresponding fix.
- WebSphere Process Server adds a fix pack, with an extension of .ptf, to the version directory to indicate than a fix pack is currently installed.
- WebSphere Process Server removes a fix pack file from the version directory when it uninstalls the corresponding fix pack.
- WebSphere Process Server adds a fix pack driver file (with an extension of .ptfDriver) to the history directory when it installs a fix pack. A fix pack driver file contains defining information for a fix pack.
- WebSphere Process Server adds a fix pack application file (with an extension of .ptfApplied) to the history directory when it installs a fix pack. A fix pack application file contains information that identifies component updates that have been applied for a fix pack. The application file also provides links to component log and backup files.
- WebSphere Process Server makes entries in the history file, event.history, when it installs or uninstalls an update.
- WebSphere Process Server stores a parent event for each interim fix that it installs or uninstalls.
- WebSphere Process Server stores a parent event for each fix pack that it installs or uninstalls.
- WebSphere Process Server stores child component events for each component update that it installs or uninstalls, beneath the corresponding interim fix or fix pack parent event.
- WebSphere Process Server stores one log file in the logs/update directory as it installs or uninstalls one interim fix or fix pack.
- WebSphere Process Server stores one log file in the logs/update directory as it installs or uninstalls an interim fix or fix pack, in response to each component update that occurs.
- WebSphere Process Server stores a component backup file in the backup directory for each component update that it installs.
- WebSphere Process Server removes a component backup file from the backup directory for each component update that it uninstalls.

Installation: Resources for learning

Use the following links to find relevant supplemental information about installation and customization of WebSphere Process Server, Version 6.0. The information resides on IBM and non-IBM Internet sites, whose sponsors control the technical accuracy of the information.

These links are provided for convenience. Often, the information is not specific to the IBM WebSphere Process Server product, but is useful all or in part for understanding the product. When possible, links are provided to technical papers and Redbooks(TM)that supplement the broad coverage of the release documentation with in-depth examinations of particular product areas.

View links to additional information about:
* "Planning, business scenarios, and IT architecture"
* "Programming instructions and examples" on page 13
* "Programming specifications" on page 13
* "Administration" on page 13
* "Support" on page 13

Planning, business scenarios, and IT architecture

* WebSphere Process Server detailed system requirements

  From this page, select the link to the List of supported hardware and software for WebSphere Process Server, Version 6.0. The official site for determining product prerequisites for hardware and software for WebSphere Process Server.
* IBM developerWorks WebSphere

  The home of technical information for developers working with WebSphere products. You can download WebSphere software, take a fast path to developerWorks zones, such as WebSphere Business Integration (of which WebSphere Process Server is a part), learn about WebSphere products through a newcomers page, tutorials, technology previews, training, and Redbooks, get answers to questions about WebSphere products, and join the WebSphere community, where you can keep up with the latest developments and technical papers.
* IBM WebSphere Process Server home page

  The IBM WebSphere Process Server home page contains useful information, including support links and downloads for fixes, APARs, tools, and trials.
* IBM WebSphere Process Server library and information center Web site

  The IBM WebSphere Process Server Library Web site contains a link to the WebSphere Process Server information center.
* IBM WebSphere software platform home page

  The IBM WebSphere software platform home page introduces WebSphere products and describes how companies can easily transform to an e-business, with software that can grow as fast as the business it supports.
* developerWorks: IBM Patterns for e-business

  The IBM developerWorks site is the source for IBM patterns for e-business, a set of tested, reusable intellectual assets that you can use to design and implement your e-business network and architecture.
* The User centered design (UCD) for different project types, part 2

  This Web page is the latest of two articles that describes design activities that IBM scientists have found most useful in various types of projects. This article defines user interface design elements, including the design prototype, use case model, and design specification document.

Programming instructions and examples

- IBM developerWorks

  IBM developerWorks contains many excellent resources for developers, including tutorials on Web development-related topics. There is an excellent tutorial on the JDBC API.
- IBM Redbooks

  The IBM Redbooks site contains many documents that are related to WebSphere Application Server, the product which WebSphere Process Server extends.

Programming specifications

- J2EE information

  For more information about J2EE specifications, visit the Sun site.

Administration

- The IBM Terminology Web site

  This glossary consolidates and defines the terminology from many IBM products in one convenient location. In addition to base computer terminology, terms and definitions from many different IBM brands and product families are included. It is not a comprehensive resource of all IBM computing terms. This resource is provided for information purposes only and is updated periodically. IBM takes no responsibility for the accuracy of the information it contains.

Support

- WebSphere Process Server Support page

  Take advantage of the Web-based Support and Service resources from IBM to quickly find answers to your technical questions. You can easily access this extensive Web-based support through the IBM Software Support portal at URL `http://www.ibm.com/software/support/` and search by product category, or by product name. For example, if you are experiencing problems specific to WebSphere Process Server, select **WebSphere Process Server** in the product list. The WebSphere Process Server Support page is displayed.
- IBM e-server Support: Fix Central

  A Web facility for downloading fixes for the AIX operating system.

Installing the documentation

This topic details how you install a local copy of the WebSphere Process Server Information Center on your computer.

About the document plug-ins

The documentation is packaged as Eclipse document plug-ins and must be viewed using the IBM WebSphere Help System. The help system (or viewer) and document plug-in format are based on an open source approach developed by the Eclipse Project. IBM product document plug-ins are contained in folders that follow a consistent naming convention (com.ibm.*xxx*.doc).

Installing the document plug-ins

To view IBM product documentation in the viewer, you must install new or updated document plug-ins into the `eclipse\plugins` folder of the IBM WebSphere Help System. The help system works with any information that has been packaged as an Eclipse document plug-in, including IBM product document plug-ins. IBM product plug-in folders are easily identified because they use a common naming convention (com.ibm.*xxx*.doc).

To install document plug-ins, complete the following steps:

1. Install the IBM WebSphere Help System, which can be found on the CD labeled *WebSphere Process Server CD 2*. This component is in the `\IEHS` directory.

2. Obtain the document plug-ins from the IBM product Web page http://www.ibm.com/software/integration/wps/infocenter/.

3. Copy the document plug-in folders to the `eclipse\plugins` folder of the help system. For example, if you installed the help system to `C:\WebSphere Help System`, you copy the document plug-in folders to: `C:\WebSphere Help System\eclipse\plugins`. Keep in mind that this must be the `eclipse\plugins` folder of the IBM WebSphere Help system; you might have additional `eclipse\plugins` folders on your system.

4. To see the newly added document plug-in, start the viewer by following the instructions in the Starting the viewer section below (or shut it down by following the instructions in the Shutting down the viewer section below, and then restart it if it was running).

Starting the viewer

To start the viewer:

1. Open the WebSphere Help System folder.
2. Double-click the help_start.bat file.

Note: It might take a few minutes for the system to start and the document plug-ins to be displayed the first time you start it.

Shutting down the viewer

When you close the viewer by simply closing its window, its processes are still running in the background. This enables a much faster launch during subsequent sessions. However, you must shut down these processes when you install document plug-ins or update the help system with new plug-ins. Shutting down the viewer when not in use also frees up system memory. When you shut down your machine, all help system processes shut down.

To shut down the viewer:

1. Open the WebSphere Help System folder.
2. Double-click the help_end.bat file.

Planning to use Business Process Choreographer and Common Event Infrastructure

This topic provides links to detailed information on planning for use of the Business Process Choreographer and Common Event Infrastructure components.

Follow the paths provided in the following list for information on planning for use of these components:

- **Installing > Planning to use Business Process Choreographer and Common Event Infrastructure > Planning to use Business Process Choreographer**
- **Installing > Planning to use Business Process Choreographer and Common Event Infrastructure > Planning to use the Common Event Infrastructure**

Planning to use Business Process Choreographer

For each application server that runs business processes or human tasks, you will have to configure the business process container and the human task container before installing any enterprise applications that contain processes or tasks. Before configuring the business process container or the human task container, consider the following items:

1. Decide which database system to use:
   - Cloudscape™; Because the version of Cloudscape Network Server that is distributed with this version of WebSphere® Process Server has no XA support, Business Process Choreographer can only use the embedded Cloudscape version that cannot be accessed remotely. This restriction is why Cloudscape cannot be used as database system for Business Process Choreographer in a distributed WebSphere environment.
   - DB2® UDB for Linux®, UNIX®, and Windows®
   - Informix® Dynamic Server
   - Microsoft® SQL Server
   - Oracle
2. Decide which machine you want to host the database. If the database machine is remote, you need a suitable database client or a type-4 JDBC driver that has XA-support.
3. Decide which Java™ Message Service (JMS) provider you will use:
   - WebSphere default messaging
   - WebSphere MQ
4. Plan the settings that are described in "Business process container installation wizard settings" on page 182.
5. If you want to run enterprise applications that contain human tasks, plan the settings that are described in "Human task container installation wizard settings" on page 204.

After installing WebSphere Process Server, you are ready to perform "Configuring Business Process Choreographer" on page 163.

About Business Process Choreographer

Business Process Choreographer is a powerful enterprise workflow tool that supports both business processes and human tasks in a Java 2 Platform Enterprise Edition (J2EE) environment. These constructs can be used to integrate J2EE resources, Web services, and activities that require human interaction. Business Process Choreographer manages the life cycle of business processes and human tasks, navigates through the associated model, and invokes the appropriate Web services.

Business Process Choreographer provides the following facilities:

- Support for business processes and human tasks. Business processes offer the standard way to model your business process using the Web Services Business Process Execution Language (WS-BPEL, abbreviated to BPEL). With human tasks, you can use the Task Execution Language (TEL) to model the interactions that involve humans, such as human-to-human, human-to-machine, machine-to-human. Both business processes and human tasks are exposed as services in a Service Oriented Architecture; they also support both simple data objects and business objects.
- Application programming interfaces for developing customized applications for interacting with business processes and human tasks.

- Business Process Choreographer Explorer. This stand-alone Web application offers a basic set of administration functions for managing business process and human tasks.

About business processes:

A process is a set of business-related activities that are invoked in a specific sequence to achieve a business goal.

A process that is defined in the Business Process Execution Language (BPEL) comprises:
- The activities that are the individual business steps within the process. An activity can be one of several different types. Also, an activity can be categorized as either a basic activity or a structured activity.
  - Basic activities are activities that have no structure and do not contain other activities.
  - Structured activities are activities that contain other activities.
- The partner links that specify external entities and partners that interact with the process or vice versa using Web services interfaces.
- The variables that store messages that are passed between activities. They represent the state of a business process instance.
- Correlation sets that are used to correlate multiple service requests or response messages with the same business process instance. Correlation sets are based on application data that is contained in messages that are exchanged with the process.
- Fault handlers that deal with exceptional situations that can occur when a business process runs.
- Event handlers.
- Compensation handlers that specify the compensation logic for a single activity or a group of activities.

For more information on these constructs, refer to the BPEL specification.

Business Process Choreographer also supports the IBM® extensions to the BPEL language, such as:
- Task activities for human interaction. These inline participating tasks can be almost any step in the business process that involves a person, for example, completing a form, approving a document or drawing, writing a letter, and so on.
- Script activities for running inline Java code. The Java code can access all of the BPEL variables, correlation properties, and partner links, as well as process and activity contexts.
- Valid-from timestamps for process model versioning.
- Business relevance flags for determining which events are recorded in the audit log.
- Explicit checkpointing to support multiple activities in one transaction.
- Timeouts for activities.

Business process types:

Business processes can be either long-running or microflows.

Long-running processes

A long-running business process is interruptible, and each step of the process is run in its own physical transaction. Long-running business processes can wait for external stimuli. Examples of external stimuli are events that are sent by another business process in a business-to-business interaction, responses to asynchronous invocations, or the completion of a human task.

A long-running process has the following characteristics:
* Runs as several transactions
* Consists of synchronous and asynchronous services
* Stores each intermediate process state, which makes the process forward-recoverable

Microflows

A microflow runs in one physical thread from start to finish without interruption. Microflows are sometimes referred to as non-interruptible business processes. Microflows can have different transactional capabilities. A microflow can run within a global transaction or as part of an activity session.

A microflows has the following characteristics:
* Runs in one transaction
* Normally runs for a short time
* Does not store run-time values in the database
* Consists of only synchronous services and non-interruptible subprocesses, which means that a microflow cannot contain:
  – Human tasks
  – Wait activities
  – Multiple receive activities
  – Long-running subprocesses
  – Invoke activities bound to asynchronous protocols

About human tasks:

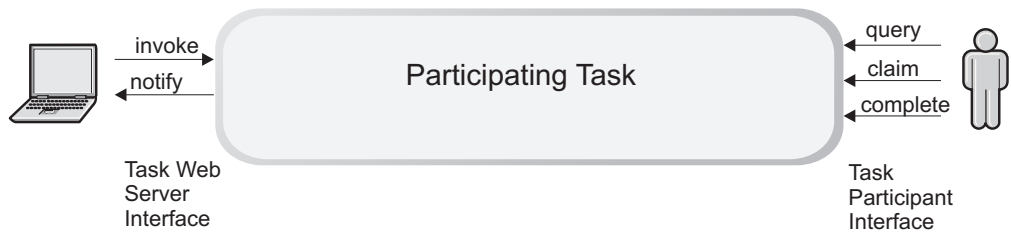A human task is a component that involves a person interacting with a service.

The interaction can be initiated either by a person or by an automated service. A service that is initiated by a person can be either an automated implementation or a service that is provided by another person. A human task that is invoked by an automated service can be replaced easily by an automated implementation.

Tasks can be used to implement staff activities in business processes that require human interactions, such as manual exception handling and approvals. (All other exception handling is modeled natively in Business Process Execution Language for Web Services [BPEL], by using faults and fault handlers, or compensation, for example.) Tasks can also be used to start or administer business processes.

The types of human tasks are as follows:

Participating tasks
> Support Web-service-to-person interactions, which enable a person to implement a service. For example, a participating task can be a staff activity in a business process.
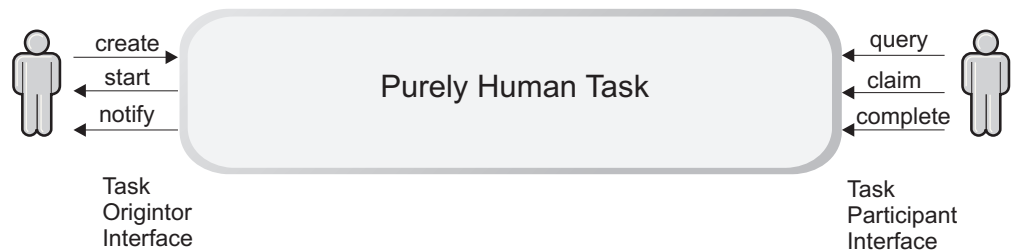
invoke
notify

Participating Task

query
claim
complete

Task Web
Server
Interface

Task
Participant
Interface

Originating tasks

> Support person-to-computer interactions, which enables people to create,
> initiate, and start services through a graphical user interface. For example,
> a user can start a business process, or send it an event by means of an
> originating task.

create
start
notify

Originating Task

invoke
return

Task
Originator
Interface

Web
Service
Interface
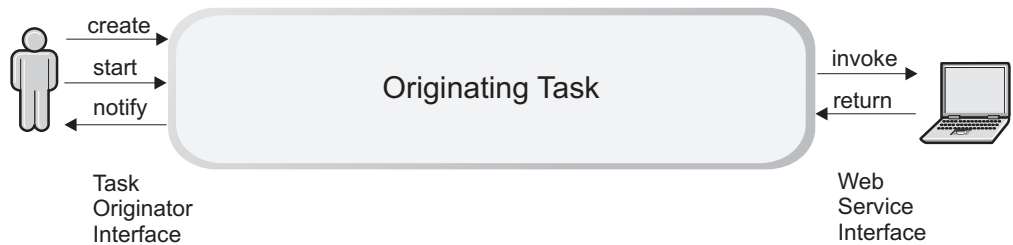
Purely human tasks

> Support person-to-person interactions, which enable a person to invoke a
> task as though it were an originating task. This invoked task is then
> performed by another person, who interacts with it as though it were a
> participating task. Purely human tasks do not interact with business
> processes or other Web services.

create
start
notify

Purely Human Task

query
claim
complete

Task
Origintor
Interface

Task
Participant
Interface

Administrative tasks

> Support authorization and user interface settings for administering
> business processes and activities.

Who can interact with a task can be determined using one of the supported staff
directories. Work items are created for users who have a reason to view or perform
the task.

The human task manager supports the following directories:

- Lightweight Directory Access Protocol (LDAP) directory
- WebSphere user registry
- Custom user registry

Escalation conditions can be used to cause escalation notifications to be sent if
tasks are not claimed or are overdue (not completed within defined time limits).

Planning to use the Common Event Infrastructure

The Common Event Infrastructure facilitates events.

The Common Event Infrastructure provides facilities for the generation, propagation, persistence, and consumption of events, but it does not define the actual events. When you plan how to use the event infrastructure in your system design, you need to understand the business concepts that are relevant, and map them to the appropriate components of your system design. You should provide the semantics of event management by defining event types and event groups, in the context of an architecture of event sources and event consumers.

1. Identify each *event source*. The event source is the application that creates the event. The event source passes the event object to the event infrastructure. The event infrastructure also stores the event object in a database for later retrieval. The role of the event infrastructure is to pass the event object onto any applications that express an interest in receiving it.

2. Identify each *event consumer*. An event consumer is an application that can use the information that is contained in the event object. Event consumers typically process events from a number of event sources.

3. Identify the hierarchy of the *event correlation spheres* and the identifiers for these spheres. Event consumers can use event correlation spheres to correlate events. The ECSEmitter class supports a hierarchy of correlation spheres by storing the current identifier and the parent identifier of the correlation spheres of an event in each event.

   Note: ECSEmitter and correlation sphere capabilities are provided through the Events service and not through the Common Event Infrastructure, itself.

   For example, a Business Process Execution Language (BPEL) activity opens a correlation sphere for the current activity that identifies the activity with the activity instance ID. The parent correlation sphere is the correlation sphere of the process instance on behalf of which the activity is run. The parent correlation sphere is identified by the process instance ID.

4. Identify each *event group*. An event group defines the characteristics (property values) that all events of interest to a particular type of consumer can contain. Policies, such as access controls and distribution rules are assigned to the event groups to customize the behavior of the event infrastructure for each user group.

WebSphere supplies a default event group that is defined to include all events. This event group is called *Event groups list* and has a Java Naming and Directory Interface (JNDI) name of `com/ibm/events/configuration/event-groups/Default`

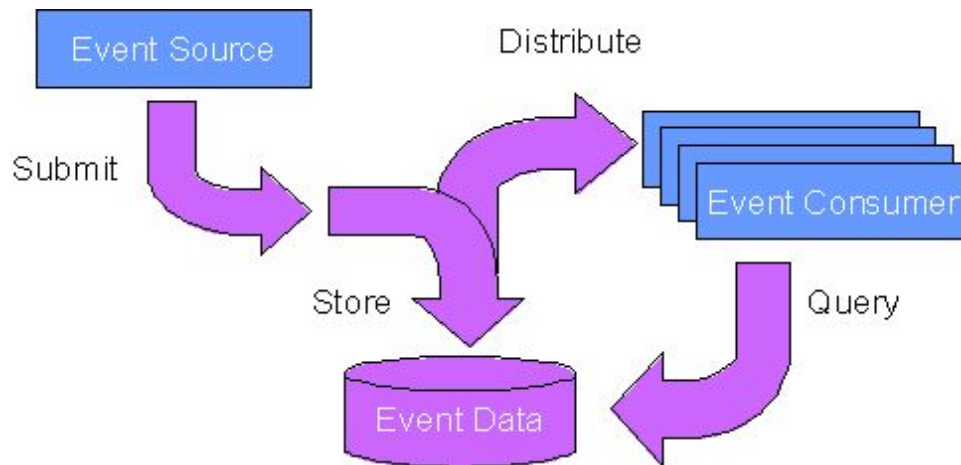The following figure shows the relationship between these objects:

Figure 1. The architecture of an event source (which creates events), an event consumer (which makes use of the event data), and an event group (which defines the characteristics and associated policies for each type of event).

Preparing the operating system for installation

This topic offers links to platform-specific instructions on how to prepare your operating platform for installing IBM WebSphere Process Server, Version 6.0.

You must install the necessary prerequisites for your operating system. Select your operating system to view the corresponding procedure:

- "Preparing AIX systems for installation"
- "Preparing HP-UX systems for installation" on page 24
- "Preparing Linux systems for installation" on page 25
- "Preparing Solaris systems for installation" on page 28
- "Preparing Windows systems for installation" on page 30

Preparing AIX systems for installation

Follow this procedure to prepare an AIX system for installation of IBM WebSphere Process Server, Version 6.0.

The installation uses an InstallShield for Multiplatforms (ISMP) wizard. You can also install the product silently. Silent mode is invoked at a command line with a parameter that identifies an options response file, which you edit before installing.

Use the following procedure to prepare the operating system for installation of WebSphere Process Server.

1. Log on as root.

   You cannot install the product correctly as a non-root user. If you create copies of the product CDs, do so as root. Copies made by non-root users do not preserve the correct file attributes and do not work.

2. Verify that the umask setting is 0022.

   To verify the umask setting, issue the following command:

   `umask`

   To set the umask setting to 0022, issue the following command:

   `umask 0022`

3. Stop all Java processes on the machine on which you are installing the product that are related to WebSphere Application Server, WebSphere Application Server Network Deployment, or WebSphere Process Server.

4. Stop any Web server process such as the IBM HTTP Server.

5. Use the System Management Interface Tool (SMIT) to display packages that are installed to determine whether you must update packages that are described in the following steps.

6. Download the most current version of the Info-ZIP product to avoid problems with zipped files. Download a current version of the Info-ZIP package from the http://www.info-zip.org Web site.

7. Provide adequate disk space. See "Required disk space" on page 32 for the space required to install WebSphere Process Server and related products.

   With the JFS file system on AIX, you can allocate expansion space for directories. If the Installation Wizard does not have enough space, ISMP issues a system call for more space that increases the space allocation dynamically. The message you might see when this occurs for the /usr directory is similar to the following example:

   ```
   NOTE: The following file systems will be expanded during the installation:
     /usr
   ```

   Manually verify that the required space for creating a profile is available on AIX. A known problem in the underlying ISMP code prevents proper space checking on AIX systems.

8. Unmount file systems with broken links to avoid java.lang.NullPointerException errors.

   Installation can fail with the following error when broken links to file systems exist:

   ```
   An error occurred during wizard bean change notification:
   java.lang.NullPointerException
     at com.ibm.wizard.platform.aix.AixFileUtils.
        getFileSystemData(AixFileUtils.java:388)
     at com.ibm.wizard.platform.aix.AixFileUtils.
        getPartitionDataWithExecs(AixFileUtils.java:172)
     at com.ibm.wizard.platform.aix.AixFileUtils.
        getPartitionData(AixFileUtils.java:104)
     at com.ibm.wizard.platform.aix.AixFileServiceImpl.
        getPartitionNames(AixFileServiceImpl.java:397)
   ...
   ```

   Use the following procedure to identify and unmount problematic file systems:

   a. Use the **df -k** command to check for broken links to file systems. Look for file systems that list blank values in the *1024-blocks* column. Entries with a value of "-" (dash) are not a problem. The following example shows that problems exist with the iw031864:/cdrom/db2_v72_eee_aix32_sbcs file system and possibly with the /dev/lv00 file system. The /proc file system is not a problem.

   ```
   >  df -k
   Filesystem      1024-blocks      Free %Used    Iused %Iused Mounted on
   /dev/hd4           1048576    447924   58%     2497     1% /
   /dev/hd3           4259840   2835816   34%      484     1% /tmp
   /proc                    -         -    -         -     - /proc
   /dev/lv01          2097152    229276   90%     3982     1% /storage
   /dev/lv00
   /dev/hd2           2097152    458632   79%    42910     9% /usr
   iw031864:/cdrom/db2_v72_eee_aix32_sbcs
   ```

b. First, unmount any file systems that show definite problems, such as the `iw031864:/cdrom/db2_v72_eee_aix32_sbcs` file system in the example. To do this, use one of the following commands:

```
> umount /cdrom/db2_v72_eee_aix32_sbcs
> umount /cdrom
```

c. Start the installation again.

d. If the problem continues, unmount any file systems that have blank values, such as the `/dev/lv00` file system in the example.

e. If you cannot solve the problem by unmounting file systems with broken links, reboot the machine and start the installation again.

9. Verify that prerequisites and corequisites are at the required release levels.

Although the Installation Wizard checks for prerequisite operating system patches, review the prerequisites in the List of supported hardware and software for WebSphere Process Server if you have not already done so. To access this information, see WebSphere Process Server detailed system requirements at http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link to the List of supported hardware and software for WebSphere Process Server, Version 6.0.

Refer to the documentation for non-IBM prerequisite and corequisite products to learn how to migrate to their supported versions.

10. Verify that the system **cp** command is used, rather than the **cp** command provided by emacs or other freeware.

If you install the product using a **cp** command that is part of a freeware package, rather than with the system **cp** command, the installation might appear to complete successfully, but the Java 2 SDK that the product installs might have missing files in the *install_root*/java directory (where *install_root* represents the installation directory of WebSphere Process Server).

Missing files can destroy required symbolic links. You must remove the freeware **cp** command from the PATH in order to install the WebSphere Process Server product successfully.

If you have emacs or other freeware installed on your operating system, perform the following steps to identify which **cp** command is being used by the system, and to deactivate the freeware **cp** command if it is being used:

a. Type `which cp` at the command prompt before running the installation program for the WebSphere Process Server product.

b. If the resulting directory output includes `freeware`, remove the `freeware` directory from your PATH. For example, if the output is similar to `.../freeware/bin/cp`, remove the directory from the PATH.

c. After you install WebSphere Process Server, add the `freeware` directory back to the PATH.

11. Verify that the Java 2 SDK on your copies of the product CDs is functioning correctly.

If you created your own product CDs from ISO images or by copying the actual CDs, perform the following steps to verify that the Java 2 SDK is working correctly.

a. On your created product CD for *WebSphere Process Server CD 1*, navigate to the `/mnt/JDK/repository/prereq.jdk/java/bin` directory. To do this, issue the following command:

```
cd /mnt/JDK/repository/prereq.jdk/java/bin
```

b. Verify the Java 2 SDK version. To do this, issue the following command:

```
./java -version
```

> The command completes successfully with no errors when the Java 2 SDK is intact.

   c. Repeat this procedure on your created product CD for *WebSphere Process Server CD 2*.

12. **Optional:** Install the Mozilla browser if it is not already installed. The Mozilla browser supports the Launchpad console. Use SMIT to identify whether the Mozilla 1.4 or 1.7 or later package is already installed. If it is not already installed, complete the following procedure:

   a. Download two prerequisites from the AIX Toolbox for Linux Applications: glib-1.2.10-2.aix4.3.ppc.rpm and gtkplus-1.2.10-4.aix5.1.ppc.rpm. Download the packages from the following locations:

- glib-1.2.10-2.aix4.3.ppc.rpm
- gtkplus-1.2.10-4.aix5.1.ppc.rpm

   b. Install the packages after downloading them. Use the following command:

```
rpm -Uvh glib-1.2.10-2.aix4.3.ppc.rpm gtkplus-1.2.10-4.aix5.1.ppc.rpm
```

   c. Download the latest supported version of Mozilla (1.7 or later) for AIX. Download Mozilla for AIX from the following location:

IBM Trials and betas Web site

Download the installp image and install it from SMIT.

> **Important:** IBM has not tested and does not support the Mozilla images distributed on the http://www.mozilla.org Web site. Download the Mozilla images from the IBM Trials and betas Web site to ensure that the version that you download is tested and supported.

13. **Optional:** Export the location of the supported browser.

Export the location of the supported browser using a command that identifies the actual location of the browser.

For example, if the Mozilla package is in the `bin/mozilla` directory, use the following command:

```
EXPORT BROWSER=/usr/bin/mozilla
```

14. **Optional: For silent installation only:** Allow for a known ISMP problem that causes a call to the X Window service during a silent installation.

The DISPLAY environment variable on your AIX machine might point to an X Server that is not logged in. Two common scenarios can cause this to occur:

- Your AIX machine has an X Server running, but the X Server is stuck at the graphical login screen because you have not yet logged in.
- Your AIX machine is configured to display X Window applications on a remote X Server that is not logged in.

A silent installation can hang in either case as ISMP calls X Window services.

Two solutions exist:

- Log in to the local X Server through the graphical user interface before beginning the silent installation.
- Export the DISPLAY environment variable to point to null or blank, as shown in the following example:

```
EXPORT DISPLAY=null
```

This procedure prepares the operating system for installation of WebSphere Process Server, Version 6.0.

After preparing the operating system, you can install WebSphere Process Server, Version 6.0. See "Installing the product" on page 44 for descriptions of the various installation alternatives available.

Preparing HP-UX systems for installation

Follow this procedure to prepare an HP-UX system for installation of IBM WebSphere Process Server, Version 6.0.

The installation uses an InstallShield for Multiplatforms (ISMP) wizard. You can also install the product silently. Silent mode is invoked at a command line with a parameter that identifies an options response file, which you edit before installing.

Use the following procedure to prepare the operating system for installation of WebSphere Process Server.

1. Log on as root.

   You cannot install the product correctly as a non-root user. If you create copies of the product CDs, do so as root. Copies made by non-root users do not preserve the correct file attributes and do not work.

2. Verify that the umask setting is 022.

   To verify the umask setting, issue the following command:

   ```
   umask
   ```

   To set the umask setting to 022, issue the following command:

   ```
   umask 022
   ```

3. **Optional:** Install the Mozilla browser if it is not already installed. The Mozilla browser supports the Launchpad console.

   Download and install the Mozilla browser from http://www.mozilla.org.

4. **Optional:** Export the location of the supported browser.

   Export the location of the supported browser using a command that identifies the actual location of the browser.

   For example, if the Mozilla package is in the `bin/mozilla` directory, use the following command:

   ```
   EXPORT BROWSER=/usr/bin/mozilla
   ```

5. Stop all Java processes on the machine on which you are installing the product that are related to WebSphere Application Server, WebSphere Application Server Network Deployment, or WebSphere Process Server.

6. Stop any Web server process such as the IBM HTTP Server.

7. Provide adequate disk space. See "Required disk space" on page 32 for the space required to install WebSphere Process Server and related products.

8. Set kernel values to support WebSphere Process Server.

   Several HP-UX kernel values are typically too small for the product. See "Setting kernel values on HP-UX systems" on page 41 for instructions on how to set kernel values.

9. Verify that prerequisites and corequisites are at the required release levels.

   Although the Installation Wizard checks for prerequisite operating system patches, review the prerequisites in the List of supported hardware and software for WebSphere Process Server if you have not already done so. To access this information, see WebSphere Process Server detailed system requirements at http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link to the List of supported hardware and software for WebSphere Process Server, Version 6.0.

Refer to the documentation for non-IBM prerequisite and corequisite products to learn how to migrate to their supported versions.

10. Verify that the system **cp** command is used, rather than the **cp** command provided by emacs or other freeware.

   If you install the product using a **cp** command that is part of a freeware package, rather than with the system **cp** command, the installation might appear to complete successfully, but the Java 2 SDK that the product installs might have missing files in the *install_root*/java directory (where *install_root* represents the installation directory of WebSphere Process Server).

   Missing files can destroy required symbolic links. You must remove the freeware **cp** command from the PATH in order to install the WebSphere Process Server product successfully.

   If you have emacs or other freeware installed on your operating system, perform the following steps to identify which **cp** command is being used by the system, and to deactivate the freeware **cp** command if it is being used:

   a. Type `which cp` at the command prompt before running the installation program for the WebSphere Process Server product.

   b. If the resulting directory output includes `freeware`, remove the `freeware` directory from your PATH. For example, if the output is similar to `.../freeware/bin/cp`, remove the directory from the PATH.

   c. After you install WebSphere Process Server, add the `freeware` directory back to the PATH.

11. Verify that the Java 2 SDK on your copies of the product CDs is functioning correctly.

   If you created your own product CDs from ISO images or by copying the actual CDs, perform the following steps to verify that the Java 2 SDK is working correctly.

   a. On your created product CD for *WebSphere Process Server CD 1*, navigate to the /mnt/JDK/repository/prereq.jdk/java/bin directory. To do this, issue the following command:

   ```
   cd /mnt/JDK/repository/prereq.jdk/java/bin
   ```

   b. Verify the Java 2 SDK version. To do this, issue the following command:

   ```
   ./java -version
   ```

   The command completes successfully with no errors when the Java 2 SDK is intact.

   c. Repeat this procedure on your created product CD for *WebSphere Process Server CD 2*.

This procedure prepares the operating system for installation of WebSphere Process Server, Version 6.0.

After preparing the operating system, you can install WebSphere Process Server, Version 6.0. See "Installing the product" on page 44 for descriptions of the various installation alternatives available.

Preparing Linux systems for installation

Follow this procedure to prepare a Linux system for installation of IBM WebSphere Process Server, Version 6.0.

The installation uses an InstallShield for Multiplatforms (ISMP) wizard. You can also install the product silently. Silent mode is invoked at a command line with a parameter that identifies an options response file, which you edit before installing.

Use the following procedure to prepare the operating system for installation of WebSphere Process Server.

1. Log on as root.

   You cannot install the product correctly as a non-root user. If you create copies of the product CDs, do so as root. Copies made by non-root users do not preserve the correct file attributes and do not work.

2. Verify that the umask setting is 022.

   To verify the umask setting, issue the following command:

   `umask`

   To set the umask setting to 022, issue the following command:

   `umask 022`

3. **Optional:** Install the Mozilla browser if it is not already installed. The Mozilla browser supports the Launchpad console.

   Download and install the Mozilla browser from http://www.mozilla.org.

4. **Optional:** Export the location of the supported browser.

   Export the location of the supported browser using a command that identifies the actual location of the browser.

   For example, if the Mozilla package is in the `bin/mozilla` directory, use the following command:

   `EXPORT BROWSER=/usr/bin/mozilla`

5. Stop all Java processes on the machine on which you are installing the product that are related to WebSphere Application Server, WebSphere Application Server Network Deployment, or WebSphere Process Server.

6. Stop any Web server process such as the IBM HTTP Server.

7. Provide adequate disk space. See "Required disk space" on page 32 for the space required to install WebSphere Process Server and related products.

8. Verify that prerequisites and corequisites are at the required release levels.

   Although the Installation Wizard checks for prerequisite operating system patches, review the prerequisites in the List of supported hardware and software for WebSphere Process Server if you have not already done so. To access this information, see WebSphere Process Server detailed system requirements at http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link to the List of supported hardware and software for WebSphere Process Server, Version 6.0.

   Refer to the documentation for non-IBM prerequisite and corequisite products to learn how to migrate to their supported versions.

9. Provide necessary prerequisites for Red Hat Enterprise Linux V3.0.

   A known limitation exists in the prerequisites checker program when examining prerequisite packages on Linux systems.

   You must install the following packages on Red Hat Enterprise Linux V3.0 for xSeries platforms:
   - compat-gcc-7.3-2.96.122
   - compat-libstdc++-7.3-2.96.122
   - compat-libstdc++-devel-7.3-2.96.122
   - compat-glibc-7.x-2.2.4.32.5

- compat-gcc-c++-7.3-2.96.122
- compat-db-4.0.14-5
- rpm-build-4.2.1-4.2

The following package is required for Red Hat Enterprise Linux V3.0 for pSeries platforms: rpm-build-4.2.1-4.2.

You can install a later release of any of these packages.

10. Upgrade Red Hat Enterprise Linux V3.0 to service level 4.

Upgrade the Red Hat Enterprise Linux V3.0 service level by downloading and installing the service updates from Red Hat.

If you do not upgrade the service level, certain national language issues in the released version of GLIBC included in Red Hat Enterprise Linux V3.0 might cause Java Virtual Machine (JVM) failures due to segmentation faults. These failures can occur during installation when the locale is set to anything other than an English locale.

Do not install, log off, and log back on when you are installing from the operator console attached to the machine. This action can produce segmentation faults that cause the installation to fail.

11. Prepare the SuSE Linux Enterprise Server 8.0 - Powered by UnitedLinux 1.0 operating platform for WebSphere Process Server installation, by performing the following steps:

    a. Install SP3 for the United Linux 1.0 operating platform to let you use the Launchpad.

       It is your responsibility to install this service pack. The prereqChecker function of the installer cannot detect service pack versions definitively on United Linux. Kernel unames and versions between 8.0 and 8.0.3 are identical. No signature RPM denotes a service pack install.

    b. Use the IBM Developer Kit that WebSphere Application Server provides to support the Java 2 SDK on the SuSE SLES 8.0 operating system to avoid potential problems when uninstalling an interim fix or a Fix Pack.

       To use the IBM Developer Kit, remove the java2-jre-1.3.1-524 and java2-1.3.1-524 RPMs from the machine before installing WebSphere Process Server.

12. Correct font problems on SuSE Linux Enterprise Server 8.0 in Simplified Chinese and Traditional Chinese locales.

    On the Linux for Power platform that SuSE Linux Enterprise Server 8.0 provides, a missing package causes a font problem. The `ttf-hanyi` package is not installed during the normal product installation of the SuSE 8.0 operating system. The missing package causes the Installation Wizard for WebSphere Process Server to display garbled characters in the Simplified Chinese locale and in the Traditional Chinese locale.

    To fix this problem, copy the `ttf-hanyi-2021016-0.noarch.rpm` package on the SuSE 8.0 for i386 CD to the Power PC system, install the package, and reboot the machine.

13. Verify that the system **cp** command is used, rather than the **cp** command provided by emacs or other freeware.

    If you install the product using a **cp** command that is part of a freeware package, rather than with the system **cp** command, the installation might appear to complete successfully, but the Java 2 SDK that the product installs might have missing files in the *install_root*/java directory (where *install_root* represents the installation directory of WebSphere Process Server).

Missing files can destroy required symbolic links. You must remove the freeware **cp** command from the PATH in order to install the WebSphere Process Server product successfully.

If you have emacs or other freeware installed on your operating system, perform the following steps to identify which **cp** command is being used by the system, and to deactivate the freeware **cp** command if it is being used:

a. Type `which cp` at the command prompt before running the installation program for the WebSphere Process Server product.

b. If the resulting directory output includes `freeware`, remove the `freeware` directory from your PATH. For example, if the output is similar to `.../freeware/bin/cp`, remove the directory from the PATH.

c. After you install WebSphere Process Server, add the `freeware` directory back to the PATH.

14. Verify that the Java 2 SDK on your copies of the product CDs is functioning correctly.

    If you created your own product CDs from ISO images or by copying the actual CDs, perform the following steps to verify that the Java 2 SDK is working correctly.

    a. On your created product CD for *WebSphere Process Server CD 1*, navigate to the `/mnt/JDK/repository/prereq.jdk/java/bin` directory. To do this, issue the following command:

       `cd /mnt/JDK/repository/prereq.jdk/java/bin`

    b. Verify the Java 2 SDK version. To do this, issue the following command:

       `./java -version`

       The command completes successfully with no errors when the Java 2 SDK is intact.

    c. Repeat this procedure on your created product CD for *WebSphere Process Server CD 2*.

This procedure prepares the operating system for installation of WebSphere Process Server, Version 6.0.

After preparing the operating system, you can install WebSphere Process Server, Version 6.0. See "Installing the product" on page 44 for descriptions of the various installation alternatives available.

Preparing Solaris systems for installation

Follow this procedure to prepare a Solaris system for installation of IBM WebSphere Process Server, Version 6.0.

The installation uses an InstallShield for Multiplatforms (ISMP) wizard. You can also install the product silently. Silent mode is invoked at a command line with a parameter that identifies an options response file, which you edit before installing.

Use the following procedure to prepare the operating system for installation of WebSphere Process Server.

1. Log on as root.

   You cannot install the product correctly as a non-root user. If you create copies of the product CDs, do so as root. Copies made by non-root users do not preserve the correct file attributes and do not work.

2. Verify that the umask setting is 022.

To verify the umask setting, issue the following command:

```
umask
```

To set the umask setting to 022, issue the following command:

```
umask 022
```

3. **Optional:** Install the Mozilla browser if it is not already installed. The Mozilla browser supports the Launchpad console. Download and install the Mozilla browser from http://www.mozilla.org.

4. **Optional:** Export the location of the supported browser.

   Export the location of the supported browser using a command that identifies the actual location of the browser.

   For example, if the Mozilla package is in the `bin/mozilla` directory, use the following command:

   ```
   EXPORT BROWSER=/usr/bin/mozilla
   ```

5. Stop all Java processes on the machine on which you are installing the product that are related to WebSphere Application Server, WebSphere Application Server Network Deployment, or WebSphere Process Server.

6. Stop any Web server process such as the IBM HTTP Server.

7. Provide adequate disk space. See "Required disk space" on page 32 for the space required to install WebSphere Process Server and related products.

8. Set kernel values to support WebSphere Process Server.

   Several Solaris kernel values are typically too small for the product. See "Setting kernel values on Solaris systems" on page 43 for instructions on how to set kernel values.

9. Verify that prerequisites and corequisites are at the required release levels.

   Although the Installation Wizard checks for prerequisite operating system patches, review the prerequisites in the List of supported hardware and software for WebSphere Process Server if you have not already done so. To access this information, see WebSphere Process Server detailed system requirements at http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link to the List of supported hardware and software for WebSphere Process Server, Version 6.0.

   For instance, Solaris 9 SPARC workstations require the following patches:
   - 112874-16 SunOS 5.9: patch libc
   - 113319-12 SunOS 5.9: libnsl nispasswdd patch
   - 115545-01 SunOS 5.9: nss_files patch
   - 115542-01 SunOS 5.9: nss_user patch
   - 115544-01 SunOS 5.9: nss_compat patch

   Refer to the documentation for non-IBM prerequisite and corequisite products to learn how to migrate to their supported versions.

10. Verify that the system **cp** command is used, rather than the **cp** command provided by emacs or other freeware.

    If you install the product using a **cp** command that is part of a freeware package, rather than with the system **cp** command, the installation might appear to complete successfully, but the Java 2 SDK that the product installs might have missing files in the *install_root*/java directory (where *install_root* represents the installation directory of WebSphere Process Server).

Missing files can destroy required symbolic links. You must remove the freeware **cp** command from the PATH in order to install the WebSphere Process Server product successfully.

If you have emacs or other freeware installed on your operating system, perform the following steps to identify which **cp** command is being used by the system, and to deactivate the freeware **cp** command if it is being used:

a. Type `which cp` at the command prompt before running the installation program for the WebSphere Process Server product.

b. If the resulting directory output includes `freeware`, remove the `freeware` directory from your PATH. For example, if the output is similar to `.../freeware/bin/cp`, remove the directory from the PATH.

c. After you install WebSphere Process Server, add the `freeware` directory back to the PATH.

11. Verify that the Java 2 SDK on your copies of the product CDs is functioning correctly.

If you created your own product CDs from ISO images or by copying the actual CDs, perform the following steps to verify that the Java 2 SDK is working correctly.

a. On your created product CD for *WebSphere Process Server CD 1*, navigate to the `/mnt/JDK/repository/prereq.jdk/java/bin` directory. To do this, issue the following command:

`cd /mnt/JDK/repository/prereq.jdk/java/bin`

b. Verify the Java 2 SDK version. To do this, issue the following command:

`./java -version`

The command completes successfully with no errors when the Java 2 SDK is intact.

c. Repeat this procedure on your created product CD for *WebSphere Process Server CD 2*.

This procedure prepares the operating system for installation of WebSphere Process Server, Version 6.0.

After preparing the operating system, you can install WebSphere Process Server, Version 6.0. See "Installing the product" on page 44 for descriptions of the various installation alternatives available.

Preparing Windows systems for installation

Follow this procedure to prepare a Windows system for installation of IBM WebSphere Process Server, Version 6.0.

The installation uses an InstallShield for Multiplatforms (ISMP) wizard. You can also install the product silently. Silent mode is invoked at command line with a parameter that identifies an options response file, which you edit before installing.

Use the following procedure to prepare the operating system for installation of WebSphere Process Server.

1. Log on with a user ID that belongs to the Administrator group.

To successfully install the product, your user ID must be a member of the Administrator group. You cannot create Windows services with a user ID that does not belong to the Administrator group. The creation of Windows services requires the user to have the advanced user rights *Act as part of the operating*

system and *Log on as a service*. These services are accessible by selecting **Administrative Tools > Local Security Policy > Local Policies > User Rights Assignments**. See your Windows documentation for more information.

The Installation Wizard grants your Windows user ID the advanced user rights if the user ID belongs to the Administrator group. The silent installation does not grant these rights. If you create a new user ID on a Windows platform to perform a silent installation, you must restart the system to activate the proper authorizations for the user ID before you can perform a successful silent installation.

When installing WebSphere Process Server as a Windows service, do not use a user ID that contains spaces. A user ID with spaces cannot be validated. Such a user ID is not allowed to continue the installation.

2. **Optional:** Download the latest supported version of Internet Explorer so that you can use the Launchpad. Download Internet Explorer 6 Service Pack 1 from the following location:

   http://www.microsoft.com/windows/ie/default.mspx

3. Stop all Java processes on the machine on which you are installing the product that are related to WebSphere Application Server, WebSphere Application Server Network Deployment, or WebSphere Process Server.

4. Stop any Web server process such as the IBM HTTP Server.

5. Stop all instances of the `process_spawner.exe` program.

6. Provide adequate disk space. See "Required disk space" on page 32 for the space required to install WebSphere Process Server and related products.

7. Verify that prerequisites and corequisites are at the required release levels. Although the Installation Wizard checks for prerequisite operating system patches, review the prerequisites in the List of supported hardware and software for WebSphere Process Server if you have not already done so. To access this information, see WebSphere Process Server detailed system requirements at http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link to the List of supported hardware and software for WebSphere Process Server, Version 6.0.

   Refer to the documentation for non-IBM prerequisite and corequisite products to learn how to migrate to their supported versions.

8. ▶Windows **On Windows platforms:** If needed, download Microsoft(R) Windows Script Host Version 5.6 to create Start menu items correctly on Windows operating systems.

   To check if you have this component already installed and to install it if you do not, open a command window and type `cscript`.

   • If the component is installed, the usage and options information for it appear. In this case, go to Step 9.

   • If the component is not installed, you must download and install it from one of the following Microsoft Web pages:

      – For Windows XP and Windows 2000:
        http://www.microsoft.com/downloads/details.aspx?FamilyID=c717d943-7e4b-4622-86eb-95a22b832caa&DisplayLang=en

      – For Windows Server 2003:
        http://www.microsoft.com/downloads/details.aspx?FamilyID=887fce82-e3f5-4289-a5e3-6cbb818623aa&DisplayLang=en

9. Verify that the Java 2 SDK on your copies of the product CDs is functioning correctly.

If you created your own product CDs from ISO images or by copying the actual CDs, perform the following steps to verify that the Java 2 SDK is working correctly.

a. Change directories to the \JDK\repository\prereq.jdk\java\bin directory on your copy of *WebSphere Process Server CD 1*. Type the following command:

```
cd CD_Drive:\JDK\repository\prereq.jdk\java\bin
```

b. Verify the version of the Java 2 SDK. Type the following command:

```
.\java -version
```

The command completes successfully with no errors when the Java 2 SDK is intact.

c. Perform the same procedure on your copy of *WebSphere Process Server CD 2*.

This procedure prepares the operating system for installation of WebSphere Process Server, Version 6.0.

After preparing the operating system, you can install WebSphere Process Server, Version 6.0. See "Installing the product" on page 44 for descriptions of the various installation alternatives available.

Required disk space

This topic describes the disk space required to install WebSphere Process Server, Version 6.0 and related products, on all supported platforms. The directories given are the default installation directories for the various products.

To review WebSphere Process Server detailed system requirements, go to http://www.ibm.com/support/docview.wss?uid=swg27006205 and select the link to the List of supported hardware and software for WebSphere Process Server, Version 6.0. If there is a conflict between the information provided in this topic and the information on this Web page, the information on the Web page takes precedence. The information in this topic is provided as a convenience only.

Required disk space on AIX platforms

Manually verify that the required space for creating a profile is available. A known problem in the underlying InstallShield for Multiplatforms (ISMP) code prevents proper space checking on AIX systems.

WebSphere Process Server requires the following disk space:

1065 MB for the /usr/IBM/WebSphere/ProcServer directory, including 750 MB for the installation of WebSphere Application Server Network Deployment before creating profiles

> The installation root directory includes the core product files, Sample applications gallery, and Public API Javadoc(TM). This size does not include space for the deprecated features, profiles, or applications. Profiles require **60** MB of temp space in addition to the sizes shown. Profiles have the following space requirements:

> **73 MB for a deployment manager profile**

>> This size does not include space for applications that you might deploy or nodes that you might federate to this deployment manager.

248 MB for a stand-alone process server profile with the Sample applications and the sample Business Process Choreographer container

> This size does not include space for applications that you might develop and install.

53 MB for an unfederated custom profile

> This size does not include space for applications that you might develop and install. The requirement does include space for the nodeagent. However, you must federate a custom profile to create an operational managed node.
>
> After federating a custom profile, the resulting managed node contains a functional nodeagent only. Use the deployment manager to create server processes on the managed node.

60 MB temporary space for profile creation
> This space must be provided in addition to the profile sizes listed above. An error can occur during profile creation if you do not provide enough system temporary space.

600 MB for the `/tmp` directory

> The temporary directory is the working directory for the installation program. The actual space required for the `/tmp` directory can vary, as follows:
>
> • If you elect to silently install a new instance of WebSphere Application Server Network Deployment during installation of WebSphere Process Server, a total of 600 MB of temporary space is required.
>
> • If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation requires fixes or features added to it, a total of 600 MB of temporary space is required.
>
> • If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation is at the supported maintenance level, little or no temporary space is required.

1665 MB total requirement

> This amount is the total space requirement when installing the product from the CD and when not installing service (Fix Packs, service packs, refresh packs, etc.). Installing profiles requires more space.

The following space is required for the IBM HTTP Server product:

110 MB for the `/usr/IBMIHS` directory

> The IBM HTTP Server product requires this space.

35 MB for the `/usr/ibm/gsk7` directory

> The Tivoli Global Security Kit requires this space. The runtime module is `gskkm.rte`.

The following space is the maximum amount that is required for the Web server plug-ins for WebSphere Application Server or WebSphere Application Server Network Deployment:

200 MB for the `/usr/IBM/WebSphere/plugins` directory

> The Web server plug-ins require this disk space.

25 MB for the `/usr/ibm/gsk7` directory

>The Tivoli Global Security Kit requires this space.

The following space is required for the WebSphere Application Server Clients:

150 MB for the `/usr/IBM/WebSphere/AppClient` directory

>The amount of space required to install the application clients is actually less than 150 MB. The amount of space depends on the clients that you install as features.

The Installation Wizard for each component displays required space on the confirmation panel before you install the product files and selected features. The Installation Wizard also warns you if you do not have enough space to install the product.

Required disk space on HP-UX platforms

WebSphere Process Server requires the following disk space:

1250 MB for the `/opt/IBM/WebSphere/ProcServer` directory, including 850 MB for the installation of WebSphere Application Server Network Deployment before creating profiles

>The installation root directory includes the core product files, Sample applications gallery, and Public API Javadoc. This size does not include space for the deprecated features, profiles, or applications. Profiles require **60** MB of temp space in addition to the sizes shown. Profiles have the following space requirements:

>**73 MB for a deployment manager profile**

>>This size does not include space for applications that you might deploy or nodes that you might federate to this deployment manager.

>**248 MB for a stand-alone process server profile with the Sample applications and the sample Business Process Choreographer container**

>>This size does not include space for applications that you might develop and install.

>**53 MB for an unfederated custom profile**

>>This size does not include space for applications that you might develop and install. The requirement does include space for the nodeagent. However, you must federate a custom profile to create an operational managed node.

>>After federating a custom profile, the resulting managed node contains a functional nodeagent only. Use the deployment manager to create server processes on the managed node.

>**60 MB temporary space for profile creation**
>>This space must be provided in addition to the profile sizes listed above. An error can occur during profile creation if you do not provide enough system temporary space.

600 MB for the `/tmp` directory

The temporary directory is the working directory for the installation program. The actual space required for the /tmp directory can vary, as follows:

- If you elect to silently install a new instance of WebSphere Application Server Network Deployment during installation of WebSphere Process Server, a total of 600 MB of temporary space is required.

- If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation requires fixes or features added to it, a total of 600 MB of temporary space is required.

- If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation is at the supported maintenance level, little or no temporary space is required.

1850 MB total requirement

This amount is the total space requirement when installing the product from the CD and when not installing service (Fix Packs, service packs, refresh packs, etc.). Installing profiles requires more space.

The following space is required for the IBM HTTP Server product:

110 MB for the /opt/IBMIHS directory

The IBM HTTP Server product requires this space.

25 MB for the /opt/ibm/gsk7 directory

The Tivoli Global Security Kit requires this space. The runtime module is gsk7bas.

The following space is the maximum amount that is required for the Web server plug-ins for WebSphere Application Server or WebSphere Application Server Network Deployment:

280 MB for the /opt/IBM/WebSphere/plugins directory

The Web server plug-ins require this disk space.

25 MB for the /opt/ibm/gsk7 directory

The Tivoli Global Security Kit requires this space.

The following space is required for the WebSphere Application Server Clients:

150 MB for the /opt/IBM/WebSphere/AppClient directory

The amount of space required to install the application clients is actually less than 150 MB. The amount of space depends on the clients that you install as features.

The Installation Wizard for each component displays required space on the confirmation panel before you install the product files and selected features. The Installation Wizard also warns you if you do not have enough space to install the product.

Required disk space on Linux platforms

WebSphere Process Server requires the following disk space:

1065 MB for the `/opt/IBM/WebSphere/ProcServer` directory, including 750 MB for the installation of WebSphere Application Server Network Deployment before creating profiles

> The installation root directory includes the core product files, Sample applications gallery, and Public API Javadoc. This size does not include space for the deprecated features, profiles, or applications. Profiles require **60** MB of temp space in addition to the sizes shown. Profiles have the following space requirements:
>
> **73 MB for a deployment manager profile**
>
> > This size does not include space for applications that you might deploy or nodes that you might federate to this deployment manager.
>
> **248 MB for a stand-alone process server profile with the Sample applications and the sample Business Process Choreographer container**
>
> > This size does not include space for applications that you might develop and install.
>
> **53 MB for an unfederated custom profile**
>
> > This size does not include space for applications that you might develop and install. The requirement does include space for the nodeagent. However, you must federate a custom profile to create an operational managed node.
> >
> > After federating a custom profile, the resulting managed node contains a functional nodeagent only. Use the deployment manager to create server processes on the managed node.
>
> **60 MB temporary space for profile creation**
> > This space must be provided in addition to the profile sizes listed above. An error can occur during profile creation if you do not provide enough system temporary space.

600 MB for the `/tmp` directory

> The temporary directory is the working directory for the installation program. The actual space required for the `/tmp` directory can vary, as follows:
>
> - If you elect to silently install a new instance of WebSphere Application Server Network Deployment during installation of WebSphere Process Server, a total of 600 MB of temporary space is required.
> - If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation requires fixes or features added to it, a total of 600 MB of temporary space is required.
> - If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation is at the supported maintenance level, little or no temporary space is required.

1665 MB total requirement

> This amount is the total space requirement when installing the product from the CD and when not installing service (Fix Packs, service packs, refresh packs, etc.). Installing profiles requires more space.

The following space is required for the IBM HTTP Server product:

110 MB for the /opt/IBMIHS directory

> The IBM HTTP Server product requires this space.

25 MB for the /opt/ibm/gsk7 directory

> The Tivoli Global Security Kit requires this space. The runtime module is
> gsk7bas.i386.rpm for Linux distributed platforms.

The following space is the maximum amount that is required for the Web server
plug-ins for WebSphere Application Server or WebSphere Application Server
Network Deployment:

200 MB for the /opt/IBM/WebSphere/plugins directory

> The Web server plug-ins require this disk space.

25 MB for the /opt/ibm/gsk7 directory

> The Tivoli Global Security Kit requires this space. The runtime module is
> gskkm.rte.

The following space is required for the WebSphere Application Server Clients:

150 MB for the /opt/IBM/WebSphere/AppClient directory

> The amount of space required to install the application clients is actually
> less than 150 MB. The amount of space depends on the clients that you
> install as features.

The following space is required for the WebSphere Application Server Toolkit:

550 MB maximum for the /opt/IBM/WebSphere/AST directory

> The WebSphere Application Server Toolkit does not include an integrated
> test environment. Install the WebSphere Application Server Network
> Deployment product and configure an application server to create a test
> environment.

The Installation Wizard for each component displays required space on the
confirmation panel before you install the product files and selected features. The
Installation Wizard also warns you if you do not have enough space to install the
product.

Required disk space on Solaris platforms

WebSphere Process Server requires the following disk space:

**1065 MB for the /opt/IBM/WebSphere/ProcServer directory, including 750 MB for
the installation of WebSphere Application Server Network Deployment before
creating profiles**

> The installation root directory includes the core product files, Sample
> applications gallery, and Public API Javadoc. This size does not include
> space for the deprecated features, profiles, or applications. Profiles require
> **60** MB of temp space in addition to the sizes shown. Profiles have the
> following space requirements:

> **73 MB for a deployment manager profile**

> > This size does not include space for applications that you might
> > deploy or nodes that you might federate to this deployment
> > manager.

248 MB for a stand-alone process server profile with the Sample applications and the sample Business Process Choreographer container

> This size does not include space for applications that you might develop and install.

53 MB for an unfederated custom profile

> This size does not include space for applications that you might develop and install. The requirement does include space for the nodeagent. However, you must federate a custom profile to create an operational managed node.

> After federating a custom profile, the resulting managed node contains a functional nodeagent only. Use the deployment manager to create server processes on the managed node.

60 MB temporary space for profile creation
> This space must be provided in addition to the profile sizes listed above. An error can occur during profile creation if you do not provide enough system temporary space.

600 MB for the /tmp directory

> The temporary directory is the working directory for the installation program. The actual space required for the /tmp directory can vary, as follows:

> - If you elect to silently install a new instance of WebSphere Application Server Network Deployment during installation of WebSphere Process Server, a total of 600 MB of temporary space is required.

> - If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation requires fixes or features added to it, a total of 600 MB of temporary space is required.

> - If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation is at the supported maintenance level, little or no temporary space is required.

1665 MB total requirement

> This amount is the total space requirement when installing the product from the CD and when not installing service (Fix Packs, service packs, refresh packs, etc.). Installing profiles requires more space.

The following space is required for the IBM HTTP Server product:

110 MB for the /opt/IBMIHS directory

> The IBM HTTP Server product requires this space.

25 MB for the /opt/ibm/gsk7 directory

> The Tivoli Global Security Kit requires this space.

The following space is the maximum amount that is required for the Web server plug-ins for WebSphere Application Server or WebSphere Application Server Network Deployment:

200 MB for the /opt/IBM/WebSphere/plugins directory

> The Web server plug-ins require this disk space.

35 MB for the `/opt/ibm/gsk7` directory

> The Tivoli Global Security Kit requires this space.

The following space is required for the WebSphere Application Server Clients:

150 MB for the `/opt/IBM/WebSphere/AppClient` directory

> The amount of space required to install the application clients is actually less than 150 MB. The amount of space depends on the clients that you install as features.

The Installation Wizard for each component displays required space on the confirmation panel before you install the product files and selected features. The Installation Wizard also warns you if you do not have enough space to install the product.

Required disk space on Windows platforms

WebSphere Process Server requires the following disk space:

1065 MB for the `C:\Program Files\IBM\WebSphere\ProcServer` directory, including 750 MB for the installation of WebSphere Application Server Network Deployment before creating profiles

> The installation root directory includes the core product files, Sample applications gallery, and Public API Javadoc. This size does not include space for the deprecated features, profiles, or applications. Profiles require **60** MB of temp space in addition to the sizes shown. Profiles have the following space requirements:

> **73 MB for a deployment manager profile**

> > This size does not include space for applications that you might deploy or nodes that you might federate to this deployment manager.

> **248 MB for a stand-alone process server profile with the Sample applications and the sample Business Process Choreographer container**

> > This size does not include space for applications that you might develop and install.

> **53 MB for an unfederated custom profile**

> > This size does not include space for applications that you might develop and install. The requirement does include space for the nodeagent. However, you must federate a custom profile to create an operational managed node.

> > After federating a custom profile, the resulting managed node contains a functional nodeagent only. Use the deployment manager to create server processes on the managed node.

> **60 MB temporary space for profile creation**
> > This space must be provided in addition to the profile sizes listed above. An error can occur during profile creation if you do not provide enough system temporary space.

600 MB for the `%TEMP%` directory

The temporary directory is the working directory for the installation program. The actual space required for the %TEMP% directory can vary, as follows:

- If you elect to silently install a new instance of WebSphere Application Server Network Deployment during installation of WebSphere Process Server, a total of 600 MB of temporary space is required.
- If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation requires fixes or features added to it, a total of 600 MB of temporary space is required.
- If you install WebSphere Process Server over an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, and the existing installation is at the supported maintenance level, little or no temporary space is required.

1665 MB total requirement

This amount is the total space requirement when installing the product from the CD and when not installing service (Fix Packs, service packs, refresh packs, etc.). Installing profiles requires more space.

The following space is required for the IBM HTTP Server product:

110 MB for the `C:\Program Files\IBM HTTP Server` directory

The IBM HTTP Server product requires this space.

25 MB for the `C:\Program Files\IBM\gsk7` directory

The Tivoli Global Security Kit requires this space.

The following space is the maximum amount that is required for the Web server plug-ins for WebSphere Application Server or WebSphere Application Server Network Deployment:

200 MB for the `C:\Program Files\IBM\WebSphere\Plugins` directory

The Web server plug-ins require this disk space.

25 MB for the `C:\Program Files\IBM\gsk7` directory

The Tivoli Global Security Kit requires this space.

The following space is required for the WebSphere Application Server Clients:

150 MB for the `C:\Program Files\IBM\WebSphere\AppClient` directory

The amount of space required to install the application clients is actually less than 150 MB. The amount of space depends on the clients that you install as features.

The following space is required for the WebSphere Application Server Toolkit:

550 MB maximum for the `C:\Program Files\IBM\WebSphere\AST` directory

The WebSphere Application Server Toolkit does not include an integrated test environment. Install the WebSphere Application Server Network Deployment product and configure an application server to create a test environment.

The Installation Wizard for each component displays required space on the confirmation panel before you install the product files and selected features. The

Installation Wizard also warns you if you do not have enough space to install the product.

Setting kernel values on HP-UX systems

Several HP-UX kernel values are typically too small for a WebSphere Process Server, Version 6.0, installation. You must set selected kernel parameters to higher values.

To set kernel parameters, perform the following steps:

1. If you are not already logged into the host machine as root, do so.
2. Determine the physical memory, which you must know to avoid setting certain kernel parameters above the physical capacity. To determine the physical memory, perform the following steps:
   a. Start the HP-UX System Administration Manager (SAM) utility.
   b. Select **Performance Monitors > System Properties > Memory**.
   c. Note the value for Physical Memory and select **OK**.
   d. Exit from the SAM utility.
3. Because you need to set certain parameters such as `maxfiles` and `maxfiles_lim` to values higher than 2048, you must first edit the `/usr/conf/master.d/core-hpux` file, so the SAM utility can set values greater than 2048. To edit this file, perform the following steps:
   a. Open the `/usr/conf/master.d/core-hpux` file in a text editor.
   b. Change the line "`*range maxfiles<=2048`" to "`*range maxfiles<=60000`".
   c. Change the line "`*range maxfiles_lim<=2048`" to "`*range maxfiles_lim<=60000`".
   d. Save and close the file.

      Because old values might be stored in the `/var/sam/boot.config` file, you must force the SAM utility to create a new `boot.config` file by performing the following steps:
      1) Move the existing version of the `/var/sam/boot.config` file to another location, such as the `/tmp` directory.
      2) Start the SAM utility.
      3) Select **Kernel Configuration > Configurable Parameters**. When the Kernel Configuration window opens, a new `boot.config` file exists.

      Alternatively, rebuild the `boot.config` file with the following command:

      `# /usr/sam/lbin/getkinfo -b`
4. Set the new kernel parameter values by doing the following:
   a. In the SAM utility, select **Kernel Configuration > Configurable Parameters**.
   b. For each of the parameters in the following table, perform this procedure:
      1) Highlight the parameter to change.
      2) Select **Actions > Modify Configurable Parameter**.
      3) Type the new value in the **Formula/Value** field.
      4) Select **OK**.

      Change typical kernel settings for running WebSphere Process Server in the order shown in Table 3.

Table 3. Recommended kernel settings for WebSphere Process Server, Version 6.0

Parameter	Value
STRMSGSZ	65535
dbc_max_pct	25

Table 3. Recommended kernel settings for WebSphere Process Server, Version 6.0 (continued)

Parameter	Value
maxdsiz	805306358 (0x30000000)
maxdsiz	2048000000 (when running multiple profiles on the same system)
maxfiles_lim	8196 (Change this one before maxfiles.)
maxfiles	8000
maxssiz	8388608
maxswapchunks	8192
maxusers	512
nkthread	7219
max_thread_proc	3000
nproc	4116 (Change this one before maxuprc.)
maxuprc	512
msgtql	2046
msgmap	2048
msgssz	32 (Change this one before msgmax.)
msgseg	32767 (Change this one before msgmax.)
msgmnb	65535 (0x10000) (Change this one before msgmax.)
msgmnb	131070 (when running multiple profiles on the same system)
msgmax	65535 (0x10000)
msgmax	131070 (when running multiple profiles on the same system)
msgmni	50
nfile	58145
nflocks	3000
ninode	60000
npty	2024
nstrpty	1024
nstrtel	60
sema	1
semaem	16384 (0x4000)
semmns	16384 (0x4000) (Change this one before semmap.)
semmni	2048 (Change this one before semmap.)
semmap	514
semmnu	1024
semume	200
semvmx	32767
shmem	1
shmmax	2147483647 (0x7FFFFFFF)
shmmni	1024

Table 3. Recommended kernel settings for WebSphere Process Server, Version 6.0 (continued)

Parameter	Value
shmseg	1024

> When WebSphere Process Server and IBM DB2 are on the same machine, some kernel values are higher than those shown in Table 3 on page 41.
>
> See the recommended HP-UX kernel configuration parameters for DB2 Universal Database, Version 8.x, in the DB2 information center: http://publib.boulder.ibm.com/infocenter/db2help/index.jsp.

5. Select **Actions > Process New Kernel**.
6. Select **Yes** on the information window to confirm your decision to restart the machine.

   Follow the on-screen instructions to restart your machine and to enable the new settings.
7. If you plan to redirect displays to non-HP machines, perform the following steps before running the WebSphere Process Server Installation Wizard:

   a. Issue the following command to obtain information on all the public locales that are accessible to your application:

   ```
   # locale -a
   ```

   b. Choose a value for your system from the output that is displayed and set the LANG environment variable to this value. Here is an example command that sets the value of LANG to en_US.iso88591:

   ```
    # export LANG=en_US.iso88591
   ```

Setting kernel values on Solaris systems

Several Solaris kernel values are typically too small for a WebSphere Process Server, Version 6.0, installation. You must set selected kernel parameters to higher values.

To set kernel parameters, perform the following steps:

1. If you are not already logged into the host machine as root, do so.
2. Review the machine configuration.

   Do this by entering the following command:

   ```
   sysdef -i
   ```
3. Set the kernel values by editing the /etc/system file.

   Use the values shown in the following example:

   ```
   set shmsys:shminfo_shmmax = 4294967295
   set shmsys:shminfo_shmseg = 1024
   set shmsys:shminfo_shmmni = 1024
   set semsys:seminfo_semaem = 16384
   set semsys:seminfo_semmni = 1024
   set semsys:seminfo_semmap = 1026
   set semsys:seminfo_semmns = 16384
   set semsys:seminfo_semmsl = 100
   set semsys:seminfo_semopm = 100
   set semsys:seminfo_semmnu = 2048
   set semsys:seminfo_semume = 256
   set msgsys:msginfo_msgmap = 1026
   set msgsys:msginfo_msgmax = 65535
   set rlim_fd_cur=1024
   ```

Queue managers are generally independent of each other. Therefore system kernel parameters, such as shmmni, semmni, semmns, and semmnu, need to allow for the number of queue managers in the system.

4. Reboot the operating system.

For more information about setting up the Solaris system, see the administration documentation on the Sun Web site at http://docs.sun.com.

Installing the product

This topic provides links to various procedures used to install WebSphere Process Server, Version 6.0.

WebSphere Process Server is built upon WebSphere Application Server Network Deployment. As a result, there are many different scenarios that can exist when you are installing the product. You might install WebSphere Process Server on a clean machine, or on top of an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x. You might prefer to install the product with an interactive Installation Wizard interface or silently, using a response file. You might want to let the Installation Wizard create a default stand-alone server profile for you or bypass that option and later use the Profile Wizard to create stand-alone, deployment manager, and custom profiles. You might only want to install additional features on an existing installation of WebSphere Process Server or want to install a completely new installation to coexist with an existing one.

Because there are so many different installation variations, we cannot document all of them here. We have created some typical installation procedures, which can be selected from the following list. Select the link to the installation procedure you require and then use that procedure to install WebSphere Process Server on your system.

- "Starting the Launchpad" on page 45 -- The Launchpad is the single point of reference for installing the entire process server environment, which can include WebSphere Process Server, WebSphere Application Server or WebSphere Application Server Network Deployment, a set of Web development tools, a Web server, and additional supporting software and documentation.
- "Installing the product for the first time interactively (Complete installation) without an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment" on page 50 -- Select the Complete (default) installation method to install WebSphere Process Server for the first time using the Installation Wizard graphical user interface (GUI). A Complete installation installs WebSphere Process Server, Version 6.0, WebSphere Application Server Network Deployment, Version 6.0.1.2, and creates a stand-alone process server profile. To follow this procedure successfully, you *cannot* have WebSphere Application Server or WebSphere Application Server Network Deployment already installed.
- "Installing the product for the first time interactively (Custom installation) without an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment" on page 52 -- Select the Custom installation method to install WebSphere Process Server for the first time using the Installation Wizard GUI when you want to select particular features of the product for installation rather than accept the default installation selections and configuration. A Custom installation also installs WebSphere Application Server Network Deployment, Version 6.0.1.2, and allows you to run the Profile Wizard at the end of the installation to create a WebSphere Process Server profile. To

follow this procedure successfully, you *cannot* have WebSphere Application Server or WebSphere Application Server Network Deployment already installed.

- "Installing additional features on an existing installation" on page 55 -- Select this installation method to install additional features on an existing installation of WebSphere Process Server using the Installation Wizard GUI. Ensure you have an existing installation of WebSphere Process Server, Version 6.0, on your system. You do not have to have an existing WebSphere Process Server profile to install additional features on an installation.

- "Installing the product for the first time using an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x" on page 58 -- Select this installation method to install WebSphere Process Server, Version 6.0, for the first time using the Installation Wizard GUI, when you want to use an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x. This procedure allows you to run the Profile Wizard at the end of the installation to create a WebSphere Process Server profile. Ensure that you have WebSphere Application Server or WebSphere Application Server Network Deployment already installed.

- "Installing the product silently" on page 60 -- Select the silent installation method to install the product silently by using a command-line invocation with a parameter that identifies an options response file, which you edit before installing. You can use the silent method to install WebSphere Process Server for the first time using default or custom selections and configuration, or install features on an existing installation. A silent installation can install WebSphere Process Server, Version 6.0, WebSphere Application Server Network Deployment, Version 6.0.1.2, and create a WebSphere Process Server profile.

- "Installing WebSphere Process Server, Version 6.0, to coexist with an existing installation of the product or of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x" on page 73 -- Select this procedure to install WebSphere Process Server on a system with an existing installation of WebSphere Process Server, Version 6.0, or WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x or 6.0.1.x.

Remember: If you have enabled global security on an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, ensure you disable it before installing WebSphere Process Server. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0, information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.

Restriction: You cannot have two instances of the Installation Wizard running concurrently. Attempts to run multiple instances of the Installation Wizard concurrently result in a warning about installation already being in progress.

The installer program does not support the ISMP-console installation method at this time.

Starting the Launchpad

The Launchpad for WebSphere Process Server, Version 6.0, is the single point of reference for installing the entire process server environment, which can include WebSphere Process Server, WebSphere Application Server, or WebSphere

Application Server Network Deployment, a set of Web development tools, a Web server, and additional supporting software and documentation.

The Launchpad application is available on *WebSphere Process Server CD 1* and on downloaded installation images. The Launchpad is the recommended method of installing components that are on the product CDs. Do the following before starting the Launchpad:

- Ensure your system meets all hardware requirements, that you have installed all required software corequisites and prerequisites, and that you have prepared your operating system for product installation. See "Hardware and software requirements" on page 6 and "Preparing the operating system for installation" on page 20 for instructions. Most important, since the Launchpad is a Web application, you must have a supported version of either Internet Explorer or Mozilla Web browser installed. The platform-specific topics under "Preparing the operating system for installation" on page 20 contain detailed instructions for installing these Web browsers on all supported platforms.
- Ensure that you are starting the Launchpad as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

The installation steps in the product documentation assume installation from product CDs. If you plan to install from images downloaded from Passport Advantage, see "Special considerations when installing from Passport Advantage" on page 71 for installation tips.

Perform the following procedure to use the Launchpad.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Insert the product CD labeled *WebSphere Process Server CD 1* into the CD-ROM drive and mount the drive if necessary, as described in "Mounting CD-ROMs on Linux and UNIX operating systems" on page 67.
3. Start the Launchpad by doing the following:
   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** Execute the command *mount_point*/**launchpad.sh** where *mount_point* represents the mount point on the Linux or UNIX system.
   - ▶ Windows **On Windows platforms:** If the Launchpad does not start automatically when you insert the product CD, from a command line, execute the command *CD-ROM_drive*:**\launchpad.bat**.

   The Launchpad is displayed.

You can use the Launchpad to start the installation of WebSphere Process Server and related products. See "Options on the Launchpad" for descriptions of the components you can install with the Launchpad.

Return to the installation procedure from which you accessed this topic to continue.

Options on the Launchpad

The Launchpad for WebSphere Process Server, Version 6.0, contains several options you can select to install the entire process server environment. This environment can include WebSphere Process Server, WebSphere Application Server, or WebSphere Application Server Network Deployment, a set of Web development tools, a Web server, and additional supporting software and documentation.

The Launchpad contains a link for each installable component on the product CDs (except for the IBM Eclipse Help System, which must be installed following the procedure in "Installing the documentation" on page 13). The WebSphere Application Server Toolkit can be installed on Windows and Linux (Intel) systems from the Launchpad on *WebSphere Process Server CD 1*.

There is no Launchpad for the CDs in the secondary packet in the product package, such as for the DB2 product. See "Packaging" on page 3 for more information about the installable components in each package.

The links in the following list go to sections within this topic that describe various Launchpad panels in more detail.
- "Welcome panel"
- "WebSphere Process Server for Multiplatforms Installation panel"
- "IBM HTTP Server Installation panel" on page 48
- "Web Server Plug-ins Installation panel" on page 48
- "Application Clients Installation panel" on page 49
- "Application Server Toolkit Installation panel" on page 49

Welcome panel

The Welcome panel is the first panel that is displayed when the Launchpad is started. Its right pane contains Fastpath links that start the following graphical user interface (GUI) installer programs:
- Installation Wizard for WebSphere Process Server for Multiplatforms
- Installation Wizard for IBM HTTP Server
- Installation Wizard for Web server plug-ins
- Installation Wizard for WebSphere Application Server Application Clients
- Installation Wizard for the WebSphere Application Server Toolkit

Selecting an entry in the left pane causes an individual Launchpad panel to be displayed, which includes links to the installation program for the component and to documentation that describes the product, how to install it, and how to configure it for use.

WebSphere Process Server for Multiplatforms Installation panel

If you select **WebSphere Process Server for Multiplatforms Installation** from the left pane of the Launchpad Welcome panel, the following options are presented in the right pane:

Launch the Installation Wizard for WebSphere Process Server for Multiplatforms

> Starts the Installation Wizard to install WebSphere Process Server for Multiplatforms. This program exists on *WebSphere Process Server CD 1*, as follows:
>
> - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** /WBI/install
> - ▶ Windows **On Windows platforms:** \WBI\install.exe

View product overview and installation information for WebSphere Process Server for Multiplatforms

> Provides overview information about WebSphere Process Server for

Multiplatforms and its components and step-by-step instructions for installing the product. This link accesses the WebSphere Process Server library Web site at:

`http://www.ibm.com/software/integration/wps/library/infocenter/doc`

View the readme file for WebSphere Process Server for Multiplatforms
> Provides a direct link to the readme file for WebSphere Process Server for Multiplatforms.

IBM HTTP Server Installation panel

If you select **IBM HTTP Server Installation** from the left pane of the Launchpad Welcome panel, the following options are presented in the right pane:

Launch the installation wizard for IBM HTTP Server
> Starts the Installation Wizard to install IBM HTTP Server. This program exists on *WebSphere Process Server CD 2*, as follows:
> - Linux UNIX **On Linux and UNIX platforms:** /IHS/install
> - Windows **On Windows platforms:** \IHS\install.exe

View the installation guide for IBM HTTP Server
> Provides a direct link to installation documentation for IBM HTTP Server. This file exists on *WebSphere Process Server CD 2*, as follows:
> - Linux UNIX **On Linux and UNIX platforms:** /IHS/docs/InstallGuide_*language*.html.
> - Windows **On Windows platforms:** \IHS\docs\InstallGuide_*language*.html.

View the ReadMe file for IBM HTTP Server
> Provides a direct link to the ReadMe file for IBM HTTP Server. This file exists on *WebSphere Process Server CD 2*, as follows:
> - Linux UNIX **On Linux and UNIX platforms:** /IHS/readme/readme_*language*.html.
> - Windows **On Windows platforms:** \IHS\readme\readme_*language*.html.

Web Server Plug-ins Installation panel

If you select **Web Server Plug-ins Installation** from the left pane of the Launchpad Welcome panel, the following options are presented in the right pane:

Launch the installation wizard for Web server plug-ins
> Starts the Installation Wizard to install and configure one or more Web server plug-ins. This program exists on *WebSphere Process Server CD 2*, as follows:
> - Linux UNIX **On Linux and UNIX platforms:** /plugin/install
> - Windows **On Windows platforms:** \plugin\install.exe

View the installation roadmap for Web server plug-ins
> Provides a direct link to guided instructions for installing and configuring Web server plug-ins. This file exists on *WebSphere Process Server CD 2*, as follows:
> - Linux UNIX **On Linux and UNIX platforms:** /plugin/index_roadmap_*language*.html.
> - Windows **On Windows platforms:** \plugin\index_roadmap_*language*.html.

View the installation guide for Web server plug-ins
> Provides a direct link to installation documentation for the Web server plug-ins. This file exists on *WebSphere Process Server CD 2*, as follows:

- **Linux** **UNIX** **On Linux and UNIX platforms:**
  /plugin/docs/InstallGuide_*language*.html.
- **Windows** **On Windows platforms:**
  \plugin\docs\InstallGuide_*language*.html.

View the readme file for Web server plug-ins
> Provides a direct link to the readme file for the Web server plug-ins. This file exists on *WebSphere Process Server CD 2*, as follows:

- **Linux** **UNIX** **On Linux and UNIX platforms:**
  /plugin/readme/readme_*language*.html.
- **Windows** **On Windows platforms:** \plugin\readme\readme_*language*.html.

Application Clients Installation panel

If you select **Application Clients Installation** from the left pane of the Launchpad Welcome panel, the following options are presented in the right pane:

Launch the installation wizard for Application Clients
> Starts the Installation Wizard to install the WebSphere Application Server Application Clients. The Application Clients Installation Wizard installs environments for running client applications on the client machine. A client application processes on a distributed client machine and a host WebSphere Application Server system. A client might provide the GUI, but process data on the host, for example. Some environments perform all necessary handshaking and protocol. *Thin* client environments require client applications to have their own protocols for such things as JNDI lookups. This program exists on *WebSphere Process Server CD 2*, as follows:

- **Linux** **UNIX** **On Linux and UNIX platforms:** /AppClient/install
- **Windows** **On Windows platforms:** \AppClient\install.exe

View the installation guide for the Application Clients
> Provides a direct link to installation documentation for the WebSphere Application Server Application Clients. This file exists on *WebSphere Process Server CD 2*, as follows:

- **Linux** **UNIX** **On Linux and UNIX platforms:**
  /AppClient/docs/InstallGuide_*language*.html.
- **Windows** **On Windows platforms:**
  \AppClient\docs\InstallGuide_*language*.html.

View the readme file for the Application Clients
> Provides a direct link to the readme file for the WebSphere Application Server Application Clients. This file exists on *WebSphere Process Server CD 2*, as follows:

- **Linux** **UNIX** **On Linux and UNIX platforms:**
  /AppClient/readme/readme_*language*.html.
- **Windows** **On Windows platforms:**
  \AppClient\readme\readme_*language*.html.

Application Server Toolkit Installation panel

If you select **Application Server Toolkit Installation** from the left pane of the Launchpad Welcome panel, the following options are presented in the right pane:

Launch the installation wizard for the Application Server Toolkit
> Starts the Installation Wizard to install the WebSphere Application Server

Toolkit on Windows and Linux (Intel) systems only. This program exists on the WebSphere Application Server Toolkit CD, as follows:

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** /setup
- ▶ Windows **On Windows platforms:** \setup.exe

View the installation guide for Application Server Toolkit
Provides a direct link to installation documentation for the WebSphere Application Server Toolkit. This file exists on the WebSphere Application Server Toolkit CD, as follows:

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** /readme/readme_install_ast.html. (Provided in English language only.)
- ▶ Windows **On Windows platforms:** \readme\readme_install_ast.html. (Provided in English language only.)

View the ReadMe file for Application Server Toolkit
Provides a direct link to the ReadMe file for the WebSphere Application Server Toolkit. This file exists on the WebSphere Application Server Toolkit CD, as follows:

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** /readme/readme_ast.html. (Provided in English language only.)
- ▶ Windows **On Windows platforms:** \readme\readme_ast.html. (Provided in English language only.)

Installing the product for the first time interactively (Complete installation) without an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment

Use this procedure to install IBM WebSphere Process Server, Version 6.0, for the first time using the Installation Wizard graphical user interface (GUI). A Complete (default) installation installs WebSphere Process Server, Version 6.0, WebSphere Application Server Network Deployment, Version 6.0.1.2, and creates a stand-alone process server profile.

Do the following before installing WebSphere Process Server using this procedure:

- Ensure you are installing WebSphere Process Server for the first time, that you will accept the default installation selections and configuration (a Complete installation), and that you want to do so interactively. Also ensure that you do *not* have WebSphere Application Server or WebSphere Application Server Network Deployment already installed. If your proposed installation does not meet these criteria, see "Installing the product" on page 44 for descriptions of other documented installation procedures.
- Ensure your system meets all hardware requirements and that you have installed all required software corequisites and prerequisites. See "Hardware and software requirements" on page 6 for more information.
- Ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.
- Ensure that you are installing the product as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

The installation steps in this topic assume installation from product CDs. If you plan to install from images obtained from Passport Advantage, see "Special considerations when installing from Passport Advantage" on page 71 for important information.

Use the following procedure to install the WebSphere Process Server product.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

2. Start the Launchpad by following the procedure in "Starting the Launchpad" on page 45.

3. From the right pane of the Launchpad, select **Launch the Installation Wizard for WebSphere Process Server for Multiplatforms**. The Welcome panel is displayed.

4. Select **Next** to continue. The License agreement panel is displayed.

5. Select the radio button beside the entry **I accept the terms in the license agreement** to agree to the license agreement, and select **Next** to continue.

   The Installation Wizard checks for a supported operating system with prerequisite patches. During the check, the Checking prerequisites panel is displayed. At the end of the process, this panel indicates whether your system passed the check. This procedure assumes that your system passed.

   If you do not have a supported operating system or the correct prerequisite patches on your system, cancel the installation, make the required changes, and restart the installation.

6. On the Checking prerequisites panel, select **Next** to continue.

   The Installation Wizard checks for existing installations of WebSphere Process Server, Version 6.0, or WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x. This procedure assumes that you do not have existing installations of these products on your system. In this case, the Installation location panel is displayed, which prompts you for the location of the installation root directory for WebSphere Process Server and WebSphere Application Server Network Deployment (which is installed silently with WebSphere Process Server).

   Important: The installer will also detect unregistered instances of WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x, if they have entries in the `.WASRegistry` file. This file is located in the $USER_HOME directory of the installation. Using an unregistered installation of one of these products with your WebSphere Process Server installation is neither recommended nor supported.

7. Accept the default installation root directory for WebSphere Process Server and WebSphere Application Server Network Deployment, or specify a different directory, and select **Next**. See "Default installation paths" on page 68 for the default directories into which the Installation Wizard installs WebSphere Process Server and WebSphere Application Server Network Deployment on all supported platforms.

   Important:

   - Deleting the default root directory and leaving the field empty prevents you from continuing.
   - Non-ASCII special characters in directory names are not supported.
   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** Do not use symbolic links as the destination directory. Symbolic links are not supported. Also, do not use spaces in the installation directory path.

- **Linux** **On Linux platforms:** The installation directory path must be no longer than 256 characters to successfully install the product.
- **Windows** **On Windows platforms:** The installation directory path must be no longer than 60 characters to successfully create the default stand-alone profile.

The Installation type panel is displayed, on which you choose the type of installation you prefer.

8. Select the radio button beside the field **Complete installation** and select **Next** to continue.

   The Installation summary panel is displayed, which details the components that will be installed, the amount of space they will consume, and where they will be located on the system.

9. Review the summary information and select **Next** to install the products or **Back** to change your specifications. The Installation Wizard creates the uninstaller program and shows a progress panel to indicate that components are being installed. At the end of the installation, the Installation complete panel is displayed.

   Attention: If errors are detected during installation, other panels might be displayed in place of the Installation complete panel. Examples include the following:

   - Installation is complete with errors panel, which indicates that installation completed but errors were generated.
   - Installation failed panel, which indicates that installation failed completely.

   Each of these panels identifies the log file to reference in order to troubleshoot the problems. See the descriptions of relevant log files listed in "Log files" on page 340, error messages in "Error messages: installation and profile creation and augmentation" on page 332, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

10. On the Installation complete panel, ensure the check box to launch the First Steps console is selected and select **Finish** to close the Installation Wizard and launch the First Steps console.

If the Installation Complete panel is displayed at the end of product installation, WebSphere Process Server, Version 6.0, and WebSphere Application Server Network Deployment, Version 6.0.1.2, were installed successfully, and a stand-alone process server profile named `default` with a server named `server1` was created.

If installation was successful, start the server from the First Steps console to verify that your installation is operating properly. See "Options on the First Steps console" on page 84 for more details.

Installing the product for the first time interactively (Custom installation) without an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment

Use this procedure to install IBM WebSphere Process Server, Version 6.0, for the first time using the Installation Wizard graphical user interface (GUI). A Custom installation lets you select those features of WebSphere Process Server you wish to install. It also installs WebSphere Application Server Network Deployment, Version

6.0.1.2, and allows you to run the Profile Wizard at the end of the installation to create a WebSphere Process Server profile.

Do the following before installing WebSphere Process Server using this procedure:

- Ensure you are installing WebSphere Process Server for the first time, that you want to select particular features of the product for installation rather than accept the default installation selections and configuration, and that you want to do so interactively. Also ensure that you do *not* have WebSphere Application Server or WebSphere Application Server Network Deployment already installed. If your proposed installation does not meet these criteria, see "Installing the product" on page 44 for descriptions of other documented installation procedures.
- Ensure your system meets all hardware requirements and that you have installed all required software corequisites and prerequisites. See "Hardware and software requirements" on page 6 for more information.
- Ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.
- Ensure that you are installing the product as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

The installation steps in this topic assume installation from product CDs. If you plan to install from images obtained from Passport Advantage, see "Special considerations when installing from Passport Advantage" on page 71 for installation tips.

Use the following procedure to install the WebSphere Process Server product.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Start the Launchpad by following the procedure in "Starting the Launchpad" on page 45.
3. From the right pane of the Launchpad, select **Launch the Installation Wizard for WebSphere Process Server for Multiplatforms**. The Welcome panel is displayed.
4. Select **Next** to continue. The License agreement panel is displayed.
5. Select the radio button beside the entry **I accept the terms in the license agreement** to agree to the license agreement, and select **Next** to continue.

   The Installation Wizard checks for a supported operating system with prerequisite patches. During the check, the Checking prerequisites panel is displayed. At the end of the process, this panel indicates whether your system passed the check. This procedure assumes that your system passed.

   If you do not have a supported operating system or the correct prerequisite patches on your system, cancel the installation, make the required changes, and restart the installation.
6. On the Checking prerequisites panel, select **Next** to continue.

   The Installation Wizard checks for any existing installations of WebSphere Process Server, Version 6.0, or WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x. This procedure assumes that you do not have existing installations of these products on your system. In this case, the Installation location panel is displayed, which prompts you for the location of the installation root directory for WebSphere Process Server and WebSphere Application Server Network Deployment (which is installed silently with WebSphere Process Server).

Important: The installer will also detect unregistered instances of WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x, if they have entries in the .WASRegistry file. This file is located in the $USER_HOME directory of the installation. Using an unregistered installation of one of these products with your WebSphere Process Server installation is neither recommended nor supported.

7. Accept the default installation root directory for WebSphere Process Server and WebSphere Application Server Network Deployment, or specify a different directory, and select **Next**. See "Default installation paths" on page 68 for the default directories into which the Installation Wizard installs WebSphere Process Server and WebSphere Application Server Network Deployment on all supported platforms.

   Important:

   - Deleting the default root directory and leaving the field empty prevents you from continuing.
   - Non-ASCII special characters in directory names are not supported.
   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** Do not use symbolic links as the destination directory. Symbolic links are not supported. Also, do not use spaces in the installation directory path.
   - ▶ Linux **On Linux platforms:** The installation directory path must be no longer than 256 characters to successfully install the product.
   - ▶ Windows **On Windows platforms:** The installation directory path must be no longer than 60 characters to successfully create the default stand-alone profile.

   The Installation type panel is displayed, on which you choose the type of installation you prefer.

8. Select the radio button beside the field **Custom installation** and select **Next** to continue. The Feature selection panel is displayed.

9. Select the features you want to install and select **Next**. See "Product components" on page 70 for descriptions of the features that can be selected from this panel. The Installation summary panel is displayed, which details the components that will be installed, the amount of space they will consume, and where they will be located on the system.

10. Review the summary information and select **Next** to install the products or **Back** to change your specifications. The Installation Wizard creates the uninstaller program and shows a progress panel to indicate that components are being installed. At the end of the installation, the Installation complete panel is displayed.

Attention: If errors are detected during installation, other panels might be displayed in place of the Installation complete panel. Examples include the following:

- Installation is complete with errors panel, which indicates that installation completed but errors were generated.
- Installation failed panel, which indicates that installation failed completely.

Each of these panels identifies the log file to reference in order to troubleshoot the problems. See the descriptions of relevant log files listed in "Log files" on page 340, error messages in "Error messages: installation and profile creation and augmentation" on page 332, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

11. On the Installation complete panel, do one of the following, depending on whether you want to create a WebSphere Process Server profile:

- To create a new profile, leave the check box beside **Launch the Profile Wizard** selected and select **Next**. The Installation Wizard closes and the Profile Wizard is launched. See "Creating and augmenting profiles by using the Profile Wizard" on page 91 for instructions on how to use this wizard to create new process server profiles or augment existing application server profiles into process server profiles.
- To *not* create a new profile, unselect the check box beside **Launch the Profile Wizard** and select **Next**. In this case, a warning panel is displayed, which explains that without a profile there is no operational server. Do one of the following:
  - Select **Back** for another chance to launch the Profile Wizard.
  - Select **Next**. The Installation complete panel is displayed with a check box to launch the First Steps console. Ensure that this check box is selected and select **Finish** to close the Installation Wizard and launch the First Steps console.

Attention: To have an operational environment, a WebSphere Process Server stand-alone profile or deployment manager profile with managed nodes must exist.

If the Installation complete panel is displayed, the WebSphere Process Server features you selected, as well as WebSphere Application Server Network Deployment, Version 6.0.1.2, were installed successfully.

If installation was successful, after you have created a WebSphere Process Server stand-alone or deployment manager profile, start the server or deployment manager from its First Steps console to verify that your installation is operating properly. See "Options on the First Steps console" on page 84 for more details.

Installing additional features on an existing installation

Use this procedure to install additional features on an existing installation of IBM WebSphere Process Server, Version 6.0, using the Installation Wizard graphical user interface (GUI).

Do the following before adding additional features to your installation using this procedure:

- Ensure you have an installation of WebSphere Process Server on your system. You do not have to have an existing WebSphere Process Server profile to install additional features on an installation. Also, ensure that you want to add the features using an interactive interface. If your proposed installation does not

meet these criteria, see "Installing the product" on page 44 for descriptions of other documented installation procedures.

- Ensure that you are installing the features as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

The installation steps in this topic assume installation from product CDs. If you plan to install from images obtained from Passport Advantage, see "Special considerations when installing from Passport Advantage" on page 71 for installation tips.

Following this procedure to install additional features does not modify features that are already installed or affect any updates made to the original installation.

Use the following procedure to install additional features to your WebSphere Process Server installation.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Start the Launchpad by following the procedure in "Starting the Launchpad" on page 45.
3. From the right pane of the Launchpad, select **Launch the Installation Wizard for WebSphere Process Server for Multiplatforms**. The Welcome panel is displayed.
4. Select **Next** to continue. The License agreement panel is displayed.
5. Select the radio button beside the entry **I accept the terms in the license agreement** to agree to the license agreement, and select **Next** to continue.

   The Installation Wizard checks for a supported operating system with prerequisite patches. During the check, the Checking prerequisites panel is displayed. At the end of the process, this panel indicates whether your system passed the check. This procedure assumes that your system passed.

   If you do not have a supported operating system or the correct prerequisite patches on your system, cancel the installation, make the required changes, and restart the installation.
6. On the Checking prerequisites panel, select **Next** to continue.

   The Installation Wizard checks for any existing installations of WebSphere Process Server, Version 6.0, or WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x. This procedure assumes that you have an existing installation of WebSphere Process Server on your system. In this case, an Existing installation detected panel is displayed.

   Important: The installer will also detect unregistered instances of WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x, if they have entries in the `.WASRegistry` file. This file is located in the $USER_HOME directory of the installation. Using an unregistered installation of one of these products with your WebSphere Process Server installation is neither recommended nor supported.
7. The Existing installation detected panel lets you choose to install a new installation of WebSphere Process Server to coexist with the current one, to add features to an existing installation, or to add profiles to an existing installation. For this procedure, select the radio button beside **Add features to an existing copy of WebSphere Process Server 6.0**, select the installation of

WebSphere Process Server to which you want to add features, and select **Next**. The Feature selection panel is displayed.

8. Select the features you want to install and select **Next**. Features that are already installed have the text (`installed`) beside them.

   > **Important:** Clearing the check box beside an installed feature will *not* cause it to be uninstalled.

   See "Product components" on page 70 for descriptions of the features that can be selected from this panel. The Installation summary panel is displayed, which details the components that will be installed, the amount of space they will consume, and where they will be located on the system.

9. Review the summary information and select **Next** to install the product code or **Back** to change your specifications.

   The disk space shown on the Installation summary panel includes space for the Java Virtual Machine (JVM). Subtract the size of the JVM for your operating system to determine the installed size on disk for the features that you selected.

Table 4. JVM sizes

AIX	HP-UX	Linux	Solaris	Windows
59 MB	pa-risc: 109 MB	ia32: 83 MB	81 MB	ia32: 75 MB

Verify that you have the total amount of free space shown before installing. Space is required for a working copy of the JVM during the installation. The Installation Wizard creates the uninstaller program and shows a progress panel to indicate that components are being installed. At the end of the installation, the Installation complete panel is displayed.

Attention: If errors are detected during installation, other panels might be displayed in place of the Installation complete panel. Examples include the following:

- Installation is complete with errors panel, which indicates that installation completed but errors were generated.
- Installation failed panel, which indicates that installation failed completely.

Each of these panels identifies the log file to reference in order to troubleshoot the problems. See the descriptions of relevant log files listed in "Log files" on page 340, error messages in "Error messages: installation and profile creation and augmentation" on page 332, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

10. On the Installation complete panel, do one of the following, depending on whether you have an existing WebSphere Process Server profile:

- To create a new profile, leave the check box beside **Launch the Profile Wizard** selected and select **Next**. The Installation Wizard closes and the Profile Wizard is launched. See "Creating and augmenting profiles by using the Profile Wizard" on page 91 for instructions on how to use this wizard to create new process server profiles or augment existing application server profiles into process server profiles.
- To *not* create a new profile, unselect the check box beside **Launch the Profile Wizard** and select **Next**. The Installation complete panel is displayed with a check box to launch the First Steps console. Ensure that this check box is selected and select **Finish** to close the Installation Wizard and launch the First Steps console.

If the Installation complete panel is displayed at the end of the procedure, the additional features were installed successfully.

If installation was successful, after you have created a WebSphere Process Server stand-alone or deployment manager profile, start the server or deployment manager from its First Steps console to verify that your installation is operating properly. See "Options on the First Steps console" on page 84 for more details.

Installing the product for the first time using an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x

Use this procedure to install IBM WebSphere Process Server, Version 6.0, for the first time using the Installation Wizard graphical user interface (GUI) when you want to use an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x. This procedure allows you to run the Profile Wizard at the end of the installation to create a WebSphere Process Server profile.

Do the following before installing WebSphere Process Server using this procedure:
- Ensure you are installing WebSphere Process Server for the first time and that you want to do so interactively. Also ensure that you have WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, already installed. If your proposed installation does not meet these criteria, see "Installing the product" on page 44 for descriptions of other documented installation procedures.
- Ensure your system meets all hardware requirements and that you have installed all required software corequisites and prerequisites. See "Hardware and software requirements" on page 6 for more information.
- Ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.
- Ensure that you are installing the product as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

The installation steps in this topic assume installation from product CDs. If you plan to install from images obtained from Passport Advantage, see "Special considerations when installing from Passport Advantage" on page 71 for installation tips.

Use the following procedure to install the WebSphere Process Server product.
1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Start the Launchpad by following the procedure in "Starting the Launchpad" on page 45.
3. From the right pane of the Launchpad, select **Launch the Installation Wizard for WebSphere Process Server for Multiplatforms**. The Welcome panel is displayed.
4. Select **Next** to continue. The License agreement panel is displayed.
5. Select the radio button beside the entry **I accept the terms in the license agreement** to agree to the license agreement, and select **Next** to continue.

   The Installation Wizard checks for a supported operating system with prerequisite patches. During the check, the Checking prerequisites panel is

displayed. At the end of the process, this panel indicates whether your system passed the check. This procedure assumes that your system passed.

If you do not have a supported operating system or the correct prerequisite patches on your system, cancel the installation, make the required changes, and restart the installation.

6. On the Checking prerequisites panel, select **Next** to continue.

   The Installation Wizard checks for any existing installations of WebSphere Process Server, Version 6.0, or WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x or 6.0.1.x. This procedure assumes that you have an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, on your system. In this case, an existing installation detected panel is displayed.

   > **Important:** The installer will also detect unregistered instances of WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x, if they have entries in the `.WASRegistry` file. This file is located in the $USER_HOME directory of the installation. Using an unregistered installation of one of these products with your WebSphere Process Server installation is neither recommended nor supported.

7. Select the radio button beside either **Use an existing installation of WebSphere Application Server Network Deployment, Version 6.0** or **Use an existing installation of WebSphere Application Server, Version 6.0**, depending on which program you wish to use, and select **Next** to continue.

   > **Important:** If you have multiple installations, be sure to select the one you want to use from the drop-down list.

   At this point, the Installation Wizard checks if the WebSphere Application Server or WebSphere Application Server Network Deployment application you chose has running servers. If running servers are detected, a warning panel is displayed which prompts you to stop the servers before continuing.

   The Feature selection panel is displayed.

8. Select the WebSphere Process Server features you want to install and select **Next**. See "Product components" on page 70 for descriptions of the features that can be selected from this panel. The Installation summary panel is displayed, which details the components that will be installed, the amount of space they will consume, and where they will be located on the system.

9. Review the summary information and select **Next** to install the products or **Back** to change your specifications.

   The Installation Wizard creates the uninstaller program and shows a progress panel to indicate that components are being installed. During installation, the Installation Wizard examines the chosen installation of WebSphere Application Server or WebSphere Application Server Network Deployment and does one of the following:

   - Does nothing if the installation is at the correct service level.
   - If the installation is at an earlier service level, applies the necessary fixes to bring the installation up to the appropriate service level. For example, if the installation is at Version 6.0.0.0, it applies the necessary service to bring it up to the 6.0.1.2 level, and also applies any necessary interim fixes.
   - If you selected the WebSphere Process Server Sample applications gallery feature, and the installation of WebSphere Application Server Network Deployment you chose does not have its Samples gallery feature installed,

the WebSphere Application Server Network Deployment Samples gallery feature will be added silently to the WebSphere Application Server Network Deployment installation.

> **Restriction:** Silent incremental installation on top of WebSphere Application Server, Version 6.0.0.x or 6.0.1.x, is not supported.

At the end of the installation, the Installation complete panel is displayed.

Attention: If errors are detected during installation, other panels might be displayed in place of the Installation complete panel. Examples include the following:

- Installation is complete with errors panel, which indicates that installation completed but errors were generated.
- Installation failed panel, which indicates that installation failed completely.

Each of these panels identifies the log file to reference in order to troubleshoot the problems. See the descriptions of relevant log files listed in "Log files" on page 340, error messages in "Error messages: installation and profile creation and augmentation" on page 332, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

10. On the Installation complete panel, do one of the following, depending on whether you want to create a WebSphere Process Server profile:

- To create a new profile, leave the check box beside **Launch the Profile Wizard** selected and select **Next**. The Installation Wizard closes and the Profile Wizard is launched. See "Creating and augmenting profiles by using the Profile Wizard" on page 91 for instructions on how to use this wizard to create new process server profiles or augment existing application server profiles into process server profiles.
- To *not* create a new profile, unselect the check box beside **Launch the Profile Wizard** and select **Next**. In this case, a warning panel is displayed, which explains that without a profile there is no operational server. Do one of the following:
  - Select **Back** for another chance to launch the Profile Wizard.
  - Select **Next**. The Installation complete panel is displayed with a check box to launch the First Steps console. Ensure that this check box is selected and select **Finish** to close the Installation Wizard and launch the First Steps console.

> **Attention:** To have an operational environment, a WebSphere Process Server stand-alone profile or deployment manager profile with managed nodes must exist.

If the Installation complete panel is displayed at the end of the procedure, the installation has completed successfully.

If installation was successful, after you have created a WebSphere Process Server stand-alone or deployment manager profile, start the server or deployment manager from its First Steps console to verify that your installation is operating properly. See "Options on the First Steps console" on page 84 for more details.

Installing the product silently

You can perform a silent, or background installation by using files called response files. In this case, instead of displaying a graphical user ("wizard") interface, the silent installation causes the installation program to read all of your responses from

a file that you provide. The response file `responsefile.wps.txt` can be used to silently install WebSphere Process Server. The response file is shipped with default values.

Before you start

Do the following before installing WebSphere Process Server using this procedure:

- Ensure you are installing WebSphere Process Server for the first time and that you want to do so silently. If your proposed installation does not meet these criteria, see "Installing the product" on page 44 for descriptions of other documented installation procedures.
- Ensure your system meets all hardware requirements and that you have installed all required software corequisites and prerequisites. See "Hardware and software requirements" on page 6 for more information.
- Ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.
- Ensure that you are installing the product as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

Avoiding the use of the -silent option within the response file

Do not use the `-silent` option within the response file. Doing so can cause the profile creation to fail.

Response file location

The example `responsefile.wps.txt` response file can be found in the `WBI` directory on *WebSphere Process Server CD 1.* It does not get installed.

Important: ▶ AIX **On AIX platforms:** To prepare the file for a silent installation on AIX, use UNIX line-end characters (0x0D0A) to end each line of the options response file. The safest method of preparing the file is to edit the file on the target operating system.

Required disk space

Refer to "Required disk space" on page 32 for information on how much disk space will be required.

Installing WebSphere Process Server using the response file

To install WebSphere Process Server silently, do the following:

1. Copy the file `responsefile.wps.txt` from the `WBI` directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as `myoptionsfile`.
2. Edit this file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values. A sample response file is shown in "Example responsefile.wps.txt file" on page 64.

   Important: Make sure that you change the license acceptance statement in the file to a value of ″`True`″. Leaving it with a value of ″`False`″ will cause the installation to fail.

3. To create an operational WebSphere Process Server environment, you must have a profile. You can launch the Profile Wizard and create a profile silently by specifying certain values at the end of your copy of `responsefile.wps.txt`.

   - To launch the Profile Wizard and create a profile silently at the end of the installation process, do the following:

     a. At the end of your copy of `responsefile.wps.txt`, change the value of the option `-W summaryPanel_InstallWizardBean.launchPCAW` to `true`. For instance,

        `-W summaryPanel_InstallWizardBean.launchPCAW="true"`

     b. Copy the profile response file for the type of profile you want to create from the WBI directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as `MyStandaloneProfile`. The names of the original profile response files are:

        - **Stand-alone server profile:** `responsefile.pcaw.standAloneprofile.txt`
        - **Deployment manager profile:** `responsefile.pcaw.dmgrProfile.txt`
        - **Custom profile:** `responsefile.pcaw.managedProfile.txt`

     c. Edit this profile response file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values. See the following topics for more information:

        - **Stand-alone server profile:** "Creating a stand-alone server profile silently" on page 130.
        - **Deployment manager profile:** "Creating a deployment manager profile silently" on page 142.
        - **Custom profile:** "Creating a custom profile silently" on page 150.

     d. Change the value of the option `-W pcawResponseFileLocationQueryAction_InstallWizardBean.fileLocation` from `""` to identify the absolute file path of the (modified) profile response file. For instance,

        `-W pcawResponseFileLocationQueryAction_InstallWizardBean.fileLocation=
        "/opt/IBM/WebSphere/MyOptionFiles/MyStandaloneProfile.txt"`

   - To *not* launch the Profile Wizard and create a profile silently, ensure that the value of the option `-W summaryPanel_InstallWizardBean.launchPCAW` is `false`. For instance,

     `-W summaryPanel_InstallWizardBean.launchPCAW="false"`

4. Save your changes in your copy of `responsefile.wps.txt`.

5. Use one of the following commands to install WebSphere Process Server. The commands shown assume that you have copied the `responsefile.wps.txt` file into a temporary directory and renamed it as `myoptions.txt` before customizing the file.

   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:**

     `install -options /tmp/WBI/myoptions.txt -silent`

   - ▶ Windows **On Windows platforms:**

     `install.exe -options "C:\temp\WBI\myoptions.txt" -silent`

Verify the success of the installation by examining the WebSphere Process Server log file. If the last line of the file contains the word `INSTCONFSUCCESS`, the WebSphere Process Server features you selected and WebSphere Application Server Network Deployment Version 6.0.1.2 were installed successfully. The log file is located as follows:

- **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/logs/wbi/log.txt
- **Windows** **On Windows platforms:** *install_root*\logs\wbi\log.txt

where *install_root* represents the location of the WebSphere Process Server installation. If this log file contains the string INSTCONFSUCCESS on the last line, then the installation was successful. Note that other terms such as INSTCONFPARTIALSUCCESS or INSTCONFFAILED can occur on other lines within the file, or even on the last line, but as long as INSTCONFSUCCESS is included in the last line, the installation was successful. If the installation was not successful, examine other log files to determine why. See the descriptions of relevant log files listed in "Log files" on page 340, of error messages in "Error messages: installation and profile creation and augmentation" on page 332, examine the section "Troubleshooting" below, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

If installation was successful, after you have created a WebSphere Process Server stand-alone or deployment manager profile, start the server or deployment manager from its First Steps console to verify that your installation is operating properly. See "Options on the First Steps console" on page 84 for more details.

Troubleshooting

Be precise when supplying values in the file: Customize the options response file precisely to let the installation program read the option values that the file contains. Incorrect specifications affect the silent interface of the Installation Wizard. For example, always use the correct case within property names, which are case-sensitive. In addition, always enclose values in double quotation marks.

If the error is an invalid option value, InstallShield for Multiplatforms (ISMP) displays a warning message that you must confirm and stops the installation.

Compare your options response file to the responsefile.wps.txt file that is shipped with the product to make the necessary corrections. After correcting the file, reinstall.

Certain events can prevent the InstallShield for Multiplatforms (ISMP) from starting the Installation Wizard silently. Such an event is not enough disk space to launch the Installation Wizard, for example. If your installation fails and there is no information in the installation logs, use the -log parameter to record entries for events that cause the ISMP program to fail to start the Installation Wizard. The syntax of the **install** command for logging such events is as follows:

AIX **On AIX platforms:**

```
install -options "/usr/IBM/WebSphere/silentFiles/myresponsefile.txt"
        -silent -log # !/usr/IBM/WebSphere/myOptionFiles/log.txt  @ALL
```

HP-UX **Linux** **Solaris** **On HP-UX, Linux, and Solaris platforms:**

```
install -options "/opt/IBM/WebSphere/silentFiles/myresponsefile.txt"
        -silent -log # !/opt/IBM/WebSphere/myOptionFiles/log.txt  @ALL
```

Windows **On Windows platforms:**

```
install.exe -options "C:\IBM\WebSphere\silentFiles\myresponsefile.txt"
            -silent -log # !C:\IBM\WebSphere\silentFiles\log.txt  @ALL
```

Example responsefile.wps.txt file

The response file provided with the product, before modification, will be similar to the following:

```
###########################################################################
#
# Licensed Material - Property of IBM
# 5724-L01
# (C) Copyright IBM Corporation 2005. All Rights Reserved.
# US Government Users Restricted Rights- Use, duplication or disclosure
# restricted by GSA ADP Schedule Contract with IBM Corp.
#
###########################################################################
###########################################################################
#
# InstallShield Options File
#
# Wizard name: Install
# Wizard source: setup.jar
#
# This file can be used to configure Install with the options specified below
# when the wizard is run with the "-options" command line option. Read each
# setting's documentation for information on how to change its value.
#
# A common use of an options file is to run the wizard in silent mode. This lets
# the options file author specify wizard settings without having to run the
# wizard in graphical or console mode. To use this options file for silent mode
# execution, use the following command line arguments when running the wizard:
#
#    -options "D:\installImage\WBI\responsefile.wps.txt" -silent
#
###########################################################################
############################################################################
#
# License Acceptance
#
# Valid Options : true   Accepts the license. Will install the product.
#    false  Declines the license. Install will not occur.
#
# If no install occurs, this will be logged to a temporary log file in the user's temporary directory.
#
# By changing the silentInstallLicenseAcceptance.value in this response file to "true",
# you agree that you have reviewed and agree to the terms of the IBM International
# Program License Agreement accompanying  this program, which is located at
# CD_ROOT\WBI\lafiles. If you do not agree to these terms, do not change the value or
# otherwise download, install, copy, access, or use the program and promptly
# return the program and proof of entitlement to the party from whom you acquired it
# to obtain a refund of the amount you paid.
#
#-W silentInstallLicenseAcceptance.value="false"
###########################################################################
#
# Incremental Install
#
# If you are installing additional features on top of an existing installation,
# (e.g. incremental install), uncomment the following line.  This will notify
# the installer that you are doing an incremental install.
#
# -W wbiDetectionPanel_InstallWizardBean.optionSelected="1"
#
# Please make sure installLocation is set to your existing install location.
#
# For already installed features, you need to set the feature active property
# to false.  For new features you want to install, you need to set the active
# properties to true.
#
```

```
# For example, you have installed the Samples Gallery feature, now you want to
# install the Public API Javadoc(tm) feature, the active properties should be:
#
# -P brbeansProductFeatureBean.active="false"
# -P emsProductFeatureBean.active="false"
# -P samplesProductFeatureBean.active="false"
# -P javadocsProductFeatureBean.active="true"
##############################################################################
#
# IBM WebSphere Process Server, V6.0 Install Location
#
# The install location of the product. Specify a valid directory into which the
# product should be installed. If the directory contains spaces, enclose it in
# double-quotes as shown in the Windows example below. Note that spaces in the
# install location is only supported on Windows operating systems.
#
# Below is the list of default install locations for each supported operating
# system.  By default, in this response file, the Windows install location is
# used.  If you want to use the default install location for another operating
# system, uncomment the appropriate default install location entry (by removing '#') and
# then comment out (by adding '#') the Windows operating system entry below.
#
#
# AIX Default Install Location:
#
#     -P wbiProductBean.installLocation=/usr/IBM/WebSphere/ProcServer
#
#
# HP-UX, Solaris or Linux Default Install Location:
#
#     -P wbiProductBean.installLocation=/opt/IBM/WebSphere/ProcServer
#
#
# Windows Default Install Location:
#
-P wbiProductBean.installLocation="C:\Program Files\IBM\WebSphere\ProcServer"
##############################################################################
#
# Use Existing IBM WebSphere Application Server V6.0
#
# If you intend to use an existing installation of WebSphere Application Server V6.0 or
# WebSphere Application Server Network Deployment, V6.0, uncomment the following line
# (by removing '#').
#
# -W wasdetectionpanelInstallWizardBean.optionSelected="1"
#
# You must then set the above WebSphere Process Server install location to the install root
# of the existing WAS installation.
#
# Note that the install will fail if WebSphere Process Server has already been installed
# in the existing WAS install location.
#
##############################################################################
#
# Setup Type
#
# This value is required for the installation. Do not change this!
#
-W setuptypepanelInstallWizardBean.selectedSetupTypeId="Custom"
##############################################################################
#
# "Business Rule Beans (deprecated)" feature
#
# The selection state of the "Business Rule Beans (deprecated)" feature. Legal
# values are:
#
#     true  - Indicates that the feature is selected for installation
```

```
#     false - Indicates that the feature is not selected for installation
#
# For example, to select "Business Rule Beans (deprecated)" for installation, use
#
#     -P brbeansProductFeatureBean.active="false"
#
-P brbeansProductFeatureBean.active="false"
###########################################################################
#
# "Extended Messages (deprecated)" feature
#
# The selection state of the "Extended Messages (deprecated)" feature. Legal
# values are:
#
#     true  - Indicates that the feature is selected for installation
#     false - Indicates that the feature is not selected for installation
#
# For example, to select "Extended Messages (deprecated)" for installation, use
#
#     -P emsProductFeatureBean.active="false"
#
-P emsProductFeatureBean.active="false"
###########################################################################
#
# "Samples Gallery" feature
#
# The selection state of the "Samples Gallery" feature. Legal values are:
#
#     true  - Indicates that the feature is selected for installation
#     false - Indicates that the feature is not selected for installation
#
# For example, to select "Samples Gallery" for installation, use
#
#     -P samplesProductFeatureBean.active="true"
#
-P samplesProductFeatureBean.active="true"
###########################################################################
#
# "Public API Javadoc (tm)" feature
#
# The selection state of the "Public API Javadoc (tm)" feature. Legal values are:
#
#     true  - Indicates that the feature is selected for installation
#     false - Indicates that the feature is not selected for installation
#
# For example, to select "Public API Javadoc (tm)" for installation, use
#
#     -P javadocsProductFeatureBean.active="true"
#
-P javadocsProductFeatureBean.active="true"
###########################################################################
#
# WebSphere Process Server Profile Wizard
#
# To launch the Profile Wizard SILENTLY at the end
# of the installation, please change the value to "true".
# Otherwise, set the value to "false".
#
-W summaryPanel_InstallWizardBean.launchPCAW="false"
###########################################################################
# If you choose to run Profile Wizard silently at the end of the
# installation, you must
# 1. get a copy of the Profile Wizard response file (from CD) and put to a temp dir
#     such as: /tmp/WBI/responsefile.pcaw.dmgrProfile.txt         For DMGR profile creation
#              /tmp/WBI/responsefile.pcaw.managedProfile.txt       For Manage profile creation
#              /tmp/WBI/responsefile.pcaw.standAloneProfile.txt     For Stand alone profile creation
# 2. modify the response file by filling in the required options/values.
```

```
# Note: If the values are not completed properly, the configuration may be unsuccessful.
# 3. specify below the absolute path to your modified response file.
#
# For example,
# -W pcawResponseFileLocationQueryAction_InstallWizardBean.fileLocation=
# "/tmp/WBI/responsefile.pcaw.dmgrProfile.txt"-W
# pcawResponseFileLocationQueryAction_InstallWizardBean.fileLocation=""
```

Mounting CD-ROMs on Linux and UNIX operating systems

After inserting a CD-ROM into a drive, some Linux and UNIX operating systems require you to mount the drive.

Use these procedures to mount product disks for WebSphere Process Server.

- **AIX** **Mounting the CD-ROM on AIX systems.** To mount the CD-ROM on an AIX system using the System Management Interface Tool (SMIT), perform the following steps:

  1. Log in as a user with root authority.
  2. Insert the CD-ROM in the drive.
  3. Create a CD-ROM mount point by entering the `mkdir -p /cdrom` command, where `cdrom` represents the CD-ROM mount point directory.
  4. Allocate a CD-ROM file system using SMIT by entering the **smit storage** command.
  5. After SMIT starts, select **File Systems > Add / Change / Show / Delete File Systems > CDROM File Systems > Add CDROM File System**.
  6. In the Add a File System window:
     - Enter a device name for your CD-ROM file system in the **DEVICE Name** field. Device names for CD-ROM file systems must be unique. If there is a duplicate device name, you might need to delete a previously defined CD-ROM file system or use another name for your directory. The example uses `/dev/cd0` as the device name.
     - Enter the CD-ROM mount point directory in the **MOUNT POINT** window. In our example, the mount point directory is `/cdrom`.
     - In the **Mount AUTOMATICALLY at system restart** field, select `yes` to enable automatic mounting of the file system.
     - Select **OK** to close the window, then select **Cancel** three times to exit SMIT.
  7. Next, mount the CD-ROM file system by entering the **smit mountfs** command.
  8. In the Mount a File System window:
     - Enter the device name for this CD-ROM file system in the **FILE SYSTEM name** field. In our example, the device name is `/dev/cd0`.
     - Enter the CD-ROM mount point in the **Directory over which to mount** field. In our example, the mount point is `/cdrom`.
     - Enter `cdrfs` in the **Type of Filesystem** field. To view the other kinds of file systems you can mount, select List.
     - In the **Mount as READ-ONLY system** field, select `yes`.
     - Accept the remaining default values and select **OK** to close the window.

     Your CD-ROM file system is now mounted. To view the contents of the CD-ROM, place the disk in the drive and enter the **cd /cdrom** command where **cdrom** is the CD-ROM mount point directory.

- **HP-UX** **Mounting the CD-ROM on HP-UX systems.** Because WebSphere Process Server contains several files with long file names, the mount command can fail.

The following steps let you mount your WebSphere Process Server product
CD-ROMs on the HP-UX platform successfully:

1. Log in as a user with root authority.
2. In the /etc directory, add the following line to the pfs_fstab file:

   ```
   /dev/dsk/c0t2d0 mount_point pfs-rrip ro,hard
   ```

   where *mount_point* represents the mount point of the CD-ROM.
3. Start the *pfs* daemon by entering the following commands (if they are not
   already running):

   ```
   /usr/sbin/pfs_mountd &
   /usr/sbin/pfsd 4 &
   ```
4. Insert the CD-ROM in the drive and enter the following commands:

   ```
   mkdir /cdrom
   /usr/sbin/pfs_mount /cdrom
   ```

   The */cdrom* variable represents the mount point of the CD-ROM.
5. Log out.

- ▶ Linux **Mounting the CD-ROM on Linux systems.** To mount the CD-ROM on a
  Linux system:

  1. Log in as a user with root authority.
  2. Insert the CD-ROM in the drive and enter the following command:

     ```
     mount -t iso9660 -o ro /dev/cdrom /cdrom
     ```

     The */cdrom* variable represents the mount point of the CD-ROM.
  3. Log out.

  Some window managers can automatically mount your CD-ROM for you.
  Consult your system documentation for more information.

- ▶ Solaris **Mounting the CD-ROM on Solaris systems.** To mount the CD-ROM on
  a Solaris system:

  1. Log in as a user with root authority.
  2. Insert the CD-ROM into the drive.
  3. If the Volume Manager (vold) is not running on your system, enter the
     following commands to mount the CD-ROM:

     ```
     mkdir -p /cdrom/unnamed_cdrom
     mount -F hsfs -o ro /dev/dsk/c0t6d0s2 /cdrom/unnamed_cdrom
     ```

     The */cdrom/unnamed_cdrom* variable represents the CD-ROM mount directory
     and /dev/dsk/c0t6d0s2 represents the CD-ROM drive device.

     If you are mounting the CD-ROM drive from a remote system using NFS,
     the CD-ROM file system on the remote machine must be exported with root
     access. You must also mount that file system with root access on the local
     machine.

     If the vold is running on your system, the CD-ROM is automatically
     mounted as:

     ```
      /cdrom/unnamed_cdrom
     ```
  4. Log out.

Default installation paths

The default directory locations into which the Installation Wizard installs IBM
WebSphere Process Server, Version 6.0, and IBM WebSphere Application Server
Network Deployment, Version 6.0.1.2, can be different depending on whether you

install the product on a clean server or on one with an existing installation of WebSphere Process Server, or WebSphere Application Server or WebSphere Application Server Network Deployment.

Default installation directory on a clean server

The following list shows the default installation locations into which the Installation Wizard installs both WebSphere Process Server and WebSphere Application Server Network Deployment when there is *not* an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x:

- **AIX** **On AIX platforms:** `/usr/IBM/WebSphere/ProcServer`
- **HP-UX** **Linux** **Solaris** **On HP-UX, Linux, and Solaris platforms:** `/opt/IBM/WebSphere/ProcServer`
- **Windows** **On Windows platforms:** `C:\Program Files\IBM\WebSphere\ProcServer`

Default installation directory when an installation of WebSphere Application Server or WebSphere Application Server Network Deployment exists

When an installation of either WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, exists on a server, WebSphere Process Server is installed into the same location. For instance, if WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, exists in the following directory, WebSphere Process Server will be installed into this same location (WebSphere Process Server *extends* WebSphere Application Server and WebSphere Application Server Network Deployment):

- **AIX** **On AIX platforms:** `/usr/IBM/WebSphere/AppServer`
- **HP-UX** **Linux** **Solaris** **On HP-UX, Linux, and Solaris platforms:** `/opt/IBM/WebSphere/AppServer`
- **Windows** **On Windows platforms:** `C:\Program Files\IBM\WebSphere\AppServer`

Default installation directory when a WebSphere Process Server installation exists

When an installation of WebSphere Process Server, Version 6.0 exists on a server, if you run the Installation Wizard to initiate a second installation of the product, the Installation Wizard detects the existing installation and appends a number to the second default directory. For instance, if WebSphere Process Server exists in the following default directory:

- **AIX** **On AIX platforms:** `/usr/IBM/WebSphere/ProcServer`
- **HP-UX** **Linux** **Solaris** **On HP-UX, Linux, and Solaris platforms:** `/opt/IBM/WebSphere/ProcServer`
- **Windows** **On Windows platforms:** `C:\Program Files\IBM\WebSphere\ProcServer`

and you then run the Installation Wizard a second time, the wizard will offer the following default installation location for the second product installation on the Installation location panel:

- **AIX** **On AIX platforms:** `/usr/IBM/WebSphere/ProcServer1`
- **HP-UX** **Linux** **Solaris** **On HP-UX, Linux, and Solaris platforms:** `/opt/IBM/WebSphere/ProcServer1`
- **Windows** **On Windows platforms:** `C:\Program Files\IBM\WebSphere\ProcServer1`

Important: This scenario assumes that a second installation of WebSphere Application Server Network Deployment without WebSphere Process Server already installed over it does *not* exist on the server. If one does, you can install WebSphere Process Server into that same directory (`/opt/IBM/WebSphere/AppServer` for instance) or you can install a new installation of both WebSphere Process Server and WebSphere Application Server Network Deployment into the directories as listed above.

Definition of *install_root*

The variable *install_root* is used throughout the documentation to refer to the installation location of WebSphere Process Server. WebSphere Process Server will always be installed in the same location as the WebSphere Application Server Network Deployment installation with which it is associated.

Definition of *profile_root*

The variable *profile_root* is used throughout the documentation to refer to the installation location of a WebSphere Process Server profile. By default, its location is *install_root*/profiles/*profile_name* on Linux and UNIX platforms and *install_root*\profiles*profile_name* on Windows platforms.

Product components

This topic describes the features of WebSphere Process Server, Version 6.0.

Table 5 lists the features of WebSphere Process Server that can be installed. During a Complete (default) installation, only the Sample Applications Gallery and Public API Javadoc features are installed. To install the deprecated features, you must perform a Custom installation. For better performance in either a development or production environment, do not install the Sample Applications Gallery.

Table 5. Features of WebSphere Process Server

Feature	Description
Business Rule Beans (Deprecated)	Installs functionality used to create and modify rules that let you externalize business policy from your application so the application's core behavior and user interface objects remain unchanged as business needs evolve. This function has been carried forward from WebSphere Business Integration Server Foundation, Version 5.1.1. It will not be supported in future versions of WebSphere Process Server.
Extended Messaging (Deprecated)	Installs functionality that provides enhanced support for handling messages and processing replies to these messages, by extending support for the base JMS, the EJB 2.0 message-driven beans, and the Enterprise Java Bean (EJB) component model, to use the existing container-managed persistence and transactional behavior. This function has been carried forward from WebSphere Business Integration Server Foundation, Version 5.1.1. It will not be supported in future versions of WebSphere Process Server.

Table 5. Features of WebSphere Process Server (continued)

Feature	Description
Sample Applications Gallery	Installs the sample applications for both WebSphere Process Server and WebSphere Application Server Network Deployment.
Public API Javadoc	Installs the API documentation of WebSphere Process Server and WebSphere Application Server Network Deployment classes.

Special considerations when installing from Passport Advantage

This topic describes tips when installing from images downloaded from Passport Advantage.

If you plan to install from images obtained from Passport Advantage, consider the following tips:

- Refer to your Passport Advantage information for downloading instructions.
- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** Ensure that the user who untars the files is the same user who will install the product. The product installer will not work properly if different users perform these tasks.

Coexisting

This topic is a starting point for finding information about which coexistence scenarios are supported, and how to set up the scenarios.

Coexisting, as it applies to WebSphere Process Server, is defined as follows:

- Running a new release of WebSphere Process Server on the same machine at the same time as you run an installation instance of WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x.
- Running a new release of WebSphere Process Server on the same machine at the same time as you run an installation instance of WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x or 6.0.1.x.
- Running multiple installations of the same release of WebSphere Process Server on the same machine at the same time.

Review the following topics for more information about setting up coexistence:

- "Creating a new WebSphere Process Server profile to coexist with a configuration instance of WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x" on page 72 -- This task describes how to install WebSphere Process Server, Version 6.0, to coexist with an installation instance of WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x.
- "Installing WebSphere Process Server, Version 6.0, to coexist with an existing installation of the product or of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x" on page 73 -- This task describes how to install WebSphere Process Server, Version 6.0, to coexist with another installation of WebSphere Process Server, Version 6.0, or an

installation of WebSphere Application Server or WebSphere Application Server
Network Deployment, Version 6.0.0.x or 6.0.1.x.

- "Avoiding port conflicts" on page 76 and "Port number settings in versions of
  WebSphere Process Server, WebSphere Application Server, WebSphere
  Application Server Network Deployment, and WebSphere Business Integration
  Server Foundation" on page 78 -- These topics discuss how to enable your port
  settings to support multiple product installations.

Creating a new WebSphere Process Server profile to coexist with a configuration instance of WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x

Use this procedure to create a WebSphere Process Server profile to coexist with a
configuration instance of WebSphere Business Integration Server Foundation,
Version 5.1.x, or WebSphere Application Server or WebSphere Application Server
Network Deployment, Version 5.1.x, on a single machine. This procedure uses the
Profile Wizard graphical user interface (GUI).

Do the following before using this procedure:

- Ensure you have existing installations of WebSphere Process Server and
  WebSphere Application Server Network Deployment, Version 6.0.1.2. If you do
  not, see "Installing the product" on page 44 for descriptions of documented
  installation procedures.
- Ensure you have an existing installation of either WebSphere Business
  Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or
  WebSphere Application Server Network Deployment, Version 5.1.x, and that a
  configuration instance exists.
- Decide which type of profile that you want to create. Examine "Creating and
  augmenting profiles by using the Profile Wizard" on page 91 for descriptions of
  documented profile creation procedures.
- Ensure you have enough disk and temporary space to create the new profile. See
  "Required disk space" on page 32 for the minimum disk space required.
- If you have enabled global security on an existing installation of WebSphere
  Application Server or WebSphere Application Server Network Deployment,
  Version 6.0.1.2, ensure you disable it before creating the profile. For information
  on enabling and disabling global security, see the WebSphere Application Server
  Network Deployment, Version 6.0 information center at
  http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.

Use the following procedure to create a new profile.

1. Create the new WebSphere Process Server profile.

   To create the profile, follow one of the following procedures, depending on the
   type of WebSphere Process Server profile you want to create:
   - "Creating a new WebSphere Process Server stand-alone server profile" on
     page 94
   - "Creating a new WebSphere Process Server deployment manager profile" on
     page 100
   - "Creating a new WebSphere Process Server custom profile" on page 105

   When progressing through the Profile Wizard panels, on the Port value
   assignment panel, verify that the ports specified for the new profile are

different than the ports assigned to the existing configuration instance of WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x.

2. If you created a stand-alone server profile or deployment manager profile, verify that it is operating properly with the coexisting instance of WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x. To verify that the profile is operating properly, start it from its First Steps console while the coexisting instance is running. If it starts successfully, the profile is operating properly.

A new WebSphere Process Server profile exists.

Installing WebSphere Process Server, Version 6.0, to coexist with an existing installation of the product or of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x

Use this procedure to install IBM WebSphere Process Server, Version 6.0, on a system with an existing installation of WebSphere Process Server or WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x or 6.0.1.x. This procedure uses the Installation Wizard graphical user interface (GUI).

Do the following before installing WebSphere Process Server using this procedure:

- Ensure you have an installation of WebSphere Process Server on your system (which includes installation of WebSphere Process Server, Version 6.0, and WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.1.2), or that you have an installation of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x. You do not have to have any existing WebSphere Process Server or WebSphere Application Server profiles. Also, ensure that you want to use an interactive interface. If your proposed installation does not meet these criteria, see "Installing the product" on page 44 for descriptions of other documented installation procedures.

- Ensure your system meets all hardware requirements and that you have installed all required software corequisites and prerequisites. See "Hardware and software requirements" on page 6 for more information.

- Ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.

- If you have enabled global security on an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, ensure you disable it before installing WebSphere Process Server. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.

- Ensure that you are installing the product as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

The installation steps in this topic assume installation from product CDs. If you plan to install from images obtained from Passport Advantage, see "Special considerations when installing from Passport Advantage" on page 71 for installation tips.

Use the following procedure to install the WebSphere Process Server product.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

2. Start the Launchpad by following the procedure in "Starting the Launchpad" on page 45.

3. From the right pane of the Launchpad, select **Launch the Installation Wizard for WebSphere Process Server for Multiplatforms**. The Welcome panel is displayed.

4. Select **Next** to continue. The License agreement panel is displayed.

5. Select the radio button beside the entry **I accept the terms in the license agreement** to agree to the license agreement, and select **Next** to continue.

   The Installation Wizard checks for a supported operating system with prerequisite patches. During the check, the Checking prerequisites panel is displayed. At the end of the process, this panel indicates whether your system passed the check. This procedure assumes that your system passed.

   If you do not have a supported operating system or the correct prerequisite patches on your system, cancel the installation, make the required changes, and restart the installation.

6. On the Checking prerequisites panel, select **Next** to continue.

   - If you have an existing installation of WebSphere Process Server on your system, an Existing installation detected panel is displayed. In this case, do the following:

     – Select the radio button beside **Install a new copy of WebSphere Process Server 6.0** and select **Next**. A warning panel is displayed, which outlines considerations you must make when installing the product on a system on which an existing installation of the product already exists.

     – Select **Next** to continue. A second warning panel is displayed, which outlines considerations you must make when installing the product on a system on which an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment already exists.

     – Select **Next** to continue. The Installation location panel is displayed.

   - If you have an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment on your system, an Existing installation detected panel is displayed. In this case, do the following:

     – Select the radio button beside **Install a new copy of WebSphere Application Server Network Deployment 6.0** and select **Next**. A warning panel is displayed, which outlines considerations you must make when installing the product on a system on which an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment already exists.

     – Select **Next** to continue. The Installation location panel is displayed.

   Important: The installer will also detect unregistered instances of WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 6.0.0.x and 6.0.1.x, if they have entries in the `.WASRegistry` file. This file is located in the $USER_HOME directory of the installation. Using an unregistered installation of one of these products with your WebSphere Process Server installation is neither recommended nor supported.

7. Accept the default installation root directory for WebSphere Process Server and WebSphere Application Server Network Deployment (which is installed silently with WebSphere Process Server) or specify a different directory, and select **Next**.

   See "Default installation paths" on page 68 for the default directories into which the Installation Wizard installs WebSphere Process Server and WebSphere Application Server Network Deployment on all supported platforms.

   Important:
   - Deleting the default root directory and leaving the field empty prevents you from continuing.
   - If you specify an installation directory that is not empty, an error is displayed and a different directory must be specified.
   - Non-ASCII special characters in directory names are not supported.
   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** Do not use symbolic links as the destination directory. Symbolic links are not supported. Also, do not use spaces in the installation directory path.
   - ▶ Linux **On Linux platforms:** The installation directory path must be no longer than 256 characters to successfully install the product.
   - Windows **On Windows platforms:** The installation directory path must be no longer than 60 characters to successfully create the default stand-alone profile.

   The Installation type panel is displayed, which lets you choose the type of installation you prefer.

8. Select the radio button beside the field **Custom installation** and select **Next** to continue. The Installation Wizard provides two installation paths. The Complete path installs WebSphere Process Server, Version 6.0, and WebSphere Application Server Network Deployment, Version 6.0.1.2, and creates a stand-alone process server profile. The Custom path allows you to select those features you want to install. It does not create a profile. For this example procedure, choose **Custom installation**. The Feature selection panel is displayed.

9. Select the features you want to install and select **Next**. See "Product components" on page 70 for descriptions of the features that can be selected from this panel. The Installation summary panel is displayed, which details the components that will be installed, the amount of space they will consume, and where they will be located on the system.

10. Review the summary information and select **Next** to install the products or **Back** to change your specifications. The Installation Wizard creates the uninstaller program and shows a progress panel to indicate that components are being installed. At the end of the installation, the Installation complete panel is displayed.

Attention: If errors are detected during installation, other panels might be displayed in place of the Installation complete panel. Examples include the following:

- Installation is complete with errors panel, which indicates that installation completed but errors were generated.
- Installation failed panel, which indicates that installation failed completely.

Each of these panels identifies the log file to reference in order to troubleshoot the problems. See the descriptions of relevant log files listed in "Log files" on page 340, of error messages in "Error messages: installation and profile creation and augmentation" on page 332, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

11. On the Installation complete panel, do one of the following, depending on whether you want to create a WebSphere Process Server profile:

- To create a new profile, leave the check box beside **Launch the Profile Wizard** selected and select **Next**. The Installation Wizard closes and the Profile Wizard is launched. See "Creating and augmenting profiles by using the Profile Wizard" on page 91 for instructions on how to use this wizard to create new process server profiles or augment existing application server profiles into process server profiles.
- To *not* create a profile, unselect the check box beside **Launch the Profile Wizard** and select **Next**. In this case, a warning panel is displayed, which explains that without a profile there is no operational server. Do one of the following:
  - Select **Back** for another chance to launch the Profile Wizard.
  - Select **Next**. The Installation complete panel is displayed with a check box to launch the First Steps console. Ensure that this check box is selected and select **Finish** to close the Installation Wizard and launch the First Steps console.

Attention: To have an operational environment, a WebSphere Process Server stand-alone profile or deployment manager profile with managed nodes must exist.

If the Installation complete panel is displayed at the end of product installation:

- WebSphere Process Server, Version 6.0, was installed successfully.
- If you selected to install WebSphere Application Server Network Deployment, Version 6.0.1.2, it was installed successfully.
- If you performed a Complete installation, a stand-alone process server profile named `default` with a server named `server1` was created.

If installation was successful, after you have created a WebSphere Process Server stand-alone or deployment manager profile, start the server or deployment manager from its First Steps console to verify that your installation is operating properly. See "Options on the First Steps console" on page 84 for more details.

Avoiding port conflicts

You must prevent port conflicts from occurring when you have WebSphere Process Server, Version 6.0, coexisting on the same machine with an instance of WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Versions 5.1.x, 6.0.0.x, or 6.0.1.x.

Use this procedure to avoid port conflicts when adding a WebSphere Process Server node to a WebSphere Process Server deployment manager cell when a WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x, 6.0.0.x, or 6.0.1.x managed node exists on the same system.

If you create a WebSphere Process Server managed profile on the same system on which another WebSphere Process Server managed profile exists, the **addNode** command increments the port assignments of the second nodeagent process so that no conflict occurs. The Profile Wizard also handles the port assignments successfully when you federate a custom profile during its creation.

Contrast the WebSphere Process Server coexistence scenario just described to the following cross-version scenario in which a WebSphere Business Integration Server Foundation, Version 5.1.x, or WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x, 6.0.0.x, or 6.0.1.x, managed node exists. Assume that you create a WebSphere Process Server managed node on this same system. Neither the **addNode** command nor the Profile Wizard has a record of the port assignments given to these instances or profiles. Port assignments on the second WebSphere Process Server nodeagent process are not incremented and conflicts occur.

The conflicts prevent the second node from starting. If you start the WebSphere Business Integration Server Foundation or WebSphere Application Server or WebSphere Application Server Network Deployment managed node first, the WebSphere Process Server node cannot start. If you start the WebSphere Process Server node first, the WebSphere Business Integration Server Foundation or WebSphere Application Server or WebSphere Application Server Network Deployment managed node cannot start.

Perform the following procedure to create a WebSphere Process Server managed node with non-conflicting ports.

1. Create the WebSphere Process Server custom profile.

   Use the Profile Wizard to create a custom profile. Do not federate the custom profile as you create it. Select the check box on the Profile Wizard panel to federate the profile later. See the procedures described in "Creating and augmenting profiles by using the Profile Wizard" on page 91.

2. Check for ports in use to determine a starting port number for the WebSphere Process Server nodeagent process.

   Use the **netstat -a** command to check existing port assignments. Analyze the port assignments to determine 12 sequential free ports.

   This procedure assumes that no port assignments exist between 3320 and 3380.

3. Change directories to the `bin` directory of the new profile.

   Do one of the following to move to the `bin` directory of the profile (where *profile_root* represents the installation location of the profile):

   - > Linux > UNIX **On Linux and UNIX platforms:** Type cd *profile_root*/bin
   - > Windows **On Windows platforms:** From a command line, type cd *profile_root*\bin

4. Use the **addNode** command with the **-startingport** parameter to federate the custom node into the deployment manager cell and to assign ports from a beginning value.

   Assume that the deployment manager has the following characteristics:

   - Host name is the domain name system address: *server_name*.ibm.com

- JMX connector type: remote method invocation (RMI)
- RMI port assignment: 8879
- Security status: Enabled

Issue the following command:

```
addNode.sh server_name.ibm.com \
-conntype RMI 8879 \
-user user_name \
-password user_password -startingport 3333
```

> **Important:** The \ character is a continuation character for using more than one line to submit commands.

The **-startingport** parameter supplies the base port number for all nodeagent ports and increments all of the port values from the starting point. The non-conflicting port assignments let the new nodeagent run when the WebSphere Business Integration Server Foundation or WebSphere Application Server or WebSphere Application Server Network Deployment nodeagent process is already running.

This procedure results in the ability to start your WebSphere Business Integration Server Foundation or WebSphere Application Server or WebSphere Application Server Network Deployment node at the same time as your WebSphere Process Server node. The nodeagents can run on the same server.

For more information about the **addnode** command, see the WebSphere Application Server Network Deployment, Version 6.0, information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

To change the port settings after installation, edit the serverindex.xml file located in one of the following directories, depending on platform (where *profile_root* represents the installation location of the profile):

- ▶ Linux ◀ ▶ UNIX ◀ **On Linux and UNIX platforms:**
  profile_root/config/cells/*cell_name*/nodes/*node_name*/serverindex.xml
- ▶ Windows ◀ **On Windows platforms:**
  profile_root\config\cells*cell_name*\nodes*node_name*\serverindex.xml

Port number settings in versions of WebSphere Process Server, WebSphere Application Server, WebSphere Application Server Network Deployment, and WebSphere Business Integration Server Foundation

You can prevent port conflicts from occurring when you want an installation of WebSphere Process Server, Version 6.0, to coexist with WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x, 6.0.0.x, or 6.0.1.x, or WebSphere Business Integration Server Foundation, Version 5.1.x. This topic provides reference information about identifying port numbers for these products.

Port numbers for WebSphere Process Server, Version 6.0, and WebSphere Application Server and WebSphere Application Server Network Deployment, Version 6.0.0.x and 6.0.1.x

Table 6. Port definitions for WebSphere Process Server, Version 6.0, and WebSphere Application Server and WebSphere Application Server Network Deployment, Version 6.0.0.x and 6.0.1.x

Port	WebSphere Process Server (with underlying WebSphere Application Server Network Deployment)	WebSphere Application Server	File
	Value	Value	
HTTP_TRANSPORT	9080	9080	serverindex.xml and virtualhosts.xml
HTTP Admin Console Port (HTTP_TRANSPORT_ADMIN)	9060	9060	serverindex.xml and virtualhosts.xml
HTTPS Transport Port (HTTPS_TRANSPORT)	9443	9443	serverindex.xml and virtualhosts.xml
HTTPS Admin Console Secure Port (HTTPS_TRANSPORT_ADMIN)	9043	9043	serverindex.xml and virtualhosts.xml
BOOTSTRAP_ADDRESS	9809	2809	serverindex.xml
SOAP_CONNECTOR_ADDRESS	8879	8880	serverindex.xml
SAS_SSL_SERVERAUTH_LISTENER_ ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	9401	9401	serverindex.xml
CSIV2_SSL_SERVERAUTH_ LISTENER_ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	9403	9403	serverindex.xml
CSIV2_SSL_MULTIAUTH_LISTENER_ ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	9402	9402	serverindex.xml
ORB_LISTENER_ADDRESS	9100	9100	serverindex.xml
DCS_UNICAST_ADDRESS	9352	9353	serverindex.xml
SIB_ENDPOINT_ADDRESS	7276	7276	serverindex.xml
SIB_ENDPOINT_SECURE_ADDRESS	7286	7286	serverindex.xml
SIB_MQ_ENDPOINT_ADDRESS	5558	5558	serverindex.xml
SIB_MQ_ENDPOINT_SECURE_ ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	5578	5578	serverindex.xml

Table 6. Port definitions for WebSphere Process Server, Version 6.0, and WebSphere Application Server and WebSphere Application Server Network Deployment, Version 6.0.0.x and 6.0.1.x (continued)

Port	WebSphere Process Server (with underlying WebSphere Application Server Network Deployment)	WebSphere Application Server	File
	Value	Value	
Internal JMS Server (JMSSERVER_SECURITY_PORT)	Not applicable	5557	serverindex.xml
DRS_CLIENT_ADDRESS **Deprecation:** This port is deprecated and is no longer used in the current version of WebSphere Application Server.	7989	7873	serverindex.xml
IBM HTTP Server Port	80	80	virtualhosts.xml, plugin-cfg.xml, and *IHSinstall_root*/conf/ httpd.conf
IBM HTTPS Server Admin Port	Not applicable	8008	*IHSinstall_root*/conf/ admin.conf
CELL_DISCOVERY_ADDRESS	7277	Not applicable	serverindex.xml
CELL_MULTICAST_DISCOVERY_ ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	7272	Not applicable	serverindex.xml
NODE_MULTICAST_IPV6_ DISCOVERY_ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	5001	5001	serverindex.xml

When you federate a node into a deployment manager cell, the deployment manager instantiates the nodeagent server process on the process server node. The nodeagent server uses these port assignments by default:

Table 7. Port definitions for the WebSphere Process Server nodeagent server process

Port	Value	File
BOOTSTRAP_ADDRESS	2089	serverindex.xml
ORB_LISTENER_ADDRESS	9100	serverindex.xml
SAS_SSL_SERVERAUTH_LISTENER_ADDRESS	9901	serverindex.xml
CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS	9202	serverindex.xml
CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS	9201	serverindex.xml
NODE_DISCOVERY_ADDRESS	7272	serverindex.xml
NODE_MULTICAST_DISCOVERY_ADDRESS	5000	serverindex.xml

Table 7. Port definitions for the WebSphere Process Server nodeagent server process (continued)

Port	Value	File
NODE_IPV6_MULTICAST_DISCOVERY_ADDRESS	5001	serverindex.xml
DCS_UNICAST_ADDRESS	9353	serverindex.xml
DRS_CLIENT_ADDRESS	7888	serverindex.xml
SOAP_CONNECTOR_ADDRESS	8878	serverindex.xml

Port numbers for WebSphere Application Server and WebSphere Application Server Network Deployment, Version 5.1.x, and WebSphere Business Integration Server Foundation, Version 5.1.x

WebSphere Business Integration Server Foundation uses the same ports as the product it extends. Therefore, if it extends WebSphere Application Server Network Deployment, use the values under that column in Table 8. If it extends WebSphere Application Server, use the values under that column.

Table 8. Port definitions for WebSphere Application Server and WebSphere Application Server Network Deployment, Version 5.1.x, and WebSphere Business Integration Server Foundation, Version 5.1.x

Port	WebSphere Application Server Network Deployment	WebSphere Application Server	File
	Value	Value	
HTTP_TRANSPORT	Not applicable	9080	serverindex.xml and virtualhosts.xml
HTTPS Transport Port (HTTPS_TRANSPORT)	Not applicable	9443	serverindex.xml and virtualhosts.xml
HTTP Admin Console Port (HTTP_TRANSPORT_ADMIN)	9090	9090	serverindex.xml and virtualhosts.xml
HTTPS Admin Console Secure Port (HTTPS_TRANSPORT_ADMIN)	9043	9043	serverindex.xml and virtualhosts.xml
Internal JMS Server (JMSSERVER_SECURITY_PORT)	Not applicable	5557	server.xml
JMSSERVER_QUEUED_ADDRESS	Not applicable	5558	serverindex.xml
JMSSERVER_DIRECT_ADDRESS	Not applicable	5559	serverindex.xml
BOOTSTRAP_ADDRESS	9809	2809	serverindex.xml
SOAP_CONNECTOR_ADDRESS	8879	8880	serverindex.xml
DRS_CLIENT_ADDRESS	7989	7873	serverindex.xml
SAS_SSL_SERVERAUTH_LISTENER_ ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	9401	0	serverindex.xml
CSIV2_SSL_SERVERAUTH_ LISTENER_ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	9403	0	serverindex.xml

Table 8. Port definitions for WebSphere Application Server and WebSphere Application Server Network Deployment, Version 5.1.x, and WebSphere Business Integration Server Foundation, Version 5.1.x (continued)

Port	WebSphere Application Server Network Deployment	WebSphere Application Server	File
	Value	Value	
CSIV2_SSL_MULTIAUTH_LISTENER_ ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	9402	0	serverindex.xml
IBM HTTP Server Port	Not applicable	80	virtualhosts.xml, plugin-cfg.xml, and *IHSinstall_root*/conf/httpd.conf
IBM HTTPS Server Admin Port	Not applicable	8008	*IHSinstall_root*/conf/admin.conf
CELL_DISCOVERY_ADDRESS	7277	Not applicable	serverindex.xml
ORB_LISTENER_ADDRESS	9100	9100	serverindex.xml
CELL_MULTICAST_DISCOVERY_ ADDRESS A character space was added to this entry to enable it to fit in the table cell. The actual entry does not include a character space.	7272	Not applicable	serverindex.xml

When you federate a WebSphere Application Server or WebSphere Application Server Network Deployment, Version 5.1.x application server node into a deployment manager cell, the deployment manager instantiates the nodeagent server process on the application server node. The nodeagent server uses these port assignments by default:

Table 9. Port definitions for the nodeagent server process of WebSphere Application Server and WebSphere Application Server Network Deployment, Version 5.1.x, and WebSphere Business Integration Server Foundation, Version 5.1.x

Port	Value	File
BOOTSTRAP_ADDRESS	2089	serverindex.xml
ORB_LISTENER_ADDRESS	9900	serverindex.xml
SAS_SSL_SERVERAUTH_LISTENER_ADDRESS	9901	serverindex.xml
CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS	9101	serverindex.xml
CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS	9201	serverindex.xml
NODE_DISCOVERY_ADDRESS	7272	serverindex.xml
NODE_MULTICAST_DISCOVERY_ADDRESS	5000	serverindex.xml
DRS_CLIENT_ADDRESS	7888	serverindex.xml
SOAP_CONNECTOR_ADDRESS	8878	serverindex.xml

Configuring the product after installation

This topic provides links to more detailed topics describing tasks that might have to be performed after you install IBM WebSphere Process Server, Version 6.0. Links to conceptual topics supporting the tasks are provided as well.

This section contains the following topics:

- "Starting the First Steps console" -- Describes several ways to start the First Steps console, a tool you run after product installation to direct WebSphere Process Server elements from one place.
- "Creating and augmenting profiles by using the Profile Wizard" on page 91 -- Provides an overview of the various methods for creating runtime environments for IBM WebSphere Process Server, Version 6.0. Use the information in this topic to learn about the methods available. This topic has links to more detailed procedures for creating runtime environments.
- "Creating profiles silently" on page 130 -- Describes how to create or augment profiles using a command-line invocation with a parameter that identifies one of three options response files, which you edit. The response files differ per type of profile to be created or augmented (deployment manager, stand-alone process server, custom).
- "Naming considerations for profiles, nodes, hosts, and cells" on page 158 -- Discusses reserved terms and issues you must consider when naming your profile, node, host and cell (if applicable).
- "Federating custom nodes to a deployment manager" on page 161 -- Describes how to federate IBM WebSphere Process Server, Version 6.0, custom nodes to a deployment manager.
- "Profile commands in a multiprofile environment" on page 163 -- Discusses how to address commands to specific profiles when two or more profiles exist on a machine.

Also included in this section are instructions for configuring components such as the Business Process Choreographer and Common Event Infrastructure.

Starting the First Steps console

The First Steps console is a tool you can run after product installation to direct WebSphere Process Server elements from one place. You can start it in several ways.

Before starting the First Steps console, ensure you have installed WebSphere Process Server, Version 6.0.

Start the First Steps console from a command line by performing the following steps.

1. Open a command window.
2. Change to one the following directories, depending on whether you are starting the generic version of the First Steps console, or a version connected with a created profile (where *install_root* represents the location of the WebSphere Process Server installation and *profile_root* represents the installation location of the WebSphere Process Server profile (by default, `install_root`/profiles/`profile_name` on Linux and UNIX platforms and `install_root`\profiles\`profile_name` on Windows platforms):
   - To start the generic version of the First Steps console, change to this directory:

- $\boxed{\text{Linux}}$ $\boxed{\text{UNIX}}$ **On Linux and UNIX platforms:**
  install_root/firststeps/wbi
- $\boxed{\text{Windows}}$ **On Windows platforms:** *install_root*\firststeps\wbi
- To start a version of the First Steps console connected with a created profile, change to this directory:
  - $\boxed{\text{Linux}}$ $\boxed{\text{UNIX}}$ **On Linux and UNIX platforms:**
    profile_root/firststeps/wbi
  - $\boxed{\text{Windows}}$ **On Windows platforms:** *profile_root*\firststeps\wbi
3. Issue the **firststeps** command to start the console:
  - $\boxed{\text{Linux}}$ $\boxed{\text{UNIX}}$ **On Linux and UNIX platforms:** ./firststeps.sh
  - $\boxed{\text{Windows}}$ **On Windows platforms:** firststeps.bat

Fastpath:

> You can also start a version of the First Steps console connected with a created profile by doing one of the following:
> - When performing a Complete installation (which creates a profile named default), by selecting the First Steps check box on the Installation complete panel at the end of the installation process.
> - Selecting the First Steps check box on the Profile creation complete or Profile augmentation complete panel at the end of the profile creation or augmentation process.
> - $\boxed{\text{Windows}}$ **On Windows platforms:** Selecting **Start > Programs > IBM WebSphere > Process Server 6.0 > Profiles > *profile_name* > First steps**.
>
> $\boxed{\text{Windows}}$ **On Windows platforms:** You can also start the generic version of the console on Windows platforms by selecting **Start > Programs > IBM WebSphere > Process Server 6.0 > First steps**.

The First Steps console is displayed. See "Options on the First Steps console" for descriptions of the options which can be selected from the First Steps console.

Options on the First Steps console

The First Steps console for WebSphere Process Server, Version 6.0, is a tool that you can run after installing the product to direct WebSphere Process Server elements from one place. Options are displayed dynamically on the First Steps console, depending on features you install. With all of the options present, you can use the First Steps console to start or stop the process server or deployment manager, access the administrative console, launch the Profile Wizard, access the Sample applications gallery, access the information center, or launch the Migration Wizard.

The First Steps console for the WebSphere Process Server product has several forms. A First Steps console exists for the product itself before the creation of any profiles. This version lets you start the Profile Wizard to define a deployment manager and process servers for the cell. If you performed a Complete installation, you have an existing stand-alone process server. Each stand-alone process server has its own First Steps console. Any deployment manager and additional process server or custom profile you create has its own First Steps console as well.

The following sections detail the options available on the various types of First Steps consoles.

Generic version

Options that are displayed on the generic version of the First Steps console include the following entries:

Profile wizard
> This option starts the Profile Wizard. The wizard lets you create a deployment manager profile, a stand-alone process server profile, or a custom profile. A *profile* consists of files that define the runtime environment for the deployment manager or the process server. Each environment has its own administrative interface. A custom profile is an exception. A custom profile is an empty node that you can federate into a deployment manager cell and customize. No default server processes or applications are created for a custom profile.
>
> Each profile has its own First Steps console. The location of the command to launch the First Steps console is within the set of files in the profile. A prompt to launch the First Steps console that is associated with a profile is displayed on the last panel of the Profile Wizard.

Information center for WebSphere Process Server
> This option links you to the online information center at the http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp IBM Web address.

Migration wizard
> This option starts the Migration Wizard. The Migration Wizard is a graphical interface to the migration tools.

Copyright and trademark information
> This option shows the copyright and trademark information for WebSphere Process Server.

Exit   This option closes the First Steps console.

See "Usage tips" on page 89 for information on which commands each option calls.

Deployment manager version

Options that are displayed on the First Steps console for a deployment manager include the following entries:

Installation verification
> This option starts the installation verification test. The test consists of starting and monitoring the deployment manager during its start up.
>
> If this is the first time that you have used the First Steps console since creating a deployment manager profile, select **Installation verification** to verify that all is well with your installation. The verification process starts the deployment manager.
>
> If you select the **Installation verification** option, the **Start the deployment manager** option is grayed out while the IVT is running.
>
> The IVT provides the following useful information about the deployment manager:
> * The deployment manager server name: dmgr
> * The name of the profile
> * The profile file path

- The type of profile: dmgr
- The cell name
- The node name
- The current encoding
- The port number for the administrative console
- Various informational messages that include the location of the
  SystemOut.log file and how many errors are listed within the file
- A completion message

Start the deployment manager

This option is displayed when you use the Profile Wizard to create a deployment manager. This option toggles to **Stop the deployment manager** when the deployment manager is running.

After selecting the **Start the deployment manager** option, an output screen is displayed with status messages. The success message informs you that the deployment manager is open for e-business. Then the menu item changes to **Stop the deployment manager**.

If you select the **Start the deployment manager** option, the **Installation verification** option is grayed out while the deployment manager is running.

Administrative console

This option is grayed out until the deployment manager is running.

The administrative console is a configuration editor that runs in a Web browser. The administrative console lets you work with XML configuration files for the deployment manager and all of the process servers that are in the cell. To launch the administrative console, select **Administrative console**. You can also point your browser to http://localhost:9060/ibm/console to start the administrative console. Substitute your own host name in the address if the localhost variable does not resolve correctly. As the administrative console opens, it prompts you for a login name. This is not a security item, but merely a tag to identify configuration changes that you make during the session. Secure signon is also available.

Profile wizard

This option starts the Profile Wizard. The wizard lets you create a deployment manager profile, a stand-alone process server profile, or a custom profile. A *profile* consists of files that define the runtime environment for the deployment manager or the process server. Each environment has its own administrative interface. A custom profile is an exception. A custom profile is an empty node that you can federate into a deployment manager cell and customize. No default server processes or applications are created for a custom profile.

Each profile has its own First Steps console. The location of the command to launch the First Steps console is within the set of files in the profile. A prompt to launch the First Steps console that is associated with a profile is displayed on the last panel of the Profile Wizard.

Information center for WebSphere Process Server

This option links you to the online information center at the http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp

Migration wizard

This option starts the Migration Wizard. The Migration Wizard is a graphical interface to the migration tools.

Exit   This option closes the First Steps console.

See "Usage tips" on page 89 for information on which commands each option calls.

Stand-alone server version

Options that are displayed on the First Steps console for a stand-alone process server profile include the following entries:

Installation verification

This option starts the installation verification test. The test consists of starting and monitoring the server during its start up.

If this is the first time that you have used the First Steps console since creating a server profile, select **Installation verification** to verify that all is well with your installation. The verification process starts the server.

If you select the **Installation verification** option, the **Start the server** option is grayed out while the IVT is running.

The IVT provides the following useful information about the server:
- The server name: server1
- The name of the profile
- The profile file path
- The type of profile: default
- The cell name
- The node name
- The current encoding
- The port number for the administrative console
- Various informational messages that include the location of the SystemOut.log file and how many errors are listed within the file
- A completion message

Start the server

This option toggles to **Stop the server** when the process server is running.

After selecting the **Start the server** option, an output screen is displayed with status messages. The success message informs you that the server is open for e-business. Then the menu item changes to **Stop the server**.

If you select the **Start the server** option, the **Installation verification** option is grayed out while the process server is running.

Administrative console

This option is grayed out until the process server is running.

The administrative console is a configuration editor that runs in a Web browser. The administrative console lets you work with XML configuration files for the stand-alone process server. To launch the administrative console, select **Administrative console**. You can also point your browser to http://localhost:9060/ibm/console to start the administrative console. Substitute your own host name in the address if the localhost variable does not resolve correctly. As the administrative console opens, it prompts you

for a login name. This is not a security item, but merely a tag to identify configuration changes that you make during the session. Secure signon is also available.

Profile wizard

This option starts the Profile Wizard. The wizard lets you create a deployment manager profile, a stand-alone process server profile, or a custom profile. A *profile* consists of files that define the runtime environment for the deployment manager or the process server. Each environment has its own administrative interface. A custom profile is an exception. A custom profile is an empty node that you can federate into a deployment manager cell and customize. No default server processes or applications are created for a custom profile.

Each profile has its own First Steps console. The location of the command to launch the First Steps console is within the set of files in the profile. A prompt to launch the First Steps console that is associated with a profile is displayed on the last panel of the Profile Wizard.

Samples gallery

This option starts the Sample applications gallery. The option is grayed out until you start the process server. The option is displayed when you have installed the samples during installation.

From the First Steps console, select **Samples gallery** to explore the application samples. Alternatively you can point your browser directly to http://localhost:9080/WSsamples. Substitute your own host name in the address if the localhost variable does not resolve correctly. The Web address is case sensitive. Substitute your own host name in the address.

Information center for WebSphere Process Server

This option links you to the online information center at the http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp IBM Web address.

Migration wizard

This option starts the Migration Wizard. The Migration Wizard is a graphical interface to the migration tools.

Exit   This option closes the First Steps console.

See "Usage tips" on page 89 for information on which commands each option calls.

Custom profile version

Options that are displayed on the First Steps console for a custom profile include the following entries:

Profile wizard

This option starts the Profile Wizard. The wizard lets you create a deployment manager profile, a stand-alone process server profile, or a custom profile. A *profile* consists of files that define the runtime environment for the deployment manager or the process server. Each environment has its own administrative interface. A custom profile is an exception. A custom profile is an empty node that you can federate into a deployment manager cell and customize. No default server processes or applications are created for a custom profile.

Each profile has its own First Steps console. The location of the command
to launch the First Steps console is within the set of files in the profile. A
prompt to launch the First Steps console that is associated with a profile is
displayed on the last panel of the Profile Wizard.

Information center for WebSphere Process Server
> This option links you to the online information center at the
> http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp
> IBM Web address.

Migration wizard
> This option starts the Migration Wizard. The Migration Wizard is a
> graphical interface to the migration tools.

Exit This option closes the First Steps console.

See "Usage tips" for information on which commands each option calls.

Usage tips

Table 10 shows which commands the options on the various WebSphere Process
Server First Steps consoles call. Not all options are displayed on each First Steps
console. For example, the First Steps console for the deployment manager does not
have the **Samples gallery** option or the **Start the server** option. For more
information on the individual commands, see the WebSphere Application Server
Network Deployment, Version 6.0, information center at
http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

Table 10. Commands called by First Steps console options

Option	Link
Installation verification	Calls the **ivt** command. The location of the installation verification test varies per platform: • ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/bin/ivt.sh • ▶ Windows **On Windows platforms:** *profile_root*\bin\ivt.bat
Start the server	Calls the **startServer** command. The location of the **startServer** command varies per platform: • ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/bin/startServer.sh • ▶ Windows **On Windows platforms:** *profile_root*\bin\startServer.bat When you have more than one process server on the same machine, the command starts the same process server that is associated with the First Steps console.
Stop the server	Calls the **stopServer** command. The location of the **stopServer** command varies per platform: • ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/bin/stopServer.sh • ▶ Windows **On Windows platforms:** *profile_root*\bin\stopServer.bat

Table 10. Commands called by First Steps console options (continued)

Option	Link
Start the deployment manager	Calls the **startManager** command. The location of the **startManager** command varies per platform: `Linux` `UNIX` **On Linux and UNIX platforms:** *profile_root*/bin/startManager.sh `Windows` **On Windows platforms:** *profile_root*\bin\startManager.bat When you have more than one deployment manager on the same machine, the command starts the same deployment manager that is associated with the First Steps console.
Stop the deployment manager	Calls the **stopManager** command. The location of the **stopManager** command varies per platform: `Linux` `UNIX` **On Linux and UNIX platforms:** *profile_root*/bin/stopManager.sh `Windows` **On Windows platforms:** *profile_root*\bin\stopManager.bat
Administrative console	Opens the default browser to the http://localhost:9060/ibm/console Web address. When you have more than one process server on the same machine, the port varies. The First Steps console starts the administrative console that is associated with the First Steps console.
Profile wizard	Calls the **pcat***platform* command. The command is in the *install_root*/bin/ProfileCreator_wbi directory on Linux and UNIX platforms and in the *install_root*\bin\ProfileCreator_wbi directory on Windows platforms. The name of the command varies per platform: `AIX` **On AIX platforms:** pcatAIX.bin `HP-UX` **On HP-UX platforms:** pcatHPUX.bin `Linux` **On Linux platforms:** pcatLinux.bin `Linux` **On Linux platforms:** Power platforms: pcatLinuxPPC.bin `Solaris` **On Solaris platforms:** pcatSolaris.bin `Windows` **On Windows platforms:** pcatWindows.exe
Samples gallery	Opens the default browser to the http://localhost:9080/WSsamples Web address. If you do not install the Sample applications gallery during the initial installation of the product, the option is not displayed on the First Steps console. You can perform an incremental installation to add the feature. After adding the Sample applications gallery, the option is displayed on the First Steps console. When you have more than one profile on the same machine, the port varies. The First Steps console starts the Sample applications gallery that is associated with the First Steps console.
Information center for WebSphere Process Server	Opens the default browser to the online information center at the http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp Web address.

Table 10. Commands called by First Steps console options (continued)

Option	Link
Migration wizard	Calls the **migration** command. The location of the **migration** command is: • ▸Linux ▸UNIX **On Linux and UNIX platforms:** *install_root*/bin/wbi_migration.sh • ▸Windows **On Windows platforms:** *install_root*\bin\wbi_migration.bat

Creating and augmenting profiles by using the Profile Wizard

This topic provides an overview of the various methods for creating runtime environments for IBM WebSphere Process Server, Version 6.0. Use the information in this topic to learn about the methods available. This topic has links to more detailed procedures for creating runtime environments.

Each WebSphere Process Server runtime environment is created within a *profile*, which contains the set of files that define the environment. The Profile Wizard graphical user interface (GUI) is used to create new WebSphere Process Server profiles and to augment existing WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, profiles into WebSphere Process Server profiles.

The first profile that you create on a machine is the default profile. Any additional profile that you define can be made into the default profile. There is only one default profile defined. The default profile is the default target for commands issued from the bin directory in the product installation root. When only one profile exists on a machine, every command works on the only server process in the configuration.

Each use of the Profile Wizard creates or augments one profile.

Important: You cannot have two instances of the Profile Wizard running concurrently on one set of core product files. Attempts to create profiles concurrently result in a warning about profile creation already in progress.

Before using the Profile Wizard, install the core product files for WebSphere Process Server. See "Installing the product" on page 44 for descriptions of documented installation procedures.

After installing the core product files for WebSphere Process Server, use the Profile Wizard to create any combination of the following three profiles:
• "Deployment manager profile" on page 92
• "Stand-alone server profile" on page 92
• "Custom profile" on page 92

The following sections provide descriptions of these profile types and links to detailed procedures used to create them.

Deployment manager profile

The deployment manager provides a single administrative interface to a logical group of servers on one or more machines. This logical group of servers is known as a *cell*.

A deployment manager manages the configuration for all of the managed nodes in its cell and deploys applications to any managed node in the cell. All of the profiles share command files and other product binaries that are created during the installation.

The main reason to use managed nodes in a cell versus using the same number of stand-alone process servers is the centralized administration that the deployment manager provides for the cell.

From the single point of control of the deployment manager, you can define servers and IBM HTTP Server processes, start and stop servers, and deploy applications anywhere in the cell. See "Creating a new WebSphere Process Server deployment manager profile" on page 100 or "Augmenting an existing WebSphere Application Server Network Deployment deployment manager profile into a WebSphere Process Server deployment manager profile" on page 115 for instructions on how to create or augment a deployment manager profile.

Stand-alone server profile

A stand-alone server profile has its own administrative console and all of the sample applications (if you installed the Sample applications gallery feature). Each stand-alone server is fully operational and is managed independently from all other such servers. If you installed WebSphere Process Server by using the Complete installation procedure, you have already created a stand-alone server profile named `default` with a server named `server1`.

See "Creating a new WebSphere Process Server stand-alone server profile" on page 94 or "Augmenting an existing WebSphere Application Server or WebSphere Application Server Network Deployment stand-alone server profile into a WebSphere Process Server stand-alone server profile" on page 110 for instructions on how to create or augment a stand-alone server profile.

Custom profile

A custom profile is an empty node that you must federate into a deployment manager cell to make operational. In contrast to a stand-alone server profile, a custom profile does not have a default server on its node. Nor are there any default applications on the custom node. Federating the custom profile changes it into a managed node. After federation, a custom profile has a nodeagent process but does not have a server process. You must use the administrative console of the deployment manager to customize the empty node for production or other uses. After you start the nodeagent, it responds to commands from the deployment manager to perform tasks that include the following actions:
- Creating server processes
- Starting and stopping server processes
- Synchronizing configurations between the current edition on the deployment manager and the copy that exists on the node
- Deleting server processes

See "Creating a new WebSphere Process Server custom profile" on page 105 or "Augmenting an existing WebSphere Application Server Network Deployment custom profile into a WebSphere Process Server custom profile" on page 119 for instructions on how to create or augment a custom profile.

You can create profiles in any order. However, to create a functioning cell in the shortest possible time, create a deployment manager profile. Then create a custom profile and federate it to that deployment manager profile. You now have a functioning cell with a managed node that you can manage from the administrative console of the deployment manager.

You can also create or augment profiles in silent mode with a response file instead of a graphical user interface. See "Creating profiles silently" on page 130 for examples of creating or augmenting profiles in silent mode.

Starting the Profile Wizard

You can start the Profile Wizard graphical user interface (GUI) in several ways. The Profile Wizard is an InstallShield for Multiplatforms (ISMP) application.

Before starting the Profile Wizard, ensure you have installed WebSphere Process Server, Version 6.0.

You can start the Profile Wizard in several ways.
- From the First Steps console by performing the following steps:
  1. Open a command window.
  2. Change to the following directory (where *install_root* represents the location of the WebSphere Process Server installation):
     - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *install_root*/firststeps/wbi
     - ▶Windows **On Windows platforms:** *install_root*\firststeps\wbi
  3. Issue the **firststeps** command to start the console:
     - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** ./firststeps.sh
     - ▶Windows **On Windows platforms:** firststeps.bat
  4. Select the Profile Wizard option on the console.
- Directly from a command line. The command is in the one of the following directories, depending on platform (where *install_root* represents the location of the WebSphere Process Server installation):
  - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *install_root*/bin/ProfileCreator_wbi
  - ▶Windows **On Windows platforms:** *install_root*\bin\ProfileCreator_wbi

  The command that you enter varies per platform:
  - ▶ AIX **On AIX platforms:** ./pcatAIX.bin
  - ▶ HP-UX **On HP-UX platforms:** ./pcatHPUX.bin
  - ▶ Linux **On Linux platforms:** ./pcatLinux.bin
  - ▶ Linux **On Linux platforms:** Power platforms: ./pcatLinuxPPC.bin
  - ▶ Solaris **On Solaris platforms:** ./pcatSolaris.bin
  - ▶Windows **On Windows platforms:** pcatWindows.exe

  Important: Be aware that similar commands with a pct prefix exist in the directory *install_root*/bin/ProfileCreator on Linux and UNIX platforms and *install_root*\bin\ProfileCreator on Windows

platforms. These commands create WebSphere Application Server Network Deployment profiles -- *not* WebSphere Process Server profiles.

- At the end of the installation process by selecting the check box on the Installation complete panel.
- **Windows** By selecting **Start > Programs > IBM WebSphere > Process Server 6.0 > Profile wizard**.

The wizard loads the Java 2 SDK and then shows a Welcome panel.

Creating a new WebSphere Process Server stand-alone server profile

Use this procedure to create a stand-alone server profile with the Profile Wizard graphical user interface (GUI).

Do the following before using this procedure:

- Ensure you have existing installations of WebSphere Process Server and either WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.1.2. If you do not, see "Installing the product" on page 44 for descriptions of documented installation procedures.
- Ensure you want to create a stand-alone server profile and that you want to do so interactively. If your plan does not meet these criteria, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation or augmentation procedures.
- Ensure you have enough disk and temporary space to create the new profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you have enabled global security on your installation of WebSphere Process Server, ensure you disable it before creating the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- If you plan to use DB2 Universal Database for your repository, ensure you perform the following steps before creating the profile:
  - If you are configuring a DB2 database on a DB2 client with the server on a remote system, make sure the client system is configured to communicate with the server and that the DB2 node is cataloged. For more information, refer to the DB2 Universal Database documentation.
  - **Linux** **UNIX** **On Linux and UNIX platforms:** If you are configuring a DB2 database on a Linux or UNIX system, source the database environment by doing the following:
    1. Modify `/etc/group` and make sure root is in the same group as the db2instance.
    2. Source the database environment by running the `db2instance/sqllib/db2profile` script (replace *db2instance* with the name of your database instance).

The Complete installation procedure for WebSphere Process Server creates one stand-alone server profile named `default` with a server named `server1`. However, to make use of the networking advantage of the product, you can use the Profile Wizard to create additional profiles.

Use the following procedure to create a new stand-alone server profile.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Start the WebSphere Process Server Profile Wizard to create a new runtime environment.

   See "Starting the Profile Wizard" on page 93 for descriptions of the many ways to start the Profile Wizard on various platforms.

   The wizard loads the Java 2 SDK and then displays its Welcome panel.
3. On the Welcome panel, select **Next**. One of the following panels is displayed:
   - If a WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.1.2, profile exists, the Existing profile detection panel is displayed. This procedure assumes that you want to create a new profile, rather than augment an existing one into a WebSphere Process Server profile. To create a new profile, select the radio button beside **Create a new WebSphere Process Server profile** and select **Next**.
     – If WebSphere Application Server, Version 6.0.1.2, is installed, the Profile name panel is displayed. In this case, proceed to Step 5.
     – If WebSphere Application Server Network Deployment, Version 6.0.1.2, is installed, the Profile type selection panel is displayed. In this case, proceed to Step 4.

     If you want to augment an existing stand-alone server profile instead, rather than continuing to follow this procedure, see the procedure described in "Augmenting an existing WebSphere Application Server or WebSphere Application Server Network Deployment stand-alone server profile into a WebSphere Process Server stand-alone server profile" on page 110 and begin at the step in that procedure that describes the Existing profile detection panels.
   - If no profile exists and WebSphere Application Server, Version 6.0.1.2, is installed, the Profile name panel is displayed. In this case, proceed to Step 5.
   - If no profile exists and WebSphere Application Server Network Deployment, Version 6.0.1.2, is installed, the Profile type selection panel is displayed. In this case, proceed to Step 4.
4. From the Profile type selection panel, select the radio button beside the entry **Stand-alone WebSphere Process Server profile**, then select **Next**.

   The Profile name panel is displayed.
5. Specify a unique name for the profile or accept the default name. If any other profiles exist, you have the option of making this profile the default profile by selecting the check box beside the entry **Make this profile the default**. Then select **Next**.

   Each profile that you create must have a name. When you have more than one profile, you can tell them apart at their highest level by this name. See "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information on issues you must consider when naming the profile, such as restrictions on the length of the directory name.

   The Profile directory panel is displayed.
6. Accept the default directory location for the profile or use the **Browse** button to specify another location, then select **Next**.

   This directory will contain the files that define the runtime environment, such as commands, configuration files, and log files. By default, this directory location is:

- **Linux** **UNIX** **On Linux and UNIX platforms:**
  install_root/profiles/*profile_name*
- **Windows** **On Windows platforms:** *install_root*\profiles*profile_name*

where *profile_name* is the name that was specified in Step 5 on page 95. This directory location can be changed to any valid directory location on the system.

If you select **Back** and change the name of the profile, you might have to manually change the name on this panel when it is displayed again.

The Node and host names panel is displayed.

7. Specify the node and host names for the stand-alone server, or accept the defaults, then select **Next**.

Use a unique name for each node that you create. See "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information on reserved terms and other issues you must consider when naming the node and host.

The Port value assignment panel is displayed.

8. Verify that the ports specified for the stand-alone server are unique, then select **Next**.

One of the following panels is displayed:

- **Linux** **UNIX** **On Linux and UNIX platforms:** If you are not installing on a Windows platform, the Service component architecture configuration panel is displayed. In this case, proceed to Step 10 on page 97.
- **Windows** **On Windows platforms:** If you are installing on a Windows platform, the Windows service definition panel is displayed. In this case, proceed to Step 9.

9. **Windows** **On Windows platforms:** Choose whether to run the server as a Windows service.

If the profile is configured as a Windows service, the product will attempt to start Windows services for server processes started by a **startServer** command. For example, if you configure a server as a Windows service and issue the **startServer** command, the **wasservice** command will attempt to start the defined service.

To run the server as a Windows service, perform the following steps:

a. Ensure that the check box beside the field **Run the WebSphere Process Server process as a Windows service** is selected.

b. Choose to log on as either a local system account or a specified user account by selecting the radio button beside the appropriate entry.

   If you choose to log on as a local system account, you do not have to specify a user ID or password. If you choose to log on as a specified user account, you must specify the user ID and the password for the user who is to run the service, and the startup type (default is Manual). The user ID must not have spaces in its name, it must belong to the Administrator group, and it must have the advanced user rights *Act as part of the operating system* and *Log on as a service*.

   The Profile Wizard grants the user ID the advanced user rights if it does not already have them, if the user ID belongs to the Administrator group.

c. Select **Next**.

To *not* create a Windows service, unselect the check box and select **Next**.

The Service component architecture configuration panel is displayed.

10. On the Service component architecture configuration panel, choose whether to configure the System Integration Bus in a secured mode. To configure the System Integration Bus in a secured mode, perform the following steps:

   a. Select the check box beside the field **Configure the System Integration Bus in a secured mode**.

   b. Enter the user ID and password, and confirm the password, used to authenticate with a secured System Integration Bus.

   c. Select **Next**.

   To *not* configure the System Integration Bus in a secured mode, leave the check box unselected and select **Next**.

   The Common Event Infrastructure configuration panel is displayed.

11. Configure the Common Event Infrastructure by performing the following steps:

   a. Enter the user ID and password, and confirm the password, used to authenticate with the WebSphere Messaging queue manager.

   b. Accept the default value of `server1` for WebSphere server name.

   c. Choose the database product you want to use for your configuration, or accept the default value of `Cloudscape V5.1.1`.

   d. Select **Next**.

   One of the following panels is displayed:

   - If you accept the default value of `CloudScape V5.1.1`, the Business Process Choreographer configuration panel is displayed. In this case, proceed to Step 13.

   - If you select `DB2 Universal OS/390 V7.1` or `DB2 Universal OS/390 V8.1`, a message panel is displayed, informing you that you must create your data source and database outside of the Profile Wizard. If you still want to use one of these databases and agree to create your data source and database outside of the Profile Wizard, select **Next** and review the following topic in this information center: **Installing > Configuring the product after installation > Configuring the Common Event Infrastructure > Post-installation configuration > Configuring the event database > Configuring a DB2 database on a z/OS^(R) system**. The Business Process Choreographer configuration panel is displayed. In this case, proceed to Step 13. If you want to select another database instead, select **Back**.

   - If you select any other database, the Additional database configuration information for Common Event Infrastructure panel is displayed, with fields specific to the database you have selected. In this case, proceed to Step 12.

12. On the Additional database configuration information for Common Event Infrastructure panel, complete the fields as detailed in "Additional database configuration information for Common Event Infrastructure" on page 122. Return to this step when you have followed the instructions in that topic.

   If you followed the instructions in "Additional database configuration information for Common Event Infrastructure" on page 122, the Business Process Choreographer configuration panel is displayed.

13. Choose whether to create a sample Business Process Choreographer configuration. Create one by performing the following steps:

   a. Select the check box beside the field **Create a sample Business Process Choreographer**.

   b. Enter the user ID and password, and confirm the password, used to authenticate when connected to a Secured System Integration Bus.

c. Enter the name of the administrative group that will be allowed to administer Business Process Choreographer.

For example, if the domain user registry is LDAP, enter a group name for the security role like, `cn=`*`MyGroup`*`,o=`*`MyCompany`*`,c=`*`MyCountry`*. If you are using Windows group administration, enter a group name such as `Administrators`.

d. Select **Next**.

To *not* create a Business Process Choreographer configuration, leave the check box unselected and select **Next**.

If you plan to use Business Process Choreographer in a production environment, do not create the sample configuration. To configure Business Process Choreographer for use in a production environment, see the topics under **Installing > Configuring the product after installation > Configuring Business Process Choreographer** in this information center.

The Application Scheduler configuration panel is displayed.

14. Choose whether to create an Application Scheduler configuration. To create an Application Scheduler configuration, perform the following steps:

    a. Select the check box beside the field **Create an Application Scheduler configuration**.

    b. Accept the default value of `server1` for the name of the server on the node.

    c. Select **Next**.

    To *not* create an Application Scheduler configuration, leave the check box unselected and select **Next**.

    The Database configuration panel is displayed.

15. Configure database authentication for selected WebSphere Process Server components.

    Several WebSphere Process Server components use a database, including:

    • Recovery
    • Relationship service
    • Mediation
    • Application Scheduler
    • Business rule group
    • Selector

    The information requested on this and the following panel (if it is displayed) correctly configure a new local or existing database for use with these components. (Database configuration for the Business Process Choreographer and Common Event Infrastructure components is performed separately.)

    Configure database authentication by performing the following steps.

    a. Select the radio button beside **Create new (local) database** to create a new database or beside **Use existing database** to use an existing database.

    b. Choose the database you want to use, or accept the default value of `CloudScape`.

        You can select the following databases from this panel (each entry that can be selected from the list is shown, followed by the database it represents):

        • `Cloudscape` (Cloudscape[TM])
        • `DB2 Universal` (DB2 Universal Database)
        • `DB2 Universal OS/390 V7.1` (DB2 Universal Database for OS/390[R] V7.1)

- DB2 Universal OS/390 V8.1 (DB2 Universal Database for OS/390 V8.1)
- DB2 CLI (DB2 Call Level Interface)
- Informix (Informix[(R)] Dynamic Server)
- MSSQL Server Embedded (Microsoft SQL Server Embedded)
- MSSQL Server Data Direct (Microsoft SQL Server Data Direct)
- Oracle OCI (Oracle OCI client)
- Oracle Thin (Oracle Thin)

c. Enter your database name or accept the default WPRCSDB. If the database name WPRCSDB is already associated with another WebSphere Process Server profile, you must use a different database name.

d. Select **Next**.

One of the following panels is displayed:

- If you select the default value of CloudScape, the Profile summary panel is displayed. In this case, proceed to Step 17.
- If you select any other database, the Additional database configuration information panel is displayed, with fields specific to the database you have selected. In this case, proceed to Step 16.

> **Restriction:** The business rule group and selector components support only Cloudscape, DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI for their repository. If you select any database other than Cloudscape, DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, all components, except the business rule group and selector components, will be configured to use the database you specify; the business rule group and selector components will be configured to use Cloudscape.

> **Restriction:** You cannot create a new database if you are using DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, Oracle OCI, or Oracle Thin as your database product. If you select one of these combinations on the Database configuration panel, a message panel is displayed, informing you that you must either use an existing database or select a different database product. Select **OK** to close this message panel, and make different selections on the Database configuration panel.

16. On the Additional database configuration information panel, complete the fields for your database product selection, as detailed in "Additional database configuration information for common databases" on page 125, and select **Next**.

The Profile summary panel is displayed, which details the type of profile that will be created, its location, name, size, and host name.

17. Review the profile characteristics on the Profile summary panel and select **Next** to create the profile or **Back** to change the characteristics of the profile.

The Profile Wizard shows a progress panel to indicate that the profile is being created. If no errors are detected, the Profile creation is complete panel is displayed at the end of the process.

Attention: If errors are detected during profile creation, other panels might be displayed in place of the Profile creation is complete panel. Examples include the following:

- Profile creation is complete with warnings panel, which indicates that a profile was created but warnings were generated.
- Profile creation is incomplete panel, which indicates that a profile was created but exists in an unusable state.
- Profile creation failed panel, which indicates that a profile was unable to be created.

Each of these panels identifies the log file to reference in order to troubleshoot the problems.

18. Ensure the check box to launch the First Steps console is selected and select **Finish** to close the Profile Wizard and start the First Steps console.

A new stand-alone server profile exists. The node within the profile has a server named server1.

Check server operation by selecting **Start the server** from the First Steps console. An output window opens. If you see a message similar to the following, your server is operating properly:

```
ADMU3000I: Server server1 open for e-business; process id is 3348
```

Creating a new WebSphere Process Server deployment manager profile

Use this procedure to create a deployment manager profile using the Profile Wizard graphical user interface (GUI).

Do the following before using this procedure:

- Ensure you have existing installations of WebSphere Process Server and WebSphere Application Server Network Deployment, Version 6.0.1.2. If you do not, see "Installing the product" on page 44 for descriptions of documented installation procedures.
- Ensure you want to create a deployment manager profile and that you want to do so interactively. If your plan does not meet these criteria, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation or augmentation procedures.
- Ensure you have enough disk and temporary space to create the new profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you have enabled global security on your installation of WebSphere Process Server, ensure you disable it before creating the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- If you plan to use DB2 Universal Database for your repository, ensure you perform the following steps before creating the profile:
  - If you are configuring a DB2 database on a DB2 client with the server on a remote system, make sure the client system is configured to communicate with the server and that the DB2 node is cataloged. For more information, refer to the DB2 Universal Database documentation.
  - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** If you are configuring a DB2 database on a Linux or UNIX system, source the database environment by doing the following:

1. Modify /etc/group and make sure root is in the same group as the db2instance.
2. Source the database environment by running the *db2instance*/sqllib/db2profile script (replace *db2instance* with the name of your database instance).

The Complete installation procedure for WebSphere Process Server creates one stand-alone profile named default with a server named server1. However, to make use of the networking advantage of the product, you can use the Profile Wizard to create additional profiles.

Use the following procedure to create a new deployment manager profile.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Start the WebSphere Process Server Profile Wizard to create a new runtime environment.

   See "Starting the Profile Wizard" on page 93 for descriptions of the many ways to start the Profile Wizard on various platforms.

   The wizard loads the Java 2 SDK and then displays its Welcome panel.
3. On the Welcome panel, select **Next**. One of the following panels is displayed:
   - If a WebSphere Application Server Network Deployment, Version 6.0.1.2, profile exists, the Existing profile detection panel is displayed. This procedure assumes that you want to create a new profile, rather than augment an existing one into a WebSphere Process Server profile. To create a new profile, select the radio button beside **Create a new WebSphere Process Server profile** and select **Next**. The Profile type selection panel is displayed. If you want to augment an existing profile instead, rather than continuing to follow this procedure, see the procedure described in "Augmenting an existing WebSphere Application Server Network Deployment deployment manager profile into a WebSphere Process Server deployment manager profile" on page 115 and begin at the step in that procedure that describes the Existing profile detection panel.
   - If no profile exists, the Profile type selection panel is displayed.
4. From the Profile type selection panel, select the radio button beside the entry **Deployment manager profile**, then select **Next**.

   The Profile name panel is displayed.
5. Specify a unique name for the profile or accept the default name. If any other profiles exist, you have the option of making this profile the default profile by selecting the check box beside the entry **Make this profile the default**. Then select **Next**.

   Each profile that you create must have a name. When you have more than one profile, you can tell them apart at their highest level by this name. See "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information on issues you must consider when naming the profile, such as restrictions on the length of the directory name.

   The Profile directory panel is displayed.
6. Accept the default directory location for the profile or use the **Browse** button to specify another location, then select **Next**.

   This directory will contain the files that define the runtime environment, such as commands, configuration files, and log files. By default, this directory location is:

- $\boxed{\text{Linux}}$ $\boxed{\text{UNIX}}$ **On Linux and UNIX platforms:**
  install_root/profiles/*profile_name*
- $\boxed{\text{Windows}}$ **On Windows platforms:** *install_root*\profiles*profile_name*

where *profile_name* is the name that was specified in Step 5 on page 101. This directory location can be changed to any valid directory location on the system.

If you select **Back** and change the name of the profile, you might have to manually change the name on this panel when it is displayed again.

The Node, host, and cell names panel is displayed.

7. Specify a unique node name, the actual host name of the machine, and a unique cell name for the deployment manager, or accept the defaults, then select **Next**.

   Use a unique name for each deployment manager that you create. See "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information on reserved terms and other issues you must consider when naming the node, host, and cell.

   The Port value assignment panel is displayed.

8. Verify that the ports specified for the deployment manager are unique, then select **Next**.

   One of the following panels is displayed:

   - $\boxed{\text{Linux}}$ $\boxed{\text{UNIX}}$ **On Linux and UNIX platforms:** If you are not installing on a Windows platform, the Service component architecture configuration panel is displayed. In this case, proceed to Step 10 on page 103.
   - $\boxed{\text{Windows}}$ **On Windows platforms:** If you are installing on a Windows platform, the Windows service definition panel is displayed. In this case, proceed to Step 9.

9. $\boxed{\text{Windows}}$ **On Windows platforms:** Choose whether to run the server as a Windows service.

   If the profile is configured as a Windows service, the product will attempt to start Windows services for server deployment manager processes started by a **startManager** command. For example, if you configure a deployment manager as a Windows service and issue the **startManager** command, the **wasservice** command will attempt to start the defined service.

   To run the server as a Windows service, perform the following steps:

   a. Ensure that the check box beside the field **Run the WebSphere Process Server process as a Windows service** is selected.

   b. Choose to log on as either a local system account or a specified user account by selecting the radio button beside the appropriate entry. If you choose to log on as a local system account, you do not have to specify a user ID or password. If you choose to log on as a specified user account, you must specify the user ID and the password for the user who is to run the service, and the startup type (default is Manual). The user ID must not have spaces in its name, it must belong to the Administrator group, and it must have the advanced user rights *Act as part of the operating system* and *Log on as a service*. The Profile Wizard grants the user ID the advanced user rights if it does not already have them, if the user ID belongs to the Administrator group.

   c. Select **Next**.

   To *not* create a Windows service, unselect the check box and select **Next**.

   The Service component architecture configuration panel is displayed.

10. On the Service component architecture configuration panel, choose whether to configure the System Integration Bus in a secured mode. To configure the System Integration Bus in a secured mode, perform the following steps:

   a. Select the check box beside the field **Configure the System Integration Bus in a secured mode**.

   b. Enter the user ID and password, and confirm the password, used to authenticate with a secured System Integration Bus.

   c. Select **Next**.

   To *not* configure the System Integration Bus in a secured mode, leave the check box unselected and select **Next**.

   The Database configuration panel is displayed.

11. Configure database authentication.

   Several WebSphere Process Server components use a database, including:
   - Recovery
   - Relationship service
   - Mediation
   - Application Scheduler
   - Business rule group
   - Selector

   The information requested on this and the following panel correctly configure a new local or existing database for use with these components.

   Configure database authentication by performing the following steps.

   a. Select the radio button beside **Create new (local) database** to create a new database or beside **Use existing database** to use an existing database.

   b. Choose the database you want to use, or accept the default value of DB2 Universal.

   You can select the following databases from this panel (each entry that can be selected from the list is shown, followed by the database it represents):
   - DB2 Universal (DB2 Universal Database)
   - DB2 Universal OS/390 V7.1 (DB2 Universal Database for OS/390 V7.1)
   - DB2 Universal OS/390 V8.1 (DB2 Universal Database for OS/390 V8.1)
   - DB2 CLI (DB2 Call Level Interface)
   - Informix (Informix Dynamic Server)
   - MSSQL Server Embedded (Microsoft SQL Server Embedded)
   - MSSQL Server Data Direct (Microsoft SQL Server Data Direct)
   - Oracle OCI (Oracle OCI client)
   - Oracle Thin (Oracle Thin)

   c. Enter your database name or accept the default WPRCSDB. If the database name WPRCSDB is already associated with another WebSphere Process Server profile, you must use a different database name.

   d. Select **Next**.

   One of the following panels is displayed:
   - If you select the default value of DB2 Universal, the Additional database configuration information panel is displayed. In this case, proceed to Step 13 on page 104.
   - If you select a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, a warning panel is displayed,

which explains that the business rule group and selector components of the WebSphere Process Server product support only DB2 as a repository. In this case, proceed to Step 12.

> **Remember:** This warning panel is displayed only the first time you select a database other than `DB2 Universal`, `DB2 Universal OS/390 V7.1`, `DB2 Universal OS/390 V8.1`, or `DB2 CLI`. If you select **Back**, select another database other than `DB2 Universal`, `DB2 Universal OS/390 V7.1`, `DB2 Universal OS/390 V8.1`, or `DB2 CLI`, and then select **Next**, the panel is not displayed.

> **Restriction:** You cannot create a new database if you are using `DB2 Universal OS/390 V7.1`, `DB2 Universal OS/390 V8.1`, `Oracle OCI`, or `Oracle Thin` as your database product. If you select one of these combinations on the Database configuration panel, a message panel is displayed, informing you that you must either use an existing database or select a different database product. Select **OK** to close this message panel, and make different selections on the Database configuration panel.

12. On the warning panel, if you intend to use the business rule group and selector components and you still want to use a database other than `DB2 Universal`, `DB2 Universal OS/390 V7.1`, `DB2 Universal OS/390 V8.1`, or `DB2 CLI`, for other components, you have to configure the repository database for the business rule group and selector components manually. Select **OK** to keep your selections or **Back** to return to the Database configuration panel to change your settings. For information on configuring the repository database for the business rule group and selector components manually, see the following topic in the WebSphere Process Server, Version 6.0, information center: **WebSphere Process Server 6.0 > Administering WebSphere Process Server > Administering applications and application services > Business rules > Installing the business rules dynamic repository for network deployment**. This procedure assumes you select **OK**. The Additional database configuration information panel is displayed, with fields specific to the database you have selected. (This panel lets you configure a database for components other than the business rule group and selector components.)

13. On the Additional database configuration information panel, complete the fields as detailed in "Additional database configuration information for common databases" on page 125, and select **Next**.

    The Profile summary panel is displayed, which details the type of profile that will be created, its location, name, and size, and host, node, and cell names.

14. Review the profile characteristics on the Profile summary panel, and select **Next** to create the profile or **Back** to change the characteristics of the profile.

    The Profile Wizard shows a progress panel to indicate that the profile is being created. If no errors are detected, the Profile creation is complete panel is displayed at the end of the process.

Attention: If errors are detected during profile creation, other panels might be displayed in place of the Profile creation is complete panel. Examples include the following:

- Profile creation is complete with warnings panel, which indicates that a profile was created but warnings were generated.
- Profile creation is incomplete panel, which indicates that a profile was created but exists in an unusable state.
- Profile creation failed panel, which indicates that a profile was unable to be created.

Each of these panels identifies the log file to reference in order to troubleshoot the problems.

15. Ensure the check box to launch the First Steps console is selected and select **Finish** to close the Profile Wizard and start the First Steps console.

A new deployment manager profile exists. The node within the profile has a deployment manager with the name you specified in Step 5 on page 101.

Check server operation by selecting **Start the deployment manager** from the First Steps console. An output window opens. If you see a message similar to the following, your deployment manager is operating properly:

```
ADMU3000I: Server dmgr open for e-business; process id is 3072
```

Creating a new WebSphere Process Server custom profile

Use this procedure to create a custom profile using the Profile Wizard graphical user interface (GUI).

Do the following before using this procedure:

- Ensure you have existing installations of WebSphere Process Server and WebSphere Application Server Network Deployment, Version 6.0.1.2. If you do not, see "Installing the product" on page 44 for descriptions of documented installation procedures.
- Ensure you want to create a custom profile and that you want to do so interactively. If your plan does not meet these criteria, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation or augmentation procedures.
- Ensure you have enough disk and temporary space to create the new profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you have enabled global security on your installation of WebSphere Process Server, ensure you disable it before creating the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- If you plan to use DB2 Universal Database for your repository, ensure you perform the following steps before creating the profile:
  - If you are configuring a DB2 database on a DB2 client with the server on a remote system, make sure the client system is configured to communicate with the server and that the DB2 node is cataloged. For more information, refer to the DB2 Universal Database documentation.
  - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** If you are configuring a DB2 database on a Linux or UNIX system, source the database environment by doing the following:

1. Modify /etc/group and make sure root is in the same group as the db2instance.
2. Source the database environment by running the *db2instance*/sqllib/db2profile script (replace *db2instance* with the name of your database instance).

The Complete installation procedure for WebSphere Process Server creates one stand-alone profile named default with a server named server1. However, to make use of the networking advantage of the product, you can use the Profile Wizard to create additional profiles.

Use the following procedure to create a new custom profile.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Start the WebSphere Process Server Profile Wizard to create a new runtime environment.

   See "Starting the Profile Wizard" on page 93 for descriptions of the many ways to start the Profile Wizard on various platforms.

   The wizard loads the Java 2 SDK and then displays its Welcome panel.
3. On the Welcome panel, select **Next**. One of the following panels is displayed:
   - If a WebSphere Application Server Network Deployment, Version 6.0.1.2, profile exists, the Existing profile detection panel is displayed. This procedure assumes that you want to create a new profile, rather than augment an existing one into a WebSphere Process Server profile. To create a new profile, select the radio button beside **Create a new WebSphere Process Server profile** and select **Next**. The Profile type selection panel is displayed. If you want to augment an existing profile instead, rather than continuing to follow this procedure, see the procedure described in "Augmenting an existing WebSphere Application Server Network Deployment custom profile into a WebSphere Process Server custom profile" on page 119 and begin at the step in that procedure that describes the Existing profile detection panel.
   - If no profile exists, the Profile type selection panel is displayed.
4. From the Profile type selection panel, select the radio button beside the entry **Custom profile**, then select **Next**. The Federation panel is displayed.
5. Determine whether to federate the custom node into a deployment manager.
   - If you choose to federate the node, specify the host name or IP address and SOAP port of the deployment manager and select **Next** to continue. The Profile name panel is displayed.

Attention:

Federate the custom node at this time only if all of the following are true:
– The deployment manager is running.
– The deployment manager is a WebSphere Process Server profile.
– Security is not enabled on the deployment manager node.
– The deployment manager uses the default SOAP JMX connector type and the connector is enabled.

Do *not* federate the custom node at this time if any one of the following is true:
– The deployment manager is not running or you are not sure if it is running.
– The deployment manager is a WebSphere Application Server Network Deployment profile that has not yet been augmented into a WebSphere Process Server profile.
– Security is enabled on the deployment manager node.
– The SOAP connector is disabled.
– The deployment manager is reconfigured to use the non-default remote method invocation (RMI) as the preferred Java Management Extensions (JMX) connector. (Select **System administration > Deployment manager > Administration services** in the administrative console of the deployment manager to verify the preferred connector type.)

If you federate a custom node when the deployment manager is not running or is not available for other reasons, the Profile creation failed panel is displayed. Select **Finish** to exit this panel.

- If you choose not to federate the node, select the check box beside the entry **Federate this node later using the addNode command** and select **Next** to continue. The Profile name panel is displayed. See "Federating custom nodes to a deployment manager" on page 161 for more information on how to federate a node by using this command.

6. On the Profile name panel, specify a unique name for the profile or accept the default name. If any other profiles exist, you have the option of making this profile the default profile by selecting the check box beside the entry **Make this profile the default**. Then select **Next**.

Each profile that you create must have a name. When you have more than one profile, you can tell them apart at their highest level by this name. See "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information on issues you must consider when naming the profile, such as restrictions on the length of the directory name.

The Profile directory panel is displayed.

7. Accept the default directory location for the profile or use the **Browse** button to specify another location, then select **Next**.

This directory will contain the files that define the runtime environment, such as commands, configuration files, and log files. By default, this directory location is:

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:**
  install_root/profiles/*profile_name*
- ▶ Windows **On Windows platforms:** *install_root*\profiles*profile_name*

where *profile_name* is the name that was specified in Step 6 on page 107. This directory location can be changed to any valid directory location on the system.

If you select **Back** and change the name of the profile, you might have to manually change the name on this panel when it is displayed again.

The Node and host names panel is displayed.

8. Specify the node and host names for the custom profile, or accept the defaults, then select **Next**.

   Use a unique name for each custom node that you create. See "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information on reserved terms and other issues you must consider when naming the node and host.

   One of the following panels is displayed, depending on whether you elected to federate the node on the Federation panel in Step 5 on page 106:

   - If you elected to federate the node later by selecting the check box beside the entry **Federate this node later using the addNode command** on the Federation panel, the Database configuration panel is displayed. In this case, proceed to Step 10.

   - If you did *not* elect to federate the node later on the Federation panel, the Port value assignment panel is displayed. In this case, proceed to Step 9.

9. Verify that the ports specified for the custom node are unique, then select **Next**.

   When federating a custom profile, the **addNode** command uses non-conflicting ports. This means that you can take the default port assignments as you create the profile, and let the **addNode** command specify non-conflicting ports as you federate the node. Port assignments must be unique on a machine. Server processes on different machines can use the same port assignments without conflict.

   The Database configuration panel is displayed.

10. Configure database authentication.

    Configure database authentication by performing the following steps.

    a. Choose the database that matches the database used on the deployment manager to which this custom profile will be federated. Select the database from the list, or accept the default value of DB2 Universal.

       You can select the following databases from this panel (each entry that can be selected from the list is shown, followed by the database it represents):

       - DB2 Universal (DB2 Universal Database)
       - DB2 Universal OS/390 V7.1 (DB2 Universal Database for OS/390 V7.1)
       - DB2 Universal OS/390 V8.1 (DB2 Universal Database for OS/390 V8.1)
       - DB2 CLI (DB2 Call Level Interface)
       - Informix (Informix Dynamic Server)
       - MSSQL Server Embedded (Microsoft SQL Server Embedded)
       - MSSQL Server Data Direct (Microsoft SQL Server Data Direct)
       - Oracle OCI (Oracle OCI client)
       - Oracle Thin (Oracle Thin)

       If your selection is other than MSSQL Server Embedded, you must also provide the location of the JDBC driver classpath files for the database. If your selection is DB2 Universal, you can accept the default value of

install_root/universalDriver_wbi/lib on Linux and UNIX platforms or
install_root\universalDriver_wbi\lib on Windows platforms.

b. Select **Next**.

One of the following panels is displayed:

- If you select the default value of DB2 Universal, or the databases DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, the Profile summary panel is displayed. In this case, proceed to Step 12.

- If you select a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, a warning panel is displayed, which explains that the business rule group and selector components of the WebSphere Process Server product support only DB2 as a repository. In this case, proceed to Step 11.

  Remember: This warning panel is displayed only the first time you select a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI. If you select **Back**, select another database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, and then select **Next**, the panel is not displayed.

11. On the warning panel, if you intend to use the business rule group and selector components and you still want to use a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, for other components, you have to configure the repository database for the business rule group and selector components manually. Select **OK** to keep your selections or **Back** to return to the Database configuration panel to change your settings. For information on configuring the repository database for the business rule group and selector components manually, see the following topic in the WebSphere Process Server, Version 6.0, information center: **WebSphere Process Server 6.0 > Administering WebSphere Process Server > Administering applications and application services > Business rules > Installing the business rules dynamic repository for network deployment**. This procedure assumes you select **OK**. The Profile summary panel is displayed.

12. Review the profile characteristics on the Profile summary panel, and select **Next** to create the profile or **Back** to change the characteristics of the profile.

The Profile Wizard shows a progress panel to indicate that the profile is being created. If no errors are detected, the Profile creation is complete panel is displayed at the end of the process.

Attention: If errors are detected during profile creation, other panels might be displayed in place of the Profile creation is complete panel. Examples include the following:

- Profile creation is complete with warnings panel, which indicates that a profile was created but warnings were generated.
- Profile creation is incomplete panel, which indicates that a profile was created but exists in an unusable state.
- Profile creation failed panel, which indicates that a profile was unable to be created.

Each of these panels identifies the log file to reference in order to troubleshoot the problems.

13. Ensure the check box to launch the First Steps console is selected and select **Finish** to close the Profile Wizard and start the First Steps console.

A new custom profile exists. The node within the profile is empty until you federate the node (if you have not done so during profile creation) and use the deployment manager to customize the node.

Federate the node into the deployment manager cell if you have not already done so as you created the custom node. See "Federating custom nodes to a deployment manager" on page 161 for details.

Augmenting an existing WebSphere Application Server or WebSphere Application Server Network Deployment stand-alone server profile into a WebSphere Process Server stand-alone server profile

Use this procedure to augment an existing WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, stand-alone server profile into a WebSphere Process Server stand-alone server profile using the Profile Wizard graphical user interface (GUI).

Do the following before using this procedure:

- Ensure you have existing installations of WebSphere Process Server and either WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.1.2. If you do not, see "Installing the product" on page 44 for descriptions of documented installation procedures.
- Ensure you want to augment an existing WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, stand-alone server profile to a WebSphere Process Server stand-alone server profile, and that you want to do so interactively. If your plan does not meet these criteria, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation or augmentation procedures.
- Determine if the stand-alone server profile you want to augment has already been federated to a deployment manager. If it has, you cannot augment it to a WebSphere Process Server profile.
- Ensure you have enough disk and temporary space to augment the profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you have enabled global security on an existing installation of WebSphere Process Server, WebSphere Application Server, or WebSphere Application Server Network Deployment, ensure you disable it before augmenting the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- If you plan to use DB2 Universal Database for your repository, ensure you perform the following steps before augmenting the profile:
  - If you are configuring a DB2 database on a DB2 client with the server on a remote system, make sure the client system is configured to communicate with the server and that the DB2 node is cataloged. For more information, refer to the DB2 Universal Database documentation.
  - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** If you are configuring a DB2 database on a Linux or UNIX system, source the database environment by doing the following:
    1. Modify /etc/group and make sure root is in the same group as the db2instance.
    2. Source the database environment by running the db2instance/sqllib/db2profile script (replace db2instance with the name of your database instance).

Use the following procedure to augment an existing WebSphere Application Server or WebSphere Application Server Network Deployment stand-alone server profile into a WebSphere Process Server stand-alone server profile.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

2. Start the WebSphere Process Server Profile Wizard.

   See "Starting the Profile Wizard" on page 93 for descriptions of the many ways to start the Profile Wizard on various platforms.

   The wizard loads the Java 2 SDK and then displays its Welcome panel.

3. On the Welcome panel, select **Next**.

   If an unfederated WebSphere Application Server or WebSphere Application Server Network Deployment profile exists for augmentation, one of two Existing profile detection panels is displayed. Do one of the following, depending on whether WebSphere Application Server or WebSphere Application Server Network Deployment is installed:

   • If WebSphere Application Server is installed, select the radio button beside **Augment an existing WebSphere Application Server profile**, highlight the profile to augment from the drop-down list, and select **Next**. Only unfederated profiles are displayed as selections. The profile you select to augment must be from the version of WebSphere Application Server on which WebSphere Process Server is installed. The Service component architecture configuration panel is displayed. In this case, proceed to Step 6.

   • If WebSphere Application Server Network Deployment is installed, select the radio button beside **Augment an existing WebSphere Application Server profile** and select **Next**. The Profile type selection panel is displayed. In this case, proceed to Step 4.

   Important: If an Existing profile detection panel is not displayed, no profile exists for augmentation. In this case, do not follow this procedure. Instead, cancel the augmentation and review the profile creation procedures described in "Creating and augmenting profiles by using the Profile Wizard" on page 91.

4. From the Profile type selection panel, select the radio button beside the entry **Stand-alone WebSphere Process Server profile**, then select **Next**.

   The list of profile types will include only those types which have valid WebSphere Application Server Network Deployment profiles that can be augmented into WebSphere Process Server profiles.

   The Profile augmentation selection panel is displayed.

5. Choose the profile you want to augment from the drop-down list and select **Next**.

   The list includes only those profiles of the type selected. Only unfederated profiles are displayed as selections. The profile you select to augment must be from the version of WebSphere Application Server Network Deployment on which WebSphere Process Server is installed. The Service component architecture configuration panel is displayed.

6. On the Service component architecture configuration panel, choose whether to configure the System Integration Bus in a secured mode. To configure the System Integration Bus in a secured mode, perform the following steps:

   a. Select the check box beside the field **Configure the System Integration Bus in a secured mode**.

b. Enter the user ID and password, and confirm the password, used to authenticate with a secured System Integration Bus.

c. Select **Next**.

To *not* configure the System Integration Bus in a secured mode, leave the check box unselected and select **Next**.

The Common Event Infrastructure configuration panel is displayed.

7. Configure the Common Event Infrastructure by performing the following steps:

a. Enter the user ID and password, and confirm the password, used to authenticate with the WebSphere Messaging queue manager.

b. Enter the WebSphere server name. The default value is `server1`.

c. Choose the database product you want to use for your configuration, or accept the default value of `CloudScape V5.1.1`.

d. Select **Next**.

One of the following panels is displayed:

- If you accept the default value of `CloudScape V5.1.1`, the Business Process Choreographer configuration panel is displayed. In this case, proceed to Step 9.

- If you select `DB2 Universal OS/390 V7.1` or `DB2 Universal OS/390 V8.1`, a message panel is displayed, informing you that you must create your data source and database outside of the Profile Wizard. If you still want to use one of these databases and agree to create your data source and database outside of the Profile Wizard, select **Next** and review the topic **Installing > Configuring the product after installation > Configuring the Common Event Infrastructure > Post-installation configuration > Configuring the event database > Configuring a DB2 database on a z/OS system** in this information center. The Business Process Choreographer configuration panel is displayed. In this case, proceed to Step 9. If you want to select another database instead, select **Back**.

- If you select any other database, the Additional database configuration information for Common Event Infrastructure panel is displayed, with fields specific to the database you have selected. In this case, proceed to Step 8.

8. On the Additional database configuration information for Common Event Infrastructure panel, complete the fields as detailed in "Additional database configuration information for Common Event Infrastructure" on page 122. Return to this step when you have followed the instructions in that topic.

If you followed the instructions in "Additional database configuration information for Common Event Infrastructure" on page 122, the Business Process Choreographer configuration panel is displayed.

9. Choose whether to create a sample Business Process Choreographer configuration. Create one by performing the following steps:

a. Select the check box beside the field **Create a sample Business Process Choreographer**.

b. Enter the user ID and password, and confirm the password, used to authenticate when connected to a Secured System Integration Bus.

c. Enter the name of the administrative group that will be allowed to administer Business Process Choreographer.

For example, if the domain user registry is LDAP, enter a group name for the security role like, cn=*MyGroup*,o=*MyCompany*,c=*MyCountry*. If you are using Windows group administration, enter a group name such as Administrators.

d. Select **Next**.

To *not* create a Business Process Choreographer configuration, leave the check box unselected and select **Next**.

If you plan to use Business Process Choreographer in a production environment, do not create the sample configuration. To configure Business Process Choreographer for use in a production environment, see the topics under **Installing > Configuring the product after installation > Configuring Business Process Choreographer** in this information center.

The Application Scheduler configuration panel is displayed.

10. Choose whether to create an Application Scheduler configuration. To create an Application Scheduler configuration, perform the following steps:

a. Select the check box beside the field **Create an Application Scheduler configuration**.

b. Enter the name of the server on the node.

c. Select **Next**.

To *not* create an Application Scheduler configuration, leave the check box unselected and select **Next**.

The Database configuration panel is displayed.

11. Configure database authentication.

Several WebSphere Process Server components use a database, including:

- Recovery
- Relationship service
- Mediation
- Application Scheduler
- Business rule group
- Selector

The information requested on this and the following panel (if it is displayed) correctly configure a new local or existing database for use with these components.

Configure database authentication by performing the following steps.

a. Select the radio button beside **Create new (local) database** to create a new database or beside **Use existing database** to use an existing database.

b. Choose the database you want to use, or accept the default value of CloudScape.

You can select the following databases from this panel (each entry that can be selected from the list is shown, followed by the database it represents):

- Cloudscape (Cloudscape)
- DB2 Universal (DB2 Universal Database)
- DB2 Universal OS/390 V7.1 (DB2 Universal Database for OS/390 V7.1)
- DB2 Universal OS/390 V8.1 (DB2 Universal Database for OS/390 V8.1)
- DB2 CLI (DB2 Call Level Interface)
- Informix (Informix Dynamic Server)
- MSSQL Server Embedded (Microsoft SQL Server Embedded)
- MSSQL Server Data Direct (Microsoft SQL Server Data Direct)

- Oracle OCI (Oracle OCI client)
- Oracle Thin (Oracle Thin)

c. Enter your database name or accept the default WPRCSDB. If the database name WPRCSDB is already associated with another WebSphere Process Server profile, you must use a different database name.

d. Select **Next**.

One of the following panels is displayed:

- If you select the default value of CloudScape, the Profile summary panel is displayed. In this case, proceed to Step 13.
- If you select any other database, the Additional database configuration information panel is displayed, with fields specific to the database you have selected. In this case, proceed to Step 12.

> **Restriction:** The business rule group and selector components support only Cloudscape, DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI for their repository. If you select any database other than Cloudscape, DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, all components, except the business rule group and selector components, will be configured to use the database you specify; the business rule group and selector components will be configured to use Cloudscape.

> **Restriction:** You cannot create a new database if you are using DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, Oracle OCI, or Oracle Thin as your database product. If you select one of these combinations on the Database configuration panel, a message panel is displayed, informing you that you must either use an existing database or select a different database product. Select **OK** to close this message panel, and make different selections on the Database configuration panel.

12. On the Additional database configuration information panel, complete the fields as detailed in "Additional database configuration information for common databases" on page 125, and select **Next**.

    The Profile summary panel is displayed, which details the type of profile that will be augmented, its location, name, size, and host name.

13. Review the profile characteristics on the Profile summary panel and select **Next** to augment the profile or **Back** to change the characteristics of the profile.

    The Profile Wizard shows a progress panel to indicate that the profile is being augmented. If no errors are detected, the Profile augmentation is complete panel is displayed at the end of the process.

> **Attention:** If errors are detected during profile augmentation, other panels might be displayed in place of the Profile augmentation is complete panel. Examples include the following:
>
> - Profile augmentation is complete with warnings panel, which indicates that a profile was augmented but warnings were generated.
> - Profile augmentation is incomplete panel, which indicates that a profile was augmented but exists in an unusable state.
> - Profile augmentation failed panel, which indicates that a profile was unable to be augmented.
>
> Each of these panels identifies the log file to reference in order to troubleshoot the problems.

14. Ensure the check box to launch the First Steps console is selected and select **Finish** to close the Profile Wizard and start the First Steps console.

A WebSphere Application Server or WebSphere Application Server Network Deployment stand-alone server profile is successfully augmented into a WebSphere Process Server stand-alone profile.

Check server operation by selecting **Start the server** from the First Steps console. An output window opens. If you see a message similar to the following, your server is operating properly:

```
ADMU3000I: Server server1 open for e-business; process id is 3348
```

Augmenting an existing WebSphere Application Server Network Deployment deployment manager profile into a WebSphere Process Server deployment manager profile

Use this procedure to augment an existing WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, deployment manager profile into a WebSphere Process Server deployment manager profile using the Profile Wizard graphical user interface (GUI).

Do the following before using this procedure:

- Ensure you have existing installations of WebSphere Process Server and WebSphere Application Server Network Deployment, Version 6.0.1.2. If you do not, see "Installing the product" on page 44 for descriptions of documented installation procedures.
- Ensure you want to augment an existing WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, deployment manager profile to a WebSphere Process Server deployment manager profile, and that you want to do so interactively. If your plan does not meet these criteria, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation or augmentation procedures.
- Ensure you have enough disk and temporary space to augment the profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you have enabled global security on an existing installation of WebSphere Process Server or WebSphere Application Server Network Deployment, ensure you disable it before augmenting the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- If you plan to use DB2 Universal Database for your repository, ensure you perform the following steps before augmenting the profile:

- If you are configuring a DB2 database on a DB2 client with the server on a remote system, make sure the client system is configured to communicate with the server and that the DB2 node is cataloged. For more information, refer to the DB2 Universal Database documentation.

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** If you are configuring a DB2 database on a Linux or UNIX system, source the database environment by doing the following:

  1. Modify /etc/group and make sure root is in the same group as the db2instance.

  2. Source the database environment by running the *db2instance*/sqllib/db2profile script (replace *db2instance* with the name of your database instance).

Use the following procedure to augment an existing WebSphere Application Server Network Deployment deployment manager profile into a WebSphere Process Server deployment manager profile.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

2. Start the WebSphere Process Server Profile Wizard.

   See "Starting the Profile Wizard" on page 93 for descriptions of the many ways to start the Profile Wizard on various platforms.

   The wizard loads the Java 2 SDK and then displays its Welcome panel.

3. On the Welcome panel, select **Next**.

   If an WebSphere Application Server Network Deployment profile exists for augmentation, the Existing profile detection panel is displayed. Select the radio button beside **Augment an existing WebSphere Application Server profile** and select **Next**. The Profile type selection panel is displayed.

   Important: If an Existing profile detection panel is not displayed, no profile exists for augmentation. In this case, do not follow this procedure. Instead, cancel the augmentation and review the profile creation procedures described in "Creating and augmenting profiles by using the Profile Wizard" on page 91.

4. From the Profile type selection panel, select the radio button beside the entry **Deployment manager profile**, then select **Next**.

   The list of profile types will include only those types which have valid WebSphere Application Server Network Deployment profiles that can be augmented into WebSphere Process Server profiles.

   The Profile augmentation selection panel is displayed.

5. Choose the profile you want to augment from the drop-down list and select **Next**.

   The list includes only those profiles of the type selected. The profile you select to augment must be from the version of WebSphere Application Server Network Deployment on which WebSphere Process Server is installed. The Service component architecture configuration panel is displayed.

6. On the Service component architecture configuration panel, choose whether to configure the System Integration Bus in a secured mode. To configure the System Integration Bus in a secured mode, perform the following steps:

   a. Select the check box beside the field **Configure the System Integration Bus in a secured mode**.

   b. Enter the user ID and password, and confirm the password, used to authenticate with a secured System Integration Bus.

c. Select **Next**.

To *not* configure the System Integration Bus in a secured mode, leave the check box unselected and select **Next**.

The Database configuration panel is displayed.

7. Configure database authentication.

Several WebSphere Process Server components use a database, including:

*   Recovery
*   Relationship service
*   Mediation
*   Application Scheduler
*   Business rule group
*   Selector

The information requested on this and the following panel correctly configure a new local or existing database for use with these components.

Configure database authentication by performing the following steps.

a. Select the radio button beside **Create new (local) database** to create a new database or beside **Use existing database** to use an existing database.

b. Choose the database you want to use, or accept the default value of DB2 Universal.

You can select the following databases from this panel (each entry that can be selected from the list is shown, followed by the database it represents):

*   DB2 Universal (DB2 Universal Database)
*   DB2 Universal OS/390 V7.1 (DB2 Universal Database for OS/390 V7.1)
*   DB2 Universal OS/390 V8.1 (DB2 Universal Database for OS/390 V8.1)
*   DB2 CLI (DB2 Call Level Interface)
*   Informix (Informix Dynamic Server)
*   MSSQL Server Embedded (Microsoft SQL Server Embedded)
*   MSSQL Server Data Direct (Microsoft SQL Server Data Direct)
*   Oracle OCI (Oracle OCI client)
*   Oracle Thin (Oracle Thin)

c. Enter your database name or accept the default WPRCSDB. If the database name WPRCSDB is already associated with another WebSphere Process Server profile, you must use a different database name.

d. Select **Next**.

One of the following panels is displayed:

*   If you select the default value of DB2 Universal, the Additional database configuration information panel is displayed. In this case, proceed to Step 9 on page 118.

*   If you select any database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, a warning panel is displayed, which explains that the business rule group and selector components of the WebSphere Process Server product support only DB2 as a repository. In this case, proceed to Step 8 on page 118.

> **Remember:** This warning panel is displayed only the first time you select a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI. If you select **Back**, select another database other than DB2 Universal, DB2

Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, and then select **Next**, the panel is not displayed.

Restriction: You cannot create a new database if you are using DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, Oracle OCI, or Oracle Thin as your database product. If you select one of these combinations on the Database configuration panel, a message panel is displayed, informing you that you must either use an existing database or select a different database product. Select **OK** to close this message panel, and make different selections on the Database configuration panel.

8. On the warning panel, if you intend to use the business rule group and selector components and you still want to use a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, for other components, you have to configure the repository database for the business rule group and selector components manually. Select **OK** to keep your selections or **Back** to return to the Database configuration panel to change your settings. For information on configuring the repository database for the business rule group and selector components manually, see the following topic in the WebSphere Process Server, Version 6.0, information center: **WebSphere Process Server 6.0 > Administering WebSphere Process Server > Administering applications and application services > Business rules > Installing the business rules dynamic repository for network deployment**. This procedure assumes you select **OK**. The Additional database configuration information panel is displayed, with fields specific to the database you have selected.

9. On the Additional database configuration information panel, complete the fields as detailed in "Additional database configuration information for common databases" on page 125, and select **Next**.

   The Profile summary panel is displayed, which details the type of profile that will be augmented. its location, name, and host, node, and cell names.

10. Review the profile characteristics on the Profile summary panel and select **Next** to augment the profile or **Back** to change the characteristics of the profile.

    The Profile Wizard shows a progress panel to indicate that the profile is being augmented. If no errors are detected, the Profile augmentation is complete panel is displayed at the end of the process.

    Attention: If errors are detected during profile augmentation, other panels might be displayed in place of the Profile augmentation is complete panel. Examples include the following:

    - Profile augmentation is complete with warnings panel, which indicates that a profile was augmented but warnings were generated.
    - Profile augmentation is incomplete panel, which indicates that a profile was augmented but exists in an unusable state.
    - Profile augmentation failed panel, which indicates that a profile was unable to be augmented.

    Each of these panels identifies the log file to reference in order to troubleshoot the problems.

11. Ensure the check box to launch the First Steps console is selected and select **Finish** to close the Profile Wizard and start the First Steps console.

A WebSphere Application Server Network Deployment deployment manager profile is successfully augmented into a WebSphere Process Server deployment manager profile.

Check server operation by selecting **Start the deployment manager** from the First Steps console. An output window opens. If you see a message similar to the following, your deployment manager is operating properly:

```
ADMU3000I: Server dmgr open for e-business; process id is 3072
```

Augmenting an existing WebSphere Application Server Network Deployment custom profile into a WebSphere Process Server custom profile

Use this procedure to augment an existing WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, custom profile into a WebSphere Process Server custom profile using the Profile Wizard graphical user interface (GUI).

Do the following before using this procedure:

- Ensure you have existing installations of WebSphere Process Server and WebSphere Application Server Network Deployment, Version 6.0.1.2. If you do not, see "Installing the product" on page 44 for descriptions of documented installation procedures.
- Ensure you want to augment an existing WebSphere Application Server Network Deployment, Version 6.0.0.x or 6.0.1.x, custom profile to a WebSphere Process Server custom profile, and that you want to do so interactively. If your plan does not meet these criteria, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation or augmentation procedures.
- Ensure you have enough disk and temporary space to augment the profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you have enabled global security on an existing installation of WebSphere Process Server or WebSphere Application Server Network Deployment, ensure you disable it before augmenting the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- If you plan to use DB2 Universal Database for your repository, ensure you perform the following steps before augmenting the profile:
  - If you are configuring a DB2 database on a DB2 client with the server on a remote system, make sure the client system is configured to communicate with the server and that the DB2 node is cataloged. For more information, refer to the DB2 Universal Database documentation.
  - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** If you are configuring a DB2 database on a Linux or UNIX system, source the database environment by doing the following:
    1. Modify `/etc/group` and make sure root is in the same group as the db2instance.
    2. Source the database environment by running the `db2instance`/`sqllib/db2profile` script (replace *db2instance* with the name of your database instance).
- Determine if the custom node you want to augment has already been federated to a deployment manager:

- If the custom node you want to augment has already been federated to a deployment manager, you cannot augment it to a WebSphere Process Server profile.
- If the custom node you want to augment has *not* already been federated to a deployment manager, when you do federate it via the **addNode** command later, the following must be true of the deployment manager with which it is federated in order for the augmentation to complete successfully:
  - It must be running.
  - It must use the default SOAP JMX connector type and the connector must be enabled.
  - It must have already been augmented into a WebSphere Process Server profile.

Use the following procedure to augment an existing WebSphere Application Server Network Deployment custom profile into a WebSphere Process Server custom profile.

1. Log on as root on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.
2. Start the WebSphere Process Server Profile Wizard.

   See "Starting the Profile Wizard" on page 93 for descriptions of the many ways to start the Profile Wizard on various platforms.

   The wizard loads the Java 2 SDK and then displays its Welcome panel.
3. On the Welcome panel, select **Next**.

   If an unfederated WebSphere Application Server Network Deployment profile exists for augmentation, the Existing profile detection panel is displayed. Select the radio button beside **Augment an existing WebSphere Application Server profile** and select **Next**. The Profile type selection panel is displayed.

   Important: If an Existing profile detection panel is not displayed, no profile exists for augmentation. In this case, do not follow this procedure. Instead, cancel the augmentation and review the profile creation procedures described in "Creating and augmenting profiles by using the Profile Wizard" on page 91.
4. From the Profile type selection panel, select the radio button beside the entry **Custom profile**, then select **Next**.

   The list of profile types will include only those types which have valid WebSphere Application Server Network Deployment profiles that can be augmented into WebSphere Process Server profiles.

   The Profile augmentation selection panel is displayed.
5. Choose the profile you want to augment from the drop-down list and select **Next**.

   The list includes only those profiles of the type selected. Only unfederated profiles are displayed as selections. The profile you select to augment must be from the version of WebSphere Application Server Network Deployment on which WebSphere Process Server is installed. The Custom profile augmentation considerations panel is displayed, which alerts you to conditions that the deployment manager associated with the custom node must meet for a successful augmentation of the custom node.
6. Review the conditions outlined on this panel and select **Next**.

   The Database configuration panel is displayed.
7. Configure database authentication.

Configure database authentication by performing the following steps.

a. Choose the database that matches the database used on the deployment manager to which this custom profile will be federated. Select the database from the list, or accept the default value of DB2 Universal.

You can select the following databases from this panel (each entry that can be selected from the list is shown, followed by the database it represents):

- DB2 Universal (DB2 Universal Database)
- DB2 Universal OS/390 V7.1 (DB2 Universal Database for OS/390 V7.1)
- DB2 Universal OS/390 V8.1 (DB2 Universal Database for OS/390 V8.1)
- DB2 CLI (DB2 Call Level Interface)
- Informix (Informix Dynamic Server)
- MSSQL Server Embedded (Microsoft SQL Server Embedded)
- MSSQL Server Data Direct (Microsoft SQL Server Data Direct)
- Oracle OCI (Oracle OCI client)
- Oracle Thin (Oracle Thin)

If your selection is other than MSSQL Server Embedded, you must also provide the location of the JDBC driver classpath files for the database. If your selection is DB2 Universal, you can accept the default value of *install_root*/universalDriver_wbi/lib on Linux and UNIX platforms or *install_root*\universalDriver_wbi\lib on Windows platforms.

b. Select **Next**.

One of the following panels is displayed:

- If you select the default value of DB2 Universal, or the databases DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, the Profile summary panel is displayed. In this case, proceed to Step 9 on page 122.
- If you select a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, a warning panel is displayed, which explains that the business rule group and selector components of the WebSphere Process Server product support only DB2 as a repository. In this case, proceed to Step 8.

  Remember: This warning panel is displayed only the first time you select a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI. If you select **Back**, select another database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, and then select **Next**, the panel is not displayed.

8. On the warning panel, if you intend to use the business rule group and selector components and you still want to use a database other than DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI, for other components, you have to configure the repository database for the business rule group and selector components manually. Select **OK** to keep your selections or **Back** to return to the Database configuration panel to change your settings. For information on configuring the repository database for the business rule group and selector components manually, see the following topic in the WebSphere Process Server, Version 6.0, information center: **WebSphere Process Server 6.0 > Administering WebSphere Process Server > Administering applications and application services > Business**

rules > Installing the business rules dynamic repository for network deployment. This procedure assumes you select **OK**. The Profile summary panel is displayed.

9. Review the profile characteristics on the Profile summary panel and select **Next** to augment the profile or **Back** to change the characteristics of the profile.

   The Profile Wizard shows a progress panel to indicate that the profile is being augmented. If no errors are detected, the Profile augmentation is complete panel is displayed at the end of the process.

   Attention: If errors are detected during profile augmentation, other panels might be displayed in place of the Profile augmentation is complete panel. Examples include the following:

   - Profile augmentation is complete with warnings panel, which indicates that a profile was augmented but warnings were generated.
   - Profile augmentation is incomplete panel, which indicates that a profile was augmented but exists in an unusable state.
   - Profile augmentation failed panel, which indicates that a profile was unable to be augmented.

   Each of these panels identifies the log file to reference in order to troubleshoot the problems.

10. Ensure the check box to launch the First Steps console is selected and select **Finish** to close the Profile Wizard and start the First Steps console.

A WebSphere Application Server Network Deployment custom profile is successfully augmented into a WebSphere Process Server custom profile. The node within the profile is empty until you federate the node and use the deployment manager to customize the node.

Federate the node into the deployment manager cell. See "Federating custom nodes to a deployment manager" on page 161 for details.

Additional database configuration information for Common Event Infrastructure

Certain selections you make on the Common Event Infrastructure configuration panel in the Profile Wizard prompt a follow-up panel, the Additional database configuration information for Common Event Infrastructure panel, to be displayed. This topic describes the fields and default values available on each variation of this panel.

The Additional database configuration information for Common Event Infrastructure panel is displayed if you select any database other than `CloudScape V5.1.1`, `DB2 Universal OS/390 V7.1`, or `DB2 Universal OS/390 V8.1` from the Database configuration panel.

Important: If you select `CloudScape V5.1.1`, no additional database configuration is necessary. If you select `DB2 Universal OS/390 V7.1` or `DB2 Universal OS/390 V8.1`, you must create your data source and database outside of the Profile Wizard. If you still want to use one of these databases, review the following topic in this information center: **Installing > Configuring the product after installation > Configuring the Common Event Infrastructure > Post-installation configuration > Configuring the event database > Configuring a DB2 database on a z/OS system**.

The Additional database configuration information for Common Event Infrastructure panel contains slightly different fields and default values, depending on the database product you selected on the Common Event Infrastructure configuration panel. On all variations of this panel, you can choose to either create the database during profile creation or augmentation or just have the profile creation or augmentation process generate the scripts to create the database. The profile creation or augmentation process always creates the data source. If you select to generate the scripts to create the database, you must run the generated scripts after the profile creation or augmentation has completed in order to have a functional Common Event Infrastructure database. See **Installing > Configuring the product after installation > Configuring the Common Event Infrastructure > Post-installation configuration > Configuring the event database > Configuring the event database (Linux, UNIX, and Windows systems) > Manually running database configuration scripts** in this information center for details.

Selecting one of the following databases from the Common Event Infrastructure configuration panel causes the Additional database configuration information for Common Event Infrastructure panel to be displayed. Follow the link for your selection for a description of the version that will be displayed based on your selection:
- DB2 Universal V8.1
- DB2 Universal V8.2.1
- Oracle V9.1
- Oracle V10.1

DB2 Universal V8.1 or DB2 Universal V8.2.1

On the panel that is displayed when you select either DB2 Universal V8.1 or DB2 Universal V8.2.1 on the Common Event Infrastructure configuration panel, you must select the radio button beside either **Create new database** or **Generate scripts to create new database**, and enter values for the **Database name** (or accept the default value of event -- the database name must be eight characters or less in length), **User ID to authenticate with the database**, **Password (the password for database authentication)**, and **Password confirmation**. The values for **Password (the password for database authentication)** and **Password confirmation** are not shown and must match.

When you select **Next**, another panel is displayed, on which you must do the following:
- For the field **Location (directory) of JDBC driver classpath files**, either accept the default value of *install_root*/universalDriver_wbi/lib on Linux and UNIX platforms or *install_root*\universalDriver_wbi\lib on Windows platforms, or enter a different location.
- Choose either **JDBC Driver Type 2** or **4** (which is the default value).
  - If you select JDBC driver type 2, values for the **Database server name** and **Server port** fields are not needed. However, you must enter a value for the **Database node name, if DB2 server remote** field if your DB2 server is located remotely.
  - If you accept the default selection of JDBC driver type 4, you must enter values for the **Database server name** and **Server port** fields (or accept the default values of localhost and 50000, respectively). You must enter a value for the **Database node name, if DB2 server remote** field if your DB2 server is located remotely.

Select **Next**. The Business Process Choreographer configuration panel is displayed. At this point, return to the topic on profile creation or augmentation ("Creating a new WebSphere Process Server stand-alone server profile" on page 94 or "Augmenting an existing WebSphere Application Server or WebSphere Application Server Network Deployment stand-alone server profile into a WebSphere Process Server stand-alone server profile" on page 110) from which you accessed this topic.

Oracle V9.1 or Oracle V10.1

On the panel that is displayed when you select either `Oracle V9.1` or `Oracle V10.1` on the Common Event Infrastructure configuration panel, you must select the radio button beside either **Create new database (oci)** or **Generate scripts to create new database**, and enter values for the **Database instance name (sid)** (the database instance name must be eight characters or less in length), **User ID to create in the database**, **Password (the password for the created user id)**, and **Password confirmation**. The values for **Password (the password for the created user id)** and **Password confirmation** are not shown and must match.

When you select **Next**, one of the following panels is displayed, depending on whether you selected the radio button beside **Create new database** or **Generate scripts to create new database**:

- If you selected the radio button beside **Create new database**, a panel is displayed on which you must enter values for the **User ID with SYSDBA authority**, **Password (for User ID with SYSDBA authority)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The values for **Password (for User ID with SYSDBA authority)** and **Password confirmation** are not shown and must match. Because you are creating a new database, the JDBC driver type can only be `oci`, the Database server name will always be `localhost`, and the server port will always be 1521. Therefore, you are not prompted to enter those parameters. Select **Next**. The Business Process Choreographer configuration panel is displayed. At this point, return to the topic on profile creation or augmentation ("Creating a new WebSphere Process Server stand-alone server profile" on page 94 or "Augmenting an existing WebSphere Application Server or WebSphere Application Server Network Deployment stand-alone server profile into a WebSphere Process Server stand-alone server profile" on page 110) from which you accessed this topic.

- If you selected the radio button beside **Generate scripts to create new database**, a panel is displayed on which you must enter values for the **User ID with SYSDBA authority**, **Password (for User ID with SYSDBA authority)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The values for **Password (for User ID with SYSDBA authority)** and **Password confirmation** are not shown and must match. You must also select the radio button beside either **JDBC Driver Type oci** (which is the default value) or **thin**.

  - If you accept the default selection of JDBC driver type oci, values for the **Database server name** and **Server port** fields are not needed.

  - If you select JDBC driver type thin, you must enter values for the **Database server name** and **Server port** fields (or accept the default values of `localhost` and 1521, respectively).

  Select **Next**. The Business Process Choreographer configuration panel is displayed. At this point, return to the topic on profile creation or augmentation ("Creating a new WebSphere Process Server stand-alone server profile" on page 94 or "Augmenting an existing WebSphere Application Server or WebSphere

Application Server Network Deployment stand-alone server profile into a
WebSphere Process Server stand-alone server profile" on page 110) from which
you accessed this topic.

Additional database configuration information for common databases

Certain selections made on the Database configuration panel in the Profile Wizard
cause different fields and default values to be displayed on the follow-up panel,
the Additional database configuration information panel. This topic describes the
fields and default values available on each variation of this panel.

The Additional database configuration information panel is displayed if you select
any database other than `CloudScape` from the Database configuration panel.

Important:

> If you select `CloudScape`, no additional database configuration is
> necessary.
>
> You cannot create a new database if you are using `DB2 Universal`
> `OS/390 V7.1`, `DB2 Universal OS/390 V8.1`, `Oracle OCI`, or `Oracle Thin`
> as your database product. If you select one of these combinations on
> the Database configuration panel, a message panel is displayed,
> informing you that you must either use an existing database or select a
> different database product.

The Additional database configuration information panel contains slightly different
fields and default values, depending on your selection and whether you chose to
create a new database or use an existing database on the Database configuration
panel. On all variations of the Additional database configuration information
panel, the fields **User ID to authenticate with the database**, **Password (the
password for database authentication)**, and **Password confirmation** are always
required. On all variations of the panel except when Microsoft SQL Server
Embedded is selected, the field **Location (directory) of JDBC driver classpath files**
is always required. Values you enter for the password and password confirmation
fields are not displayed in clear text and must be verified to have the same values.

For information on what fields will appear on the Additional database
configuration information panel based on your selection and whether you chose to
create a new database or use an existing database on the Profile Wizard Database
configuration panel, follow one of the links below.

- "DB2 Universal Database -- create new database" on page 126
- "DB2 Universal Database -- use existing database" on page 126
- "DB2 Universal Database for OS/390 V7.1 or DB2 Universal Database for
  OS/390 V8.1-- create new database" on page 126
- "DB2 Universal Database for OS/390 V7.1 or DB2 Universal Database for
  OS/390 V8.1-- use existing database " on page 127
- "DB2 Call Level Interface (CLI) -- create new database" on page 127
- "DB2 Call Level Interface (CLI) -- use existing database " on page 127
- "Informix Dynamic Server -- create new database" on page 127
- "Informix Dynamic Server -- use existing database" on page 128
- "Microsoft SQL Server Embedded -- create new database" on page 128
- "Microsoft SQL Server Embedded -- use existing database" on page 128

DB2 Universal Database -- create new database

Enter values for the fields **Directory of database server installation**, **User ID to authenticate with the database**, **Password (the password for database authentication)**, and **Password confirmation**. For the **Location (directory) of JDBC driver classpath files** field, accept the default value of
`install_root`/universalDriver_wbi/lib on Linux and UNIX platforms or
`install_root`\universalDriver_wbi\lib on Windows platforms, or browse to the
location on your system that contains the following files:

- db2jcc.jar
- db2jcc_license_cu.jar *or* db2jcc_license_cisuz.jar

An error message is displayed if the files cannot be found at the specified location.

A default value is provided for the **Server port** field. When creating a new database, the only valid value for the database server host name is localhost. As a result, the **Database server host name (for example, IP address)** field does not appear on this panel.

DB2 Universal Database -- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the following files:

- db2jcc.jar
- db2jcc_license_cu.jar *or* db2jcc_license_cisuz.jar

An error message is displayed if the files cannot be found at the specified location.

Default values are provided for the fields **Database server host name (for example, IP address)** and **Server port**.

DB2 Universal Database for OS/390 V7.1 or DB2 Universal Database for OS/390 V8.1-- create new database

You cannot create a new database if you are using DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, Oracle OCI, or Oracle Thin as your database product. If you select one of these combinations on the Database configuration panel, a message panel is displayed, informing you that you must either use an existing database or select a different database product.

DB2 Universal Database for OS/390 V7.1 or DB2 Universal Database for OS/390 V8.1-- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the following files:

- db2jcc.jar
- db2jcc_license_cisuz.jar

An error message is displayed if the files cannot be found at the specified location.

Enter values for the fields **Database server host name (for example, IP address)**, **Database storage group name**, and **Location name of the database server**. Since the database is always located remotely, the **Database server host name (for example, IP address)** field does *not* have a default value of localhost. A default value is provided for the field **Server port**.

DB2 Call Level Interface (CLI) -- create new database

Enter values for the fields **Directory of database server installation**, **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the db2java.zip file. If db2java.zip cannot be found at the specified location, an error message will be displayed.

DB2 Call Level Interface (CLI) -- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the db2java.zip file. If db2java.zip cannot be found at the specified location, an error message will be displayed.

Informix Dynamic Server -- create new database

Enter values for the fields **Directory of database server installation**, **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the following files:

- ifxjdbc.jar
- ifxjdbcx.jar

An error message is displayed if the files cannot be found at the specified location.

You must also enter a value for the **Database instance name** field. A database instance name must always begin with ol_. A default value is provided for the **Server port** field. When creating a new database, the only valid value for the database server host name is localhost. As a result, the **Database server host name (for example, IP address)** field does not appear on this panel.

Informix Dynamic Server -- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the following files:

- ifxjdbc.jar
- ifxjdbcx.jar

An error message is displayed if the files cannot be found at the specified location.

You must also enter a value for the **Database instance name** field. A database instance name must always begin with ol_. Default values are provided for the fields **Database server host name (for example, IP address)** and **Server port**.

Microsoft SQL Server Embedded -- create new database

Enter values for the fields **Directory of database server installation**, **User ID to authenticate with the database**, **Password (the password for database authentication)**, and **Password confirmation**. A default value is provided for the **Server port** field. When creating a new database, the only valid value for the database server host name is localhost. As a result, the **Database server host name (for example, IP address)** field does not appear on this panel.

Microsoft SQL Server Embedded -- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, and **Password confirmation**. Default values are provided for the fields **Database server host name (for example, IP address)** and **Server port**.

Microsoft SQL Server Data Direct -- create new database

Enter values for the fields **Directory of database server installation**, **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the following files:

- sqlserver.jar
- base.jar
- util.jar

Plus, the file spy.jar must be available in the following location relative to the location of the JDBC driver classpath files:

- **Linux** **UNIX** **On Linux and UNIX platforms:** ../spy/spy.jar
- **Windows** **On Windows platforms:** ..\spy\spy.jar

An error message is displayed if the files cannot be found at the specified locations.

A default value is provided for the **Server port** field. When creating a new database, the only valid value for the database server host name is localhost. As a

result, the **Database server host name (for example, IP address)** field does not appear on this panel.

Microsoft SQL Server Data Direct -- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the following files:

- `sqlserver.jar`
- `base.jar`
- `util.jar`

Plus, the file `spy.jar` must be available in the following location relative to the location of the JDBC driver classpath files:

- ▶ **Linux** ▶ **UNIX** **On Linux and UNIX platforms:** `../spy/spy.jar`
- ▶ **Windows** **On Windows platforms:** `..\spy\spy.jar`

An error message is displayed if the files cannot be found at the specified locations.

Default values are provided for the fields **Database server host name (for example, IP address)** and **Server port**.

Oracle OCI client -- create new database

You cannot create a new database if you are using DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, Oracle OCI, or Oracle Thin as your database product. If you select one of these combinations on the Database configuration panel, a message panel is displayed, informing you that you must either use an existing database or select a different database product.

Oracle OCI client -- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the `classes12.zip` file. An error message is displayed if the file cannot be found at the specified location.

Default values are provided for the fields **Database server host name (for example, IP address)** and **Server port**.

Oracle Thin -- create new database

You cannot create a new database if you are using DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, Oracle OCI, or Oracle Thin as your database product. If you select one of these combinations on the Database configuration panel, a message panel is displayed, informing you that you must either use an existing database or select a different database product.

Oracle Thin -- use existing database

Enter values for the fields **User ID to authenticate with the database**, **Password (the password for database authentication)**, **Password confirmation**, and **Location (directory) of JDBC driver classpath files**. The **Location (directory) of JDBC driver classpath files** field must point to the directory that contains the ojdbc14.zip file. An error message is displayed if the file cannot be found at the specified location.

Default values are provided for the fields **Database server host name (for example, IP address)** and **Server port**.

Creating profiles silently

You can use response files to create profile definitions silently; that is, without using the graphical user interface.

A text file, called a response file, contains the definition of a WebSphere Process Server profile. You can create a profile silently by customizing the profile response file for the profile that you intend to create. The installation program reads this file to determine profile creation option values when you install silently. You can also create additional profiles by using response files after initial installation.

Possible profile types are a stand-alone profile, a deployment manager profile, and a custom profile. See the following topics for instructions on how to customize and use the response files during and after product installation.

- "Creating a stand-alone server profile silently" -- The response file responsefile.pcaw.standAloneProfile.txt can be used to silently create a stand-alone process server profile.
- "Creating a deployment manager profile silently" on page 142 -- The response file responsefile.pcaw.dmgrProfile.txt can be used to silently create a deployment manager profile.
- "Creating a custom profile silently" on page 150 -- The response file responsefile.pcaw.managedProfile.txt can be used to silently create a custom profile. A custom profile must be federated into a deployment manager cell to become operational. Because of this strong dependency on being a managed node, the profile is often referred to as a *managed profile*.

Creating a stand-alone server profile silently

The response file responsefile.pcaw.standAloneProfile.txt can be used to silently create a stand-alone process server profile.

The installation program reads this file to determine profile creation option values when you install silently. You can also create additional stand-alone process server profiles by using this response file after initial installation. The response file is shipped with default values.

Refer to "Installing the product silently" on page 60 for more information on silent installation.

Before you start

Do the following before using this procedure:

- Ensure you want to create a stand-alone server profile and that you want to do so silently. If you want to create the profile with an interactive interface instead,

see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation procedures.

- Ensure you have enough disk and temporary space to create the new profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you are installing WebSphere Process Server, ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.
- If you are installing WebSphere Process Server, and you have enabled global security on an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, ensure you disable it before installing the product. If you have already installed WebSphere Process Server and you have enabled global security, ensure you disable it before creating the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- Ensure that you are creating the profile as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

Avoiding the use of the -silent option within the response file

Do not use the `-silent` option within the response file. Doing so can cause the profile creation to fail.

Response file location

The example `responsefile.pcaw.standAloneProfile.txt` response file can be found in the following locations:

Table 11. Response file locations

WebSphere Process Server CD 1 location	Installed location
WBI directory	- **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/bin/ProfileCreator_wbi directory - **Windows** **On Windows platforms:** *install_root*\bin\ProfileCreator_wbi directory

Creating a stand-alone server profile during installation

To create a stand-alone server profile during initial installation of WebSphere Process Server, do the following:

1. Copy the file `responsefile.pcaw.standAloneProfile.txt` from the WBI directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as `standaloneProfile_1.txt`.
2. Edit this profile response file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values.
3. Verify that no `-silent` option exists in the response file for the Profile Wizard. If the option exists, the profile is not created.
4. Save the file.

5. Copy the product installation response file `responsefile.wps.txt` from the `WBI` directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as `myoptionsfile`.

6. Edit this file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values. Refer to "Installing the product silently" on page 60 for a sample response file.

7. At the end of your copy of `responsefile.wps.txt`, change the value of the option `-W summaryPanel_InstallWizardBean.launchPCAW` to `true`. For instance,

   `-W summaryPanel_InstallWizardBean.launchPCAW="true"`

8. Change the value of the option `-W pcawResponseFileLocationQueryAction_InstallWizardBean.fileLocation` from `""` to identify the absolute file path of the (modified) profile response file. For instance,

   `-W pcawresponsefilelocationqueryaction_InstallWizardBean.fileLocation= "/opt/IBM/WebSphere/MyOptionFiles/standaloneProfile_1.txt"`

9. Save your changes in your copy of `responsefile.wps.txt`.

10. Use one of the following commands to install WebSphere Process Server and create a stand-alone server profile. They assume that you have copied the `responsefile.wps.txt` file into a temporary directory and renamed it as `myoptions.txt` before customizing the file.

    - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:**

      `install -options /tmp/WBI/myoptions.txt -silent`

    - ▶ Windows **On Windows platforms:**

      `install.exe -options "C:\temp\WBI\myoptions.txt" -silent`

Verify the success of the installation by examining the WebSphere Process Server log file. If the last line of the file contains the word INSTCONFSUCCESS, the WebSphere Process Server features you selected and WebSphere Application Server Network Deployment Version 6.0.1.2 were installed successfully. The log file is located as follows:

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *install_root*`/logs/wbi/log.txt`
- ▶ Windows **On Windows platforms:** *install_root*`\logs\wbi\log.txt`

where *install_root* represents the location of the WebSphere Process Server installation. If this log file contains the string INSTCONFSUCCESS on the last line, then the installation was successful. Note that other terms such as INSTCONFPARTIALSUCCESS or INSTCONFFAILED can occur on other lines within the file, or even on the last line, but as long as INSTCONFSUCCESS is included in the last line, the installation was successful. If the installation was not successful, examine other log files to determine why. See the descriptions of relevant log files listed in "Log files" on page 340, of error messages in "Error messages: installation and profile creation and augmentation" on page 332, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

Creating a stand-alone server profile after installation

You can also use the response file to silently create a stand-alone server profile after initial process server installation. To do so:

1. Copy the `responsefile.pcaw.standAloneProfile.txt` file from the *install_root*`/bin/ProfileCreator_wbi` directory on Linux and UNIX platforms

or *install_root*\bin\ProfileCreator_wbi on Windows platforms to a place that you can easily identify on your machine and save it with a new name such as my_options_file.txt.

2. Edit the file to customize the values for your installation. Review the explanatory text in the response file for detailed explanations of each option. An example response file exists in "Example pcaw.standAloneProfile.txt file."

3. Save the file.

4. Start profile creation with one of the following commands, as appropriate for your operating system.

   Note: If you have saved your response file in a directory other than *install_root*/bin/ProfileCreator_wbi on Linux or UNIX platforms or *install_root*\bin\ProfileCreator_wbi on Windows platforms, you must fully qualify the pathname of the commands shown below. These examples assume that the response file is in one of these directories, as appropriate for the operating system.

   - AIX **On AIX platforms:** ./pcatAIX.bin -options my_options_file.txt -silent

   - HP-UX **On HP-UX platforms:** ./pcatHPUX.bin -options my_options_file.txt -silent

   - Linux **On Linux platforms:** ./pcatLinux.bin -options my_options_file.txt -silent

   - Linux **On Linux platforms:** Power platforms: ./pcatLinuxPPC.bin -options my_options_file.txt -silent

   - Solaris **On Solaris platforms:** ./pcatSolaris.bin -options my_options_file.txt -silent

   - Windows **On Windows platforms:** pcatWindows.exe -options my_options_file.txt -silent

5. Examine the logs for success.

Logging

Refer to "Log files" on page 340 for information about logging.

Naming considerations

Refer to "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information about naming considerations.

Example pcaw.standAloneProfile.txt file

The response file provided with the product, before modification, will be similar to the following:

```
##############################################################################
#
# Licensed Material - Property of IBM
# 5724-L01
# (C) Copyright IBM Corporation 2005. All Rights Reserved.
# US Government Users Restricted Rights- Use, duplication or disclosure
# restricted by GSA ADP Schedule Contract with IBM Corp.
#
##############################################################################
##############################################################################
#
# Response file for WebSphere Process Server v6.0 stand alone profile
```

```
# creation
#
# This options file is located in the CD_ROOT\WBI\ directory and in the
# install_root\bin\ProfileCreator_wbi directory.
#
# To use the options file under CD_ROOT\WBI\ directory, follow the instructions
# in CD_ROOT\WBI\responsefile.wps.txt. The WebSphere Process Server installer
# locates this file during silent installation and automatically runs the silent
# profile creation at the end of installation.
#
# To use the options file under install_root\bin\ProfileCreator_wbi for silent
# profile creation, you must change various values in the file and use the
# following command line arguments:
#
#    -options "responsefile.pcaw.standAloneProfile.txt" -silent
#
###############################################################################
###############################################################################
#
# Profile name
#
# Set the profile name for installing a stand alone profile. The profile
# name must be unique for this WebSphere Application Server installation.
#
-W profilenamepanelInstallWizardBean.profileName="ProcSrv01"
###############################################################################
# If you want to set this profile to be your default profile, set to "true".
# Otherwise set to "false". If this is the first profile being created, the profile
# automatically is the default.
#
-W profilenamepanelInstallWizardBean.isDefault="false"
###############################################################################
#
# Profile location
#
# Specify a directory to contain the files that define the run-time environment,
# such as commands, configuration files, and log files. If the directory contains
# spaces, enclose it in double-quotes as shown in the Windows example below.
#
# Note that spaces in the install location is only supported on Windows
# operating systems.
#
# Default Install Location:
#
#    -P installLocation="<WBI_HOME>\profiles\<PROFILE_NAME>"
#
-P installLocation="C:\Program Files\IBM\WebSphere\ProcServer\profiles\ProcSrv01"
###############################################################################
#
# Node name
#
# Please select the node name for the Process Server. Node name under one cell
# has to be unique.
#
# If you plan to migrate a V5 deployment manager cell, the V5 managed nodes are also
# migrated to the V6 cell. To incrementally migrate an individual V5 managed node
# to V6, you must use the same node name for the V6 Process Server profile.
#
# Replace YOUR_NODE_NAME with the actual node name.
#
-W nodehostnamepanelInstallWizardBean.nodeName="YOUR_NODE_NAME"
###############################################################################
#
# Host name
#
# Specify the host name for the Process Server. The host name is the domain
# name system (DNS) name (short or long) or the IP address of this computer.
```

```
#
# Replace YOUR_HOST_NAME with the actual host name. Comment the line to use
# the default value.
#
-W nodehostnamepanelInstallWizardBean.hostName="YOUR_HOST_NAME"
##############################################################################
#
# Cell name
#
# You should not Modify this, unless absolutely necessary.
#
# The Wizard would set this to short local host name + "Node##Cell" by default.
#
# If you would like to override the resolved cell name value, uncomment the line and
# replace YOUR_CELL_NAME with <YOUR_OWN_VALUE>.
#
# -W setnondmgrcellnameinglobalconstantsInstallWizardBean.value="YOUR_CELL_NAME"
##############################################################################
#
# Port value assignment
#
# The following entries are used to reset port numbers used in the configuration
#
# They are currently set to the defaults.
# Please check to make sure there are no Port Conflicts.
# Port numbers for each profile can be found in:
# <profile>/config/cells/<cell name>/nodes/<node name>/serverindex.xml
#
-W pctdefaultprofileportspanelInstallWizardBean.WC_defaulthost="9080"
-W pctdefaultprofileportspanelInstallWizardBean.WC_adminhost="9060"
-W pctdefaultprofileportspanelInstallWizardBean.WC_defaulthost_secure="9443"
-W pctdefaultprofileportspanelInstallWizardBean.WC_adminhost_secure="9043"
-W pctdefaultprofileportspanelInstallWizardBean.BOOTSTRAP_ADDRESS="2809"
-W pctdefaultprofileportspanelInstallWizardBean.SOAP_CONNECTOR_ADDRESS="8880"
-W pctdefaultprofileportspanelInstallWizardBean.SAS_SSL_SERVERAUTH_LISTENER_ADDRESS="9401"
-W pctdefaultprofileportspanelInstallWizardBean.CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS="9403"
-W pctdefaultprofileportspanelInstallWizardBean.CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS="9402"
-W pctdefaultprofileportspanelInstallWizardBean.ORB_LISTENER_ADDRESS="9100"
-W pctdefaultprofileportspanelInstallWizardBean.DCS_UNICAST_ADDRESS="9353"
-W pctdefaultprofileportspanelInstallWizardBean.SIB_ENDPOINT_ADDRESS="7276"
-W pctdefaultprofileportspanelInstallWizardBean.SIB_ENDPOINT_SECURE_ADDRESS="7286"
-W pctdefaultprofileportspanelInstallWizardBean.SIB_MQ_ENDPOINT_ADDRESS="5558"
-W pctdefaultprofileportspanelInstallWizardBean.SIB_MQ_ENDPOINT_SECURE_ADDRESS="5578"
##############################################################################
#
# Windows service
#
# The following directives are to install services for Websphere Process Server on Windows.
# Using Services, you can start and stop services, and configure startup and recovery actions.
# Set winServiceQuery="false" will turn off the function on windows system.
# You can ignore these or comment them out for other Operating Systems.
#
-W winservicepanelInstallWizardBean.winServiceQuery="true"
##############################################################################
# Specify account type of the service. Legal values are:
#
#    localsystem   - Indicates that you choose to use Local System account.
#    specifieduser - Indicates that you choose to use specified user account.
#
-W winservicepanelInstallWizardBean.accountType="localsystem"
##############################################################################
# If you chose to install a service above with the accountType="localsystem",
# the userName and password below can be ignored. If the accountType was set to:
# accountType="specifieduser", then you must specify the User Name and Password
# which are required to install the Services. The current user must be admin or must
# have admin authority to install a Service. Also the username
# which is given here must have "Log On as a Service " authority
```

```
# for the service to run properly.
#
# Replace YOUR_USER_NAME with your username.
#
-W winservicepanelInstallWizardBean.userName="YOUR_USER_NAME"
###############################################################################
# Replace YOUR_PASSWORD with your valid password.
#
-W winservicepanelInstallWizardBean.password="YOUR_PASSWORD"
###############################################################################
# Set the startup type of the WebSphere Process Server on Windows.
# Valid values are "automatic", "manual", and "disabled".
#
-W winservicepanelInstallWizardBean.startupType="manual"
###############################################################################
#
# Service Component Architecture Configuration
#
# The following entries are used to create a Service Component Architecture
# configuration.  Set doConfigureSCACheckList="true" if you want
# to configure a Service Component Architecture.  If you do not want a
# Service Component Architecture leave the value as "".
# If you set the value to "true" then the rest of the parameters must also be filled
# out.
#
-W wbiSCAConfigInputPanelBeanId.doConfigureSCACheckList=""
###############################################################################
# If you chose to create a Service Component Architecture configuration above
# then specify the userid for that configuration.  If not then comment out
# this line.
#
-W wbiSCAConfigInputPanelBeanId.userId="YOUR_USER_ID_SCA"
###############################################################################
# If you chose to create a Service Component Architecture configuration above
# then specify the password for that configuration and confirm that password.
# If not then comment out these lines.
#
-W wbiSCAConfigInputPanelBeanId.password="YOUR_PASSWORD_SCA"
-W wbiSCAConfigInputPanelBeanId.passwordConfirmation="YOUR_PASSWORD_SCA"
###############################################################################
#
# Common Event Infrastructure Configuration
#
# The following entries are used to create a sample Common Event Infrastructure
# configuration. Uncomment the appropriate lines & fill in the values.
###############################################################################
# Specify the userid for CEI sample configuration to create a sample
# Common Event infrastructure.
#
-W wbiCEIConfigInputPanelBeanId.userId="YOUR_USER_ID_CEI"
###############################################################################
# To create the sample Common Event Infrastructure configuration above
# specify the password for that sample configuration and confirm that password.
#
-W wbiCEIConfigInputPanelBeanId.password="YOUR_PASSWORD_CEI"
-W wbiCEIConfigInputPanelBeanId.passwordConfirmation="YOUR_PASSWORD_CEI"
###############################################################################
# To create the sample Common Event Infrastructure configuration above
# specify the server name for that sample configuration.  By default, the
# server that is created for a standalone node is named "server1".
#
-W wbiCEIConfigInputPanelBeanId.serverName="server1"
###############################################################################
# Database type
#
# Choose the type of database you want to use/create for Common Event Infrastructure.
# The supported database types are as follows: CloudScape, DB2 UDB, Oracle.
```

```
# To select a particular database type, uncomment the appropriate line.
#
-W wbiCEIConfigInputPanelBeanId.database="CLOUDSCAPE_V51_1"
# -W wbiCEIConfigInputPanelBeanId.database="DB2UDBNT_V8_1"
# -W wbiCEIConfigInputPanelBeanId.database="DB2UDBNT_V82_1"
# -W wbiCEIConfigInputPanelBeanId.database="ORACLE_V9_1"
# -W wbiCEIConfigInputPanelBeanId.database="ORACLE_V10_1"
# -W wbiCEIConfigInputPanelBeanId.database="DB2UDBOS390_V7_1"
# -W wbiCEIConfigInputPanelBeanId.database="DB2UDBOS390_V8_1"
############################################################################
# The following entries are used only if you selected DB2 as your preferred
# database type.
############################################################################
# Create database choice
#
# If you want to create a new database for Common Event Infrastructure then
# set the value as "yes". If you want to generate scripts to create new database
# then set the value as "no".
#
# -W wbiCEIDB2ConfigInfoBean.createDatabaseChoice="yes"
############################################################################
# Database Name
#
# The database name. By default the database is named "event". Database name
# cannot be more than 8 characters long.
#
# -W wbiCEIDB2ConfigInfoBean.databaseName="event"
############################################################################
# User ID
#
# User ID to authenticate with the database
#
# -W wbiCEIDB2ConfigInfoBean.userId="YOUR_USER_ID_DB"
############################################################################
# Password
#
# Specify the password for database authentication. Later confirm it.
#
# -W wbiCEIDB2ConfigInfoBean.password="YOUR_PASSWORD_DB"
# -W wbiCEIDB2ConfigInfoBean.passwordConfirmation="YOUR_PASSWORD_DB"
############################################################################
# JDBC Driver Classpath
#
#  Specify a directory that contains the following files:
#  db2jcc.jar, db2jcc_license_cu.jar, db2jcc_license_cisuz.jar
#  These files should be located in the follow directory:
#
#      "<WBI_HOME>\universalDriver_wbi\lib"
#
#  So, if using DB2_Universal, an acceptable JDBC classpath might be
#  -W wbiCEIDB2DriverInfo.driverClassPath="C:\Program Files\IBM\WebSphere\universalDriver_wbi\lib"
#
#
# -W wbiCEIDB2DriverInfo.driverClassPath=""
############################################################################
# Driver Type
#
# Specify the driver JDBC type. Valid values are "2" or "4".
#
# -W wbiCEIDB2DriverInfo.driverType="4"
############################################################################
# Database Server Name
#
# Specify the database server name only if your driver type selection was "4".
#
# -W wbiCEIDB2DriverInfo.databaseServerName="localhost"
############################################################################
```

```
# Server Port
#
# Specify the server port only if your driver type selection was "4".
#
# -W wbiCEIDB2DriverInfo.serverPort="50000"
##############################################################################
# Database Node Name
#
# Specify the database node name only if the DB2 server is remote.
#
# -W wbiCEIDB2DriverInfo.dbNodeName=""
##############################################################################
# The following entries are used only if you selected Oracle V9.1 or Oracle V10.1
# as your preferred database type.
##############################################################################
# Create database choice
#
# If you want to create a new database for Common Event Infrastructure then
# set the value as "yes". If you want to generate scripts to create new database
# then set the value as "no".
#
# -W wbiCEIOracleConfigInfoBean.createDatabaseChoice="yes"
##############################################################################
# Database Name
#
# The database name. Database name cannot be more than 8 characters long.
#
# -W wbiCEIOracleConfigInfoBean.databaseName=""
##############################################################################
# User ID
#
# User ID to create in the database.
#
# -W wbiCEIOracleConfigInfoBean.userId="YOUR_DB_USER_ID"
##############################################################################
# Password
#
# Specify the password for the created user ID. Later confirm it.
#
# -W wbiCEIOracleConfigInfoBean.password="YOUR_DB_USER_PASSWORD"
# -W wbiCEIOracleConfigInfoBean.passwordConfirmation="YOUR_DB_USER_PASSWORD"
##############################################################################
# User ID
#
# User ID with SYSDBA authority.
#
# -W wbiCEIOracleDriverInfo.userId="USER_ID_AUTH_SYSDBA"
##############################################################################
# Password
#
# Specify the password for the user ID with SYSDBA authority. Later confirm it.
#
# -W wbiCEIOracleDriverInfo.password="USER_PASSWORD_AUTH_SYSDBA"
# -W wbiCEIOracleDriverInfo.passwordConfirmation="USER_PASSWORD_AUTH_SYSDBA"
##############################################################################
# JDBC Driver Classpath
#
# Specify a directory that contains the following files:
#
#  ORACLE_OCI8 - specify a directory that contains classes12.zip.
#
#  ORACLE_THIN - specify a directory that contains ojdbc14.jar.
# -W wbiCEIOracleDriverInfo.driverClassPath="<value>"
##############################################################################
# Driver Type
#
# Specify the driver JDBC type only if you did not opt to create a new database.
```

```
# Valid values are "oci" or "thin".
#
# -W wbiCEIOracleDriverInfo.driverType="oci"
##############################################################################
# Database Server Name
#
# Specify the database server name only if your driver type selection was "thin".
#
# -W wbiCEIOracleDriverInfo.databaseServerName="localhost"
##############################################################################
# Server Port
#
# Specify the server port only if your driver type selection was "thin".
#
# -W wbiCEIOracleDriverInfo.serverPort="1521"
##############################################################################
#
# Business Process Choreographer Configuration
#
# The following entries are used to create a sample Business Process Choreographer
# configuration.  Set doConfigureSampleBPContainerCheckList="yes" if you want
# to configure a sample.  If you do not want a sample leave the value as "".
# If you set the value to "yes" then the rest of the parameters must also be filled
# out.
#
-W bpcConfigInputPanelBeanId.doConfigureSampleBPContainerCheckList=""
##############################################################################
# If you chose to create a sample Business Process Choreographer configuration
# above then specify the userid for that sample configuration.  If not then
# comment out this line.
#
-W bpcConfigInputPanelBeanId.userId="YOUR_USER_ID_BPC"
##############################################################################
# If you chose to create a sample Business Process Choreographer configuration
# above then specify the password for that sample configuration and confirm that
# password.  If not then comment out these lines.
#
-W bpcConfigInputPanelBeanId.password="YOUR_PASSWORD_BPC"
-W bpcConfigInputPanelBeanId.passwordConfirmation="YOUR_PASSWORD_BPC"
##############################################################################
# If you chose to create a sample Business Process Choreographer configuration
# above then specify the security role for the business process system administrator.
# This is the security role used by the Business Process Choreographer to run a
# business process.  Below is an example of an LDAP security role.  Comment out
# this line if a sample Business Process Choreographer configuration is not being
# created.
#
-W bpcConfigInputPanelBeanId.securityRole="YOUR_SECURITY_ROLE_BPC"
##############################################################################
#
# Application Scheduler configuration
#
# Application Scheduler is used to schedule migration application group events.
# If you choose to configure Application Scheduler, set the following property
# to "yes". Otherwise, leave it blank "".
#
-W wbiAppSchedulerConfigInputPanel.doAppSchedulerConfig=""
#-W wbiAppSchedulerConfigInputPanel.doAppSchedulerConfig="yes"
##############################################################################
#
# Indicate the application server name on this node if you chose to configure
# it for Application Scheduler use. Usually, for a stand-alone profile the
# server name is "server1".
#
-W wbiAppSchedulerConfigInputPanel.appSchedulerServer="server1"
##############################################################################
#
```

```
# Configure Database Authentication
#
# Various WebSphere Process Server components use a database connection.
# Choose a database type and enter the database configuration information
# based on that type.
#
################################################################################
# Create new or use existing database
#
# You can choose to use an existing database for WebSphere Process Server or
# you can create a new database. To use an existing database, set the following
# property to "existing". To create a new database set the following property
# to "create".
#
-W wbiCommonDBConfigPanel.radioButtons="create"
#-W wbiCommonDBConfigPanel.radioButtons="existing"
################################################################################
# Database type
#
# Choose the type of database you want to use/create for WebSphere Process
# Server. The supported database types are as follows: CloudScape, DB2 UDB,
# DB2 CLI, Informix, MSSQL Server Embedded, MSSQL Server Data Direct,
# Oracle OCI, and Oracle Thin. To select a particular database type,
# uncomment/comment the appropriate lines.
#
# NOTE:  DB2UDBOS390_V7_1, DB2UDBOS390_V8_1, ORACLE_OCI, ORACLE_THIN
#         databases are only supported for when using an existing database.
#         DO NOT select these databases if you choose to create a new database.
#
#
-W wbiCommonDBConfigPanel.DBProductList="CLOUDSCAPE"
#-W wbiCommonDBConfigPanel.DBProductList="DB2_Universal"
#-W wbiCommonDBConfigPanel.DBProductList="DB2UDBOS390_V7_1"
#-W wbiCommonDBConfigPanel.DBProductList="DB2UDBOS390_V8_1"
#-W wbiCommonDBConfigPanel.DBProductList="DB2_CLI"
#-W wbiCommonDBConfigPanel.DBProductList="INFORMIX"
#-W wbiCommonDBConfigPanel.DBProductList="MSSQLSERVER_Embedded"
#-W wbiCommonDBConfigPanel.DBProductList="MSSQLSERVER_DataDirect"
#-W wbiCommonDBConfigPanel.DBProductList="ORACLE_OCI"
#-W wbiCommonDBConfigPanel.DBProductList="ORACLE_THIN"
################################################################################
# Database name
#
# If you chose to use an existing database, set the following property to the
# name of the existing database. Otherwise, specify a name for the new database.
#
-W wbiCommonDBConfigPanel.DBNameValue="WPRCSDB"
################################################################################
# Location of database server (database product installation root)
#
# If you chose to create a new database, this property is required unless you
# also chose CLOUDSCAPE for the database type. The database server location is
# the installation root for the database product (e.g. C:\SQLLIB).
#
-W wbiAdditionalDBConfigPanel.DBServerLocation=""
################################################################################
# Database User ID (to authenticate with the database)
#
# This property is required for all database types except CloudScape.
#
-W wbiAdditionalDBConfigPanel.DBUserID=""
################################################################################
# Database password (to authenticate with the database)
#
# This property is required for all database types except CloudScape. If you
# selected a database type other than CloudScape, enter the database password
# and confirm it by entering it again for DBPassWordConf.
```

```
#
-W wbiAdditionalDBConfigPanel.DBPassWord=""
-W wbiAdditionalDBConfigPanel.DBPassWordConf=""
##############################################################################
# Location of JDBC driver classpath files
#
# This property is required for all database types except CLOUDSCAPE and
# MSSQLSERVER_Embedded. Unless you selected one of these database types
# set the following property to a specific directory, as directed below,
# depending on the database type.
#
# DB2_Universal - specify a directory that contains the following files:
# db2jcc.jar and db2jcc_license_cu.jar or db2jcc_license_cisuz.jar.
# These files should be located in the follow directory:
#
#      "<WBI_HOME>\universalDriver_wbi\lib"
#
#  So, if using DB2_Universal, an acceptable JDBC classpath might be
#  -W wbiAdditionalDBConfigPanel.DBjdbc="C:\Program Files\IBM\WebSphere\universalDriver_wbi\lib"
#
#
# DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1  - specify a directory
# that contains the following files:
#  db2jcc.jar, db2jcc_license_cu.jar, db2jcc_license_cisuz.jar
#
# DB2_CLI - specify a directory that contains db2java.zip.
#
# INFORMIX - specify a directory that contains the following files:
#  ifxjdbc.jar, ifxjdbcx.jar
#
# MSSQLSERVER_DataDirect - specify a directory that contains the following files:
#  sqlserver.jar, base.jar, util.jar
#  Also make sure the following file is available in the following location
#  relative to the specified directory:  ../spy/spy.jar
#
# ORACLE_OCI - specify a directory that contains classes12.zip.
#
# ORACLE_THIN - specify a directory that contains ojdbc14.jar.
#
#
# -W wbiAdditionalDBConfigPanel.DBjdbc=""
##############################################################################
# Database host name
#
# This property is required for all database types except CLOUDSCAPE and
# DB2 CLI. If you chose to use an existing database and the database is located
# on a remote database server, specify the hostname for the remote server.
# Otherwise, specify "localhost".  If the database type is DB2_Universal OS/390 V7.1
# or DB2_Universal OS/390 V8.1 specify instead the value for "DBHostNameOS390" below.
#
-W wbiAdditionalDBConfigPanel.DBHostName="localhost"
# -W wbiAdditionalDBConfigPanel.DBHostNameOS390=""
##############################################################################
#
# Database server port
#
# This property is required for all database types except CLOUDSCAPE and
# DB2 CLI. Unless you selected one of these databases, set the following
# property to the appropriate server port for the selected database.
#
-W wbiAdditionalDBConfigPanel.DBPort=""
##############################################################################
# Database storage group name (DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1)
#
# This property is required for DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1
#
# -W wbiAdditionalDBConfigPanel.DBStorageName=""
```

```
##########################################################################
# Database server connection location name (DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1)
#
# This property is required for DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1
#
# -W wbiAdditionalDBConfigPanel.DBServerConnection=""
##########################################################################
# Database instance name (Informix)
#
# This property is required for INFORMIX and should always start with "ol_"
#
# -W wbiAdditionalDBConfigPanel.DBInstance=""
##########################################################################
# Profile type
#
# This must be set to "default" for installing a stand alone profile
# Do not change this!
#
-W wbiCreateProfileTypeSelectionPanelBeanId.selection="default"
```

Creating a deployment manager profile silently

The response file responsefile.pcaw.dmgrProfile.txt can be used to silently create a deployment manager profile.

The installation program reads this file to determine the characteristics of a deployment manager profile when you install silently. You can also create additional deployment manager profiles by using this response file after initial installation. The response file is shipped with default values.

Refer to "Installing the product silently" on page 60 for more information on silent installation.

Before you start

Do the following before using this procedure:

- Ensure you want to create a deployment manager profile and that you want to do so silently. If you want to create the profile with an interactive interface instead, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other documented profile creation procedures.
- Ensure you have enough disk and temporary space to create the new profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you are installing WebSphere Process Server, ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.
- If you are installing WebSphere Process Server, and you have enabled global security on an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, ensure you disable it before installing the product. If you have already installed WebSphere Process Server and you have enabled global security, ensure you disable it before creating the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0, information center at http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.
- Ensure that you are creating the profile as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

Avoiding the use of the -silent option within the options response file

Do not use the -silent option in the file. Doing so can cause the profile creation to fail.

Response file locations

The example file responsefile.pcaw.dmgrProfile.txt can be found in two locations:

Table 12. Response file locations

WebSphere Process Server CD 1 location	Installed location
WBI directory	• ▶ Linux ◀ ▶ UNIX ◀ **On Linux and UNIX platforms:** *install_root*/bin/ProfileCreator_wbi directory • ▶ Windows ◀ **On Windows platforms:** *install_root*\bin\ProfileCreator_wbi directory

Creating a deployment manager profile during installation

To create a deployment manager profile during initial installation of WebSphere Process Server, do the following:

1. Copy the responsefile.pcaw.dmgrProfile.txt file from the WBI directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as dmgrProfile_1.txt.

2. Edit this profile response file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values.

3. Verify that no -silent option exists in the response file for the Profile Wizard. If the option exists, the profile is not created.

4. Save the file.

5. Copy the product installation response file responsefile.wps.txt from the WBI directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as myoptionsfile.

6. Edit this file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values. Refer to "Installing the product silently" on page 60 for a sample response file.

7. At the end of your copy of responsefile.wps.txt, change the value of the option -W summaryPanel_InstallWizardBean.launchPCAW to true. For instance,

   -W summaryPanel_InstallWizardBean.launchPCAW="true"

8. Change the value of the option -W pcawResponseFileLocationQueryAction_InstallWizardBean.fileLocation from "" to identify the absolute file path of the (modified) profile response file. For instance,

   -W pcawResponseFileLocationQueryActionInstallWizardBean.fileLocation=
   "/opt/IBM/WebSphere/MyOptionFiles/dmgrProfile_1.txt"

9. Save your changes in your copy of responsefile.wps.txt.

10. Use one of the following commands to install WebSphere Process Server and create a deployment manager profile. These commands assume that you have

copied the `responsefile.wps.txt` file into a temporary directory and renamed it as `myoptions.txt` before customizing the file.

- **Linux** **UNIX** **On Linux and UNIX platforms:**

  `install -options /tmp/WBI/myoptions.txt -silent`

- **Windows** **On Windows platforms:**

  `install.exe -options "C:\temp\WBI\myoptions.txt" -silent`

Verify the success of the installation by examining the WebSphere Process Server log file. If the last line of the file contains the word `INSTCONFSUCCESS`, the WebSphere Process Server features you selected and WebSphere Application Server Network Deployment Version 6.0.1.2 were installed successfully. The log file is located as follows:

- **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*`/logs/wbi/log.txt`
- **Windows** **On Windows platforms:** *install_root*`\logs\wbi\log.txt`

where *install_root* represents the location of the WebSphere Process Server installation. If this log file contains the string `INSTCONFSUCCESS` on the last line, then the installation was successful. Note that other terms such as `INSTCONFPARTIALSUCCESS` or `INSTCONFFAILED` can occur on other lines within the file, or even on the last line, but as long as `INSTCONFSUCCESS` is included in the last line, the installation was successful. If the installation was not successful, examine other log files to determine why. See the descriptions of relevant log files listed in "Log files" on page 340, of error messages in "Error messages: installation and profile creation and augmentation" on page 332, and check out "Troubleshooting installation" on page 328 for tips on troubleshooting your installation.

Creating a profile after installation

You can also use the response file to silently create a deployment manager profile after initial process server installation. To edit and use the appropriate response file for creating a profile, perform the following procedure:

1. Copy the `responsefile.pcaw.dmgrProfile.txt` file from the *install_root*`/bin/ProfileCreator_wbi` directory on Linux and UNIX platforms or *install_root*`\bin\ProfileCreator_wbi` on Windows platforms to a place that you can easily identify on your machine and save it with a new name such as `my_options_file.txt`.
2. Edit the file to customize the values for your installation. Review the explanatory text in the response file for detailed explanations of each option. An example response file exists in "Example responsefile.pcaw.dmgrProfile.txt file" on page 145.
3. Save the file.
4. Start profile creation with one of the following commands, as appropriate for your operating system.

   Note: If you have saved your response file in a directory other than *install_root*`/bin/ProfileCreator_wbi` on Linux or UNIX platforms or *install_root*`\bin\ProfileCreator_wbi` on Windows platforms, you must fully qualify the pathname of the commands shown below. These examples assume that the response file is in one of these directories, as appropriate for the operating system.

   - **AIX** **On AIX platforms:** `./pcatAIX.bin -options my_options_file.txt -silent`

-
- **Linux** **On Linux platforms:** ./pcatLinux.bin -options my_options_file.txt -silent
- **Linux** **On Linux platforms:** Power platforms: ./pcatLinuxPPC.bin -options my_options_file.txt -silent
- **Solaris** **On Solaris platforms:** ./pcatSolaris.bin -options my_options_file.txt -silent
- **Windows** **On Windows platforms:** pcatWindows.exe -options my_options_file.txt -silent

5. Examine the logs for success.

Logging

See "Log files" on page 340 for more information.

Naming considerations

Refer to "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information.

Example responsefile.pcaw.dmgrProfile.txt file

The response file provided with the product, before modification, will be similar to the following:

```
##############################################################################
#
# Licensed Material - Property of IBM
# 5724-L01
# (C) Copyright IBM Corporation 2005. All Rights Reserved.
# US Government Users Restricted Rights- Use, duplication or disclosure
# restricted by GSA ADP Schedule Contract with IBM Corp.
#
##############################################################################
##############################################################################
#
# Response file for Websphere Server 6.0 dmgr profile creation
#
# This options file is located in the CD_ROOT\WBI\ directory and in the
# install_root\bin\ProfileCreator_wbi directory.
#
# To use the options file under CD_ROOT\WBI\ directory, follow the instructions
# in CD_ROOT\WBI\responsefile.wps.txt. The WebSphere Process Server installer
# locates this file during silent installation and automatically runs the silent
# profile creation at the end of installation.
#
# To use the options file under install_root\bin\ProfileCreator_wbi for silent
# profile creation, you must change various values in the file and use the
# following command line arguments:
#
#    -options "responsefile.pcaw.dmgrProfile.txt" -silent
#
##############################################################################
##############################################################################
#
# Profile name
#
# Set the profile name for installing a deployment manager profile. The profile
# name must be unique for this WebSphere Application Server installation.
#
```

```
-W profilenamepanelInstallWizardBean.profileName="Dmgr01"
##############################################################################
# If you want to set this profile to be your default profile, set to "true".
# Otherwise set to "false". If this is the first profile being created, the profile
# automatically is the default.
#
-W profilenamepanelInstallWizardBean.isDefault="false"
##############################################################################
#
# Profile location
#
# Specify a directory to contain the files that define the run-time environment,
# such as commands, configuration files, and log files. If the directory contains
# spaces, enclose it in double-quotes as shown in the Windows example below.
#
# Note that spaces in the install location is only supported on Windows
# operating systems.
#
# Default Install Location:
#
#     -P installLocation="<WBI_HOME>\profiles\<PROFILE_NAME>"
#
-P installLocation="C:\Program Files\IBM\WebSphere\ProcServer\profiles\Dmgr01"
##############################################################################
#
# Node name
#
# Please select the node name for the Process Server. Node name under one cell
# has to be unique.
#
# Replace YOUR_NODE_NAME with the actual node name.
#
-W nodehostandcellnamepanelInstallWizardBean.nodeName="YOUR_NODE_NAME"
##############################################################################
#
# Host name
#
# Specify the host name for the Process Server. The host name is the domain
# name system (DNS) name (short or long) or the IP address of this computer.
#
# Replace YOUR_HOST_NAME with the actual host name. Comment the line to use
# the default value.
#
-W nodehostandcellnamepanelInstallWizardBean.hostName="YOUR_HOST_NAME"
##############################################################################
#
# Cell name
#
# Specify the cell name for the Process Server.
#
# If you plan to migrate a V5 deployment manager cell to this V6 deployment
# manager, specify the same cell name as the V5 cell.
#
# Replace YOUR_CELL_NAME with the actual cell name.
#
-W nodehostandcellnamepanelInstallWizardBean.cellName="YOUR_CELL_NAME"
##############################################################################
#
# Port value assignment
#
# The following entries are used to reset port numbers used in the configuration
#
# They are currently set to the defaults.
# Please check to make sure there are no Port Conflicts.
# Port numbers for each profile can be found in:
# <profile>/config/cells/<cell name>/nodes/<node name>/serverindex.xml
#
```

```
-W pctdmgrprofileportspanelInstallWizardBean.WC_adminhost="9060"
-W pctdmgrprofileportspanelInstallWizardBean.WC_adminhost_secure="9043"
-W pctdmgrprofileportspanelInstallWizardBean.BOOTSTRAP_ADDRESS="9809"
-W pctdmgrprofileportspanelInstallWizardBean.SOAP_CONNECTOR_ADDRESS="8879"
-W pctdmgrprofileportspanelInstallWizardBean.SAS_SSL_SERVERAUTH_LISTENER_ADDRESS="9404"
-W pctdmgrprofileportspanelInstallWizardBean.CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS="9406"
-W pctdmgrprofileportspanelInstallWizardBean.CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS="9405"
-W pctdmgrprofileportspanelInstallWizardBean.ORB_LISTENER_ADDRESS="9101"
-W pctdmgrprofileportspanelInstallWizardBean.CELL_DISCOVERY_ADDRESS="7277"
-W pctdmgrprofileportspanelInstallWizardBean.DCS_UNICAST_ADDRESS="9352"
###########################################################################
#
# Windows service
#
# The following directives are to install services for Websphere Process Server on Windows.
# Using Services, you can start and stop services, and configure startup and recovery actions.
# Set winServiceQuery="false" will turn off the function on windows system.
# You can ignore these or comment them out for other Operating Systems.
#
-W winservicepanelInstallWizardBean.winServiceQuery="true"
###########################################################################
# Specify account type of the service. Legal values are:
#
#    localsystem   - Indicates that you choose to use Local System account.
#    specifieduser - Indicates that you choose to use specified user account.
#
-W winservicepanelInstallWizardBean.accountType="localsystem"
###########################################################################
# If you chose to install a service above with the accountType="localsystem",
# the userName and password below can be ignored. If the accountType was set to:
# accountType="specifieduser", then you must specify the User Name and Password
# which are required to install the Services. The current user must be admin or must
# have admin authority to install a Service. Also the username
# which is given here must have "Log On as a Service " authority
# for the service to run properly.
#
# Replace YOUR_USER_NAME with your username.
#
-W winservicepanelInstallWizardBean.userName="YOUR_USER_NAME"
###########################################################################
# Replace YOUR_PASSWORD with your valid password.
#
-W winservicepanelInstallWizardBean.password="YOUR_PASSWORD"
###########################################################################
# Set the startup type of the WebSphere Process Server on Windows.
# Valid values are "automatic", "manual", and "disabled".
#
-W winservicepanelInstallWizardBean.startupType="manual"
###########################################################################
#
# Service Component Architecture Configuration
#
# The following entries are used to create a Service Component Architecture
# configuration.  Set doConfigureSCACheckList="true" if you want
# to configure a Service Component Architecture.  If you do not want a
# Service Component Architecture leave the value as "".
# If you set the value to "true" then the rest of the parameters must also be filled
# out.
#
-W wbiSCAConfigInputPanelBeanId.doConfigureSCACheckList=""
###########################################################################
# If you chose to create a Service Component Architecture configuration above
# then specify the userid for that configuration.  If not then comment out
# this line.
#
-W wbiSCAConfigInputPanelBeanId.userId="YOUR_USER_ID_SCA"
###########################################################################
```

```
# If you chose to create a Service Component Architecture configuration above
# then specify the password for that configuration and confirm that password.
# If not then comment out these lines.
#
-W wbiSCAConfigInputPanelBeanId.password="YOUR_PASSWORD_SCA"
-W wbiSCAConfigInputPanelBeanId.passwordConfirmation="YOUR_PASSWORD_SCA"
################################################################################
#
# Configure Database Authentication
#
# Various WebSphere Process Server components use a database connection.
# Choose a database type and enter the database configuration information
# based on that type.
#
################################################################################
# Create new or use existing database
#
# You can choose to use an existing database for WebSphere Process Server or
# you can create a new database. To use an existing database, set the following
# property to "existing". To create a new database set the following property
# to "create".
#
-W wbiCommonDBConfigPanel.radioButtons="create"
#-W wbiCommonDBConfigPanel.radioButtons="existing"
################################################################################
# Database type
#
# Choose the type of database you want to use/create for WebSphere Process
# Server. The supported database types are as follows: DB2 UDB,
# DB2 CLI, Informix, MSSQL Server Embedded, MSSQL Server Data Direct,
# Oracle OCI, and Oracle Thin. To select a particular database type,
# uncomment/comment the appropriate lines.
#
# NOTE:  DB2UDBOS390_V7_1, DB2UDBOS390_V8_1, ORACLE_OCI, ORACLE_THIN
#        databases are only supported for when using an existing database.
#        DO NOT select these databases if you choose to create a new database.
#
-W wbiCommonDBConfigPanel.DBProductListDmgr="DB2_Universal"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="DB2UDBOS390_V7_1"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="DB2UDBOS390_V8_1"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="DB2_CLI"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="INFORMIX"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="MSSQLSERVER_Embedded"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="MSSQLSERVER_DataDirect"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="ORACLE_OCI"
#-W wbiCommonDBConfigPanel.DBProductListDmgr="ORACLE_THIN"
################################################################################
# Database name
#
# If you chose to use an existing database, set the following property to the
# name of the existing database. Otherwise, specify a name for the new database.
#
-W wbiCommonDBConfigPanel.DBNameValue="WPRCSDB"
################################################################################
# Location of database server (database product installation root)
#
# If you chose to create a new database, this property is required unless you
# also chose CLOUDSCAPE for the database type. The database server location is
# the installation root for the database product (e.g. C:\SQLLIB).
#
-W wbiAdditionalDBConfigPanel.DBServerLocation=""
################################################################################
# Database User ID (to authenticate with the database)
#
# This property is required for all database types except CloudScape.
#
-W wbiAdditionalDBConfigPanel.DBUserID=""
```

```
##########################################################################
# Database password (to authenticate with the database)
#
# This property is required for all database types except CloudScape. If you
# selected a database type other than CloudScape, enter the database password
# and confirm it by entering it again for DBPassWordConf.
#
-W wbiAdditionalDBConfigPanel.DBPassWord=""
-W wbiAdditionalDBConfigPanel.DBPassWordConf=""
##########################################################################
# Location of JDBC driver classpath files
#
# This property is required for all database types except CLOUDSCAPE and
# MSSQLSERVER_Embedded. Unless you selected one of these database types
# set the following property to a specific directory, as directed below,
# depending on the database type.
#
# DB2_Universal - specify a directory that contains the following files:
# db2jcc.jar and db2jcc_license_cu.jar or db2jcc_license_cisuz.jar.
# These files should be located in the follow directory:
#
#     "<WBI_HOME>\universalDriver_wbi\lib"
#
#  So, if using DB2_Universal, an acceptable JDBC classpath might be
#  -W wbiAdditionalDBConfigPanel.DBjdbc="C:\Program Files\IBM\WebSphere\universalDriver_wbi\lib"
#
# DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1  - specify a directory
# that contains the following files:
#  db2jcc.jar,  db2jcc_license_cisuz.jar
#
# DB2_CLI - specify a directory that contains db2java.zip.
#
# INFORMIX - specify a directory that contains the following files:
#  ifxjdbc.jar, ifxjdbcx.jar
#
# MSSQLSERVER_DataDirect - specify a directory that contains the following files:
#  sqlserver.jar, base.jar, util.jar
#  Also make sure the following file is available in the following location
#  relative to the specified directory:  ../spy/spy.jar
#
# ORACLE_OCI - specify a directory that contains classes12.zip.
#
# ORACLE_THIN - specify a directory that contains ojdbc14.jar.
#
# -W wbiAdditionalDBConfigPanel.DBjdbc=""
##########################################################################
# Database host name
#
# This property is required for all database types except CLOUDSCAPE and
# DB2 CLI. If you chose to use an existing database and the database is located
# on a remote database server, specify the hostname for the remote server.
# Otherwise, specify "localhost".  If the database type is DB2_Universal OS/390 V7.1
# or DB2_Universal OS/390 V8.1 specify instead the value for "DBHostNameOS390" below.
#
-W wbiAdditionalDBConfigPanel.DBHostName="localhost"
# -W wbiAdditionalDBConfigPanel.DBHostNameOS390=""
##########################################################################
#
# Database server port
#
# This property is required for all database types except CLOUDSCAPE and
# DB2 CLI. Unless you selected one of these databases, set the following
# property to the appropriate server port for the selected database.
#
-W wbiAdditionalDBConfigPanel.DBPort=""
##########################################################################
# Database storage group name (DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1)
```

```
#
# This property is required for DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1
#
# -W wbiAdditionalDBConfigPanel.DBStorageName=""
############################################################################
# Database server connection location name (DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1)
#
# This property is required for DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1
#
# -W wbiAdditionalDBConfigPanel.DBServerConnection=""
############################################################################
# Database instance name (Informix)
#
# This property is required for INFORMIX and should always start with "ol_"
#
# -W wbiAdditionalDBConfigPanel.DBInstance=""
############################################################################
# Profile type
#
# This must be set to "dmgr" for installing a deployment manager profile.
# Do not change this!
#
-W wbiCreateProfileTypeSelectionPanelBeanId.selection="dmgr"
```

Creating a custom profile silently

The response file responsefile.pcaw.managedProfile.txt can be used to silently create a custom profile. A custom profile must be federated into a deployment manager cell to become operational. Because of this strong dependency on being a managed node, the profile is often referred to as a *managed profile*.

The installation program reads this file to determine profile creation option values when you install silently. You can also create additional custom profiles by using this response file after initial installation. The response file is shipped with default values.

Before you start

Do the following before using this procedure:

- Ensure you want to create a custom profile and that you want to do so silently. If you want to create the profile with an interactive interface instead, see "Creating and augmenting profiles by using the Profile Wizard" on page 91 for descriptions of other profile creation procedures.
- Make sure that you have enough disk and temporary space to create the new profile. See "Required disk space" on page 32 for the minimum disk space required.
- If you are installing WebSphere Process Server, ensure that you have prepared your operating system for installation. See "Preparing the operating system for installation" on page 20 for instructions.
- If you are installing WebSphere Process Server, and you have enabled global security on an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment, ensure you disable it before installing the product. If you have already installed WebSphere Process Server and you have enabled global security, ensure you disable it before creating the profile. For information on enabling and disabling global security, see the WebSphere Application Server Network Deployment, Version 6.0,

information center at
http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp.

- Ensure that you are creating the profile as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

Federating the custom profile

Several directives in the file provide options for how the custom node is federated into the deployment manager cell:

- **-W pctfederationpanelInstallWizardBean.federateLater**

  Set this value to `true` if the deployment manager is not running or is not accessible for any of the reasons in the following description of federation.

- **-W pctfederationpanelInstallWizardBean.hostname**

  Specify a value that resolves to the system where the deployment manager is running. Refer to "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for host naming considerations.

- **-W pctfederationpanelInstallWizardBean.port**

  Specify the value of the deployment manager SOAP port. You must specify the correct value. An incorrect value prevents node federation and results in a total failure with an INSTCONFFAILED indicator. The default SOAP port for the deployment manager is 8879.

Do you federate the node during or after profile creation?

Federate the node at the time that you perform the silent creation of the custom profile if, and only if, *all* of the following are true:

- The deployment manager is running.
- The deployment manager is a WebSphere Process Server profile.
- Security is not enabled on the deployment manager node.
- The deployment manager uses the default SOAP JMX connector type and the connector is enabled.

Do *not* federate the node during silent profile creation if *any one of the following* is true:

- The deployment manager is not running or you are not sure if it is running.
- The deployment manager is a WebSphere Application Server Network Deployment profile that has not yet been augmented into a WebSphere Process Server profile.
- Security is enabled on the deployment manager node.
- The SOAP connector is disabled.
- The deployment manager is reconfigured to use the non-default remote method invocation (RMI) as the preferred Java Management Extensions (JMX) connector. (Select **System administration > Deployment manager > Administration services** in the administrative console of the deployment manager to verify the preferred connector type.)

If any one of the above is true, you must federate the node after it is created using the **addNode** command to enter a user ID and password on the command. See "Federating custom nodes to a deployment manager" on page 161 for more information on how to federate a node by using this command.

If you try to federate a custom node when the deployment manager is not running or is not available for other reasons, profile creation will fail and the resulting custom profile will be unusable. You must then move this custom profile directory out of the profile repository (by default, the `profiles` directory in *install_root*, where *install_root* is the WebSphere Process Server installation directory) before creating another custom profile with the same profile name.

Avoiding the use of the -silent option within the options response file

Do not use the `-silent` option within the response file. Doing so can cause the profile creation to fail.

Response file locations

The example `responsefile.pcaw.managedProfile.txt` file can be found in the following locations:

Table 13. Response file locations

WebSphere Process Server CD 1 location	Installed location
`WBI` directory	• Linux UNIX **On Linux and UNIX platforms:** *install_root*/bin/ProfileCreator_wbi directory • Windows **On Windows platforms:** *install_root*\bin\ProfileCreator_wbi directory

Creating a custom profile during installation

To create a custom profile during initial installation of WebSphere Process Server, do the following:

1. Copy the `responsefile.pcaw.managedProfile.txt` file from the `WBI` directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as `customProfile_1.txt`.
2. Edit this profile response file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values.
3. Verify that no `-silent` option exists in the response file for the Profile Wizard. If the option exists, the profile is not created.
4. Save the file.
5. Copy the product installation response file `responsefile.wps.txt` from the `WBI` directory on *WebSphere Process Server CD 1* to a place that you can easily identify on your machine and save it with a new name, such as `myoptionsfile`.
6. Edit this file using a flat file editor of your choice, on the target operating system, to customize it with the parameters for your system. Read the directions within the response file to choose appropriate values. Refer to "Installing the product silently" on page 60 for a sample response file.
7. At the end of your copy of `responsefile.wps.txt`, change the value of the option `-W summaryPanel_InstallWizardBean.launchPCAW` to `true`. For instance,

   `-W summaryPanel_InstallWizardBean.launchPCAW="true"`

8. Change the value of the option -W
   `pcawresponsefilelocationqueryaction_InstallWizardBean.fileLocation` from
   "" to identify the absolute file path of the (modified) profile response file. For
   instance,

   ```
   -W pctresponsefilelocationqueryactionInstallWizardBean.fileLocation=
   "/opt/IBM/WebSphere/MyOptionFiles/customProfile_1.txt"
   ```

9. Save your changes in your copy of `responsefile.wps.txt`.

10. Use one of the following commands to install WebSphere Process Server and
    create a custom profile. These commands assume that you have copied the
    `responsefile.wps.txt` file into a temporary directory and renamed it
    `myoptions.txt` before customizing the file.

    - ▶ **Linux** ▶ **UNIX** **On Linux and UNIX platforms:**

      ```
      install -options /tmp/WBI/myoptions.txt -silent
      ```

    - ▶ **Windows** **On Windows platforms:**

      ```
      install.exe -options "C:\temp\WBI\myoptions.txt" -silent
      ```

Verify the success of the installation by examining the WebSphere Process Server
log file. If the last line of the file contains the word `INSTCONFSUCCESS`, the
WebSphere Process Server features you selected and WebSphere Application Server
Network Deployment Version 6.0.1.2 were installed successfully. The log file is
located as follows:

- ▶ **Linux** ▶ **UNIX** **On Linux and UNIX platforms:** *install_root*/`logs/wbi/log.txt`
- ▶ **Windows** **On Windows platforms:** *install_root*\`logs\wbi\log.txt`

where *install_root* represents the location of the WebSphere Process Server
installation. If this log file contains the string `INSTCONFSUCCESS` on the last line, then
the installation was successful. Note that other terms such as
`INSTCONFPARTIALSUCCESS` or `INSTCONFFAILED` can occur on other lines within the file,
or even on the last line, but as long as `INSTCONFSUCCESS` is included in the last line,
the installation was successful. If the installation was not successful, examine other
log files to determine why. See the descriptions of relevant log files listed in "Log
files" on page 340, of error messages in "Error messages: installation and profile
creation and augmentation" on page 332, and check out "Troubleshooting
installation" on page 328 for tips on troubleshooting your installation.

Creating a custom profile after installation

You can also use the response file to silently create a custom profile after initial
process server installation. To do so:

1. Copy the `responsefile.pcaw.managedProfile.txt` file from the
   install_root/`bin/ProfileCreator_wbi` directory on Linux and UNIX platforms or
   install_root\`bin\ProfileCreator_wbi` on Windows platforms to a place that you
   can easily identify on your machine and save it with a new name such as
   `my_options_file.txt`.

2. Edit the file to customize the values for your installation. Review the
   explanatory text in the response file for detailed explanations of each option.
   An example response file exists in "Example
   responsefile.pcaw.managedProfile.txt file" on page 154.

3. Save the file.

4. Start profile creation with one of the following commands, as appropriate for
   your operating system.

Note: If you have saved your response file in a directory other than *install_root*/bin/ProfileCreator_wbi on Linux or UNIX platforms or *install_root*\bin\ProfileCreator_wbi on Windows platforms, you must fully qualify the pathname of the commands shown below. These examples assume that the response file is in one of these directories, as appropriate for the operating system.

- ▶ AIX **On AIX platforms:** ./pcatAIX.bin -options my_options_file.txt -silent
- ▶ HP-UX **On HP-UX platforms:** ./pcatHPUX.bin -options my_options_file.txt -silent
- ▶ Linux **On Linux platforms:** ./pcatLinux.bin -options my_options_file.txt -silent
- ▶ Linux **On Linux platforms:** Power platforms: ./pcatLinuxPPC.bin -options my_options_file.txt -silent
- ▶ Solaris **On Solaris platforms:** ./pcatSolaris.bin -options my_options_file.txt -silent
- ▶ Windows **On Windows platforms:** pcatWindows.exe -options my_options_file.txt -silent

5. Examine the logs for success.

Logging

Refer to "Log files" on page 340 for information about logging.

Naming considerations

Refer to "Naming considerations for profiles, nodes, hosts, and cells" on page 158 for information about naming considerations.

Example responsefile.pcaw.managedProfile.txt file

Tip: A custom profile must be added into a deployment manager cell to become operational. Because of this strong dependency on being a managed node, the profile is often referred to as a *managed profile* or as a managed node.

Of course, until you federate the node into a cell, the node is not managed.

The following response file refers to the term *managed* instead of the term *custom* in many directive names. Even so, all of the directives in this response file help to define a custom profile.

The response file provided with the product, before modification, will be similar to the following:

```
###########################################################################
#
# Licensed Material - Property of IBM
# 5724-L01
# (C) Copyright IBM Corporation 2005. All Rights Reserved.
# US Government Users Restricted Rights- Use, duplication or disclosure
# restricted by GSA ADP Schedule Contract with IBM Corp.
#
###########################################################################
###########################################################################
#
# Response file for WebSphere Process Server v6.0 custom profile creation
#
```

```
# This options file is located in the CD_ROOT\WBI\ directory and in the
# install_root\bin\ProfileCreator_wbi directory.
#
# To use the options file under CD_ROOT\WBI\ directory, follow the instructions
# in CD_ROOT\WBI\responsefile.wps.txt. The WebSphere Process Server installer
# locates this file during silent installation and automatically runs the silent
# profile creation at the end of installation.
#
# To use the options file under install_root\bin\ProfileCreator_wbi for silent
# profile creation, you must change various values in the file and use the
# following command line arguments:
#
#    -options "responsefile.pcaw.managedProfile.txt" -silent
#
################################################################################
################################################################################
#
# Profile name
#
# Set the name for this custom profile. The profile name must be unique for this
# WebSphere Application Server installation.
#
#
-W profilenamepanelInstallWizardBean.profileName="Custom01"
################################################################################
# If you want to set this profile to be your default profile, set to "true".
# Otherwise set to "false". If this is the first profile being created, the profile
# automatically is the default.
#
-W profilenamepanelInstallWizardBean.isDefault="false"
################################################################################
#
# Profile location
#
# Specify a directory to contain the files that define the run-time environment,
# such as commands, configuration files, and log files. If the directory contains
# spaces, enclose it in double-quotes as shown in the Windows example below.
#
# Note that spaces in the install location is only supported on Windows
# operating systems.
#
# Default Install Location:
#
#    -P installLocation="<WBI_HOME>\profiles\<PROFILE_NAME>"
#
-P installLocation="C:\Program Files\IBM\WebSphere\ProcServer\profiles\Custom01"
################################################################################
#
# Node name
#
# Please select the node name for the Process Server. Node name under one cell
# has to be unique.
#
# If you plan to migrate a V5 deployment manager cell, the V5 managed nodes are also
# migrated to the V6 cell. To incrementally migrate an individual V5 managed node
# to V6, you must use the same node name for the V6 Process Server profile.
#
# Replace YOUR_NODE_NAME with the actual node name.
#
-W nodehostnamepanelInstallWizardBean.nodeName="YOUR_NODE_NAME"
################################################################################
#
# Host name
#
# Specify the host name for the Process Server. The host name is the domain
# name system (DNS) name (short or long) or the IP address of this computer.
#
```

```
# Replace YOUR_HOST_NAME with the actual host name. Comment the line to use
# the default value.
#
-W nodehostnamepanelInstallWizardBean.hostName="YOUR_HOST_NAME"
#############################################################################
#
# Cell name
#
# You should not Modify this, unless absolutely necessary
#
# The Wizard would set this to short local host name + "Node##Cell" by default.
#
# If you would like to override the resolved cell name value, uncomment the line and
# replace YOUR_CELL_NAME with <YOUR_OWN_VALUE>
#
# -W setnondmgrcellnameinglobalconstantsInstallWizardBean.value="YOUR_CELL_NAME"
#############################################################################
#
# Ports value assignment
#
# The following entries are used to reset port numbers used in the configuration
#
# They are currently set to the defaults.
# Please check to make sure there are no port conflicts.
# Port numbers for each profile can be find in:
# <profile>/config/cells/<cell name>/nodes/<node name>/serverindex.xml
#
# If you specify true for the value of the -W pctfederationpanelInstallWizardBean.federateLater
# directive, port numbers are assigned automatically when you federate the
# node with the addNode command. The following port numbers do not apply.
#
-W pctmanagedprofileportspanelInstallWizardBean.BOOTSTRAP_ADDRESS="2809"
-W pctmanagedprofileportspanelInstallWizardBean.SOAP_CONNECTOR_ADDRESS="8878"
-W pctmanagedprofileportspanelInstallWizardBean.SAS_SSL_SERVERAUTH_LISTENER_ADDRESS="9901"
-W pctmanagedprofileportspanelInstallWizardBean.CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS="9201"
-W pctmanagedprofileportspanelInstallWizardBean.CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS="9202"
-W pctmanagedprofileportspanelInstallWizardBean.ORB_LISTENER_ADDRESS="9100"
-W pctmanagedprofileportspanelInstallWizardBean.NODE_DISCOVERY_ADDRESS="7272"
-W pctmanagedprofileportspanelInstallWizardBean.NODE_MULTICAST_DISCOVERY_ADDRESS="5000"
-W pctmanagedprofileportspanelInstallWizardBean.NODE_IPV6_MULTICAST_DISCOVERY_ADDRESS="5001"
-W pctmanagedprofileportspanelInstallWizardBean.DCS_UNICAST_ADDRESS="9353"
#############################################################################
#
# Federation
#
# A custom profile contains an empty node that must be federated to a deployment
# manager to become a functional managed node. Identify a running deployment
# manager that will administer the node or choose to federate the node later
# using the addNode command.
#
# Set to "true" if you want to federate this custom node later using the addNode
# command. You must federate this node later if the deployment manager:
#              - is not running.
#              - has security enabled.
#              - has the SOAP connector disabled
#              - has not already been augmented for WebSphere Process Server
#
# If you want to federate it now, set to "" and fill in the entries for the host
# and port of the deployment manager.
#
-W pctfederationpanelInstallWizardBean.federateLater=""
#############################################################################
# Specify the host name of the deployment manager for federation.
#
-W pctfederationpanelInstallWizardBean.hostname="YOUR_DEPLOYMENT_MANAGER_HOST_NAME"
#############################################################################
# Specify the port number where the deployment manager (DMGR) is reachable on the
```

```
# above host. The default port value is "8879".
#
-W pctfederationpanelInstallWizardBean.port="YOUR_DEPLOYMENT_MANAGER_PORT_NUMBER"
##########################################################################
# Database type
#
# Select a database product that matches the database product used
# during the profile creation/augmentation of the Deployment Manager that this
# Managed node will be federated to.The supported database types are as follows:
# DB2 UDB,DB2 CLI, Informix, MSSQL Server Embedded, MSSQL Server Data Direct,
# Oracle OCI, and Oracle Thin. To select a particular database type,
# uncomment/comment the appropriate lines.
#
-W wbiCustomProfileDBConfigPanel.DBProductList="DB2_Universal"
#-W wbiCustomProfileDBConfigPanel.DBProductList="DB2UDBOS390_V7_1"
#-W wbiCustomProfileDBConfigPanel.DBProductList="DB2UDBOS390_V8_1"
#-W wbiCustomProfileDBConfigPanel.DBProductList="DB2_CLI"
#-W wbiCustomProfileDBConfigPanel.DBProductList="INFORMIX"
#-W wbiCustomProfileDBConfigPanel.DBProductList="MSSQLSERVER_Embedded"
#-W wbiCustomProfileDBConfigPanel.DBProductList="MSSQLSERVER_DataDirect"
#-W wbiCustomProfileDBConfigPanel.DBProductList="ORACLE_OCI"
#-W wbiCustomProfileDBConfigPanel.DBProductList="ORACLE_THIN"
##########################################################################
# Location of JDBC driver classpath files
#
# This property is required for all database types except CLOUDSCAPE and
# MSSQLSERVER_Embedded. Unless you selected one of these database types
# set the following property to a specific directory, as directed below,
# depending on the database type.
#
# DB2_Universal - specify a directory that contains the following files:
# db2jcc.jar and db2jcc_license_cu.jar or db2jcc_license_cisuz.jar.
# These files should be located in the follow directory:
#
#     "<WBI_HOME>\universalDriver_wbi\lib"
#
#  So, if using DB2_Universal, an acceptable JDBC classpath might be
#  -W wbiCustomProfileDBConfigPanel.DBjdbc="C:\Program Files\IBM\WebSphere\universalDriver_wbi\lib"
#
# DB2_Universal OS/390 V7.1 or DB2_Universal OS/390 V8.1  - specify a directory
# that contains the following files:
#  db2jcc.jar,  db2jcc_license_cisuz.jar
#
# DB2_CLI - specify a directory that contains db2java.zip.
#
# INFORMIX - specify a directory that contains the following files:
#  ifxjdbc.jar, ifxjdbcx.jar
#
# MSSQLSERVER_DataDirect - specify a directory that contains the following files:
#  sqlserver.jar, base.jar, util.jar
#  Also make sure the following file is available in the following location
#  relative to the specified directory:  ../spy/spy.jar
#
# ORACLE_OCI - specify a directory that contains classes12.zip.
#
# ORACLE_THIN - specify a directory that contains ojdbc14.jar.
#
#
-W wbiCustomProfileDBConfigPanel.DBjdbc=""
##########################################################################
# Profile type
#
# This must be set to "managed" for installing a custom profile.
# Do not change this!
#
-W wbiCreateProfileTypeSelectionPanelBeanId.selection="managed"
```

Naming considerations for profiles, nodes, hosts, and cells

This topic discusses reserved terms and issues you must consider when naming your profile, node, host and cell (if applicable).

Profile naming considerations

The profile name can be any unique name with the following restrictions. Do not use any of the following characters when naming your profile:

- Spaces
- Illegal special characters that are not allowed within the name of a directory on your operating system, such as *, &, or ?.
- Slashes (/) or back slashes (\)

Double-byte characters are allowed.

Restriction: ▸Windows **On Windows platforms:** The installation directory for a profile (by default, `C:\Program Files\IBM\WebSphere\ProcServer\profiles\`*`profile_name`*) cannot be longer than 80 characters.

Node, host, and cell naming considerations

Reserved names: Avoid using reserved folder names as field values. The use of reserved folder names can cause unpredictable results. The following words are reserved:

- cells
- nodes
- servers
- clusters
- applications
- deployments

Descriptions of fields on the Node and hosts names and Node, host, and cell names panels: Table 14 describes the fields found on the Node and host names and Node, host, and cell names panels of the Profile Wizard, including the field names, default values, and constraints. Use this information as a guide when you are creating profiles.

Table 14. Naming guidelines for nodes, hosts, and cells

Field name	Default value	Constraints	Description
Stand-alone server profiles			

Table 14. Naming guidelines for nodes, hosts, and cells (continued)

Field name	Default value	Constraints	Description
Node name	The name of your machine.	Avoid using the reserved names. **Windows** **On Windows platforms:** The directory path for *profile_root* must be no longer than 80 characters (where *profile_root* represents the installation location of the profile).	Pick any name you want. To help organize your installation, use a unique name if you plan to create more than one server on the machine.
Host name	The DNS name of your machine.	The host name must be addressable through your network.	Use the actual DNS name or IP address of your machine to enable communication with your machine. See additional information about the host name following this table.
Deployment manager profiles			
Node name	The name of your machine, or a unique derivation of the machine name.	Use a unique name for the deployment manager. Avoid using the reserved names. **Windows** **On Windows platforms:** The directory path for *profile_root* must be no longer than 80 characters (where *profile_root* represents the installation location of the profile).	The name is used for administration within the deployment manager cell.
Host name	The DNS name of your machine.	The host name must be addressable through your network. Avoid using the reserved names.	Use the actual DNS name or IP address of your machine to enable communication with your machine. See additional information about the host name following this table.

Table 14. Naming guidelines for nodes, hosts, and cells (continued)

Field name	Default value	Constraints	Description
Cell name	The arbitrary name of the deployment manager cell. The cell is a logical grouping of managed nodes, under the control of the deployment manager.	Use a unique name for the deployment manager cell. ▶Windows **On Windows platforms:** The directory path for *profile_root* must be no longer than 80 characters (where *profile_root* represents the installation location of the profile).	All federated nodes become members of the deployment manager cell, which you name in the Node, host, and cell names panel of the Profile Wizard.
Custom profiles			
Node name	The name of your machine, or a unique derivation of the machine name.	Avoid using the reserved names. Use a unique name within the deployment manager cell. ▶Windows **On Windows platforms:** The directory path for *profile_root* must be no longer than 80 characters (where *profile_root* represents the installation location of the profile).	The name is used for administration within the deployment manager cell to which the custom profile is added. Use a unique name within the deployment manager cell.
Host name	The DNS name of your machine.	The host name must be addressable through your network.	Use the actual DNS name or IP address of your machine to enable communication with your machine. See additional information about the host name following this table.

Host name considerations:

The host name is the network name for the physical machine on which the node is installed. The host name must resolve to a physical network node on the server. When multiple network cards exist in the server, the host name or IP address must resolve to one of the network cards. Remote nodes use the host name to connect to and to communicate with this node. Selecting a host name that other machines can reach within your network is extremely important. Do not use the generic localhost identifier for this value.

If you define coexisting nodes on the same computer with unique IP addresses, define each IP address in a domain name server (DNS) look-up table.

Configuration files for stand-alone servers do not provide domain name resolution for multiple IP addresses on a machine with a single network address.

The value that you specify for the host name is used as the value of the hostName property in configuration documents for the stand-alone server. Specify the host name value in one of the following formats:

- Fully qualified domain name servers (DNS) host name string, such as xmachine.manhattan.ibm.com
- The default short DNS host name string, such as xmachine
- Numeric IP address, such as 127.1.255.3

The fully qualified DNS host name has the advantage of being totally unambiguous and also flexible. You have the flexibility of changing the actual IP address for the host system without having to change the stand-alone server configuration. This value for host name is particularly useful if you plan to change the IP address frequently when using Dynamic Host Configuration Protocol (DHCP) to assign IP addresses. A format disadvantage is being dependent on DNS. If DNS is not available, then connectivity is compromised.

The short host name is also dynamically resolvable. A short name format has the added ability of being redefined in the local hosts file so that the system can run the stand-alone server even when disconnected from the network. Define the short name to 127.0.0.1 (local loopback) in the hosts file to run disconnected. A format disadvantage is being dependent on DNS for remote access. If DNS is not available, then connectivity is compromised.

A numeric IP address has the advantage of not requiring name resolution through DNS. A remote node can connect to the node you name with a numeric IP address without DNS being available. A format disadvantage is that the numeric IP address is fixed. You must change the setting of the hostName property in configuration documents whenever you change the machine IP address. Therefore, do not use a numeric IP address if you use DHCP, or if you change IP addresses regularly. Another format disadvantage is that you cannot use the node if the host is disconnected from the network.

Federating custom nodes to a deployment manager

This topic describes how to federate IBM WebSphere Process Server, Version 6.0, custom nodes to a deployment manager.

Do the following before using this procedure:

- Ensure you have installed WebSphere Process Server, Version 6.0, and that you have created a WebSphere Process Server deployment manager and a custom node. This procedure assumes you did *not* federate the custom node during custom profile creation or augmentation, either with the Profile Wizard or silently.
- Ensure that the deployment manager is running.
- Ensure that the deployment manager is a WebSphere Process Server profile (not a WebSphere Application Server Network Deployment profile).
- Ensure that security is not enabled on the deployment manager node.
- Ensure that the deployment manager uses the default SOAP JMX connector type and the connector is enabled.

Attention: Do *not* federate a custom node at this time if any one of the following is true:

- The deployment manager is not running or you are not sure if it is running.
- The deployment manager is a WebSphere Application Server Network Deployment profile that has not yet been augmented into a WebSphere Process Server profile.
- Security is enabled on the deployment manager node.
- The SOAP connector is disabled.
- The deployment manager is reconfigured to use the non-default remote method invocation (RMI) as the preferred Java Management Extensions (JMX) connector. (Select **System administration > Deployment manager > Administration services** in the administrative console of the deployment manager to verify the preferred connector type.)

If you federate a custom node when the deployment manager is not running or is not available for other reasons, profile creation will fail and the resulting custom profile will be unusable. You must then move this custom profile directory out of the profile repository (by default, the profiles directory in *install_root*, where *install_root* is the WebSphere Process Server installation directory) before creating another custom profile with the same profile name.

Use the **addNode** command to federate a custom node into a deployment manager cell by doing the following.

1. Start the deployment manager. Start the deployment manager either by selecting **Start the deployment manager** from its First Steps console or by entering the following command (where *profile_root* represents the installation location of the deployment manager profile, by default *install_root*/profiles/*deployment_manager_profile_name* on Linux and UNIX platforms or *install_root*\profiles*deployment_manager_profile_name* on Windows platforms):

   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:**
     profile_root/bin/startManager.sh
   - ▶ Windows **On Windows platforms (from a command line):**
     profile_root\bin\startManager.bat

2. Go to the bin directory of the custom node you want to federate. Open a command window and go to one of the following directories, depending on platform (where *profile_root* represents the installation location of the custom profile, by default *install_root*/profiles/*profile_name* on Linux and UNIX platforms or *install_root*\profiles*profile_name* on Windows platforms):

   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/bin
   - ▶ Windows **On Windows platforms (from a command line):** *profile_root*\bin

3. Issue the **addNode** command. Issue one of following commands, depending on platform:

   - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** ./addNode.sh
     deployment_manager_host deployment_manager_SOAP_port
   - ▶ Windows **On Windows platforms (from a command line):** addNode.bat
     deployment_manager_host deployment_manager_SOAP_port

   An output window opens. If you see a message similar to the following, your custom node was federated successfully:

   ADMU0003I: Node DMNDID2Node03 has been successfully federated.

4. Within the same directory, issue the **startNode** command. Issue one of following commands, depending on platform:

- > Linux > UNIX **On Linux and UNIX platforms:** `./startNode.sh`
- > Windows **On Windows platforms (from a command line):** `startNode.bat`

The custom node is federated into the deployment manager. For more information on the **addNode** and **startNode** commands, see the WebSphere Application Server Network Deployment, Version 6.0, information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

After federating the custom node, go to the administrative console of the deployment manager to customize the empty node.

Profile commands in a multiprofile environment

When two or more profiles exist on a server, certain commands require that you specify the profile to which the command applies. To overcome having to specify the `-profileName` attribute for each command, use the versions of the commands that exist in the `bin` directory of each profile.

Using the command set in the `bin` directory of a profile (*profile_root*/bin on Linux and UNIX platforms or *profile_root*\bin on Windows platforms, where the variable *profile_root* represents the installation directory of the profile) sets up the command environment properly to address the profile.

Configuring Business Process Choreographer

This describes how to configure the Business Process Choreographer containers for business processes and for human tasks, and the Business Process Choreographer Explorer.

Business Process Choreographer supports enterprise applications that include business processes and human tasks. It provides a container for business processes and a container for human tasks. These containers must be installed and configured before being used. The human task container requires the business process container and the staff service. The Business Process Choreographer Explorer provides a Web client interface for human interaction and administrating business processes and human tasks.

1. If you selected the Business Process Choreographer sample configuration option when you installed WebSphere Process Server, the business process container, human task container, and Business Process Choreographer Explorer are already configured.

   You can check if they are configured, by looking in the administrative console for enterprise applications with names that start with `BPEContainer`, `BPCExplorer`, and `TaskContainer`.

   The sample configuration uses a Cloudscape database and the WebSphere default messaging provider. This sample configuration is not suitable for a production system. Because you can only have one Business Process Choreographer configuration, you must remove the sample configuration, as described in "Removing the Business Process Choreographer configuration" on page 319 before you can continue configuring Business Process Choreographer to use WebSphere MQ or a different database.

2. Perform "Configuring the business process container using the installation wizard" on page 165.

3. **Optional:** If you want to run enterprise applications that include human tasks, perform the following steps:

a. Configure the human task container by performing one of the following steps:
   - "Configuring the human task container, using the installation wizard" on page 203.
   - "Using the taskconfig.jacl script to configure the human task container" on page 209.

b. If you are using an LDAP plug-in, perform: "Configuring the staff plug-in provider" on page 212. The system and user registry staff plug-in providers can be used without configuring them.

c. If you want to send escalation mails you must set the mail transport host:
   1) Click **Resources** → **Mail Providers**.
   2) Select the cell scope: **Built-in Mail Provider**.
   3) Under **Mail sessions**, click **HTMMailSession**_*nodeName_serverName*_ and set the **Mail transport host**.
   4) If the mail transport host is secured, also set **Mail transport user ID** and **Mail transport password**.
   5) Click **Save**.

d. If you have a Network Deployment (ND) environment, you must setup the scheduler calendars application. Perform one of the following:
   - If you have already installed the scheduler calendars application on a server, install it on additional servers by performing the following steps:
     1) Select **Applications** → **Enterprise Applications**.
     2) Select **SchedulerCalendars**.
     3) Under the Additional Properties section, select **Map modules to servers**.
     4) Select the check box for the **Module Calendars**.
     5) Select all the servers and the clusters on which you have configured a business process container, be sure to also select any servers or clusters where you want the SchedulerCalendars application to remain.
     6) Select **Apply**.
     7) Select **OK**.
     8) Save and Synchronize changes with Nodes.
   - If this is the first time that you are installing the scheduler calendars application on a server, perform the following steps:
     1) Select **Applications** → **Install New Application**.
     2) In the file selector window, browse to the **c:\WebSphere\ProcServer\installableApps** directory, where *c:\WebSphere\ProcServer* is the directory where WebSphere Process Server is installed.
     3) Select **ScheduleCalendars.ear**.
     4) Select **Next**.
     5) Accept the default values and select **Next** again.
     6) Continue to accept the default values until you get to the 'Map modules to servers' step, then select the Servers and/or Clusters on which to load the ScheduleCalendars application and select **Next**.
     7) On the Summary step, select **Finish**.
     8) After the application has finished installing, select **Save to Master Configuration**.

9) Save and Synchronize changes.

4. Activate Business Process Choreographer: Perform "Activating Business Process Choreographer" on page 235.

5. **Optional:** If you did not use the Installation wizard option to install and configure the Business Process Choreographer Explorer, you can configure it now. Perform "Configuring Business Process Choreographer Explorer" on page 232.

6. **Optional:** Verify that Business Process Choreographer works: Perform "Verifying that Business Process Choreographer works" on page 235.

Business Process Choreographer is configured and working.

Now you can run enterprise applications that contain business processes or human tasks, or both.

Configuring the business process container using the installation wizard

This describes how to create the necessary resources and then run the business process container installation wizard.

You must configure the necessary resources and install the business process container application before you can run applications that contain business processes or human tasks.

1. If you are preparing a clustered Business Process Choreographer setup, create the cluster.

2. If you are using the WebSphere MQ Java Message Service (JMS) provider, you must create the queue manager and queues: Perform "Creating the queue manager and queues for the business process container" on page 168. If you are using the default messaging JMS provider do not perform this step.

3. Create the database: Perform "Creating the database for the business process container" on page 172.

4. If you are using a Network Deployment environment: Perform "Granting permission to the JDBC driver on the deployment manager" on page 180.

5. Make sure that the server is started and that you are logged on to the administrative console with a user ID with sufficient administration rights. On Windows platforms, use the user ID that is used to start WebSphere Process Server.

6. In the administrative console, select the server where you want to install the business process container. Click **Servers** → **Application Servers** → *serverName*.

   Where *serverName* is the name of the application server where you want to install the business process container. In a cluster, you can select any application server, and the business process container is installed simultaneously on all application servers in the cluster.

7. Go to the Business Process Container settings. On the **Configuration** tab, under **Container Settings**, expand **Business process container settings**, and click **Business process container**.

8. Verify that the business process container is not installed. There should be a message indicating that the business process container is not currently installed. If the business process container is already installed, perform "Removing the Business Process Choreographer configuration" on page 319 before starting the installation wizard.

9. Start the installation wizard. In the **Additional Properties** section, click the link **Business process container installation wizard**.

10. Select the database configuration (wizard step 1):
    a. In the **JDBC Providers** drop-down list, select the entry with the database system, system version and Java Database Connectivity (JDBC) driver that you are using. Where possible, the installation wizard offers appropriate default values in the parameter fields. However, with some combinations of browser and platform, no defaults are provided. In this case, you can view the recommended values in "Business process container installation wizard settings" on page 182.
    b. For the **Implementation class name** use the default class name that is provided for the JDBC driver implementation.
    c. For **Classpath** enter the location of the Java archive (JAR) or the compressed file that contains the JDBC driver. To use the path variable that is displayed in the text field, you it must be defined in **Environment → Manage WebSphere Variables**.
    d. The **Data source user name** must be a user ID that has the authority to connect to the database and to modify the data. If the user ID has the authority to create tables and indexes in the database, then the database schema will be updated automatically, when necessary, after applying a service or fix pack. This is not required for a Cloudscape database.
    e. Enter the **Data source password** for the data source user name. This is not required for a Cloudscape database.
    f. The **Custom properties** field contains default values for the database that you selected.
       • If you are using a Cloudscape database that is not in the default directory, change the value for the custom property **databaseName** to specify the fully qualified location of the database.
       • You might need to change or add some other properties. For more information, see the Installation wizard settings page and the product documentation for your database system.
    g. Click **Next** to go to the next step in the installation wizard.
11. Select the JMS provider and security (wizard step 2):
    a. In the drop-down list for **JMS provider**, select the messaging service for the business process container to use.
       • For default messaging, select `Default messaging provider`.
       • For WebSphere MQ, select `WebSphere MQ`.
    b. Use the default value for **Queue Manager**. If you are using the default messaging provider, this field is ignored.
    c. If you are using the WebSphere MQ JMS provider and you have not defined the WebSphere environment variable `${MQ_INSTALL_ROOT}`, make sure that the **Classpath** points to the WebSphere MQ Java `lib` directory.
    d. For the **JMS user ID**, enter a user ID that has administration rights for the messaging service. On Linux and UNIX systems, use `root`. On Windows systems, use the user ID that is used to start WebSphere Process Server.
    e. For the **JMS password**, enter the password for the JMS user ID.
    f. For the **JMS API User ID**, enter the user ID that is to be used when processing asynchronous API calls.
    g. For the **JMS API Password**, enter the password for the JMS API User ID.
    h. For the **Administrator security role mapping**, enter the name of the group, defined in the domain's user registry, that will map onto the role of Business Process Administrator. On Windows systems, for example, you can specify the group Administrators.

i. For the **System monitor security role mapping**, enter the name of the group to map onto the role of Business Process System Monitor. On Windows systems, for example, you can specify the group Administrators.

   j. Click **Next** to go to the next step in the installation wizard.

12. Select the JMS Resources and Business Process Choreographer Explorer (wizard step 3): Either select **Create new JMS resources using default values**, or perform the following:

    a. Select **Select existing JMS resources**.

    b. Use the **Connection Factory** drop-down list to select `BPECF`.

    c. Use the **Internal Queue** drop-down list to select `BPEIntQueue`.

    d. Use the **External Request Processing Queue** drop-down list to select `BPEApiQueue`.

    e. Use the **Hold Queue** drop-down list to select `BPEHldQueue`.

    f. Use the **Retention Queue** drop-down list to select `BPERetQueue`.

13. **Optional:** To install **Business Process Choreographer Explorer**, select the check box; otherwise, clear the check box. If you do not install Business Process Choreographer Explorer now, you can install it later, as described in "Installing and starting Business Process Choreographer Explorer" on page 231.

14. **Optional:** To use the Common Event Infrastructure, select **Enable Common Event Infrastructure logging for all processes running in this container**.

15. **Optional:** To enable the audit log, select **Enable audit logging for all processes running in this container**.

16. Click **Next** to view the summary (wizard step 4).

17. Check that the information on the summary page is correct. The summary includes reminders of which external resources are necessary. If you have not already created them, you can continue configuring the business process container, but you must create the resources before you activate the business process container. Printing the summary page helps you to create the correct resources.

    a. To make corrections, click **Previous**.

    b. To install the business process container and define its resources, click **Finish**. The progress is shown on the **Installing** page.

18. If the installation did not succeed, check for any error messages that can help you correct the problem, then try again.

19. If the installation succeeded, click **Save Master Configuration**, then click **Save**.

20. If the application server where you configured Business Process Choreographer is in a cluster, perform "Customizing the business process container resources in a cluster" on page 200.

21. Restart the application server.

22. Verify that the business process container has started successfully: In the administrative console, select **Applications** → **Enterprise Applications** verify that the status of the application named BPEContainer_*scope* is started, where *scope* is *nodeName_serverName* if you installed the business process container on an application server. If you installed the business process container on a cluster *scope* is the cluster name.

The business process container is configured.

Creating the queue manager and queues for the business process container:

This describes how to create the WebSphere MQ queue manager and queues.

WebSphere MQ must already be installed.

If you are using WebSphere MQ as an external Java Message Service (JMS) provider, you must create the queue manager and queues.

1. **Optional:** If you are creating a production system, plan which disk drives the queue manager will use. The default locations for both the persistent queue data and the WebSphere MQ logs is the WebSphere MQ installation directory. Using the default locations has a negative impact on the performance of the queue manager. Before creating the queue manager, change the path to the log file to refer to another disk drive.

2. If you are not creating a WebSphere cluster setup, perform the following actions:

   a. Make sure that your user ID has the authority to create WebSphere MQ queues.

   b. Create the queue manager and queues: On Windows platforms, enter:
   ```
   cd install_root\ProcessChoreographer
   createQueues.bat queueManager
   ```

   On UNIX and Linux platforms, enter:
   ```
   cd install_root/ProcessChoreographer
   createQueues.sh queueManager
   ```

   where *queueManager* is the name of an existing queue manager, or the name to give to a new queue manager. If the named queue manager already exists, it is used to create the queues. If the queue manager does not exist, it is created and started before the default queues are created.

3. If you are creating a WebSphere cluster setup that uses a WebSphere MQ cluster, only perform Creating clustered queue managers and queues.

4. If you are creating a WebSphere cluster setup that uses a central queue manager, perform the following actions:

   a. Copy the create queues script file from the `ProcessChoreographer` subdirectory of the *install_root* directory on the WebSphere Process Server machine to the machine that hosts the central queue manager:

      - If your central queue manager is on a Windows machine, copy the file: `createQueues.bat`
      - If your central queue manager is on a UNIX or Linux machine, copy the file: `createQueues.sh`

   b. On the machine that hosts the queue manager, make sure that WebSphere MQ is installed, and that your user ID has the authority to create WebSphere MQ queues.

   c. Create the queue manager and queues: On Windows platforms, enter:
   ```
   cd install_root\ProcessChoreographer
   createQueues.bat queueManager
   ```

   On UNIX and Linux platforms, enter:
   ```
   cd install_root/ProcessChoreographer
   createQueues.sh queueManager
   ```

   where *queueManager* is the name to give the new queue manager.

d. Add a listener for the new queue manager by entering the command:

```
runmqlsr -t tcp -p port -m queueManager
```

Where *port* is the port on which the listener listens.

e. On UNIX and Linux systems, add definitions for the port and queue manager service:

1) Add the port for the queue manager to the /etc/services file:

```
<Service:Name> <port>/tcp
  <Service:Name>    Name of the queue manager service
  <port>            Port for the queue manager
```

2) Add the service that is specified in the /etc/services file to the /etc/inetd.conf file:

```
<Service:Name> stream tcp nowait mqm /usr/mqm/bin/amqcrsta amqrsta
               -m QueueManager
  <Service:Name>    Name of the queue manager service
  <Service:Name>    Name of the queue manager
```

The queue manager and queues exist.

Continue configuring at step 3 on page 165.

Creating clustered queue managers and queues for the business process container:

If you are creating a WebSphere cluster setup of Business Process Choreographer using a WebSphere MQ cluster, you must create the queue managers, queues, cluster, repositories, channels, and listeners.

1. If your WebSphere cluster consists of UNIX nodes, perform the following actions on each node:

a. Make sure that your user ID has the authority to create WebSphere MQ queues.

b. Create the get and put queue managers, make them members of the WebSphere MQ cluster, and create the queues by entering the commands:

```
cd install_root/ProcessChoreographer
createQueues.sh getQueueManager clusterName putQueueManager
```

where:

getQueueManager
> The unique name to give to the get queue manager. This queue manager hosts all of the local queues.

clusterName
> The name of the WebSphere MQ cluster.

putQueueManager
> The unique name for the put queue manager.

If the queue managers already exist, they are used. If the queue managers do not exist, they are created and used.

c. Start the WebSphere MQ command processor by entering the command:

```
runmqsc getQueueManager
```

d. For complex setups, it is recommended to enable remote administration of the queue manager by entering the following MQ command:

```
DEFINE CHANNEL('SYSTEM.ADMIN.SVRCONN') TYPE(CHLTYPE)
```

e. If this queue manager is to be a repository for the WebSphere MQ cluster enter the MQ command:

```
ALTER QMGR REPOS('clusterName') REPOSNL(' ')
```

f. Define a sender and a receiver channel for the queue manager to each repository that is not hosted on this machine, by entering the following MQ commands. For each cluster receiver channel:

```
DEFINE CHANNEL('TO.repositoryQueueManager.TCP') +
     CHLTYPE(CLUSRCVR) +
     CLUSTER('clusterName') +
     CLUSNL(' ') +
     CONNAME('repositoryIP-Address(port)') +
     DESCR('Cluster receiver channel at repositoryQueueManager TCPIP') +
     MAXMSGL(4194304) +
     TRPTYPE(TCP) +
     MCAUSER('principal') +
     REPLACE
```

For each cluster sender channel:

```
DEFINE CHANNEL('TO.repositoryQueueManager.TCP') +
     CHLTYPE(CLUSSDR) +
     CONNAME('repositoryIP-Address(port)') +
     CLUSTER('clusterName') +
     CLUSNL(' ') +
     DESCR('Cluster sender channel to repositoryQueueManager TCPIP') +
     MAXMSGL(4194304) +
     TRPTYPE(TCP) +
     MCAUSER('targetPrincipal') +
     REPLACE +
     NPMSPEED (NORMAL)
```

where:

repositoryQueueManager
    The name of the queue manager hosting a repository.

clusterName
    The name of the WebSphere MQ cluster of which all the queue managers are a member.

repositoryIP-Address
    The IP address of the node where the repository queue manager resides.

port   The IP port that the repository queue manager is using.

principal, *targetPrincipal*
    The MCAUSER to use for the receive and send channels. For more information about this value refer to the WebSphere MQ documentation.

g. For each queue manager, start a listener by entering the MQ command:

```
runmqlsr -t tcp -p port -m QueueManager
```

2. If your WebSphere cluster consists of Windows nodes, perform the following actions on each node:

a. Make sure that your user ID has the authority to create WebSphere MQ queues.

b. Create the "get" queue manager, make it a member of the WebSphere MQ cluster, and create the queues by entering the commands:

```
cd install_root\ProcessChoreographer
createQueues.bat getQueueManager clusterName putQueueManager
```

where:

getQueueManager
    The unique name to give to the "get" queue manager.

clusterName
    The name of the WebSphere MQ cluster that the WebSphere cluster nodes uses.

putQueueManager
    The unique name to give to the "put" queue manager.

If the queues already exist they are used. If the queues do not exist, they are created and used.

c. Start the WebSphere MQ command processor by entering the command:

```
runmqsc queueManager
```

d. For complex setups, it is recommended that you enable remote administration of the queue manager by entering the following MQ command:

```
DEFINE CHANNEL('SYSTEM.ADMIN.SVRCONN') TYPE(CHLTYPE)
```

e. If this queue manager is to be a repository for the WebSphere MQ cluster enter the MQ command:

```
ALTER QMGR REPOS('clusterName') REPOSNL(' ')
```

f. Define a sender and a receiver channel for the queue manager to each repository that is not hosted on this machine, by entering the following MQ commands. For each cluster receiver channel:

```
DEFINE CHANNEL('TO.repositoryQueueManager.TCP') +
    CHLTYPE(CLUSRCVR) +
    CLUSTER('clusterName') +
    CLUSNL(' ') +
    CONNAME('repositoryIP-Address(port)') +
    DESCR('Cluster receiver channel at repositoryQueueManager TCPIP') +
    MAXMSGL(4194304) +
    TRPTYPE(TCP) +
    MCAUSER('principal') +
    REPLACE
```

For each cluster sender channel:

```
DEFINE CHANNEL('TO.repositoryQueueManager.TCP') +
    CHLTYPE(CLUSSDR) +
    CONNAME('repositoryIP-Address(port)') +
    CLUSTER('clusterName') +
    CLUSNL(' ') +
    DESCR('Cluster sender channel to repositoryQueueManager TCPIP') +
    MAXMSGL(4194304) +
    TRPTYPE(TCP) +
    MCAUSER('principal') +
    REPLACE +
    NPMSPEED (NORMAL)
```

where:

repositoryQueueManager
:   The name of the queue manager hosting a repository.

clusterName
:   The name of the WebSphere MQ cluster to which all the queue managers are a member.

repositoryIP-Address
:   The IP address of the node where the repository queue manager resides.

port   The IP port that the repository queue manager is using.

principal
:   The MCAUSER to use. For more information about this value, refer to the WebSphere MQ documentation.

g. For each queue manager, start a listener by entering the MQ command:

```
runmqlsr -t tcp -p port -m QueueManager
```

3. **Optional:** To verify the status of the channels on a machine, enter the MQ command:

```
display chstatus(*)
```

The queue managers, queues, cluster, repositories, channels, and listeners exist.

Creating the database for the business process container:

The business process container requires a database. This topic describes how to create the database for Business Process Choreographer.

In a clustered Business Process Choreographer setup, one database serves all the business process containers in the WebSphere cluster. In a non-clustered setup, the database is dedicated to the business process container on one application server.

1. On the machine that hosts the database server, create the database according to the description for your database system.
   - "Creating a Cloudscape database for Business Process Choreographer" on page 173.
   - "Creating a DB2 UDB for Linux, UNIX, and Windows database for Business Process Choreographer" on page 175.
   - "Creating an Informix Dynamic Server database for Business Process Choreographer" on page 177.
   - "Creating a Microsoft SQL Server database for Business Process Choreographer" on page 178.
   - "Creating an Oracle database for Business Process Choreographer" on page 179.

2. On each machine that runs Business Process Choreographer without a local database, you must make the remote database accessible:
   a. Install a suitable database client or Java Database Connectivity (JDBC) driver on the application server machine.
   b. If you are not using a type-4 JDBC driver, make the new database known to the database client as follows:

   For Cloudscape
   > No action is required, because Business Process Choreographer supports only the embedded version of Cloudscape, which does not support remote access. The Cloudscape Network Server is not supported, because it has no XA support.

   For DB2 Universal Database™
   > The database must be cataloged and accessible through an alias name.

   For Informix Dynamic Server
   > This step does not apply because only the type-4 JDBC provider is supported.

   For Microsoft SQL Server
   > This step does not apply because only type-4 JDBC providers are supported.

   For Oracle
   > The TCP net service name (TNS) is used to access the database.

   c. Test the connection to the database. Click **Resources** → **JDBC Providers** → *provider_name* → **Data sources**. Select the check box for the data source, and click **Test connection**.

3. If you use Network Deployment, you must also make the database accessible to the deployment manager. On the deployment manager machine, perform the following actions:
   a. Install a suitable database client or JDBC driver on the application server machine.
   b. If you are not using a type-4 JDBC driver, make the new database known to the database client as follows:

For Cloudscape

Business Process Choreographer supports only embedded Cloudscape, which does not support remote access. Cloudscape Network Server is not supported, because it has no XA support.

For DB2 Universal Database

The database must be cataloged and accessible through an alias name.

For Informix Dynamic Server

This step does not apply because only the type-4 JDBC provider is supported.

For Microsoft SQL Server

This step does not apply because only type-4 JDBC providers are supported.

For Oracle

The TCP net service name (TNS) is used to access the database.

c. Add the database driver to the class path of the deployment manager. Click **System Administration** → **Deployment Manager** → **Server Infrastructure** → **Java and Process Management** → **Process Definition**. Then in the **Additional Properties** section, click **Java Virtual Machine** → **Configuration Page**, and add to the **Classpath** for the deployment manager the path for your database driver as described in the following table.

JDBC driver	JDBC driver path to add to the deployment manager's classpath

DB2 Universal JDBC Driver on Windows, Linux, and UNIX	`${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar`
	`${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cu.jar`
	`${DB2UNIVERSAL_JDBC_DRIVER_PATH}db2jcc_license_cisuz.jar`

DB2 CLI provider	`${DB2_JDBC_DRIVER_PATH}/db2java.zip`
Informix	`${INFORMIX_JDBC_DRIVER_PATH}/ifxjdbc.jar` `${INFORMIX_JDBC_DRIVER_PATH}/ifxjdbcx.jar`

Microsoft SQL Server	`${CONNECTJDBC_JDBC_DRIVER_PATH}/sqlserver.jar`
	`${CONNECTJDBC_JDBC_DRIVER_PATH}/base.jar`
	`${CONNECTJDBC_JDBC_DRIVER_PATH}/util.jar`
	`${CONNECTJDBC_JDBC_DRIVER_PATH}/../spy/spy.jar`

Oracle	`${ORACLE_JDBC_DRIVER_PATH}/ojdbc14.jar`

d. Save your changes.

e. If you did not resolve the WebSphere environment variable in the JDBC driver path, make sure that the appropriate environment variable is defined. To check, click **Environment** → **WebSphere Variables**, select the node **dmgr**.

f. Restart the deployment manager.

g. Test the connection to the database. Click**Resources** → **JDBC Providers** → *provider_name* → **Data sources**. Select the check box for the data source, and click **Test connection**.

The Business Process Choreographer database exists and is accessible from the application server machine and from the deployment manager.

Creating a Cloudscape database for Business Process Choreographer:

Use this task to create a Cloudscape database for Business Process Choreographer.

The Cloudscape database system is implemented in the Java language. It comes with the WebSphere Process Server as several Java Archive (JAR) files.

The Cloudscape license that comes with WebSphere Process Server is only for development and test, not for production purposes. Cloudscape cannot be used as database system for Business Process Choreographer in a Network Deployment environment. The Cloudscape version that comes with this product includes the Cloudscape Network Server that supports client/server JDBC access over the Distributed Relational Database Architecture™ (DRDA®) protocol. Because the version of Cloudscape Network Server that is provided with this version of WebSphere Process Server has no XA support, Business Process Choreographer can only use the Embedded Cloudscape version that cannot be accessed remotely.

To create a Cloudscape database named BPEDB, perform the following actions:

1. Verify that you have administrator rights on the machine where your application server is installed.
2. Prepare to run the database creation script file by performing one of the following:
   - To prepare to create the database in the default location, manually create a databases subdirectory in the appropriate profile directory. On Windows systems, create *install_root*\profiles*Profile_name*\databases. On Linux and UNIX systems create *install_root*/profiles/*Profile_name*/databases. Change to the new directory.
   - To prepare to create a database location other than the default location, change to the directory where you want the new database created. If you run the business process container installation wizard, you must remember to specify the fully qualified database location as the value of the custom property databaseName.
3. Check whether you have Java configured on your machine. Enter the command:

   ```
   java -version
   ```

   If you get an error message, then in step 6, when you run the database creation script, you must prefix the Java command with the full path to the Java executable :
   - On Windows systems, add the path: *install_root*\Java\bin\
   - on Linux and UNIX systems, add the path *install_root*/Java/bin/
4. Copy the database creation script to the current directory.
   - On Windows system, copy the file *install_root*\ProcessChoreographer\createDatabaseCloudscape.ddl
   - On UNIX and Linux systems, copy the file *install_root*/ProcessChoreographer/createDatabaseCloudscape.ddl
5. Read the instructions in the header of the database creation script, createDatabaseCloudscape.ddl, in an editor. On Windows systems, avoid using the Notepad editor, as it does not display the file in a readable format.
6. Run the database creation script file. From the directory where the database is to be created, run the database creation script file createDatabaseCloudscape.ddl as described in the header.

The Cloudscape database for Business Process Choreographer exists.

Creating a DB2 UDB for Linux, UNIX, and Windows database for Business Process Choreographer:

Use this task to create a DB2 UDB database for Business Process Choreographer.

1. Install DB2 UDB on the machine that hosts the database.
2. Install a DB2 client on:
   - All remote application servers that use a type-2 Java Database Connectivity (JDBC) driver to access the database.
   - On the deployment manager machine, if you use Network Deployment to administer Business Process Choreographer, for example if you are creating a clustered Business Process Choreographer setup.
3. Change to the directory where the configuration scripts for Business Process Choreographer are located:
   - On Windows systems, enter:
     ```
     cd install_root\ProcessChoreographer
     ```

     On UNIX and Linux systems, enter:
     ```
     cd install_root/ProcessChoreographer
     ```
4. If your database server is on a different machine than your application server:
   a. Copy the following DDL scripts to your database server machine:
      ```
      clearSchemaDb2.ddl
      createDatabaseDb2.ddl
      createTablespaceDb2.ddl
      createSchemaDb2.ddl
      dropSchemaDb2.ddl
      dropTablespaceDb2.ddl
      ```
   b. Change to the directory where you copied the DDL scripts.
5. If you want to use an existing database, skip to step 9 on page 176 to create the table space and schema. Unicode support: Make sure that the database supports Unicode (UTF-8). Without Unicode support, it cannot store all characters that can be handled in Java code, and you can run into code page conversion problems when a client uses an incompatible code page.
6. Create a DB2 instance on the database machine.
7. If you have a Symmetric Multi-Processor (SMP) machine check how many processors can be used by DB2. Check your license:
   - On AIX® systems, enter the command:
     ```
     /usr/opt/db2_08_01/adm/db2licm -l
     ```
   - On other UNIX or Linux systems, enter the command:
     ```
     /opt/IBM/db2/V8.1/adm/db2licm -l
     ```

   If necessary, change the number of processor licenses using either the db2clim command or the DB2 License Center.
8. Create a new database:
   a. Make sure that you use a user ID that has administrator rights for the database system.
   b. If you want to create a non-production database, named BPEDB, for stand-alone development, evaluation, or demonstration purposes, enter the following command:
      ```
      db2 -tf createDatabaseDb2.ddl
      ```

      Otherwise you must create the database manually using the other scripts. For a production environment consider using dedicated table space containers and adjusting the DB2 parameters.

c. Make sure that the script output contains no errors. In some cases, the Call Level Interface (CLI) packages are not bound to the new database. To be sure that the CLI packages are bound to the new database, for a database named BPEDB:

On Windows systems, enter:

```
db2 connect to BPEDB
db2 bind %DB2PATH%\bnd\@db2cli.lst blocking all grant public
```

On UNIX and Linux systems, enter:

```
db2 connect to BPEDB
db2 bind $DB2DIR/bnd/@db2cli.lst blocking all grant public
```

9. To create the table space and schema:

a. Analyze the results of your experiences during development and system testing. The size of your database depends on many factors. Processes that run as microflows use very little space. Each process template can require tens or hundreds of kilobytes. If possible, distribute table space containers across different logical disks, and implement an appropriate security policy. Consider the performance implications of your choices for buffer pools and log file settings.

b. Edit the `createTablespaceDb2.ddl` table space creation script according to the instruction at the top of the file.

c. Make sure that you have administrator rights for the database system. The user ID that you use to create the schema must be the one that you specify for WebSphere Process Server to use for database access.

d. Make sure that you are attached to the correct instance. Check the `DB2INSTANCE` environment variable.

e. To connect to a database named *databaseName*, in the DB2 command-line processor, enter the command:

```
db2 connect to databaseName
```

f. To create the table spaces, enter the command:

```
db2 -tf createTablespaceDb2.ddl
```

Make sure that the script output contains no errors. If errors occur, you can drop the table space using the `dropTablespaceDb2.ddl` script.

g. To create the schema (tables, indexes, and views) in the DB2 command-line processor, enter the command:

```
db2 -tf createSchemaDb2.ddl
```

Make sure that the script output contains no errors. If you want to drop the schema, use the `dropSchemaDb2.ddl` script.

10. On each application server that remotely accesses the database and on the deployment manager machine if you are creating a clustered setup or if you want to use Network Deployment:

a. Catalog the database by entering the command:

```
db2 catalog database databaseName as databaseAlias at node nodeName
```

For more information about cataloging a database refer to the DB2 documentation.

b. Verify that you can connect to the database by entering the commands:

```
db2 connect to databaseName user userID
db2 connect reset
```

The DB2 UDB database for Business Process Choreographer exists.

Continue configuring at step 2 on page 172.

Creating an Informix Dynamic Server database for Business Process Choreographer:

Use this task to create an Informix Dynamic Server database for Business Process Choreographer.

1. Make sure that you have administrator rights on the machine where you want to install Informix.
2. Install the Informix server on the machine that hosts the database.
3. Create an Informix server instance. Make sure that the Informix environment variables are set correctly. In particular, `INFORMIXSERVER` must point to the new instance and `ONCONFIG` must point to the configuration file for the instance. For more details about the different environment variables and how they need to be set up, refer to the Informix Dynamic Server documentation. Make sure that the environment variables relating to Global Language Support (GLS) are set to Unicode (UTF-8) support. Unicode support is required to store all the characters that can be handled in Java code.
4. Copy and configure the Java Database Connectivity (JDBC) driver on:
   - All remote application servers that use the database server.
   - The deployment manager machine, if you are using Network Deployment to administer Business Process Choreographer, for example, to create a clustered process choreographer setup.
5. On your application server machine, change to the directory where the configuration scripts for Business Process Choreographer are located:

   On Windows systems, enter:

   ```
   cd install_root\ProcessChoreographer
   ```

   On UNIX and Linux systems, enter:

   ```
   cd install_root/ProcessChoreographer
   ```

6. If your database server is not on the same machine as your application server:
   a. Copy the scripts for your operating system from the `ProcessChoreographer` directory on your application server to a suitable directory on your database server machine: For Informix on Linux and UNIX copy the following files:

   ```
   clearSchemaInformix9.sql
   createDatabaseInformix9.sql
   createSchemaInformix9.sql
   dropSchemaInformix9.sql
   createDbspaceInformix9.sh
   dropDbSpaceInformix9.sh
   ```

   For Informix on Windows copy the following files:

   ```
   clearSchemaInformix9.sql
   createDatabaseInformix9.sql
   createSchemaInformix9.sql
   dropSchemaInformix9.sql
   createDbspaceInformix9.bat
   dropDbSpaceInformix9.bat
   ```

   b. Change to the directory where you copied the DDL scripts.
7. If you want to create a database for a production system, you must create your database manually:
   a. Create a database, for example named `BPEDB`.
   b. Create the Dbspaces for your database.

On Windows systems, read the instructions in the
`createDbspaceInformix9.bat` file. Adjust the value parameters in the script
to values appropriate for your environment.

On UNIX and Linux systems, read the instructions in the
`createDbspaceInformix9.sh` file. Adjust the value parameters in the script to
values appropriate for your environment.

 c. Run the script to create the schema, by entering the command:

```
dbaccess databaseName createSchemaInformix9.sql
```

where *databaseName* is the name of the database, for example BPEDB.

 d. Check the script output for any errors. If you want to drop the schema, use
the `dropSchemaInformix9.ddl` script.

8. If you want to create a non-production database using default settings that is
   suitable for standalone development, evaluation, or demo purposes, enter the
   command:

```
dbaccess - createDatabaseInformix9.sql
```

This command creates an Informix database BPEDB for the user ID that you are
using. Make sure that the script output contains no errors. You can use the
`dropSchemaInformix9.sql` script to drop only the schema or the SQL command
`DROP DATABASE` to drop the whole database.

The Informix Dynamic Server database for Business Process Choreographer exists.

Creating a Microsoft SQL Server database for Business Process Choreographer:

Use this task to create a Microsoft SQL Server database for Business Process
Choreographer.

1. Make sure that you have administrator rights.
2. On your application server machine, change to the directory where the
   configuration scripts for Business Process Choreographer are located: On
   Windows systems, enter: cd *install_root*\ProcessChoreographer. On Linux
   and UNIX systems, enter: cd *install_root*/ProcessChoreographer.
3. If your database server is not on the same machine as your application server:
    a. Copy the DDL scripts for your database from the `ProcessChoreographer`
   directory on your application server to a suitable directory on your database
   server machine:

```
clearSchemaMsSql2000.ddl
createDatabaseMsSql2000.ddl
createSchemaMsSql2000.ddl
dropSchemaMsSql2000.ddl
```

 b. Change to the directory where you copied the DDL scripts.

4. Install an SQL Server, on the machine that hosts the database. Make sure that
   you select the option to create a case-sensitive instance. If you already have an
   SQL Server that was created with the case-insensitive option, run the rebuild
   master tool and change the collation settings to case-sensitive. Make sure that
   the server supports Unicode.
5. Make sure that the database server and that the Distributed Transaction
   Coordinator (DTC) are running.
6. If you want to create a production SQL Server database, create your database
   manually:

a. Create the database, for example, named BPEDB.

b. Create the schema. To create the schema, run the script file `createSchemaMsSql2000.ddl`, as described in the header.

7. If you want to create a non-production SQL Server database, named BPEDB, for stand-alone development, evaluation, or demonstration purposes, run the script file `createDatabaseMsSql2000.ddl`, as described in the header. If you want to drop the schema, use the script file `dropSchemaMsSql2000.ddl`.

The SQL Server database for Business Process Choreographer exists.

Creating an Oracle database for Business Process Choreographer:

Use this task to create an Oracle database for Business Process Choreographer.

There is no script to quickly create a default Oracle database for Business Process Choreographer.

1. Install the Oracle server on the machine that hosts the database. Be sure that you are using the 32-bit Oracle libraries that are located in the `lib32` subdirectory.

2. For the root user, set the `ORACLE_BASE` and `ORACLE_HOME` environment variables.

3. Check the class path to be sure that your JDBC driver is using the `ojdbc14.jar` file.

4. On Linux and UNIX systems, create soft links to the following Oracle libraries in the `/usr/lib` directory:

   - For Oracle 10g: Link to: `libclnt.so.10.1`.
   - For Oracle 9i: Link to: `libwtc9.so`, `libclntsh.so.9.0`, and `libocijdbc9.so`.

5. Create an Oracle database using the Database Configuration Assistant, for example with the name BPEDB. Make sure that you select the JServer option for the database. The database must be created to have a Unicode code page.

6. Start the Oracle listener by entering the command:

   `lsnrctl start`

7. On your application server machine, change to the directory where the configuration scripts for Business Process Choreographer are located:

   On Windows systems, enter:

   `cd install_root\ProcessChoreographer`

   On UNIX systems, enter:

   `cd install_root/ProcessChoreographer`

8. If your database server is on a different machine from your application server:

   a. Copy the following Oracle configuration DDL scripts from the Business Process Choreographer subdirectory on the application server machine to an appropriate directory on your database machine:

   ```
   clearSchemaOracle.ddl
   createSchemaOracle.ddl
   createTablespaceOracle.ddl
   dropSchemaOracle.ddl
   dropTablespaceOracle.ddl
   ```

   b. On your database machine, change to the directory where you copied the DDL scripts.

9. Edit the table space creation script according to the instructions at the top of the file `createTablespaceOracle.ddl`.

10. Make sure that you are using the user ID that has administrator rights for the database system.

11. If you do not want to create the schema in the default instance, set the `ORACLE_SID` environment variable.

12. To create the table spaces, run the `createTablespaceOracle.ddl` script, as described in the script header. For test purposes, you can use the same location for all table spaces and pass the path as a command-line argument to the script, for example, on a Windows system, using user ID `bpeuser`, password `bpepwd`, database name BPEDB, and table space path `d:\mydb\ts`, enter:

    ```
    sqlplus bpeuser/bpepwd@BPEDB @createTablespaceOracle.ddl d:\mydb\ts
    ```

    If you want to drop the table spaces, you can use the `dropTablespaceOracle.ddl` script.

13. To create the schema, run the `createSchemaOracle.ddl` script. For example, on Windows systems, enter:

    ```
    sqlplus bpeuser/bpepwd@BPEDB @createSchemaOracle.ddl
    ```

    If you want to drop the schema, use the `clearSchemaOracle.ddl` script to clear the schema, and the `dropSchemaOracle.ddl` script to drop the schema.

The Oracle database for Business Process Choreographer exists.

Granting permission to the JDBC driver on the deployment manager:

Use this task when using Java 2 security in a Network Deployment (ND) environment to grant the required permissions to the Java Database Connectivity (JDBC) driver.

1. If you are using Java 2 security in an ND environment you might have to grant the required permissions to the Java Database Connectivity (JDBC) driver. Depending on the JDBC provider, you might need to manually update the `server.policy` file on the deployment manager. If you are using one of the database drivers listed in the following table, make sure that the `server.policy` file on the deployment manager contains the template text for your JDBC driver.

   - On UNIX and Linux systems, the `server.policy` file is located in *install_root*/profiles/*deployment_manager_profile*/properties/.
   - On Windows systems the `server.policy` file is located in *install_root*\profiles*deployment_manager_profile*\properties\.

JDBC driver	Template
DB2 Universal JDBC Driver on Windows, Linux, and UNIX	```// DB2 Universal JDBC Driver Provider (XA)` `grant codeBase "file:/${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar" {` ` permission java.security.AllPermission;` `};` `grant codeBase "file:/${UNIVERSAL_JDBC_DRIVER_PATH}/` ` db2jcc_license_cu.jar" {` ` permission java.security.AllPermission;` `};` `grant codeBase "file:/${DB2UNIVERSAL_JDBC_DRIVER_PATH}/` ` db2jcc_license_cisuz.jar" {` ` permission java.security.AllPermission;` `};```

JDBC driver	Template
| DB2 CLI provider | ```
// DB2 Legacy CLI-based Type 2 JDBC Driver (XA)
grant codeBase "file:/${DB2_JDBC_DRIVER_PATH}/db2java.zip" {
  permission java.security.AllPermission;
};
``` |
| Informix | ```
// Informix JDBC Driver (XA)
grant codeBase "file:/${INFORMIX_JDBC_DRIVER_PATH}/ifxjdbc.jar" {
  permission java.security.AllPermission;
};
grant codeBase "file:/${INFORMIX_JDBC_DRIVER_PATH}/ifxjdbcx.jar" {
  permission java.security.AllPermission;
};
``` |
| Microsoft SQL Server using the DataDirect ConnectJDBC driver | ```
// DataDirect ConnectJDBC type 4 driver for MS SQL Server (XA)
grant codeBase "file:/${CONNECTJDBC_JDBC_DRIVER_PATH}/sqlserver.jar" {
permission java.security.AllPermission;
};
grant codeBase "file:/${CONNECTJDBC_JDBC_DRIVER_PATH}/base.jar" {
permission java.security.AllPermission;
};
grant codeBase "file:/${CONNECTJDBC_JDBC_DRIVER_PATH}/util.jar" {
permission java.security.AllPermission;
};
grant codeBase "file:/${CONNECTJDBC_JDBC_DRIVER_PATH}/../spy/spy.jar" {
permission java.security.AllPermission;
};
``` |
| Microsoft SQL Server using the WebSphere embedded ConnectJDBC driver | ```
// DataDirect ConnectJDBC type 4 driver for MS SQL Server (XA)
grant codeBase "file:/${WAS_LIBS_DIR}/sqlserver.jar" {
permission java.security.AllPermission;
};
grant codeBase "file:/${WAS_LIBS_DIR}/base.jar" {
permission java.security.AllPermission;
};
grant codeBase "file:/${WAS_LIBS_DIR}/util.jar" {
permission java.security.AllPermission;
};
grant codeBase "file:/${WAS_LIBS_DIR}/spy.jar" {
permission java.security.AllPermission;
};
``` |
| Oracle | ```
// Oracle JDBC Driver (XA)
grant codeBase "file:/${ORACLE_JDBC_DRIVER_PATH}/ojdbc14.jar" {
  permission java.security.AllPermission;
};
``` |

Important: Make sure that you always use forward slashes (/), and resolve any WebSphere variables in the template. Any syntax errors in the `server.policy` file can cause the deployment manager to fail to start.

Windows systems: Even on Windows platforms, you must only use forward slashes ('/') as a separator in the path.

For example, if DB2 is installed on a Windows system in `c:\Program Files\IBM\SQLLIB` and the template looks like the following example:

```
// DB2 Legacy CLI-based Type 2 JDBC Driver (XA)
grant codeBase "file:/${DB2_JDBC_DRIVER_PATH}/db2java.zip" {
  permission java.security.AllPermission;
};
```

You must add the following code to the `server.policy` file:

```
        // DB2 Legacy CLI-based Type 2 JDBC Driver (XA)
        grant codeBase "file:/c:/Program Files/IBM/SQLLIB/java/db2java.zip" {
          permission java.security.AllPermission;
        };
```

2. Restart the deployment manager.

The JDBC driver works in an ND environment that has Java 2 security enabled.

Business process container installation wizard settings:

Use the installation wizard to install and configure the business process container.

Access the business process container installation wizard by clicking **Servers** →
Application servers → *server_name* → **Business process container** → **Business process
container installation wizard**. This page describes the installation wizard fields, in
the order that they display in the wizard.

Step 1 database configuration:
- JDBC provider
- Implementation class name
- Class path (for data source)
- Data source user name
- Data source password
- Custom properties

Step 2 JMS provider and security:
- JMS provider
- Queue manager
- Class path (for JMS provider)
- JMS user ID
- JMS password
- JMS API user ID
- JMS API password
- Administrator security role mapping
- System monitor security role mapping

Step 3 JMS resources and BPC Explorer:
- JMS resources (new or existing)
- Connection factory
- Internal queue
- External request processing queue
- Hold queue
- Retention queue
- Install BPC Explorer
- Enable CEI logging
- Enable audit logging

Attention: After the container is configured, you can only change the CEI and audit logging options. If you want to change any of the other values, you must remove the existing Business Process Choreographer configuration and then create a new one.

JDBC provider:

You must create a new data source that is only used by Business Process Choreographer.

Mandatory	Yes
Data type	Drop-down list
Choices	Create a new XA data source:
	• Cloudscape 5.1 (Cloudscape JDBC Provider (XA))
	• DB2 UDB 8.1 & 8.2 (DB2 Legacy CLI-based Type 2 JDBC Driver (XA))
	• DB2 UDB 8.1 & 8.2 (DB2 Universal JDBC Driver Provider (XA))
	• DB2 z/OS 7 & 8 (DB2 Legacy CLI-based Type 2 JDBC Driver (XA))
	• DB2 z/OS 7 & 8 (DB2 Universal JDBC Driver Provider (XA))
	• Informix 9.4 (Informix JDBC Driver (XA))
	• Oracle 9i & 10g OCI (Oracle JDBC Driver (XA))
	• Oracle 9i & 10g thin (Oracle JDBC Driver (XA))
	• SQL Server 2000 (DataDirect ConnectJDBC type 4 JDBC driver for MS SQL Server (XA))
	• SQL Server 2000 (WebSphere embedded ConnectJDBC driver for MS SQL Server (XA))

Implementation class name:

The Java class name of the Java Database Connectivity (JDBC) driver implementation.

Mandatory	Yes
Data type	String
Default for Cloudscape 5.1 (Cloudscape JDBC Provider (XA))	`com.ibm.db2j.jdbc.DB2jXADataSource`
Default for DB2 UDB 8.1 & 8.2 (DB2 Legacy CLI-based Type 2 JDBC Driver (XA)) and for DB2 z/OS 7 & 8 (DB2 Legacy CLI-based Type 2 JDBC Driver (XA))	`COM.ibm.db2.jdbc.DB2XADataSource`
Default for DB2 UDB 8.1 & 8.2 (DB2 Universal JDBC Driver Provider (XA)) and for DB2 z/OS 7 & 8 (DB2 Universal JDBC Driver Provider (XA))	`com.ibm.db2.jcc.DB2XADataSource`
Default for Informix (Informix JDBC Driver (XA))	`com.informix.jdbcx.IfxXADataSource`
Default for Oracle 9i and 10g (Oracle JDBC Drivers (XA))	`oracle.jdbc.xa.client.OracleXADataSource`
Default for SQL Server 2000 (DataDirect ConnectJDBC type 4 JDBC driver for MS SQL Server (XA))	`com.ddtek.jdbcx.sqlserver.SQLServerDataSource`
Default for SQL Server 2000 (WebSphere-embedded ConnectJDBC driver for MS SQL Server (XA))	`com.ibm.websphere.jdbcx.sqlserver.SQLServerDataSource`

For more information about properties and settings for the database, refer toVendor-specific data sources minimum required settings.

Classpath (data source):

The path to the Java archive (JAR) file or zip file that contains the Java Database Connectivity (JDBC) driver. The JDBC driver provides the data source implementation class. If the database is remote, this path indicates where the JDBC driver is installed on the client machine.

Mandatory	**For Cloudscape** No, the JDBC driver is already on the WebSphere class path. **For DB2 UDB, DB2 z/OS, Informix, Oracle, and SQL Server** Yes
Data type	String
Default for Cloudscape 5.1	`${CLOUDSCAPE_JDBC_DRIVER_PATH}/db2j.jar` The value for `${CLOUDSCAPE_JDBC_DRIVER_PATH}` is predefined and does not need to be set.

Default for DB2 UDB 8.1 & 8.2 (DB2 Legacy CLI-based Type 2 JDBC Driver (XA)) and for DB2 z/OS 7 & 8 (DB2 Legacy CLI-based Type 2 JDBC Driver (XA))	`${DB2_JDBC_DRIVER_PATH}/db2java.zip`
	
	The value for `${DB2_JDBC_DRIVER_PATH}` depends on the DB2 Client installation directory and must be set explicitly in **Environment > WebSphere Variables**. Typical values are:
	On Windows:
	`c:\Program Files\SQLLIB\java`
	On Linux, AIX and HP-UX:
	`/home/db2inst1/sqllib/java`
	On Solaris:
	`/export/home/db2inst1/sqllib/java`

Default for DB2 UDB 8.1 & 8.2 (DB2 Universal JDBC Driver Provider (XA)) and for DB2 z/OS 7 & 8 (DB2 Universal JDBC Driver Provider (XA))	`${DB2UNIVERSAL_JDBC_DRIVER_PATH}/`
	`       db2jcc.jar`
	`${UNIVERSAL_JDBC_DRIVER_PATH}/`
	`       db2jcc_license_cu.jar`
	`${DB2UNIVERSAL_JDBC_DRIVER_PATH}/`
	`       db2jcc_license_cisuz.jar`
	
	The value for `${DB2UNIVERSAL_JDBC_DRIVER_PATH}` depends on the installation root directory of the corresponding DB2 Client or DB2 Connect, and must be set in **Environment > WebSphere Variables**. Typical values for `${DB2UNIVERSAL_JDBC_DRIVER_PATH}` are:
	
	On Windows:
	`c:\Program Files\SQLLIB\java`
	
	On Linux, AIX and HP-UX:
	`/home/db2inst1/sqllib/java`
	
	On Solaris:
	`/export/home/db2inst1/sqllib/java`

Default for Informix	`${INFORMIX_JDBC_DRIVER_PATH}/ifxjdbc.jar`
	`${INFORMIX_JDBC_DRIVER_PATH}/ifxjdbcx.jar`
	
	The value for `${INFORMIX_JDBC_DRIVER_PATH}` depends on the JDBC driver installation directory and must be set in **Environment > WebSphere Variables**.

Default for Oracle 9i & 10g	`${ORACLE_JDBC_DRIVER_PATH}/ojdbc14.jar`
	The value for `${ORACLE_JDBC_DRIVER_PATH}` depends on the Oracle client installation or JDBC driver installation directory and must be set in **Environment > WebSphere Variables**.

Default for SQL Server 2000 (DataDirect ConnectJDBC type 4 JDBC driver for MS SQL Server (XA))	`${CONNECTJDBC_JDBC_DRIVER_PATH}/sqlserver.jar`
	`${CONNECTJDBC_JDBC_DRIVER_PATH}/base.jar`
	`${CONNECTJDBC_JDBC_DRIVER_PATH}/util.jar`
	`${CONNECTJDBC_JDBC_DRIVER_PATH}/../spy/spy.jar`

	The value for `${CONNECTJDBC_JDBC_DRIVER_PATH}` depends on the installation directory of the DataDirect ConnectJDBC driver, and must be set in **Environment > WebSphere Variables**.

Default for SQL Server 2000 (WebSphere embedded ConnectJDBC driver for MS SQL Server (XA))	`${WAS_LIBS_DIR}/sqlserver.jar`
	`${WAS_LIBS_DIR}/base.jar`
	`${WAS_LIBS_DIR}/util.jar`
	`${WAS_LIBS_DIR}/spy.jar`

	The value for `${WAS_LIBS_DIR}` depends on the WebSphere installation directory and must be set in **Environment > WebSphere Variables**. Typical values are:

On Windows:
    `C:\Program Files\WebSphere\AppServer\lib`

On Linux and UNIX:
    `/opt/WebSphere/AppServer/lib`

Data source user name:

A user ID that has the authority to connect to the database and to modify the data. If the user ID has the authority to create tables and indexes in the database, then the database schema will be updated automatically, when necessary, after applying a service or fix pack.

Mandatory	**For Cloudscape**
	    No
	For DB2 UDB, DB2 z/OS, Informix, Oracle, and SQL Server
	    Yes

Data type	String
Default	The user ID that is currently logged on to the administrative console.

Data source password:

The password for the data source user ID.

Mandatory	**For Cloudscape**
	    No
	For DB2 UDB, DB2 z/OS, Informix, Oracle, and SQL Server
	    Yes

Data type	String
Default	None

Custom properties:

Extra parameters that are required by the database system.

Mandatory	Yes
Data type	String
Data format	Multiple lines of *Property=Value*
Minimum required properties	Refer to Vendor-specific data sources minimum required settings.
Properties that are common to all JDBC providers	**description=DataSource for Business Process Choreographer** Optional string. Description of the data source. Not used by the data source object. Used for information purposes only. **enableMultithreadedAccessDetection=false** Optional Boolean. If set to `true`, it automatically detects multithreaded access to a connection and its corresponding statements, result sets, and metadata. **reauthentication=false** Optional Boolean. Set to `true` to enable reauthentication. **preTestSQLString** Optional string. This SQL statement is used for pre-test connection function. If pre-test connection is enabled in the `j2c.properties` file, this SQL statement will be executed to the connection to make sure the connection is good. If you leave this field blank, the default SQL statement for non-Oracle databases is, `SELECT 1 FROM TABLE1`, will be used at runtime. For Oracle databases the default is `SELECT 1 FROM DUAL`. If TABLE1 does not exist, using the default will slow down the execution because of the exception handling if table TABLE1 is not defined in the database. Users are recommended to provide their own SQL statement to improve the performance. **dbFailOverEnabled=false** **connRetriesDuringDBFailover=100** **connRetryIntervalDuringDBFailover=3000**
Properties that are specific to the JDBC provider	All of the required properties for each JDBC provider are described below, together with the properties that Business Process Choreographer overrides the default of the data source. For more information about valid properties and their settings, refer to the documentation for your JDBC provider.

Properties for Cloudscape	**databaseName = ${USER_INSTALL_ROOT}/ databases/BPEDB**
	    Required string. Defines which database to access. The value must be a fully qualified path.
	shutdownDatabase=
	    Optional string. If set to `shutdown`, the database shuts down when a java.sql.Connection object is obtained from the data source. For example, if the data source is an XADataSource, a `getXAConnection().getConnection()` is necessary to cause the database to shut down.
	dataSourceName=
	    Optional string. Name for the ConnectionPooledDataSource or XADataSource. Not used by the data source object. Used for information purposes only.
	connectionAttribute=
	    Optional string. Connection attributes specific to Cloudscape. Refer to the Cloudscape documentation for a complete list of attributes.
	createDatabase=
	    Optional string. If set to `create`, and the database specified in the databaseName parameter does not already exist, the database will be created. The database is created when a connection object is obtained from the data source.

Properties for DB2 UDB 8.1 & 8.2, and DB2 z/OS 7 & 8 (DB2 Legacy CLI-based Type 2 JDBC Driver (XA))	**databaseName=BPEDB**
	    Required string. For DB2 UDB it defines the name of the catalog entry for the database to access. For DB2 z/OS it defines which subsystem contains the database.
	connectionAttribute=cursorhold=0
	    Optional string. Connection attributes specific to DB2. Refer to the DB2 documentation for a complete list of connection attributes.

Properties for DB2 UDB 8.1 & 8.2, and DB2 z/OS 7 & 8 (DB2 Universal JDBC Driver Provider (XA))

databaseName=BPEDB

Required string. For DB2 UDB it defines which database to access. For DB2 z/OS it defines which subsystem contains the database.

driverType=2

Required integer. The JDBC connectivity-type of a data source. The only permitted values are 2 or 4.

serverName=""

Optional string for driver type 2. Required string for driver type 4. The TCP/IP address or host name for the DRDA server. The default is the name of the current machine.

portNumber=50000

Optional string for driver type 2. Required string for driver type 4. The TCP/IP port number where the database server resides.

enableSQLJ=false

Optional Boolean. This value is used to indicate whether SQLJ operations may be performed with this data source. If enabled, this data source can be used for both JDBC and SQLJ calls. Otherwise, only JDBC usage is permitted.

fullyMaterializeLobData=true

Optional Boolean. This setting controls whether or not LOB locators are used to fetch LOB data. If enabled, LOB data is not streamed, but is fully materialized with locators when the user requests a stream on the LOB column. The default value is true.

resultSetHoldability=2

Optional integer. Determine whether ResultSets are closed or kept open when committing a transaction. The possible values are: 1 for HOLD_CURSORS_OVER_COMMIT or 2 for CLOSE_CURSORS_AT_COMMIT.

Properties for DB2 UDB 8.1 & 8.2, and DB2 z/OS 7 & 8 (DB2 Universal JDBC Driver Provider (XA)) (continued)

currentPackageSet=""
Optional string. This property is used in conjunction with the DB2Binder - collection option which is given when the JDBC/CLI package set is bound during installation by the DBA.

readOnly=false
Optional Boolean. This property creates a read only connection.

deferPrepares=false
Optional Boolean. This property provides a performance directive that affects the internal semantics of the input data type conversion capability of the driver. If it is set to "true" the Universal driver defers 'internal prepare requests'. In this case, the driver works without the benefit of described parameter or result set metadata until execute time. So undescsribed input data is sent 'as is' to the server without any data type cross-conversation of the inputs.

currentSchema=""
Optional string. Identifies the default schema name used to qualify unqualified database object references where applicable in dynamically prepared SQL statements. Unless currentSchema is used, the default schema name is the authorization ID of the current session user.

cliSchema=""
Optional string. Indicates the schema of the DB2 shadow catalog tables or views to search when you issue a database metadata catalog query.

retrieveMessagesFromServerOnGetMessage = true
If set to true it directs all calls to the standard JDBC SQLException.getMessage() to invoke a server-side stored procedure which retrieves the readable message text for the error.

Properties for Informix

databaseName=BPEDB
> Required string. The name of the database.

serverName=""
> Required string. The name of the Informix instance on the physical machine. There is no default for the string and therefore you need to set it explicitly.

portNumber=1526
> Required integer. The TCP/IP port number of the Informix instance. The value "1526" is the default Informix port on Windows. On UNIX it is "61000".

ifxIFXHOST=_hostname_
> Required string. The physical machine name of the server that hosts the Informix database. Specifying `Localhost` does not work.

informixLockModeWait=2
> Required integer. By default, Informix throws an exception when it cannot acquire a lock, rather than waiting for the current owner of the lock to release it. To modify this behavior, set this property to the number of seconds to wait for a lock. The default is 2 seconds. Any negative value means to wait forever.

informixAllowNewLine=false
> Optional Boolean. his property allows newLines to be added on a query String. Its disabled by default.

roleName=""
> Optional string. The role name.

loginTimeout=""
> Optional integer. The maximum time to attempt to connect a database. If this value is non-zero, attempt to connect to the database will timeout when this specified value, in seconds, is reached.

dataSourceName=""
> Optional string. The name of the data source. Only used for informational purposes.

ifxUSE_DTENV to ifxPSORT_DBTEMP
> Optional string. The value for Informix specific variables. Refer to the Informix documentation for possible values.

Properties for Oracle 9i OCI and Oracle 10g OCI	**driverType=oci8** Required string. Defines the type of the JDBC driver. **TNSEntryName=BPEDB** Required string. The entry name that is used in tnsnames.ora to identify the database. **URL=jdbc:oracle:oci8:@BPEDB** Required string. The URL specifies the database from which the data source obtains connections. **networkProtocol=** Optional string. Specifies which protocol is used, for example, `TCP/IP` or `IPC`. **databaseName=BPEDB** Optional string. Defines which database to access. **serverName=** Optional string. The name of the server where the Oracle database resides. **portNumber=1521** Optional integer. The TCP/IP port number where the JDBC driver resides.
Properties for Oracle 9i OCI and Oracle 10g OCI (continued)	**dataSourceName=** Optional string. The name of the data source. Only used for informational purposes. **loginTimeout=″″** Optional integer. The maximum time to attempt to connect the database. If set to zero, there will be no timeout. If this value is non-zero, attempt to connect to the database will timeout when this specified value is reached. **transactionBranchesLooselyCoupled=false** Optional Boolean. This property is introduced as a result of Oracle bug 2511780. Oracle Patch for 2511780 must be installed before setting this property to `true`. Failure to install this patch causes a program error.

| Properties for Oracle 9i thin and Oracle 10g thin | **driverType=thin**
Required string. Defines the type of the JDBC driver.
databaseName=BPEDB
Required string. Defines which database to access.
serverName=_hostname_
Required string. The name of the server where the Oracle database resides.
portNumber=1521
Required integer. The TCP/IP port number where the JDBC driver resides.
URL=
jdbc:oracle:thin:@_hostname_**:1521:BPEDB**
Required string. The URL specifies the database and the database host from which the data source will obtain connections.
TNSEntryName=""
Optional string. Not used for the thin JDBC driver.
networkProtocol=""
Optional string. Specifies which protocol is used, for example, TCP/IP or IPC. |
| **Properties for Oracle 9i thin and Oracle 10g thin (continued)** | **dataSourceName=""**
Optional string. The name of the data source. Only used for informational purposes.

loginTimeout=""
Optional integer. The maximum time to attempt to connect the database. If set to zero, there will be no timeout. If this value is non-zero, attempt to connect to the database will timeout when this specified value is reached.

transactionBranchesLooselyCoupled=false
Optional Boolean. This property is introduced as a result of Oracle bug 2511780. Oracle Patch for 2511780 must be installed before setting this property to true. If you do not install the patch, an error occurs. |

Properties for SQL Server 2000 (DataDirect ConnectJDBC type 4 JDBC driver for MS SQL Server (XA))

serverName=_hostname_
> Required string. The name of the server where the SQL Server resides.

databaseName=BPEDB
> Optional string. The database name.

portNumber=1433
> Optional integer. The TCP/IP port number where the JDBC driver resides.

spyAttributes=_""_
> Optional string. The SPY attributes. See the ConnectJDBC documentation for a list of attributes.

loginTimeout=_""_
> Optional integer. The maximum time to attempt to connect a database. If this value is non-zero, attempt to connect to the database will timeout when this specified value, in seconds, is reached.

enable2Phase=true
> Optional Boolean. When true, two phase connections are used. Do not change this value because this value is set for with this provider and is required by Business Process Choreographer.

insensitiveResultSetBufferSize=2048
> Optional integer. The memory caching scheme for scroll-insensitive cursors. When set to 0, the driver uses a memory caching mechanism that does not use disk overflow. When set to a value greater than 0, data overflows to disk when the size of cached data exceeds the specified amount, specified in kilobytes. When set to a value less than 0, the data provider providers better performance. However, memory use may be affected.

Properties for SQL Server 2000 (WebSphere embedded ConnectJDBC driver for MS SQL Server (XA))

serverName=_hostname_
> Required string. The TCP/IP address of the MS SQL Server machine in dotted format or host name format.

enable2Phase=true
> Required Boolean. When true, two phase connections are used. Do not change this value because Business Process Choreographer requires two-phase connections.

databaseName=BPEDB
> Optional string. Defines which database to access.

portNumber=1433
> Required integer. The TCP/IP port number where the Microsoft SQL Server resides.

selectMethod=
> Optional string. Determine whether or not Microsoft SQL Server 'server cursors' are used for SQL queries. Values are 'cursor' or 'direct'. See the ConnectJDBC documentation for more information.

dataSourceName=
> Optional string. Name for the data source. Only used for information purposes.

spyAttributes=
> Optional string. The SPY attributes. See the ConnectJDBC documentation for a list of attributes.

loginTimeout=
> Optional integer. The maximum time to attempt to connect a database. If this value is non-zero, attempt to connect to the database will timeout when this specified value, in seconds, is reached. Zero implies no time limit.

description=DataSource for Business Process Choreographer
> Optional string. Description of the data source. Not used by the data source object. Used for information purposes only.

maxPooledStatements=
> Optional integer. The maximum number of pooled PreparedStatements for this connection.

Properties for SQL Server 2000 (WebSphere embedded ConnectJDBC driver for MS SQL Server (XA)) (continued)	**sendStringParametersAsUnicode=""** Optional Boolean. Determines whether string parameters are sent to the SQL Server database as Unicode or in the default character encoding of the database. For more information, refer to the ConnectJDBC documentation.
	codePageOverride="" Optional string. Specifies the code page the driver uses when converting character data. See the ConnectJDBC documentation for more information.
	insensitiveResultSetBufferSize=2048 Optional integer. Determines the amount of memory used by the driver to cache insensitive result set data. See the ConnectJDBC documentation for more information.

JMS provider:

Specifies which messaging service the business process container uses.

Mandatory	Yes
Data type	Drop-down list
Choices	**For WebSphere MQ**
	WebSphere MQ
	For the WebSphere default messaging
	Default messaging provider

Queue manager:

The name of the queue manager that is used by the business process container.

Mandatory	If you selected **WebSphere MQ JMS Provider**; otherwise, this field is disabled.
Data type	String
Value	Your queue manager name, for example, BPC_*nodeName_serverName*.

Classpath (JMS provider):

The path to the MQ Java `lib` directory.

Mandatory	If the WebSphere environment variable ${MQ_INSTALL_ROOT} is not defined to point to the WebSphere MQ installation root directory.
Enabled	If you selected WebSphere MQ JMS Provider; otherwise, this field is disabled.
Data type	String

Default	The default value for the class path depends on the local MQ installation:
	For AIX
	/usr/mqm/java/lib
	For Linux, Solaris and HP-UX
	/opt/mqm/java/lib
	For Windows
	c:\Program Files\IBM\WebSphere MQ\Java\lib

JMS user ID:

Used to authenticate the connection to the Java Message Service (JMS) provider. This user ID must have administration rights for the messaging service.

Mandatory	Yes
Data type	String
Restrictions	If you are using WebSphere default messaging, the JMS user ID must be less than or equal to 12 characters. For example, the default Windows NT user ID, Administrator, is not valid with WebSphere default messaging because the ID contains 13 characters.
Default	The user ID that you used to log into the administrative console.
For Linux and UNIX	Use root. The user ID must be a member of the group mqm.
For Windows	Use the default user ID. This user ID must be the same one that is used to start WebSphere Application Server.

JMS password:

The password for the Java Message Service (JMS) user ID.

Mandatory	If you selected **WebSphere JMS Provider**; otherwise, this field is disabled.
Data type	String
Default	None

JMS API user ID:

The user ID that the business process container message-driven bean (MDB) uses when processing asynchronous API calls.

Mandatory	If WebSphere security is enabled, even if you do not use the Java Message Service API.
Data type	String

Description	If WebSphere security is enabled and you do not use the JMS API, you must specify a valid user ID. This ID does not need any special authorizations.
	If WebSphere security is enabled and you plan to use the JMS API, this user ID must either be one that is given the appropriate authorities when the process is modeled, or more commonly, it must be a member of a group that was granted the necessary authorities during modeling. The possible staff authorities associated with processes are: Administrator, Reader, and Starter. For activities, a user ID can only perform the sendEvent action if it is a potential owner of the associated receiveEvent.
	If you want to support all the actions on processes through the JMS API, you can specify a user ID that is a member of the J2EE BPESystemAdministrator role. However, in a production system, the more fine-grained security approach is recommended.

JMS API password:

The password for the JMS API User ID.

| Mandatory | If WebSphere security is enabled (even if you do not use the JMS API) |
| Data type | String |

Administrator security role mapping:

The group from the domain user registry that is mapped onto the role of business process administrator.

Mandatory	Yes
Data type	String
Default	None
Restrictions	The group specified must already exist in the domain user registry. The user registry can be the local operating system, Lightweight Directory Access Protocol (LDAP), or custom registry.

System monitor security role mapping:

The group from the domain user registry that is mapped onto the role of business process monitor.

Mandatory	Yes
Data type	String
Default	None

Restrictions	The group specified must already exist in the domain user registry. The user registry can be the local operating system, Lightweight Directory Access Protocol (LDAP), or custom registry.

JMS resources (new or existing):

You must either create new Java Message Service (JMS) resources or select existing JMS resources.

Mandatory	Yes
Data type	Radio buttons
Choices	• Create new JMS resources using default values. • Use existing JMS resources.

Default values for JMS resources:

Connection factory:
    BPECF

Internal queue
    BPEIntQueue

External request processing queue
    BPEApiQueue

Hold queue
    BPEHldQueue

Retention queue
    BPERetQueue

Connection factory:

The queue connection factory for the business process container to use.

Mandatory	Only if you chose **Select existing JMS resources**
Data type	Drop-down list
Default	BPECF

Internal queue:

The JNDI name of the queue for internal business process container messages.

Mandatory	Only if you chose **Select existing JMS resources**
Data type	Drop-down list
Default	BPEIntQueue

External request processing queue:

The JNDI name of the queue for external (JMS API) requests to the business process container.

Mandatory	Only if you chose **Select existing JMS resources**
Data type	Drop-down list
Default	BPEApiQueue

Hold queue:

The JNDI name of the queue that holds any messages that failed processing more times than the retry limit.

Mandatory	Only if you chose **Select existing JMS resources**
Data type	Drop-down list
Default	BPEHldQueue

Retention queue:

The JNDI name of the queue that contains messages that cannot be processed currently, and that require a retry later.

Mandatory	Only if you chose **Select existing JMS resources**
Data type	Drop-down list
Default	BPERetQueue

Business Process Choreographer Explorer:

If this check box is selected, the Business Process Choreographer Explorer is also installed.

Data type	Check box
Default	selected

Enable Common Event Infrastructure logging:

Common Event Infrastructure (CEI) logging can be enabled or disabled.

Data type	Check-box

Enable Audit Logging:

Audit logging can be enabled or disabled.

Data type	Check-box

Business process container settings:

Use this panel to manage business process containers.

A business process container provides services to run business processes within an application server. To view this administrative console page, click **Servers > Application Servers >** *server_name* **> Business Process Container**.

Enable Common Event Infrastructure logging:

Common Event Infrastructure (CEI) logging can be enabled or disabled.

Data type   Check-box

Enable Audit Logging:

Audit logging can be enabled or disabled.

Data type   Check-box

Retry Limit:

Specifies the maximum number of retries for processing a message. When the limit
is reached, the message is sent to the Listener Port for Unprocessed Messages.

Data type   Integer
Default   5
Range   2 to 10 (recommended)

Retention Queue Message Limit:

The maximum number of messages that can be stored in the retention queue.
When the limit is reached, the messages are sent to the queue for internal messages
again and the process container switches into quiesce mode.

Data type   Integer
Default   20

Retention Queue:

The JNDI name of the queue that contains messages that cannot be processed
currently, and that require a retry later.

Data type   String
Default   jms/BPERetQueue

Hold Queue:

The JNDI name of the queue that holds any messages that failed processing more
times than the retry limit.

Data type   String
Default   jms/BPEHldQueue

Customizing the business process container resources in a cluster:

Use this task to customize the connection factory resources for business process
containers that are in a cluster.

After installing Business Process Choreographer on a cluster, perform the following
steps for each application server in the cluster:

1. Open the queue connection factory page for your JMS provider.
   - For WebSphere MQ, click **Resources** → **JMS Providers** → **WebSphere MQ** → **WebSphere MQ queue connection factories**.
   - For default messaging, click **Resources** → **JMS Providers** → **Default messaging** → **JMS queue connection factory**.
2. Select the connection factory **BPECF** and set the property values for the type of queue manager configuration that you are using:
   - For a central queue manager:

Property	Description
Host	The host name of the machine that is hosting the central queue manager.
Port	The port number that the central queue manager is using.
Transport Type	`Client`
Client ID	The message channel agent (MCA) user ID to use. This is normally the owner or creator of the queue manager, typically on UNIX and Linux systems this is the root user, and on Windows systems, the administrator user ID.
CCSID	If the central queue manager is running on a Linux or UNIX system, use the value 819. If the central queue manager is running on a Windows system, use the value 437

   - For a cluster of queue managers:

Property	Description
Transport Type	`Bindings` or `Client`
Queue Manager	The name of the server get queue manager.

   When using WebSphere MQ, the local bindings transport type is approximately 5% faster than using the client transport type, but has the effect that you must stop the entire application server to stop the local WebSphere MQ queue manager. If you specify `Client`, you must also provide the host name and port number for the get queue manager.
3. Select the connection factory **BPECFC** and set the property values for the type of queue manager configuration you are using:
   - For a central queue manager:

Property	Description
Host	The host name of the machine that is hosting the central queue manager.
Port	The port number that the central queue manager is using.
Transport Type	`Client`
Client ID	The message channel agent (MCA) user ID to use. This is normally the owner or creator of the queue manager, typically on UNIX and Linux systems this is the root user, and on Windows systems, the administrator user ID.
CCSID	If the central queue manager is running on a Linux or UNIX system, use the value 819. If the central queue manager is running on a Windows system, use the value 437

- For a cluster of queue managers on Linux and UNIX:

Property	Description
Host	The host name of the application server node.
Port	The port number used by the put queue manager of this application server's .
Transport Type	`Client`
Client ID	The message channel agent (MCA) user ID to use. This is normally the owner or creator of the queue manager, typically this is the root user.
CCSID	`819`

- For a cluster of queue managers on Windows systems:

Property	Description
Transport Type	`Bindings` or `Client`
Queue Manager	The name of the server put queue manager.

When using WebSphere MQ, the local bindings transport type is approximately 5% faster than using the client transport type, but has the effect that you must stop the entire application server to stop the local WebSphere MQ queue manager. If you specify `Client`, you must also provide the host name and port number for the put queue manager.

The connection factories for the business process containers have been installed in the cluster and are configured.

Using the bpeconfig.jacl script file to configure Business Process Choreographer

This sample script file configures all the resources that are required by Business Process Choreographer. It configures a working business process container, human task container, Business Process Choreographer Explorer, without using the installation wizard or administrative console. It can create a local database, and the necessary messaging resources.

Purpose

Using this script configures a working business process container, and human task container without using the installation wizard or administrative console. It can create a local database, and the necessary messaging resources, and also configure the Business Process Choreographer Explorer. If the script is applied to an application server that is in a cluster, all servers in the cluster will be configured for using Business Process Choreographer.

This file is in the folder *install_root*/ProcessChoreographer/sample.

Running the script interactively

Run the `bpeconfig` script on the server, or for ND, on the deployment manager.

On UNIX and Linux systems, enter the command:

```
install_root/bin/wsadmin.sh
        -f install_root/ProcessChoreographer/sample/bpeconfig.jacl
```

On Windows systems, enter the command:

```
install_root\bin\wsadmin.bat
        -f install_root\ProcessChoreographer\sample\bpeconfig.jacl
```

Note: If the server or deployment manager is not running, you must also specify
the option -conntype none. If global security is enabled, also add the
-username and -password options.

Configuring the human task container, using the installation wizard

Use this task to configure the human task container.

Before you configuring the human task container, perform "Configuring the
business process container using the installation wizard" on page 165.

If you have run the bpeconfig.jacl script, the human task container is already
configured. It is possible to configure the human task container by performing
"Using the taskconfig.jacl script to configure the human task container" on page
209. The following steps describe how to configure the human task container using
the installation wizard.

1. In the administrative console, click **Servers** → **Application servers** →
   Server_Name. Then in the **Container Settings** section, click **Human task
   container settings** → **Human task container** → **Human task container
   installation wizard** (in the **Additional Properties** section). Where possible, the
   installation wizard offers appropriate default values in the parameter fields,
   you can view the recommended values on the "Human task container
   installation wizard settings" on page 204.

2. Verify that the human task container is not configured. There should be a
   message indicating that the Human Task Manager is not currently installed. If
   the human task container is already configured, remove the configuration
   before you start the installation wizard. For details about how to remove the
   configuration, see "Removing the Business Process Choreographer
   configuration" on page 319.

3. Select the JMS provider and security settings (step 1):

   a. In the drop-down list for **JMS provider**, select the messaging service that
      is used by the business process container.

   b. For **Queue Manager**, use the default provided (BPC_*nodeName_serverName*).

   c. If you are using external messaging (WebSphere MQ JMS provider) and
      you have not defined the WebSphere environment variable
      ${MQ_INSTALL_ROOT}, make sure that **Classpath** points to the WebSphere
      MQ Java lib directory.

   d. For the **JMS user ID**, enter a user ID that has administration rights for the
      messaging service. On Linux and UNIX systems, use root. On Windows
      systems, use the user ID that is used to start WebSphere Process Server.

   e. For the **JMS password**, enter the password for the JMS user ID.

   f. For **Escalation user ID**, enter the user ID that will be used to access the
      messaging service.

   g. For **Escalation password**, enter the password for the escalation user ID.

   h. For **Administrator security role mapping**, enter the group from the
      domain's user registry to map onto the role of human task administrator.

i. For **System monitor security role mapping**, enter the group from the domain's user registry to map onto the task monitor role.

  j. Click **Next** to go to the next step in the installation wizard.

4. Select the JMS Resources (step 2): If you are not reusing an existing JMS connection factory and queues, which is normally the case, select **Create new JMS resources using default values**. Otherwise, perform the following:

   a. Select **Select existing JMS resources**.

   b. Use the **Connection Factory** drop-down list to select the connection factory you want to use.

   c. Use the default **Hold Queue** value **HTMHldQueue**.

   d. Use the default **Retention Queue** value.

5. **Optional:** Select **Mail session** to create the default mail session resource, named mail/HTMNotification_*nodeName_serverName*.

   Attention: If this is not set, no escalation mails are sent.

6. **Optional:** To use the Common Event Infrastructure, select **Enable Common Event Infrastructure logging** .

7. **Optional:** To enable the audit log, select **Enable audit logging for all human tasks** .

8. Click **Next** to view the Summary (step 3).

9. Check that the information on the summary page is correct. The summary includes reminders of which external resources are necessary. If you have not already created them, you can continue configuring the human task container, but you must create the resources before you activate the human task container. Printing the summary page helps you to create the correct resources.

   a. To make corrections, click **Previous**.

   b. To install the human task container and define its resources, click **Finish**. The progress is shown on the Installing page.

10. If no error is displayed in the console window, click **Save Master Configuration**, then click **Save**.

11. Restart the application server.

12. If the container did not install successfully, check for any error messages that can help you correct the problem, then repeat this task.

    Check the administrative console or the SystemOut.log file for the application server. On a cluster, check the log for all application servers in the cluster.

The human task container is configured.

Continue configuring at step 3b on page 164.

Human task container installation wizard settings:

Use the installation wizard to install and configure the human task container.

Access the human task container installation wizard by clicking **Servers** → **Application servers** → *server_name*. Then in the **Container Settings** section, click **Human task container settings** → **Human task container** → **Human task container installation wizard**. This page describes the installation wizard fields, in the order in which they are displayed in the wizard.

Step 1 JMS provider and security:

- JMS provider
- Queue manager
- Class path
- JMS user ID
- JMS password
- Escalation user ID
- Escalation password
- Administrator security role mapping
- System monitor security role mapping

Step 2 JMS resources:

- JMS resources (new or existing)
- Connection factory
- Hold queue
- Mail session
- Enable CEI logging
- Enable audit log

Attention: After applying these fields, you can only enable and disable the logging options.

JMS provider:

Specifies which messaging service the human task container uses.

Mandatory	Yes
Data type	Drop-down list
Choices	`WebSphere MQ`
	`Default messaging provider`

Queue manager:

The name of the queue manager that is used by the human task container.

Mandatory	If you selected **WebSphere MQ JMS Provider**; otherwise, this field is disabled.
Data type	String
Value	Your queue manager name, for example, `BPC_nodeName_serverName`.

Classpath:

The path to the MQ Java `lib` directory.

Mandatory	If the WebSphere environment variable `${MQ_INSTALL_ROOT}` is not defined to point to the WebSphere MQ installation root directory.
Enabled	If you selected `WebSphere MQ JMS Provider`; otherwise, this field is disabled.

Data type	String
Default	The default value for the class path depends on the local MQ installation:

For AIX
> `/usr/mqm/java/lib`

For Linux, Solaris and HP-UX
> `/opt/mqm/java/lib`

For Windows
> `c:\Program Files\ibm\WebSphere MQ\Java\lib`

JMS user ID:

Used to authenticate the connection to the Java Message Service (JMS) provider. This user ID must have administration rights for the messaging service.

Mandatory	Yes
Data type	String
Restrictions	If you are using WebSphere default messaging, the JMS user ID must be less than or equal to 12 characters. For example, the default Windows NT user ID, `Administrator`, is not valid with WebSphere default messaging because the ID contains 13 characters.
Default	The user ID that you used to log into the administrative console.
For Linux and UNIX	Use `root`. The user ID must be a member of the group `mqm`.
For Windows	Use the default user ID. This user ID must be the same one that is used to start WebSphere Application Server.

JMS password:

The password for the Java Message Service (JMS) user ID.

Mandatory	If you selected **WebSphere JMS Provider**; otherwise, this field is disabled.
Data type	String
Default	None

Escalation user ID:

A user ID that has rights to access the messaging service.

Mandatory	Yes, even if no escalation mails will be sent.
Data type	String
Description	This is the run-as user ID for the Human Task Manager MDB to process escalation messages.

Escalation password:

The password for the escalation user ID.

Mandatory	Yes
Data type	String

Administrator security role mapping:

The group from the domain user registry that is mapped onto the role of task administrator.

Mandatory	Yes
Data type	String
Default	None
Restrictions	The user registry can be the local operating system, Lightweight Directory Access Protocol (LDAP), or custom registry. The group that is specified must already exist in the user registry being used.

System monitor security role mapping:

The group from the domain user registry that is mapped onto the role of task monitor.

Mandatory	Yes
Data type	String
Default	None
Restrictions	The user registry can be the local operating system, Lightweight Directory Access Protocol (LDAP), or custom registry. The group that is specified must already exist in the user registry being used.

JMS resources (new or existing):

You must either create new Java Message Service (JMS) resources or select existing JMS resources.

Mandatory	Yes
Data type	Radio buttons
Choices	• Create new JMS resources using default values.
	• Use existing JMS resources.
	Default values for JMS resources:
	Connection factory:
	HTMCF
	Hold queue
	HTMHldQueue

Connection factory:

The queue connection factory for the human task container to use.

Mandatory	Only if you chose **Select existing JMS resources**

Data type	Drop-down list
Default	HTMCF

Hold queue:

The JNDI name of the queue that holds any messages that could not be processed.

Mandatory	Only if you chose **Select existing JMS resources**
Data type	Drop-down list
Default	HTMHldQueue

Mail Session:

If you select the mail session check box, a mail session with the name mail/HTMNotification_*nodeName_serverName* will be created with cell scope. This is necessary for sending escalation mails.

Data type	Check box

Enable Common Event Infrastructure logging:

Common Event Infrastructure (CEI) logging can be enabled or disabled.

Data type	Check-box

Enable Audit Logging:

Audit logging can be enabled or disabled.

Data type	Check-box

Human task container settings:

Use this panel to manage human task containers.

A human task container provides services to run human task within an application server. To view this administrative console page, click **Servers** › **Application Servers** › *server_name* › **Human Task Container**.

Enable Common Event Infrastructure logging:

Common Event Infrastructure (CEI) logging can be enabled or disabled.

Data type	Check-box

Enable Audit Logging:

Audit logging can be enabled or disabled.

Data type	Check-box

Mail Session:

The Java Naming and Directory Interface (JNDI) name of the mail session resource that will be used by the human task container to send escalation mails.

Data type	Read-only string
Default	mail/HTMNotification_*nodeName_serverName*

Using the taskconfig.jacl script to configure the human task container

This script file configures the human task container.

Purpose

This script file configures the human all the resources that are required by the human task container.

This file is in the folder `install_root/ProcessChoreographer`.

Attention: If you run the bpeconfig.jacl script, you need not run the taskconfig.jacl script, because the bpeconfig.jacl script calls the taskconfig.jacl script.

Running the script interactively

To run `taskconfig.jacl` in an interactive dialog session:

On UNIX and Linux systems, enter the command:

```
install_root/bin/wsadmin.sh
       -f install_root/ProcessChoreographer/taskconfig.jacl
       [-conntype none]
       [-username userName]
       [-password password]
       [-profileName profileName]
```

On Windows systems, enter the command:

```
install_root\bin\wsadmin.bat
       -f install_root\ProcessChoreographer\taskconfig.jacl
       [-conntype none]
       [-username userName]
       [-password password]
       [-profileName profileName]
```

In a stand-alone server environment:
- Only include the `-conntype none` option if the application server is not running.
- If global security is enabled, include the `-username` and `-password` options.

In a Network Deployment environment:
- Run the taskconfig.jacl script on the deployment manager node.
- Only include the `-conntype none` option if the deployment manager is not running.
- If global security is enabled, include the `-username` and `-password` options.

Configuring the human task container noninteractively

If you provide the necessary parameters on the command line, you will not be prompted for them. To configure a business process container that uses the default messaging JMS provider with a Cloudscape database type, enter the following:

On UNIX and Linux systems, if your current directory is install_root/ProcessChoreographer, enter the command:

```
../bin/wsadmin.sh -conntype none -f taskconfig.jacl
      -adminHTMUsers userList
      -adminHTMGroups groupList
      -monitorHTMUsers userList
      -monitorHTMGroups groupList
      -jmsHTMRunAsUser userID
      -jmsHTMRunAsPwd password
      -mqType WPM
      -mqUser mqm
      -mqPwd mqm
      -mqHome /usr/mqm
      -mailServerName hostName
      -mailUser userID
      -mailPwd password
      [-profileName profileName]
```

Parameters

adminHTMUsers *userList*
Where *userList* is the list of names of users, from the domain user registry, to which to map the HTMSystemAdminstrator Java 2 Enterprise Edition (J2EE) role. The separator character is |. This property is needed to install the task container. This parameter has no default value. Either or both adminHTMUsers or adminHTMGroups must be set.

adminHTMGroups *groupList*
Where *groupList* is the list of names of groups, from the domain user registry, to which to map the HTMSystemAdminstrator J2EE role. The separator character is |. This property is needed to install the task container. This parameter has no default value. Either or both monitorHTMUsers or adminHTMGroups must be set.

monitorHTMUsers *userList*
Where *userList* is the list of names of users, from the domain user registry, to which to map the HTMSystemMonitor J2EE role. The separator character is |. This property is needed to install the task container. This parameter has no default value. Either or both monitorHTMUsers or monitorHTMGroups must be set.

monitorHTMGroups *groupList*
Where *groupList* is the list of names of groups, from the domain user registry, to which to map the HTMSystemMonitor J2EE role. The separator character is |. This property is needed to install the task container. This parameter has no default value. Either or both monitorHTMUsers or monitorHTMGroups must be set.

jmsHTMRunAsUser *userID*
Where *userID* is the run-as user ID from the domain user registry for the task container message-driven bean. This property is needed to install the task container. This parameter has no default value. It must be set.

jmsHTMRunAsPwd *password*

> Where *password* is the password for the task container message-driven bean. This property is needed to install the task container. This parameter has no default value. It must be set.

mqType *JMSProviderType*

> Where *JMSProviderType* is the type of Java Message Service (JMS) provider to use for Business Process Choreographer. It is needed to create the queue manager and the queues, and to create the listener ports and the queue connection factories.

> Where *JMSProviderType* is one of the following values:

> **WPM** For default messaging

> **MQSeries**
> > For WebSphere MQ

mqUser *userID*

> Where *userID* is the user ID to access WebSphere MQ. It is needed to create the queue manager and the queues, when using the "MQSeries" JMS provider on non-Windows systems, and to create the listener ports and the queue connection factories, when using the JMS provider for WPM.

> Default values for *userID*:

> **Windows systems**
> > *currently_logged-on_user*

> **Other systems**
> > mqm

mqPwd *password*

> Where *password* is the password to access WebSphere MQ. It is needed to create the queue manager and the queues, when using the "MQSeries" JMS provider on non-Windows systems, and for creating the listener ports and the queue connection factories, when using the JMS provider for WPM. This parameter has no default value.

mqHome *installationDirectory*

> Where *installationDirectory* is the installation directory of WebSphere MQ. It is needed to create the queue manager and the queues (Windows systems only) and for creating the listener ports and the queue connection factories.

> Default values for *installationDirectory*:

> **Windows systems**
> > *current_drive*\Program Files\IBM\WebSphere MQ

> **AIX platform**
> > /usr/mqm

> **iSeries platform**
> > /QIBM/ProdData/mqm

> **SunOS platform**
> > /opt/mqm

qmNameGet *getQueueManagerName*

> Where *getQueueManagerName* is the name of the queue manager for GET requests. It is used with only the JMS provider designated **MQSeries**. It is needed to create the queue manager and the queues, and to create the listener ports and the queue connection factories. It must not contain the - character.

Default value for *getQueueManagerName*: BPC_*nodeName_serverName*

qmNamePut *putQueueManagerName*
> Where *putQueueManagerName* is the queue manager name for PUT requests. It is used only when the mqClusterName parameter has been set. It is needed to create the queue manager and the queues, and to create the listener ports and the queue connection factories. It must not contain the **-** character, and it must not be the same as used for the qmNameGet parameter.
>
> Default value for *putQueueManagerName*:BPCC_*nodeName_serverName*

mailServerName *mailServerName*
> Where *mailServerName* is the host name of the mail server to be used to send notification mails.

mailUser *mailUserID*
> Where *mailUserID* is the user ID to access the mail server. It is needed to create the mail session for sending notification mails.
>
> Default: Empty: no authentication is required to access the mail server.

mailPwd *mailPassword*
> Where *mailPassword* is the password to access the mail server. It is needed to create the mail session for sending notification mails.

profileName *profileName*
> Where *profileName* is the name of a user-defined profile. Specify this option if you are not configuring the default profile.

Configuring the staff plug-in provider

Use this task to configure the staff plug-in provider that Business Process Choreographer uses to determine who can start a process or claim an activity or a task.

Each type of supported user directory service requires a corresponding staff plug-in. The following staff plug-ins are supported:

Table 15. Supported staff plug-in providers

User directory service	Plug-in provider
Lightweight Directory Access Protocol (LDAP)	`LDAP_Staff_Plugin_Provider`
Local operating system user registry	`System_Staff_Plugin_Provider`
WebSphere Application Server user registry	`User_Registry_Staff_Plugin_Provider`

All of these plug-ins are already installed. You can use the user registry and system plug-ins without any configuration.

The LDAP staff plug-in is configured for an LDAP server with anonymous access; the LDAP server is local to the installed application server. You can change the configuration of the LDAP plug-in.

1. In the administrative console, click **Resources** → **Staff Plugin Provider**.
2. To create a new LDAP configuration:
   a. Click the name of the LDAP staff plug-in provider.
   b. Select **Staff Plugin Configuration**.
   c. Click **New** → **Browse**, and select the sample Extensible Stylesheet Language (XSL) transformation file to use. The standard XSL transformation for LDAP is located:

- On Windows systems, in
  install_root\ProcessChoreographer\Staff\LDAPTransformation.xsl
- On Linux and UNIX systems in
  install_root/ProcessChoreographer/Staff/LDAPTransformation.xsl

Do not modify this transformation file. If you need to customize the transformations to match the LDAP schema of your organization, modify a copy that has a different file name.

d. Click **Next**.

e. Enter an administrative name for the staff plug-in provider.

f. Enter a description.

g. Enter the Java Naming and Directory Interface (JNDI) name for business processes to use in referencing this plug-in, for example,
   bpe/staff/ldapserver1

h. Click **Apply**.

i. Click **Custom Properties**.

j. For each of the required properties and for any optional properties that you want to set, click the name of the property, enter a value, and click **OK**.

k. To apply the changes, click **Save**. This table describes each property for the LDAP plug-in.

LDAP plug-in property	Required or optional	Comments
AuthenticationAlias	Optional	The authentication alias used to connect to LDAP, for example, mycomputer/My LDAP Alias. You must define this alias in the administrative console by clicking **Security → JAAS → Configuration JAAS Configuration → J2C Authentication Data**. If this alias is not set, anonymous logon to the LDAP server is used.
AuthenticationType	Optional	If the AuthenticationType property is not set, the default logon is anonymous authentication. In all other cases, the default is simple authentication.
BaseDN	Required	The base distinguished name (DN) for all LDAP search operations, for example, "o=mycompany, c=us"
CasesentivenessForObjectclasses	Optional	Determines whether the names of LDAP object classes are case-sensitive.
ContextFactory	Required	Sets the Java Naming and Directory Interface (JNDI) context factory, for example, com.sun.jndi.ldap.LdapCtxFactory
ProviderURL	Required	This Web address must point to the LDAP JNDI directory server and port. The format must be in normal JNDI syntax, for example, ldap://localhost:389
SearchScope	Required	The default search scope for all search operations. Determines how deep to search beneath the baseDN property. Specify one of the following values: objectScope, onelevelScope, or subtreeScope
additionalParameterName1-5 and additionalParameterValue1-5	Optional	Use these name-value pairs to set up to five arbitrary JNDI properties for the connection to the LDAP server.

3. To activate the plug-in, stop and start the server.

4. If you have problems with any of these steps, refer to troubleshooting the staff service and staff plug-ins.

Processes can now use the staff support services to resolve staff queries, and to determine which activities can be performed by certain people.

Continue configuring at step 3c on page 164.

Depending on the queries that you want to create and your directory structure, you might need to create your own transformations. For more information about this topic, see "About the staff service" on page 217.

Staff service settings:

Use this page to enable or disable the staff service, which manages staff plug-in resources used by the server.

To view this administrative console page, click **Servers** → **Application Servers** → *server_name*. Then click **Business Integration** → **Staff Service**.

Enable service at server startup:

Specifies whether the server attempts to start the staff service.

Default	Selected
Range	**Selected**
	When the application server starts, it attempts to start the staff service automatically.
	Cleared
	The server does not try to start the staff service. If staff plug-in resources are used on this server, the system administrator must start the staff service manually or select this startup property and then start the server again.

Staff plugin provider collection:

A staff plug-in is responsible for retrieving user information. Use this panel to manage staff plug-in providers.

To view this administrative console panel, click **Resources** → **Staff Plugin Provider**. Existing plug-in providers are displayed. Click **New** to configure a new provider, or click on the name of an existing provider to view or change its properties.

Name:

The name by which the staff plug-in provider is known for administrative purposes.

Data type	String

Description:

A description of the staff plug-in provider.

Data type	String

Staff plugin provider settings:

Use this panel to modify the settings for a staff plug-in provider.

Staff plug-ins are used to get information from a directory of users. Each staff plug-in provider is registered with the runtime environment by specifying a name and a Java archive (JAR) file containing the plug-in. A configuration file in the JAR file defines the class name, which represents the plug-in as well as the properties for the plug-in.

To view this administrative console page, click **Resources** → **Staff Plugin Provider** → *staffpluginprovider_name*.

To inspect or change the staff plugin configuration and any custom properties, click on the name of the plug-in.

Scope:

The scope for this staff plug-in provider. The scope determines the level at which the resource definition is visible.

Data type	String
Valid values	Cell, node, or server.

Name:

The name by which the staff plug-in provider is known for administrative purposes.

Data type	String

Description:

A description of the staff plug-in provider.

Data type	String

Jar File:

The file name, including the absolute path, of the JAR file containing the plug-in.

Data type	String

Staff plugin configuration collection:

Use this page to manage staff plug-in configurations.

A staff plug-in configuration is defined for a staff plug-in provider. The staff plug-in configuration can define any custom properties specified by the staff plug-in provider. Each staff plug-in provider can have multiple staff plug-in configurations. Click **New** to create a new configuration, or click on the name of an existing configuration to view or change its properties.

To view this administrative console page, click **Resources** → **Staff Plugin Provider** → *staffpluginprovider_name* → **Staff Plugin Configuration**.

Name:

The name of the staff plug-in configuration used for administrative purposes. Click on the name to view or change its configuration settings.

Data type	String

Description:

A description of the staff plug-in configuration.

Data type	String

JNDI Name:

The Java Naming and Directory Interface (JNDI) name used to look up the staff plug-in configuration in the namespace.

Data type	String

XSL Transform File:

The file name, including the absolute path, of the Extensible Style Language (XSL) transformation file.

Data type	String

Staff plugin configuration settings:

Use this page to modify the settings for a staff plug-in configuration.

To view this administrative console page, click **Resources** → **Staff Plugin Provider** → *staffpluginprovider_name* → **Staff Plugin Configuration** → *staffpluginconfiguration_name*.

Scope:

The scope for this staff plug-in provider. The scope determines the level at which the resource definition is visible.

Data type	String
Valid values	Cell, node, or server.

Name:

The name of the staff plug-in configuration used for administrative purposes.

Data type	String

Description:

A description of the staff plug-in configuration.

Data type   String

JNDI Name:

The Java Naming and Directory Interface (JNDI) name used to look up the staff
plug-in configuration in the namespace.

Data type   String

XSL Transform File:

The file name, including the absolute path, of the Extensible Style Language (XSL)
transformation file. Default XSL transform files are provided for the sample
plug-ins. If you have customized the transform file, specify the path to your file.

Data type   String

About the staff service:

With Business Process Choreographer you can separate the logic of your business
processes and human tasks from the staff resolution. Staff queries are resolved
using a plug-in that is specific to the directory service. Some examples of using the
staff service are described here:

- "Staff queries using the staff support service"
- "Staff query verb set" on page 218
- "E-mail verb set" on page 220
- "Explicit staff assignments using the system staff plug-in" on page 220
- "Staff queries transformed for the user registry staff plug-in" on page 221
- "Staff queries transformed for the LDAP staff plug-in" on page 221

For detailed information on the staff resolution plug-ins, refer to the *Process
Choreographer: Staff Resolution Architecture*, the *Process Choreographer: Programming
Model for Staff Resolution*, and the *Process Choreographer: Staff Resolution Parameter
Reference* White papers in WebSphere Business Process Choreographer

Staff queries using the staff support service

You can use WebSphere Integration Developer to define staff queries for the staff
support service. Staff queries are templates that define how to retrieve the list of
users authorized for a certain work item. You can use the abstract query templates
(staff verbs) when you model business processes and human tasks. These staff
verbs are transformed during deployment into a set of queries that can be run on a
staff repository.

Before the staff query verbs in the process editor and the parameterized verbs in
the process models can be run as queries on a specific staff repository, they must
be translated into executable queries using an XSL transformation. The result of a
transformation (mapping) can be run by staff resolution plug-ins that provide
access to specific directories, such as Lightweight Directory Access Protocol (LDAP)
or the user registry. At run time, the plug-in runs the query by invoking the staff
repository APIs and by creating the list of authorized user IDs for the
corresponding work item.

During process or task deployment, the staff support service is invoked to deploy the staff query. The staff service retrieves the staff plug-in provider configuration with the corresponding Java Naming and Directory Interface (JNDI) name. The JNDI name is set in WebSphere Integration Developer, the default is the user registry. The staff support service then converts the parameterized staff query verb into a query run by a specific staff resolution plug-in defined in the configuration for the Extensible Stylesheet Language transformation (XSLT) verb mapping file and the staff resolution plug-in. All of the staff query verbs belonging to a process template must use the same provider configuration.

The following example illustrates a snippet as generated by the process editor to retrieve the manager of the employee that started the process:

```
<verb>
  <id>Manager of Employee by user ID</id>
  <name>Manager of Employee by user ID</name>
  <parameter id="EmployeeUserID">
    %wf:process.starter%
  </parameter>
</verb>
```

Staff query verb set

The staff support service accepts queries in an abstract form that is independent of the directory infrastructure used. Both the process editor and the task editor have a set of predefined staff query verbs that can be used when you model processes and tasks. These verbs are contained in the `VerbSet.xml` file. This file is installed with WebSphere Integration Developer.

The individual staff resolution plug-ins and the XSLT mapping files do not support all of the verbs. The *Manager of Employee* verb, for example, is not available if you use the user registry or the system plug-in. You can modify the set of staff query verbs. Make your changes to a copy of the file. Ensure that the copied file has a different file name.

The following predefined set of verbs is available. For information on the parameters that you can use with each of the verbs, see Predefined staff verbs and their parameters.

Department Members
> Use this verb to define a query to retrieve the members of a department. The retrieved users belong to any of the specified departments (DepartmentName, AlternativeDepartmentName1, or AlternativeDepartmentName2). This verb is supported by the LDAP plug-in.

Everybody
> Use this verb to assign a work item to every user authenticated by the WebSphere Process Server. This verb is supported by the system, user registry, and LDAP plug-ins.

Group Members
> Use this verb to define a query to retrieve the members of up to three groups. The retrieved users belong to any of the specified groups (GroupName, AlternativeGroupName1, or AlternativeGroupName2). This verb is supported by the user registry and LDAP plug-ins.

Group Members without Named Users
> Use this verb to define a query to retrieve the members of a group except for explicitly named users of that group. One or more members can be specified for exclusion as a comma separated list. This verb is supported

by the user registry and LDAP plug-ins. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Group Members without Filtered Users

Use this verb to define a query to retrieve the members of a group except for a set of users defined by an LDAP search filter. This verb is supported by the LDAP plug-in. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Group Search

Use this verb to search for a group based on an attribute match and to retrieve the members of the group. This verb is supported by the user registry and LDAP plug-ins.

Manager of Employee

Use this verb to retrieve the manager of a person using the person's name. This verb is supported by the LDAP plug-in. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Manager of Employee by user ID

Use this verb to retrieve the manager of a person using the person's user ID. This verb is useful in combination with context queries. This verb is supported by the LDAP plug-in. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Native Query

Use this verb to define a native query based on directory-specific parameters. This verb is supported by the user registry and LDAP plug-ins. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Nobody

Use this verb to deny normal users access to the work item; only the process administrator and the Business Process Choreographer system administrator have access. This verb is supported by the system, user registry, and LDAP plug-ins.

Person Search

Use this verb to search for a person based on an attribute match. This verb is supported by the user registry and LDAP plug-ins. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Role Members

Use this verb to retrieve the users associated with a business process role. The retrieved users belong to any of the specified roles (RoleName, AlternativeRoleName1, or AlternativeRoleName2). This verb is supported by the LDAP plug-in. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Users Use this verb to define a staff query for a user who is known by name. It is not recommended that you hard code user names in process templates. This verb is useful for testing processes. This verb is supported by the system, user registry, and LDAP plug-ins. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

Users by user ID

Use this verb to define a staff query for a user whose user ID is known. Even though it is not recommended that you hard code user IDs in process templates, this verb is useful in combination with context queries, for example:

```
User [username='%wf:process.starter%']
```

This verb is useful for testing processes. This verb is supported by the system, user registry, and LDAP plug-ins. You might need to customize the default mapping XSLT file to match the LDAP schema of your organization.

E-mail verb set

Use the e-mail verb set in WebSphere Integration Developer is used for e-mail notifications for task escalations. These e-mail verbs are transformed during modeling and deployment into a set of queries that can be run on a staff repository. E-mail verbs are defined for the most common staff verbs supported by the LDAP plug-in. The following e-mail verbs are available:

- Email Address for Department Members
- Email Address for Group Members
- Email Address for Group Members without Names Users
- Email Address for Group Members without Filtered Users
- Email Address for Group Search
- Email Address for Role Members
- Email Address for Users
- Email Address for Users by User ID

For the other LDAP staff verbs, the user identifiers retrieved by the staff verbs are used as input to the Email Address for Users by User ID verb.

Before the e-mail verbs can be run as queries on a specific staff repository, they must be translated into executable queries using an XSL transformation. The result of a transformation (mapping) can be run by the LDAP staff resolution plug-in. At run time, the query returns a set of e-mail addresses, for example, user1@mycomp.com, user2@mycomp.com, and so on.

Explicit staff assignments using the system staff plug-in

The system staff plug-in does not require any configuration parameters; it is preinstalled and ready for use. Using this plug-in, you can hard code user names in your business process. This practice is not normally recommended, but it can be useful for testing if you are using context variables or special queries, as illustrated by the following examples:

```
<sur:staffQueries>
    <staff:userID name="%wf:process.starter%">
    <staff:userID name="%wf:process.administrators%">
</sur:staffQueries>

<sur:staffQueries>
    <staff:everybody>
</sur:staffQueries>

<sur:staffQueries>
    <staff:nobody>
</sur:staffQueries>
```

The following XML snippet explicitly retrieves the WebSphere user ID `smith`:

```
<staff:staffQueries>
    <staff:userID name="smith">
</staff:staffQueries>
```

Staff queries transformed for the user registry staff plug-in

Using this plug-in, staff queries can refer to users and groups that are known to the WebSphere Process Server user registry. This plug-in does not require any configuration parameters, comes preinstalled and is ready for use.

The following XML snippet retrieves the user IDs of all the members of the Administrators group:

```
<sur:staffQueries>
    <sur:usersOfGroup groupName="Administrators"/>
</sur:staffQueries>
```

This XML snippet is an example of the transformation output.

Staff queries transformed for the LDAP staff plug-in

If you want to use the LDAP plug-in, you probably need to create a customized version of the LDAP XSL transformation to match the LDAP schema of your organization. The standard XSLT provided for LDAP is located:
- On Linux and UNIX systems in the
  install_root/ProcessChoreographer/Staff/LDAPTransformation.xsl file
- On Windows systems in the
  install_root\ProcessChoreographer\Staff\LDAPTransformation.xsl file

Make your changes to a copy that has a different file name. When you have made your changes:

1. Configure a staff plug-in provider that points to the new transformation file.
2. Ensure that when you deploy the EAR file, you use the JNDI name of the new staff plug-in provider.

The following XML snippet illustrates the results of the LDAP transformation for a search:

```
<sldap:staffQueries>
  <sldap:search baseDN="ou=mydivision, o=mycompany, c=us" filter="cn=*"
                searchScope="onelevelScope" recursive="no">
    <sldap:attribute name="uid" objectclass="person" usage="simple"/>
  </sldap:search>
</sldap:staffQueries>
```

Predefined staff verbs and their parameters: You can use staff verbs in the WebSphere Integration Developer to model staff assignments in a business process or human task. These staff verbs are transformed during modeling and deployment into a set of queries that can be run on a staff repository. The parameters for the following predefined staff verbs are listed here:
- Department Members
- Everybody
- Group Members
- Group Members without Named Users
- Group Members without Filtered Users
- Group Search
- Manager of Employee
- Manager of Employee by user ID
- Native Query
- Nobody
- Person Search
- Role Members

- Users
- Users by user ID

Retrieval parameters, such as search filters, group classes, user classes, and attributes are set in the `LDAPTransformation.xsl` transformation file. If you change any of these parameters, you must also change the transformation file accordingly. You can find this file in one of the following directories:

- On Windows systems, in *install_root*`\ProcessChoreographer\Staff`
- On Linux and UNIX systems, in *install_root*`/ProcessChoreographer/Staff`

Department Members

Use this verb to define a query to retrieve the members of a department.

Parameter	Use	Type	Supported by	Description
DepartmentName	Mandatory	string	LDAP	Department name of the users to retrieve.
IncludeNestedDepartments	Mandatory	boolean	LDAP	Specifies whether nested departments are considered in the query.
Domain	Optional	string	LDAP	The domain to which the department belongs. Use this parameter to limit the query to a subset of the directory.
AlternativeDepartmentName1	Optional	string	LDAP	An additional department to which the users can belong.
AlternativeDepartmentName2	Optional	string	LDAP	An additional department to which the users can belong.

Example: Change the source of the attribute for the return value to `cn` and the object class to `ePerson`.

```
<sldap:StaffQueries>
  <xsl:attribute name="threshold">
    <xsl:value-of select="$Threshold">
  </xsl:attribute>

  <sldap:search>
...
    <sldap:attribute>
      <xsl:attribute name="name">cn</xsl:attribute>
      <xsl:attribute name="objectclass">ePerson</xsl:attribute>
      <xsl:attribute name="usage">simple</xsl:attribute>
    </sldap:attribute>

  </sldap:search>
</sldap:StaffQueries>
```

Everybody

Use this verb to assign a work item to every user authenticated by the WebSphere Process Server. This verb has no parameters; it is supported by the system, user registry, and LDAP plug-ins.

Group Members

Use this verb to define a query to retrieve the members of a group.

Parameter	Use	Type	Supported by	Description
GroupName	Mandatory	string	User registry, LDAP	Group name of the users to retrieve.
IncludeSubgroups	Mandatory	boolean	LDAP	Specifies whether nested subgroups are considered in the query.
Domain	Optional	string		The domain to which the group belongs. Use this parameter to limit the query to a subset of the directory.
AlternativeGroupName1	Optional	string	User registry, LDAP	An additional group to which the users can belong.
AlternativeGroupName2	Optional	string	User registry, LDAP	An additional group to which the users can belong.

Example: Change the group member to `uniqueMember` and the source of the attribute for the return value to `cn`.

```
<sldap:usersOfGroup>
...

  <sldap:attribute>
    <xsl:attribute name="name">uniqueMember</xsl:attribute>
    <xsl:attribute name="objectclass">groupOfUniqueNames</xsl:attribute>
    <xsl:attribute name="usage">recursive</xsl:attribute>
  </sldap:attribute>

  ...
  <sldap:attribute>
    <xsl:attribute name="name">cn</xsl:attribute>
    <xsl:attribute name="objectclass">inetOrgPerson</xsl:attribute>
    <xsl:attribute name="usage">simple</xsl:attribute>
  </sldap:attribute>

</sldap:usersOfGroup>
```

Group Members without Named Users

Use this verb to define a query to retrieve all of the members of a group except for the explicitly named users.

Parameter	Use	Type	Supported by	Description
GroupName	Mandatory	string	User registry, LDAP	Group name of the users to retrieve. Supports custom properties that are evaluated at run time.
IncludeSubgroups	Mandatory	boolean	LDAP	Specifies whether nested subgroups are considered in the query.

Parameter	Use	Type	Supported by	Description
NamedUsers	Mandatory	string	User registry, LDAP	The user IDs of the users to exclude from the retrieved group members list. Supports context variables and custom properties, such as %htm:task.originator%

Group Members without Filtered Users

Use this verb to define a query to retrieve the all of the members of a group except for a set of users that is defined by an LDAP search filter.

Parameter	Use	Type	Supported by	Description
GroupName	Mandatory	string	LDAP	Group name of the users to retrieve.
IncludeSubgroups	Mandatory	boolean	LDAP	Specifies whether nested subgroups are considered in the query.
FilterAttribute	Mandatory	string	LDAP	Name of the attribute to use in the LDAP filter.
FilterValue	Mandatory	string	LDAP	Filter value to use in the LDAP filter.

The filter specification is based on an equality relationship between the attribute name and the value. For example, in the filter 'surname=smit*', the filter attribute is surname, and the filter value is smit*.

Example: Change the LDAP filter operator to >=.

```
<sldap:StaffQueries>
  <sldap:usersOfGroup>
    ...
  </sldap:usersOfGroup>

  <sldap:intermediateResult>
    <xsl:attribute name="name">filteredusers</xsl:attribute>
    <sldap:search>
      <xsl:attribute name="filter">
        <xsl:value-of select="staff:parameter[@id='FilterAttribute']"/>
         >=
        <xsl:value-of select="staff:parameter[@id='FilterValue']"/>
      </xsl:attribute>
    ...
    <sldap:search>
    ...

  </sldap:intermediateResult>
    ...
</sldap:StaffQueries>
```

Group Search

Use this verb to search for a group based on an attribute match and to retrieve the members of the group. You can set more than one attribute, but only the first attribute is evaluated.

Parameter	Use	Type	Supported by	Description
GroupID	Optional	string	User registry, LDAP	The group ID of the users to retrieve.
Type	Optional	string	LDAP	The group type of the users to retrieve.
IndustryType	Optional	string	LDAP	The industry type of the group to which the users belong.
BusinessType	Optional	string	LDAP	The business type of the group to which the users belong.
GeographicLocation	Optional	string	LDAP	An indication of where the users are located.
Affiliates	Optional	string	LDAP	The affiliates of the users.
DisplayName	Optional	string	LDAP	The display name of the group.
Secretary	Optional	string	LDAP	The secretary of the users.
Assistant	Optional	string	LDAP	The assistant of the users.
Manager	Optional	string	LDAP	The manager of the users.
BusinessCategory	Optional	string	LDAP	The business category of the group to which the users belong.
ParentCompany	Optional	string	LDAP	The parent company of the users.

Example: Change the search attribute to `MyType`, the object class to `mypersonclass`, and the source of the return attribute to `myuid`.

```
<sldap:StaffQueries>
 ...
  <sldap:search>
    <xsl:attribute name="filter">
      (&amp;
       ...
      <xsl:if test="staff:parameter[@id='MyType']!="">
       (<xsl:value-of select="$GS_Type"/>=
        <xsl:value-of select=staff:parameter[@id='Type']"/>)
       </xsl:if>
       )
       ...
    </xsl:attribute>

    <sldap:attribute>
      <xsl:attribute name="name">myuid</xsl:attribute>
      <xsl:attribute name="objectclass">mypersonclass</xsl:attribute>
      <xsl:attribute name="usage">simple</xsl:attribute>
    </sldap:attribute>
     ...
  <sldap:search>
</sldap:StaffQueries>
```

Manager of Employee

Use this verb to retrieve the manager of a person using the person's name.

Parameter	Use	Type	Supported by	Description
EmployeeName	Mandatory	string	LDAP	The name of the employee whose manager is retrieved.
Domain	Optional	string		The domain to which the employee belongs. Use this parameter to limit the query to a subset of the directory.

Example: Change the attribute containing the manager DN to `managerentry`, and the source of the manager retrieve attribute to `name`.

```
<sldap:StaffQueries>

  <sldap:intermediateResult>
  ...
   <sldap:user>
    ...
     <xsl:attribute name="name">managerentry</xsl:attribute>
      ...
    </sldap:user>
  </sldap:intermediateResult>

  <sldap:user>
  ...
   <xsl:attribute name="name">name</xsl:attribute>
    ...
  </sldap:user>
</sldap:StaffQueries>
```

Manager of Employee by user ID

Use this verb to retrieve the manager of a person using the person's user ID.

Parameter	Use	Type	Supported by	Description
EmployeeUserID	Mandatory	string	LDAP	The user ID of the employee whose manager is retrieved. Supports context variables and custom properties, such as `%wf:process.starter%`
Domain	Optional	string		The domain to which the employee belongs. Use this parameter to limit the query to a subset of the directory.

Native Query

Use this verb to define a native query based on directory-specific parameters.

Parameter	Use	Type	Supported by	Description
QueryTemplate	Mandatory	string	User registry, LDAP	The query template to use for the query. The default mapping files for the user registry and LDAP plug-ins support the templates search, user, and usersOfGroup.
Query	Mandatory	string	User registry, LDAP	Specifies the query. You can use context variables and custom properties, such as %wf:process.starter%. The type of query depends on the plug-in and the query template. **User registry** • search template: search pattern • user template: user name • usersOfGroup: group name **LDAP** • search template: search filter • user template: user dn • usersOfGroup: group dn
AdditionalParameter1	Optional	string	User registry, LDAP	Specifies the query. You can use context variables, such as %wf:process.starter%. The type of parameter depends on the plug-in and the query template. **User registry** • search template. Used for the search type. Supported values: group and user. • user template. Not supported • usersOfGroup. Not supported **LDAP** • search template. Used to specify whether recursive search is done. Supported values: yes and no • user template. Not supported • usersOfGroup. Used to specify whether recursive search is done. Supported values: yes and no
AdditionalParameter2	Optional	string	User registry, LDAP	Use this verb to specify an additional parameter.

Parameter	Use	Type	Supported by	Description
AdditionalParameter3	Optional	string	User registry, LDAP	Use this verb to specify an additional parameter. If you use the default mapping XSLT files, this parameter is not supported.
AdditionalParameter4	Optional	string	User registry, LDAP	Use this verb to specify an additional parameter. If you use the default mapping XSLT files, this parameter is not supported.
AdditionalParameter5	Optional	string	User registry, LDAP	Use this verb to specify an additional parameter. If you use the default mapping XSLT files, this parameter is not supported.

Nobody

Use this verb to deny normal users access to the work item; only the process administrator and the Business Process Choreographer system administrator have access. This verb has no parameters. and is supported by the system, user registry, and LDAP plug-ins.

Person Search

Use this verb to search for people based on an attribute match. You can set more than one attribute, but only the first attribute is evaluated.

Parameter	Use	Type	Supported by	Description
UserID	Optional	string	User registry, LDAP	The user ID of the users to retrieve.
Profile	Optional	string	LDAP	The profile of the users to retrieve.
LastName	Optional	string	LDAP	The last name of the users to retrieve.
FirstName	Optional	string	LDAP	The first name of the users to retrieve.
MiddleName	Optional	string	LDAP	The middle name of the users to retrieve.
Email	Optional	string	LDAP	The e-mail address of the users.
Company	Optional	string	LDAP	The company to which the users belong.
DisplayName	Optional	string	LDAP	The display name of the users.
Secretary	Optional	string	LDAP	The secretary of the users.
Assistant	Optional	string	LDAP	The assistant of the users.

Parameter	Use	Type	Supported by	Description
Manager	Optional	string	LDAP	The manager of the users.
Department	Optional	string	LDAP	The department to which the users belong.
Phone	Optional	string	LDAP	The telephone number of the users.
Fax	Optional	string	LDAP	The fax number of the users.
Gender	Optional	string	LDAP	Whether the user is male or female.
Timezone	Optional	string	LDAP	The time zone in which the users are located.
PreferredLanguage	Optional	string	LDAP	The preferred language of the user.

Example: Change the search attribute to `MyAttribute`, the object class to `mypersonclass`, and the source of the return attribute to `myuid`.

```
<sldap:StaffQueries>
 ...
  <sldap:search>
    <xsl:attribute name="filter">
      (&amp;
       ...
      <xsl:if test="staff:parameter[@id='MyAttribute']!="">
       (<xsl:value-of select="$PS_UserID"/>=
        <xsl:value-of select=staff:parameter[@id='UserID']"/>)
      )
      </xsl:if>
       ...
    </xsl:attribute>

    <sldap:attribute>
      <xsl:attribute name="name">myuid</xsl:attribute>
      <xsl:attribute name="objectclass">mypersonclass</xsl:attribute>
      <xsl:attribute name="usage">simple</xsl:attribute>
    </sldap:attribute>
     ...
  </sldap:search>
</sldap:StaffQueries>
```

Role Members

Use this verb to retrieve the users associated with a business process role.

Parameter	Use	Type	Supported by	Description
RoleName	Mandatory	string	LDAP	Role name of the users to retrieve.
IncludeNestedRoles	Mandatory	boolean	LDAP	Specifies whether nested roles are considered in the query.
Domain	Optional	string		The domain to which the role belongs. Use this parameter to limit the query to a subset of the directory.

Parameter	Use	Type	Supported by	Description
AlternativeRoleName1	Optional	string	LDAP	An additional role name for the user.
AlternativeRoleName2	Optional	string	LDAP	An additional role name for the user.

Users

Use this verb to define a staff query for a user who is known by name.

Parameter	Use	Type	Supported by	Description
Name	Mandatory	string	System, user registry, LDAP	The name of the user to retrieve.
AlternativeName1	Optional	string	System, user registry, LDAP	An additional user name. Use this parameter to retrieve more than one user.
AlternativeName2	Optional	string	System, user registry, LDAP	An additional user name. Use this parameter to retrieve more than one user.

Example: Change the source of the return attribute to `myuid`, and the object class to `mypersonclass`.

```
<sldap:user>
 ...
  <xsl:attribute name="attribute">myuid</xsl:attribute>
  <xsl:attribute name="objectclass">mypersonclass</xsl:attribute>
</sldap:user>
```

Users by user ID

Use this verb to define a staff query for a user whose user ID is known. Use short names to specify values, for example, wpsadmin. This verb does not imply access to a user registry.

Parameter	Use	Type	Supported by	Description
UserID	Mandatory	string	System, user registry, LDAP	The user ID of the user to retrieve.
AlternativeID1	Optional	string	System, user registry, LDAP	An additional user ID. Use this parameter to retrieve more than one user.
AlternativeID2	Optional	string	System, user registry, LDAP	An additional user ID. Use this parameter to retrieve more than one user.

Troubleshooting the staff service and the staff plug-ins:

One of the following situations might be caused by a problem with the staff service or a staff plug-in:
- Stopped staff activities

- Changes to the staff repository that are not immediately reflected in work-item assignments

Use this overview task to help resolve the problem. You can also go to the Technical support search page, to look for additional information.

Stopped staff activities

> You encountered one or more of the following problems:
> - Work items resulting from staff activities cannot be claimed although the business process started navigating successfully.
> - The SystemOut.log file contains the following message: `CWWB0057I: Activity 'MyStaffActivity' of processes 'MyProcess' has been stopped because of an unhandled failure...`
>
> This message indicates that WebSphere Application Server security might not be enabled. Staff activities require that security is enabled and the user
>
> 1.
>
> registry is configured. Take the following steps:
> 1. Check that WebSphere security is enabled. In the administrative console, go to **Security > Global Security**.
> 2. Check that the user registry is configured. In the administrative console, go to **Security > User Registries**.

Changes to the staff repository that are not immediately reflected in work-item assignments

> For example, you added the user, Frank, to the staff repository, but Frank has not received any work items, although he is eligible for them.
>
> To optimize the staff query resolution performance, the retrieved query results are cached. These results are shared for all process instances of a process template if the content of the context variables is the same for all query instances. The cache content is checked for currency when a new process instance is created or the corresponding staff activity gets scheduled. By default, the time after which the shared staff query results expire is one hour.
>
> You can change the default value for the expiration time for staff query results, in the administrative console.
> 1. Go to the custom properties page for the human task container. Click **Servers** → **Application servers** → *Server_Name* → **Human task container** → **Custom properties**.
> 2. Select **StaffQueryResultValidTimeSeconds** and type in a new value in seconds.
> 3. Click **OK**.
> 4. Save the changes and restart the application server to make the changes effective.
>
> > To apply the new value to an existing staff query, refresh the query.

Installing and starting Business Process Choreographer Explorer

Business Process Choreographer Explorer provides a user interface for administering processes and handling tasks. It is a Java 2 Enterprise Edition (J2EE) Web application, based on the JavaServer Faces (JSF) technology and the Business Process Choreographer Explorer components.

- "About Business Process Choreographer Explorer" on page 232
- "Configuring Business Process Choreographer Explorer" on page 232
- "Starting Business Process Choreographer Explorer" on page 234

About Business Process Choreographer Explorer:

Business Process Choreographer Explorer is a stand-alone Web application that implements a generic Web user interface.

This generic Web interface provides a basic set of administration functions for managing business process and human tasks.

You can install Business Process Choreographer Explorer on the application server when you install a business process container or a human task container. If you want to work with business process applications or human task applications on several application servers at the same time, you need to start a Business Process Choreographer Explorer for each application server.

When you start Business Process Choreographer Explorer, the objects that you see in the user interface and the actions that you can take depend on the user group that you belong to and the authorization granted to that group. For example, if you are an administrator, you are responsible for the smooth operation of deployed business processes and tasks. You can view information about process templates, process instances, task instances, and their associated objects. You can also act on these objects; for example, you can start new process instances, repair and restart failed activities, manage work items, and delete completed process instances and task instances. However, if you are a user, you can view and act on only those tasks that have been assigned to you.

Configuring Business Process Choreographer Explorer:

You have configured the business process container and human task container.

You have not yet installed Business Process Choreographer Explorer, or you want to add it to an existing Business Process Choreographer configuration.

In the following situations, you might want to configure Business Process Choreographer Explorer manually:
- To configure Business Process Choreographer Explorer on a cluster.
- Configuring Business Process Choreographer Explorer on a WebSphere Application Server base node in a Network Deployment (ND) environment.
1. Change to the Business Process Choreographer directory and invoke the `clientconfig.jacl` script.

   On Windows systems, enter the following commands:

```
cd install_root\ProcessChoreographer
..\bin\wsadmin.bat -f clientconfig.jacl
```

On UNIX and Linux systems, enter the following commands:

```
cd install_root/ProcessChoreographer
../bin/wsadmin.sh -f clientconfig.jacl
```

If any of the following conditions apply, you must specify additional command-line options:

- If WebSphere security is enabled, add the `-user` and `-password` options with the user ID and password.
- If you are configuring Business Process Choreographer Explorer on an unmanaged node and the application server is not running, add the `-conntype NONE` option.
- If you are configuring Business Process Choreographer Explorer on a WebSphere Process Server node in an ND environment, and the deployment manager is not running, run the command on the deployment manager node and add the `-conntype NONE` option. If the deployment manager is running, do not specify the `-conntype NONE` option.
- If you are not configuring the default profile, add the `-profileName` option with the name of the profile that is to be configured.

2. The `clientconfig.jacl` script prompts you for the required information.
3. **Optional:** If you have problems with the configuration, check the log file written by the `clientconfig.jacl` script. This log is located in the `profiles/profileName/logs/clientconfig.log` file. This directory also contains a `wsadmin.traceout` file that might contain more information about the problem.

Business Process Choreographer Explorer is configured and ready to use.

Start the Business Process Choreographer Explorer.

Example: Configuring the Business Process Choreographer Explorer on Windows platforms:

This example configures the Business Process Choreographer Explorer on Windows platforms using the `clientconfig.jacl` script. The script prompts you for the required information. To select the first in a list of options, press **Enter**.

- Invoke the `clientconfig.jacl` script from the `install_root\ProcessChoreographer` directory.

```
D:\WebSphere\AppServer60\ProcessChoreographer>..\bin\wsadmin -conntype none -f clientconfig.jacl
WASX7357I: By request, this scripting client is not connected to any server process. Certain
          configuration and application operations will be available in local mode.
Process Choreographer Explorer configuration started.
Name of node where to install the BPC Explorer [styriaNode01]:
==> styriaNode01
Name of server where to install the BPC Explorer [server1]:
==> server1    Virtual Host for the BPC Explorer [default_host]:
==> default_host
Precompile JSPs (precompiled JSPs cannot be debugged) [No/yes]?
==> No
```

- The installation starts.

Example output from the scripting command issued by the `clientconfig.jacl` script:

```
ADMA6010I: The tasks are [com.ibm.ws.webservices.deploy.WSDeployTask,
com.ibm.websphere.migration.common.ApplicationInstallTask,
com.ibm.websphere.migration.common.ApplicationInstallServlet12Task,
com.ibm.ws.management.application.task.ValidateAppTask,
com.ibm.ws.management.application.task.ConfigureTask,
com.ibm.ws.management.application.task.InstalledOptionalPackageTask,
```

```
                    com.ibm.ws.management.application.task.MetadataTask,
                    com.ibm.ws.management.application.task.BackupAppTask,
                    com.ibm.ws.management.application.task.DeltaDataTask,
                    com.ibm.ws.sca.internal.deployment.SCAInstallTask,
                    com.ibm.ws.appprofile.AppProfileInstallTask,
                    com.ibm.ws.security.authorize.JaccServerTask]
                    ADMA5016I: Installation of BPCExplorer_styriaNode01_server1 started.
                    App validation: 0
                    ADMA5058I: Application and module versions validated with versions of deployment targets.
                    [...]
                    ADMA5005I: The application BPCExplorer_styriaNode01_server1 is configured in the
                            WebSphere Application Server repository.
                    CWSCA3013I: Resources for the SCA application BPCExplorer_styriaNode01_server1 are being configured.
                    CWSCA3023I: The EAR file app59084.ear is being loaded for the SCA module.
                    CWSCA3014I: Resources for the SCA application BPCExplorer_styriaNode01_server1 have been configured
                             successfully.
                    SECJ0400I: Successfuly updated the application BPCExplorer_styriaNode01_server1 with the
                            appContextIDForSecurity information.
                    ADMA6011I: Deleting directory tree D:\WebSphere\AppServer60/profiles/AppSrv01\wstemp\app_1047623894b
                    ADMA5011I: The cleanup of the temp directory for application BPCExplorer_styriaNode01_server1 is
                            complete.
                    ADMA5013I: Application BPCExplorer_styriaNode01_server1 installed successfully.
                    Done installing BPCExplorer_styriaNode01_server1.
                    BPC Explorer configuration finished. See clientconfig.log for details.
```

Starting Business Process Choreographer Explorer:

With most types of installations, Business Process Choreographer Explorer is already installed on your system. Before you can start Business Process Choreographer Explorer, you must configure the business process container and the human task container, as follows:

1. Configure the business process container and the human task container.

   This step enables the Business Process Choreographer service and Business Process Choreographer Explorer. Depending on the type of installation you perform, your business process container might already be configured.

   a. Check whether a business process container and human task container are configured on your server. Click **Applications** → **Enterprise Applications** in the navigation bar of the administrative console.
      - Your process container is available if the list of enterprise applications contains an application named BPEContainer_*identifier*. Business Process Choreographer Explorer is already installed if an application named **BPCExplorer**_*identifier* appears in the list of applications. The identifier for both the business process container and Business Process Explorer depends on where you installed the business process container.

Business process container installed on:	**BPEContainer**_*identifier*
Application server	BPEContainer_*nodeName_serverName*
Cluster	BPEContainer_*clusterName*

      - If a business process container is not available, you must configure one on your server before you can proceed.

        Your task container is available if the list of enterprise applications contains an application named TaskContainer_*identifier*. Business Process Choreographer Explorer is already installed if an application named **BPCExplorer**_*identifier* appears in the list of applications. The identifier for both the human task container and Business Process Explorer depends on where you installed the human task container.

Human task container installed on:	**TaskContainer**_*identifier*
Application server	TaskContainer_*nodeName_serverName*
Cluster	TaskContainer_*clusterName*

   b. Make sure that the business process container is installed and started.

2. Configure the WebSphere Application Server security environment for secured applications, including assigning users and groups to roles defined in business process applications and configuring authentication mechanisms.
3. Deploy the applications that use the business processes.

To work with business process applications on several application servers at the same time, start a Business Process Choreographer Explorer for each application server.

To start the Business Process Choreographer Explorer, complete the following steps:
1. Open the following Web page in a Web browser:

   `http://app_server_host:port_no/bpc`

   Where:

   app_server_host
   > The network name for the host of the application server that provides the business process application with which you want to work.

   port_no
   > The port number used by Business Process Choreographer Explorer. The port number depends on your system configuration.

   Business Process Choreographer Explorer prompts you for a user ID and password.
2. Type a user ID and password, then click **OK**.

This task displays the initial page of Business Process Choreographer Explorer, which shows the work items in your To Do list.

Activating Business Process Choreographer

To activate the business process container and human task container you must restart your application servers.
1. If you installed the business process container on a cluster of application servers, restart the cluster.
2. If you installed the business process container on one application server, restart the application server.
3. To verify that the business process container and human task container applications started successfully, make sure that no error messages exist in the `SystemOut.log` file for the application server. On a cluster, check the log for all application servers in the cluster.

Business Process Choreographer is running.

You are ready to verify that Business Process Choreographer is working.

Verifying that Business Process Choreographer works
Running a sample application or your own business application that contains business processes, human tasks, or both.

The application server, database system, and messaging service must be running.

To verify that Business Process Choreographer works, you can either use one of the sample applications that is provided, or run your own application.

1. Using either the administrative console or the wsadmin command, install an enterprise application that contains business processes, human tasks, or both:

   a. If you want to run a sample application, install and run one of the applications in the Business Process Choreographer section of the samples gallery. The sample applications include claims handling, travel booking, and order processing.

   b. If you want to use your own enterprise application, install the application.

   c. Errors will occur at this stage if the Business Process Choreographer database cannot be accessed. These problems can be caused if the database system is not running, if any database clients are not correctly configured, or if errors were made defining the data source, for example, entering an invalid user ID or password.

   After the enterprise application is installed, it is in the state stopped, and any process and task templates that it contains are in the state started. No process or task instances can be created until the application is started.

2. Select the application and click **Start** to start the application. At this point, the input queues are read for the first time. Errors will occur at this stage if the queue manager is not running, or if any mistakes were made defining the JMS provider or JMS resources.

3. Verify that the application works. Some applications require the Business Process Choreographer Explorer to interact with business processes and human tasks.

4. **Optional:** Stop and remove the sample application.

Business Process Choreographer works.

Understanding the startup behavior of the business process container:

This topic explains why the business process container is unavailable until all enterprise applications are started.

When the business process container is started or restarted, no messages in the internal queue are processed until all enterprise applications are started. It is not possible to change this behavior. The time that business process container is unavailable during a restart depends on how long it takes until all enterprise applications are started. This behavior is necessary to prevent the business process engine from navigating processes with associated enterprise applications that are not running.

Starting to process messages in the internal queue before all applications are started would result in ClassNotFound exceptions.

Configuring the Common Event Infrastructure

You must configure the necessary resources and services before you can use the Common Event Infrastructure.

1. Configure the event database. See *"Configuring the event database" on page 237*.

2. Deploy the Common Event Infrastructure application. See *"Deploying the Common Event Infrastructure application" on page 252*.

3. Start the application server.

4. **Optional:** Deploy a message driven bean. You can deploy a message driven bean in one of the following ways:

- Use the default messaging service and associate the message queue to the default emitter profile. See *"Configuring default event messaging" on page 254.*
- Use an alternative messaging service. See *"Configuring event messaging using another JMS provider" on page 255.*

The Common Event Infrastructure is installed and ready to use. By default, the Common Event Infrastructure service and the application events service are started when the application server starts.

5. **Optional:** Change the default configuration settings for services and resources. These services and settings include:
   - Common Event Infrastructure service. See *"Configuring the Common Event Infrastructure Service" on page 263.*
   - Application events service. See *"Configuring the Events service" on page 263.*
   - Emitter factory profile. See *"Creating an emitter factory profile" on page 262.*
   - Event group. See *"Creating an event group" on page 262.*

Post-installation configuration

Before you can begin using the Common Event Infrastructure, you must complete several post-installation configuration tasks.

Configuring the event database:

Database configuration includes creating the required tables and configuring JDBC data sources.

The event database is required to support persistence of events. You must configure a new event database under any of the following circumstances:
- You are setting up a new installation of the Common Event Infrastructure.
- You have migrated from a previous version with a Cloudscape event database. Migration is not supported for a Cloudscape event database.

Database configuration logs and messages:

The scripts for configuring and removing the event database create two log files.
- The *install_root*/logs/event/event_db.log log file contains detailed trace information.
- The *install_root*/logs/event/event_db_msg.log log file contains any messages generated by the database configuration script.

Log file messages are in the following format:
```
<Date> <month><year> <time><Class> <Methods><Type> <Message>
```

The fields in the message statements are as follows:

Class　　The name of the class generating the message.

Method
　　　　The method generating the log message.

Type　　The type of message. This can be any of the following:
- Entry
- Exit
- Error
- Information

- Warning

Message
  The text of the message.

Configuring a Cloudscape database:

There are two steps required for configuring a Cloudscape event database.

You must configure the Cloudscape event database prior to using the Common
Event Infrastructure.

1. Create a database response file. A database response file is a text file that
   specifies parameters for configuring the event database. These parameters vary
   depending on the type of database being used.
2. Run the database configuration scripts. The Common Event Infrastructure
   provides scripts for configuring or upgrading the event database. These scripts
   in turn generate customized, database-specific scripts for creating or modifying
   the necessary database configuration using the parameters in your response
   file.

Configuring the event database (Linux, UNIX, and Windows systems):

You can configure an event database on a Linux, UNIX, or Windows system using
Cloudscape, DB2, or Oracle database software.

To configure the event database:

1. Go to the *profile_path*/`event/dbconfig` directory for the profile defining the
   WebSphere Process Server run-time environment where you want to configure
   the database. (Replace *profile_path* with the path to the directory containing the
   WebSphere Process Server profile.)
2. Using an ASCII text editor, open one of the provided sample database response
   files. Select the sample response file for the database software you are using:

Database	Sample response file
Cloudscape	CloudscapeResponseFile.txt
DB2 Universal Database for Linux, UNIX, and Windows	DB2ResponseFile.txt
Oracle Database	OracleResponseFile.txt

3. Modify the database response file with the correct information for your
   environment. (See the comments in the sample response file for more
   information about the parameters, including complete syntax information.)

   If you are using a DB2 database on a Linux, UNIX, or Windows system, specify
   the following parameter values:

   JDBC_CLASSPATH
     The path to the DB2 JDBC driver.

   UNIVERSAL_JDBC_CLASSPATH
     The path to the Universal JDBC driver.

   If you are using a DB2 database on a z/OS system, specify the following
   parameter values:

   DB_NAME
     The name of the z/OS database you created for the event database.

JDBC_CLASSPATH
> The path to the DB2 JDBC driver.

UNIVERSAL_JDBC_DRIVER_NATIVEPATH
> The path to the Universal JDBC native library path.

UNIVERSAL_JDBC_CLASSPATH
> The path to the Universal JDBC driver.

If you are using an Oracle database, specify the following parameter values:

ORACLE_HOME
> The path to the Oracle home directory.

JDBC_CLASSPATH
> The JDBC driver class path.

4. Run the database configuration script for your operating system, specifying the name of the database response file as a parameter. Use one of the following commands:

Windows systems
> `config_event_database.bat` *response_file*

Linux and UNIX systems
> `config_event_database.sh` *response_file*

For example, the following command would configure a DB2 event database on a Windows system: `config_event_database.bat DB2ResponseFile.txt`

The script configures the event database and creates two JDBC data sources: one for the event database and one for the event catalog. A message is displayed when database configuration is complete.

Note: If your database response file specifies `EXECUTE_SCRIPTS=false`, you must complete the database configuration by manually running the generated scripts. The default value in the sample database response file is `EXECUTE_SCRIPTS=true`.

After you configure the event database, you must restart the application server.

Manually running database configuration scripts:

If your database response file specifies EXECUTE_SCRIPTS=false, you must complete the database configuration process by manually running the generated scripts.

Database configuration is a two-step process. The **config_event_database** script first generates database-specific scripts for your environment; these generated scripts then create the database and data sources. If your database response file specifies `EXECUTE_SCRIPTS=true`, the **config_event_database** performs both steps automatically. However, if your database response file specifies `EXECUTE_SCRIPTS=false`, you must complete the database configuration by manually running the generated scripts.

The default value in the sample database response file specifies `EXECUTE_SCRIPTS=true`. Unless you have changed this value in your customized response file, you do not need to run the generated scripts manually.

To manually run the generated scripts:

1. Go to the database-specific subdirectory containing the generated scripts for creating the event database.

   The scripts are placed in one of the following directories, depending upon the database software you are using:
   - *profile_path*/event/dbscripts/cloudscape
   - *profile_path*/event/dbscripts/db2
   - *profile_path*/event/dbscripts/oracle

   Replace *profile_path* with the path to the directory containing the profile for the WebSphere Process Server run-time environment in which you are configuring the event database.

2. Run the generated database creation script for your operating system and database software:

Type	Operating system	Database script
Cloudscape	Windows	cr_event_cloudscape.bat
Cloudscape	Linux/UNIX	cr_event_cloudscape.sh
DB2	Windows	cr_event_db2.bat
DB2	Linux/UNIX	cr_event_db2.sh
Oracle	Windows	cr_event_oracle.bat
Oracle	Linux/UNIX	cr_event_oracle.sh

3. Go to the database-specific subdirectory containing the generated scripts for creating the JDBC data sources.

   The scripts are placed in one of the following directories, depending upon the database software you are using:
   - *profile_path*/event/dsscripts/db2
   - *profile_path*/event/dsscripts/db2zos
   - *profile_path*/event/dsscripts/cloudscape
   - *profile_path*/event/dsscripts/oracle

   Replace *profile_path* with the path to the directory containing the profile for the WebSphere Process Server run-time environment in which you are configuring the event database.

4. Run the generated JDBC configuration script for your operating system and database software:

Type	Operating system	JDBC configuration script
Cloudscape	Windows	cr_cloudscape_jdbc_provider.bat
Cloudscape	Linux/UNIX	cr_cloudscape_jdbc_provider.sh
DB2	Windows	cr_db2_jdbc_provider.sh
DB2	Linux/UNIX	cr_db2_jdbc_provider.sh
Oracle	Windows	cr_oracle_jdbc_provider.bat
Oracle	Linux/UNIX	cr_oracle_jdbc_provider.sh

Use the following command to run the JDBC configuration script:

Windows systems

    cr_*db*_jdbc_provider *scope* [*server_name*]

Linux and UNIX systems

    cr_*db*_jdbc_provider.sh *scope* [*server_name*]

The parameters are as follows:

scope The scope at which you want to configure the JDBC provider. The valid values are `cell`, `node`, `server`, or `cluster`.

server_name
The name of the WebSphere server where you want to configure the JDBC provider, if **scope** is `server`. (If **scope** is `cell`, this parameter is ignored.

After the event database is configured, you must restart the application server.

Configuring a DB2 database on a Linux, UNIX, or Windows system:

Follow these steps to configure a DB2 event database on a Linux, UNIX, or Windows system.

Although you can configure a DB2 event database using the Profile Wizard for the WebSphere Process Server profile creation, you need to manually do steps 1 and 2, below, *before* configuring the DB2 database.

1. If you are configuring a DB2 database on a DB2 client with the server on a remote system, make sure the client system is configured to communicate with the server and that the DB2 node is cataloged. For more information, refer to the DB2 Universal Database documentation.
2. If you are configuring a DB2 database on a Linux or UNIX system, source the database environment:
   a. Modify /etc/group and make sure `root` is in the same group as the db2instance.
   b. Source the database environment by running the *db2instance*/`sqllib`/`db2profile` script (replace *db2instance* with the name of your database instance).
3. Create a database response file. A database response file is a text file that specifies parameters for configuring the event database. These parameters vary depending on the type of database being used.
4. Run the database configuration scripts. The Common Event Infrastructure provides scripts for configuring the event database. These scripts generate customized, database-specific scripts for creating the database configuration using the parameters in your response file.

Configuring a DB2 database on a z/OS system:

You can configure an event database on a z/OS system using DB2 database software.

To configure the DB2 database from a remote client, you must have the DB2 Connect product installed with the latest fix packs.

Note: Follow this procedure only if you are configuring a DB2 event database on a z/OS system.

To configure the event database:
1. On the z/OS system, use the DB2 administration menu to create a new subsystem.
2. Create a storage group. You will also need to specify the storage group name in the database response file; the default value is `sysdeflt`.

3. Grant the necessary permissions to the user ID you want the WebSphere Process Server data source to use. This user ID must have rights to access the database and storage group you created; it must also have permission to create new tables, table spaces, and indexes for the database.

4. Catalog the remote database. Use the following commands, either in a script or in a DB2 command-line window:

   ```
   catalog tcpip node zosnode remote hostname server IP_port system db_subsystem
   catalog database db_name as db_name at node zosnode authentication DCS
   ```

   For more information about how to catalog a nodes and databases, refer to the DB2 Connect documentation.

5. Verify that you can establish a connection to the remote subsystem. You can check this by running the following command:

   ```
   db2 connect to subsystem user userid using password
   ```

6. Bind to the host database. Use the following commands:

   ```
   db2 connect to db_name user userid using password
   db2 bind path/bnd/@ddcsmvs.lst blocking all sqlerror continue message
        mvs.msg grant public
   db2 connect reset
   ```

   For more information about binding a client to a host database, refer to the DB2 Connect documentation.

7. Go to the *profile_path*/event/dbconfig directory for the profile defining the WebSphere Process Server run-time environment where you want to configure the database. (Replace *profile_path* with the path to the directory containing the WebSphere Process Server profile.)

8. Using an ASCII text editor, open the DB2ZOSResponseFile.txt sample database response file.

9. Modify the database response file with the correct information for your environment. (See the comments in the sample response file for more information about the parameters, including complete syntax information.) Specify the following parameter values:

   DB_NAME
   > The name of the z/OS database you created for the event database.

   JDBC_CLASSPATH
   > The path to the DB2 JDBC driver.

   UNIVERSAL_JDBC_DRIVER_NATIVEPATH
   > The path to the Universal JDBC native library path.

   UNIVERSAL_JDBC_CLASSPATH
   > The path to the Universal JDBC driver.

10. Run the database configuration script for your client operating system, specifying the name of the database response file as a parameter. Use one of the following commands:

    Windows systems
    > ```
    > config_event_database.bat response_file
    > ```

    Linux and UNIX systems
    > ```
    > config_event_database.sh response_file
    > ```

The script configures the event database and creates two JDBC data sources: one for the event database and one for the event catalog. A message is displayed when database configuration is complete.

Note: If your database response file specifies EXECUTE_SCRIPTS=false, you must complete the database configuration by manually running the generated scripts. The default value in the sample database response file is EXECUTE_SCRIPTS=true.

After you configure the event database, you must restart the application server.

Manually running z/OS database configuration scripts:

If your database response file specifies EXECUTE_SCRIPTS=false, you must complete the database configuration process by manually running the generated scripts.

To run the scripts manually:
1. Go to the *profile_path*/event/dbscripts/db2zos directory.

   Replace profile_path with the path to the directory containing the profile for the WebSphere Process Server run-time environment in which you are configuring the event database.
2. Use the SQL Processor Using File Input (SPUFI) to load and run the generated DDL scripts. Run the scripts in the following order:
   - $WAS_HOME/event/dbscripts/db2zos/ddl/cr_db.db2
   - $WAS_HOME/event/dbscripts/db2zos/ddl/cr_db_catalog.db2
   - $WAS_HOME/event/dbscripts/db2zos/ddl/cr_tbl.db2
   - $WAS_HOME/event/dbscripts/db2zos/ddl/cr_tbl_catalog.db2
   - $WAS_HOME/event/dbscripts/db2zos/ddl/ins_metadata.db2
   - $WAS_HOME/event/dbscripts/db2zos/ddl/catalogSeed.db2
3. Go to the *profile_path*/event/dsscripts/db2zos directory.

   Replace profile_path with the path to the directory containing the profile for the WebSphere Process Server run-time environment in which you are configuring the event database.
4. Run the $WAS_HOME/event/dsscripts/cr_db2zos_jdbc_provider script to create the event data source. Specify the scope at which the JDBC provider is to be configured:

   cr_db2zos_jdbc_provider *scope* [*server_name*]

After the event database is configured, you must restart the application server.

Configuring an Oracle database:

Follow these steps to configure an Oracle event database.

You must configure the Oracle event database prior to using the Common Event Infrastructure.
1. If you are using Oracle8i Database Release 8.1.7 and a type 2 JDBC driver, use the WebSphere administrative console to modify the Common Event Infrastructure data source Event_Oracle_JDBC_Provider to use the class path *$ORACLE_HOME*/jdbc/lib/classes12.zip.
2. If you are using Oracle8i Database Release 8.1.7 and a type 4 JDBC driver, do one of the following:
   - Use the WebSphere administrative console to modify the Common Event Infrastructure data source Event_Oracle_JDBC_Provider to use class path *$ORACLE_HOME*/jdbc/lib/classes12.zip

- Download the `ojdbc14.jar` file from http://www.oracle.com and place the file in the *$ORACLE_HOME*/jdbc/lib directory. (You do not need to modify the data source.)

3. Create a database to use for the event database. When you create the database, select the appropriate character set:
   - For an Oracle 9 database, select Unicode (AL32UTF8).
   - For an Oracle 8 database, select UTF-8.

   If you are configuring the event database from an Oracle client, the client must be configured to communicate with this database instance. In the next step, specify the Oracle system identifier (SID) in the database response file; the default value is `event`.

4. Create a database response file. A database response file is a text file that specifies parameters for configuring the event database. These parameters vary depending on the type of database being used.

   If you are installing multiple event servers using the same Oracle database, remember that table space names must be unique within a database instance. Therefore, you must modify the response file to specify different table space names for each event server you install.

5. Run the database configuration scripts. The Common Event Infrastructure provides scripts for configuring the event database. These scripts generate customized, database-specific scripts for creating the database configuration using the parameters specified in your response file.

6. Make sure the following environment variables are set:
   - *ORACLE_HOME* must be set to the Oracle installation directory.
   - PATH must include *$ORACLE_HOME*/bin and *$ORACLE_HOME*/lib.
   - LD_LIBRARY_PATH and LIBPATH must be set to *$ORACLE_HOME*/lib.
   - CLASSPATH must contain *$ORACLE_HOME*/jdbc/lib/ojdbc14.jar and *$ORACLE_HOME*/jdbc/lib/nls_charset12.zip.

Oracle database limitations:

Some limitations apply to configurations using Oracle database software. If you configured an Oracle event database, keep the following considerations in mind:

- The Oracle 10g JDBC thin driver imposes some size restrictions for string values if you are using a Unicode character set. This can result in an Oracle ORA-01461 error when events containing large values (such as a long message attribute) are stored in the event database. For more information about this restriction, refer to the Oracle 10g documentation.

  To avoid this problem, use the Oracle 10g OCI driver or the Oracle 9i thin driver.

- Oracle database software treats a blank string as a NULL value. If you specify a blank string as an event attribute value, that string is converted to a NULL when it is stored in an Oracle event database.

Creating a database response file:

A database response file is a text file specifying parameters for configuring the event database. These parameters vary depending on the type of database being used.

If you are upgrading an existing Cloudscape event database, you must use the same response file you used when you originally configured the database. A

backup copy of this response file is created during the Common Event
Infrastructure installation and saved as
install_root/event/dbconfig/CloudscapeResponseFile.bak.

To create a database response file, follow these steps:

1. Using an ASCII text editor, open one of the sample database response files.
   These files are located in the *install_root*/event/dbconfig directory. Select the
   sample response file for the database software you are using:

Database	Sample response file
Cloudscape	CloudscapeResponseFile.txt
DB2 Universal Database for Linux, UNIX, and Windows	DB2ResponseFile.txt
Oracle Database	OracleResponseFile.txt

Database	Sample response file
Cloudscape	CloudscapeResponseFile.txt
DB2 Universal Database for z/OS	DB2ZOSResponseFile.txt

2. Modify the parameters in the response file as appropriate for your database
   configuration.
3. Save the file to your Common Event Infrastructure installation directory. You
   can give the modified response file any name you want to use; you specify this
   file when you run the database configuration script.

Cloudscape database response file:

A Cloudscape database response file specifies parameters for configuring a
Cloudscape event database.

A sample Cloudscape database response file called CloudscapeResponseFile.txt is
available in the *install_root*/event/dbconfig directory.

This response file specifies the following parameters:

SHARE_DB=[server|node|cell]
> The scope in which the configured database is shared. This is the scope in
> which Java database connectivity (JDBC) data sources is created. This
> parameter is optional; the default value is **server**.

WAS_SERVER=*server*
> The name of the WebSphere Process Server where the database is installed.
> This parameter is applicable only if the **SHARE_DB** parameter is set to **server**.
> If you do not specify a server name, the default value is server1.

DB_NAME=*name*
> The name of the event database. This parameter is optional. The default value
> is event.

JDBC_PROVIDER=*provider*
> The name of the JDBC provider to configure. The value must be the name of a
> JDBC driver supported by WebSphere Process Server Version 5.1, and later. The
> Cloudscape JDBC Provider (XA) driver is recommended.

DB_TYPE=CLOUDSCAPE
  The type of database to be configured. For a Cloudscape database, this must be
  CLOUDSCAPE.

PAGE_CACHE_SIZE=*size*
  The number of memory pages to use for caching data. Increasing the page
  cache size can improve performance, but also requires more memory. See the
  Cloudscape documentation for more information about caching. This
  parameter is optional. The default value is 4000.

LOG_DEVICE=*path*
  The path to the location where the transaction logs are written. Using a
  separate device for logs can improve performance, but it also complicates
  backup and recovery. This parameter is optional.

DB2 database response file for Linux, UNIX, and Windows systems:

A DB2 database response file for Linux, UNIX, and Windows systems specifies
parameters for configuring a DB2 event database that runs on any of these
operating systems.

A sample DB2 database response file for Linux, UNIX, and Windows, called
DB2ResponseFile.txt, is available in the *install_root*/event/dbconfig directory.
This response file for Linux, UNIX, and Windows systems specifies the following
parameters:

WAS_SERVER=*server*
  The name of the WebSphere Process Server where the database is installed.
  This parameter is applicable only if the **SHARE_DB** parameter is set to **server**.
  If you do not specify a server name, the default value is server1.

SHARE_DB=[server|node|cell]
  The scope in which the configured database is shared. This is the scope in
  which Java database connectivity (JDBC) data sources are created. This
  parameter is optional. The default value is **server**.

DB_NAME=*name*
  The name of the event database. This name must be no longer than 8
  characters. This parameter is optional; the default value is event.

DB_NODE_NAME=*name*
  The database server node name. This parameter is required only if the
  database server is remote; it is not required if the database server is on the
  local machine.

JDBC_PROVIDER=*provider*
  The name of the JDBC provider to configure. The value must be the name of a
  JDBC driver supported by WebSphere Process Server Version 5.1, and later. The
  following drivers are recommended:
  • DB2 Universal JDBC Driver Provider (XA)
  • DB2 Legacy CLI-based Type 2 JDBC Provider (XA)

JDBC_CLASSPATH=*path*
  The path to the JDBC driver (not including file name). This should be one of
  the following:
  • For DB2 Universal JDBC Driver Provider (XA): the path to the
    db2jcc_license_cu.jar and db2jcc_license_cisuz.jar files
  • For DB2 Legacy CLI-based Type 2 JDBC Driver (XA), the path to the
    db2java.zip file

UNIVERSAL_JDBC_CLASSPATH=*path*

> For DB2 Universal JDBC Driver Provider or DB2 Universal JDBC Driver Provider (XA), the path to the JDBC driver (not including file name). This should be the path to the `db2jcc_license_cu.jar` file. This parameter is optional.

JDBC_DRIVER_TYPE=*type*

> The JDBC driver type. This should be either 2 or 4.

DB_HOST_NAME=*hostname*

> The database server host name. This parameter is required if **JDBC_DRIVER_TYPE** is set to 4. The default value is `localhost`.

DB_INSTANCE_PORT=*port*

> The database instance port number. This parameter is required if **JDBC_DRIVER_TYPE** is set to 4. The default port number is 50000.

EXECUTE_SCRIPTS=[YES|NO]

> Specifies whether the database configuration scripts are automatically run. If this parameter is set to **NO**, the scripts for configuring the database are generated but do not run.

DB_TYPE=DB2

> The type of database to configure. For a DB2 database, this must be **DB2**.

PAGE_SIZE_4K_BUFFER_POOL=*size*

> The database 4K buffer pool size, in KB. The default value is 1500.

PAGE_SIZE_8K_BUFFER_POOL=*size*

> The database 8K buffer pool size, in KB. The default value is 1500.

PAGE_SIZE_16K_BUFFER_POOL=*size*

> The database 16K buffer pool page size, in KB. The default value is 1000.

LOG_FILE_SIZE=*size*

> The size of the primary and secondary log files, in 4 KB pages. This parameter is optional. The default value is 1000.

NUM_PRIMARY_LOG=*n*

> The number of primary log files to use. This parameter is optional. The default value is 3.

NUM_SECONDARY_LOG=*n*

> The number of primary log files to use. This parameter is optional. The default value is 2.

TRANSACTION_LOG_FILE=*path*

> The path to the location where the transaction log files are written. If you place the database transaction logs on a different disk from the event database tables and indexes, this can significantly improve performance. This parameter is optional. If no value is specified, the default location is used.

Oracle database response file:

An Oracle database response file specifies parameters for configuring an Oracle event database.

Purpose

These parameters can also be specified in the installation response file if **CONFIGURE_DB** is set to **true** and **DB_TYPE** is set to **ORACLE**. A sample Oracle database response file called OracleResponseFile.txt is available in the

$WAS_HOME/event/dbconfig/oracle directory of the Common Event
Infrastructure development system.

Parameters

SHARE_DB=[server|node|cell]
> The scope at which the configured database will be shared. This is the scope at
> which JDBC data sources will be created. This parameter is optional; the
> default value is **server**.

WAS_SERVER=_server_
> The name of the WebSphere application server where the database is installed.
> This parameter is applicable only if **SHARE_DB** is set to **server**. If you do not
> specify a server name, the default value is server1.

ORACLE_HOME=_path_
> The path to the Oracle home directory.

DB_NAME=_name_
> The name of the event database. This name is used as the Oracle System ID
> (SID). This parameter is optional; the default value is event.

JDBC_PROVIDER=_provider_
> The name of the Java Database Connectivity (JDBC) provider to configure. The
> value must be the name of a JDBC driver supported by WebSphere Process
> Server Version 5.1. The Oracle JDBC Provider (XA) driver is recommended:

JDBC_CLASSPATH=_path_
> The path to the JDBC driver (not including file name).

JDBC_DRIVER_TYPE=[thin|oci8]
> The JDBC driver type.

DB_HOST_NAME=_hostname_
> The host name of the database server.

DB_INSTANCE_PORT=_port_
> The database instance port number.

EXECUTE_SCRIPTS=[YES|NO]
> Specifies whether the database configuration scripts should be automatically
> run. If this parameter is set to **NO**, the scripts for configuring the database will
> be generated but will not be run.

DB_TYPE=ORACLE
> The type of database being configured. For an Oracle database, this must be
> **ORACLE**.

SCHEMA_NAME=CEI
> The database schema name to use. This should always be **CEI**.

PROFILE=_profile_
> Specifies the profile for the schema user in the Oracle database. The default
> value is cei_profile.

ROLE=_role_
> Specifies the application role for the schema user in the Oracle database. The
> default value is cei_role.

TABLE_SPACE_BASE_NAME=_name_
> Specifies the default table space name. This name must be no longer than 18
> characters. The default value is cei_ts_base.

TABLE_SPACE_BASE_PATH=*path*
> Specifies the default table space path. The default value is `cei_ts_base`.

TABLE_SPACE_BASE_INITIAL_SIZE_MB=*size*
> Specifies the initial size (in MB) of the default table space. The default size is 102 MB.

TABLE_SPACE_NEXT_EXTENT_SIZE_MB=*size*
> Specifies the automatic increment size (in MB) of the default table space. The default size is 10 MB.

TABLE_SPACE_TEMP_NAME=*temp*
> Specifies the temporary table space name. This name must be no longer than 18 characters. The default value is `cei_ts_temp`.

TABLE_SPACE_TEMP_PATH=*path*
> Specifies the temporary table space path. The default value is `cei_ts_temp`.

TABLE_SPACE_TEMP_SIZE_MB=*size*
> Specifies the initial size (in MB) of the temporary table space. The default size is 7 MB.

TABLE_SPACE_EXTENDED_NAME=*name*
> Specifies the extended table space name. This name must be no longer than 18 characters. The default value is `cei_ts_extended`.

TABLE_SPACE_EXTENDED_PATH=*path*
> Specifies the extended table space path. The default value is `cei_ts_extended`.

TABLE_SPACE_EXTENDED_INITIAL_SIZE_MB=*size*
> Specifies the initial size (in MB) of the extended table space. The default size is 204 MB.

TABLE_SPACE_EXTENDED_NEXT_EXTENT_SIZE_MB=*size*
> Specifies the automatic increment size (in MB) of the extended table space. The default size is 20 MB.

TABLE_SPACE_CATALOG_NAME=*name*
> Specifies the table space name for the event catalog. This name must be no longer than 18 characters. The default value is `cei_ts_catalog`.

TABLE_SPACE_CATALOG_PATH
> Specifies the table space path for the event catalog. The default value is `cei_ts_catalog_path`.

TABLE_SPACE_CATALOG_INITIAL_SIZE_MB
> Specifies the initial size (in MB) of the event catalog table space. The default size is 10 MB.

TABLE_SPACE_CATALOG_NEXT_EXTENT_SIZE_MB=*size*
> Specifies the automatic increment size (in MB) of the event catalog table space. The default size is 5 MB.

DB2 Universal Database response file for z/OS systems:

A DB2 Universal Database response file specifies parameters for configuring a DB2 event database on a z/OS system.

A sample DB2 response file for z/OS systems, called `DB2ZOSResponseFile.txt`, is available in the *install_root*/event/dbconfig directory. This response file specifies the following parameters:

WAS_SERVER=_server_

The name of the WebSphere Process Server where the database is installed. This parameter is applicable only if the **SHARE_DB** parameter is set to **server**. If you do not specify a server name, the default value is `server1`.

SHARE_DB=[server|node|cell]

The scope in which the configured database is shared. This is the scope in which Java database connectivity (JDBC) data sources are created. This parameter is optional. The default value is **server**.

DB_NAME=_name_

The name of the event database. This name must be no longer than 8 characters and must be the name of an existing database. This parameter is optional. The default value is `ceizos`.

JDBC_PROVIDER=_provider_

The name of the JDBC provider to configure. The value must be the name of a JDBC driver supported by WebSphere Process Server Version 5.1, and later. The following drivers are recommended:
- DB2 Universal JDBC Driver Provider (XA)
- DB2 Legacy CLI-based Type 2 JDBC Provider (XA)

JDBC_CLASSPATH=_path_

The path to the JDBC driver (not including file name). This should be one of the following:

- For DB2 Universal JDBC Driver Provider (XA): the path to the `db2jcc_license_cu.jar` and `db2jcc_license_cisuz.jar` files.

- For DB2 Legacy CLI-based Type 2 JDBC Driver (XA), the path to the `db2java.zip` file.

UNIVERSAL_JDBC_CLASSPATH=_path_

For DB2 Universal JDBC Driver Provider or DB2 Universal JDBC Driver Provider (XA), the path to the JDBC driver (not including file name). This should be the path to the `db2jcc_license_cu.jar` file. This parameter is optional.

JDBC_DRIVER_TYPE=_type_

The JDBC driver type. This should be either 2 or 4.

DB_HOST_NAME=_hostname_

The database server host name. This parameter is required if **JDBC_DRIVER_TYPE** is set to 4. The default value is `localhost`.

DB_INSTANCE_PORT=_port_

The database instance port number. This parameter is required if **JDBC_DRIVER_TYPE** is set to 4. The default port number is 5027.

EXECUTE_SCRIPTS=[YES|NO]

Specifies whether the database configuration scripts are automatically run. If you are configuring the database on a z/OS system with UNIX System Services, set this value to `NO`.

DB_TYPE=DB2ZOS

The type of database to configure. For a DB2 for z/OS database, this must be **DB2ZOS**.

EVENT_DB_NAME=_name_

The database name for the event database. This name must be no longer than 8 characters. The default value is `event`.

CATALOG_DB_NAME=_name_
> The database name for the event catalog database. This name must be no longer than 8 characters. The default value is `eventcat`.

STORAGE_GROUP=_group_
> The storage group for the event database and catalog database. This must be the name of an existing storage group. The default value is `sysdeflt`.

BUFFER_POOL_4K=_name_
> The name of the 4K buffer pool. The default value is `BP9`.

BUFFER_POOL_8K=_name_
> The name of the 8K buffer pool. The default value is `BP8K9`.

BUFFER_POOL_16K=_name_
> The name of the 16K buffer pool. The default value is `BP16K9`.

DAYS_TO_KEEP_EVENTS=_days_
> The number of days that events are kept in the database before they are purged. Changes to this value significantly affect the amount of storage allocated for the table spaces that store event data. The default value is 1.

AVERAGE_EVENTS_PER_SECOND=_events_
> The average number of events that are stored in the database each second. Changes to this value significantly affect the amount of storage allocated for the table spaces that store event data. The default value is 1.

AVERAGE_NUMBER_CONTEXT_PER_EVENT=_number_
> The average number of context elements per event instance. The default value is 1.

AVERAGE_NUMBER_EXTENDED_DATA_ELEMENT_PER_EVENT=_number_
> The average number of extended data elements per event instance. Changes to this value significantly affect the amount of storage allocated for the table spaces that store extended data element data. The default value is 5.

AVERAGE_NUMBER_EXTENDED_DATA_ELEMENT_ARRAY_ELEMENTS=_number_
> The average number of values for extended data elements that are array data types. The default value is 5.

AVERAGE_NUMBER_MSG_TOKENS_PER_EVENT=_number_
> The average number of message tokens per event. The default value is 1.

AVERAGE_ASSOCIATIONS_PER_EVENT=_number_
> The average number of event associations per event. The default value is 2.

TABLESPACE_EXTENDED_BINARY_VALUE_PRIMARY=_size_
> The primary allocation for the large object (LOB) table space that contains hexBinary extended data element values. This allocation can be small if events do not typically contain hexBinary extended data element values. The default value is 1000.

TABLESPACE_EXTENDED_BINARY_VALUE_SECONDARY=_size_
> The secondary allocation for the large object (LOB) table space that contains hexBinary extended data element values. This allocation can be small if events do not typically contain hexBinary extended data element values. The default value is 200.

TABLESPACE_ANY_VALUE_PRIMARY=_size_
> The primary allocation for the large object (LOB) table space that contains the values for the _any_ element, which is a character large object (CLOB). This allocation can be small if events do not typically contain _any_ elements. The default value is 1000.

TABLESPACE_ANY_VALUE_SECONDARY=*size*

The secondary allocation for the large object (LOB) table space that contains the values for the *any* element, which is a character large object (CLOB). This allocation can be small if events do not typically contain *any* elements. The default value is 200.

PERCENTAGE_FREE_SPACE=*percent*

The amount of free space, as a percentage, to leave on each page. Increase this value as the number of inserted rows increases. Free space makes updates more efficient, but a larger value uses more disk space. The default value is 20.

FREE_PAGE=*pages*

The number of pages to fill before leaving a free page. If this parameter is set to 0, free pages are not left. Set this parameter to a nonzero value if a large amount of SQL INSERT processing is expected. (A nonzero value uses more disk space.) The default value is 10.

NUMBER_EVENT_DEFINITIONS=*definitions*

The number of event definitions stored in the event catalog. The default value is 100.

AVERAGE_SOURCE_CATEGORY_PER_EVENT_DEFINITION=*categories*

The average number of source categories per event definition in the event catalog. The default value is 1.

AVERAGE_EXTENDED_DATA_ELEMENT_PER_EVENT_DEFINITION=*definitions*

The average number of extended data element descriptions for each event definition in the event catalog. The default value is 5.

AVERAGE_PROPERTY_DESCRIPTIONS_PER_EVENT_DEFINITION=*definitions*

The average number of property descriptions for each event definition in the event catalog. The default value is 5.

TABLESPACE_HEX_DEFAULT_PRIMARY=*size*

The primary allocation for the large object (LOB) table space that contains the default values for hexBinary extended data elements. The default value is 100.

TABLESPACE_HEX_DEFAULT_SECONDARY=*size*

The secondary allocation for the large object (LOB) table space that contains the default values for hexBinary extended data elements. The default value is 10.

Deploying the Common Event Infrastructure application:

The event server enterprise application must be deployed in each WebSphere runtime environment where the profile has been augmented to use the Common Event Infrastructure.

The event server enterprise application is packaged in the event-application.ear EAR file. The **event-application.jacl** script installs this application in the WebSphere Process Server.

1. Go to the *profile_path*/event/application directory for the profile defining the WebSphere Application Server runtime environment where you want to deploy the application. (Replace *profile_path* with the path to the directory containing the WebSphere Application Server profile.)

2. Run the **event-application.jacl** script using the **wsadmin** command:

Windows systems

```
profile_path\bin\wsadmin [-conntype none] -profile event-profile.jacl
   -f event-application.jacl  -action action -earfile event-application.ear
   -backendid backend_id -node node_name -server server_name
   [-cluster cluster_name] [-appname app_name] [-trace]
```

Linux and UNIX systems

```
profile_path/bin/wsadmin.sh [-conntype none] -profile event-profile.jacl
   -f event-application.jacl  -action action -earfile event-application.ear
   -backendid backend_id -node node_name -server server_name
   [-cluster cluster_name] [-appname app_name] [-trace]
```

The parameters are as follows:

action

The action to perform. To install the enterprise application, specify `install`. To update an existing event server application that is already installed, specify `update`. During an update, the script makes a backup copy of the existing application EAR file in the current directory; if necessary, you can later use this backup copy to restore the previous version of the application.

backend_id

The type of database back end to be used by the enterprise application. This must be one of the following values:

- CLOUDSCAPE_V51_1
- DB2UDBNT_V82_1
- DB2UDBNT_V8_1
- ORACLE_V10_1
- ORACLE_V9_1
- DB2UDBOS390_V8_1
- DB2UDBOS390_V7_1

node_name

The WebSphere Process Server node in which the event server is to be deployed. To find out the node name, follow these steps:

a. Run the *profile_path***/bin/setupCmdLine** script.

b. Run the command `echo $WAS_NODE` (Linux/UNIX systems) or `echo %WAS_NODE%` (Windows systems).

This value is case-sensitive. If you are deploying the enterprise application in a cluster, omit this parameter.

server_name

TheWebSphere server into which the event server enterprise application is to be deployed. This value is case-sensitive. If you are deploying the enterprise application in a cluster, omit this parameter.

app_name

The name to use for the Common Event Infrastructure enterprise application. This parameter is optional; the default value is `CommonEventInfrastructureServer`.

The optional **-trace** parameter causes additional debugging information to be displayed on the standard output.

Note:

- If you specify a fully qualified path for the location of the event-application.ear file, make sure you use forward slashes (/) in the path, even on Windows systems.

- If you are deploying the application on a stand-alone node, specify the optional **-conntype none** parameter to run **wsadmin** in local mode.

For more information about the **wsadmin** utility, refer to the WebSphere Application Server documentation.

After the **event-application.jacl** script completes, the Common Event Infrastructure enterprise application is deployed in the specified server or cluster. In a WebSphere Process Server Network Deployment environment, if the application is already installed, the script only adds the deployment information for the specified node and server.

Configuring event messaging:

If you want to use Java Messaging Service (JMS) queues for asynchronous message transmission to the event server, you must configure event messaging.

Configuring default event messaging:

The default messaging configuration for asynchronous event transport uses the WebSphere Process Server default messaging feature as the Java Messaging Service (JMS) provider.

The **default-event-message.jacl** script provides a way to quickly set up a default messaging configuration, using the WebSphere default messaging feature as the JMS provider. This script sets up all of the configuration objects required for asynchronous event transmission:

- It creates a JMS queue and a queue connection factory using the default messaging feature.
- It creates a service integration bus and adds members to the bus, associating the bus with queues, topics, and connection factories.
- It creates a JMS transmission profile using the created queue and connection factory.
- It configures the default emitter factory profile to use the created JMS transmission profile for asynchronous event transmission.
- It deploys the message-driven bean used by the Common Event Infrastructure to receive events sent asynchronously to the event server.

To configure default messaging:

1. Go to the *profile_path*/event/application directory for the profile defining the WebSphere Process Server runtime environment where you want to configure default messaging. (Replace *profile_path* with the path to the directory containing the WebSphere Process Server profile.)
2. Run the **default-event-message.jacl** script using the **wsadmin** command:

   Windows systems
   ```
   profile_path\bin\wsadmin [conntype -none] -profile event-profile.jacl
     -f default-event-message.jacl -action action -earfile event-message.ear
     -node node_name -server server_name
     [-cluster cluster_name] [-appname app_name] [-trace]
   ```

   Linux and UNIX systems
   ```
   profile_path/bin/wsadmin.sh [conntype -none] -profile event-profile.jacl
     -f default-event-message.jacl -action install -earfile event-message.ear
     -node node_name -server server_name
     [-cluster cluster_name] [-appname app_name] [-trace]
   ```

   The parameters are as follows:

node_name
> The WebSphere Process Server node in which the messaging application is to be deployed. To determine the node name:
>
> a. Run the *profile_path***/bin/setupCmdLine** script.
> b. Run the command `echo $WAS_NODE` (Linux/UNIX systems) or `echo %WAS_NODE%` (Windows systems).
>
> This value is case-sensitive. If you are deploying the application in a cluster, omit this parameter.

server_name
> The WebSphere server into which the messaging application is to be deployed. This value is case-sensitive. If you are deploying the application in a cluster, omit this parameter.

app_name
> The name to use for the messaging enterprise application. This parameter is optional; the default value is `EventServerMdb`.

The optional **-trace** parameter causes additional debugging information to be displayed on the standard output.

> **Note:**
> - If you specify a fully qualified path for the location of the event-message.ear file, make sure you use forward slashes (/) in the path, even on Windows systems.
> - If you are deploying the messaging application on a stand-alone node, specify the optional `-conntype none` parameter to run **wsadmin** in local mode

After you start the script, you are prompted for your JMS user ID and password.

Configuring event messaging using another JMS provider:

If you do not want to use the WebSphere Process Server default messaging feature for event transmission, you can configure asynchronous message transport to use a different Java Messaging Service (JMS) provider.

Before you can configure event messaging using an external JMS provider, you must first create a JMS queue and connection factory using the appropriate interfaces for your JMS provider.

The **event-message.jacl** script sets up the configuration objects required for asynchronous event transmission using an external JMS provider such as WebSphere MQ:
- If a scope is specified, then it creates a JMS transmission profile using the JMS queue and connection factory you specify.
- It creates an emitter factory profile using the created JMS transmission profile for asynchronous event transmission.
- It deploys the message-driven bean used by the Common Event Infrastructure to receive events sent asynchronously to the event server, using either a listener port or a JMS activation specification.

If you want to set up more than one JMS queue to the event server, you can run this script multiple times, specifying different enterprise application names and

JMS queues. Each time you run the script, it deploys an additional message-driven bean and configures new resources to use the specified JMS queue.

To configure event messaging to use an external JMS provider:

1. Go to the $WAS_HOME/event/application directory for the profile defining the WebSphere Process Server runtime environment where you want to configure default messaging. (Replace *profile_path* with the path to the directory containing the WebSphere Process Server profile.)

2. Run the **event-message.jacl** script using the **wsadmin** command:

   Windows systems
   ```
   %WAS_HOME%\bin\wsadmin -profile event-profile.jacl -f event-message.jacl
      -action install -earfile event-message.ear -node node_name
      [-server server_name] [cluster cluster_name]
      -appname app_name -qjndi queue -qcfjndi connection_factory
      [-listenerport listener_port] [-activationspecjndi spec_name]
      [-eventprofilescope scope] [-trace]
   ```

   Linux and UNIX systems
   ```
   $WAS_HOME/bin/wsadmin -profile event-profile.jacl -f event-message.jacl
      -action install -earfile event-message.ear -node node_name
      [-server server_name] [cluster cluster_name]
      -appname app_name -qjndi queue -qcfjndi connection_factory
      [-listenerport listener_port] [-activationspecjndi spec_name]
      [-eventprofilescope scope] [-trace]
   ```

   The parameters of the **event-message.jacl** script are as follows:

   node_name
   The WebSphere Process Server node in which the messaging application is to be deployed. To determine the node name:

   a. Run the *profile_path***/bin/setupCmdLine** script.

   b. Run the command `echo $WAS_NODE` (Linux/UNIX systems) or `echo %WAS_NODE%` (Windows systems).

   This value is case-sensitive. If you are deploying the application in a cluster, omit this parameter.

   server_name
   The WebSphere server into which the messaging application is to be deployed. This value is case-sensitive. If you are deploying the application in a cluster, omit this parameter.

   The optional **-trace** parameter causes additional debugging information to be displayed on the standard output.

   Note:
   - If you specify a fully qualified path for the location of the event-message.ear file, make sure you use forward slashes (/) in the path, even on Windows systems.
   - If you are deploying the messaging application on a stand-alone node, specify the optional `-conntype none` parameter to run **wsadmin** in local mode

   After you start the script, you are prompted for your JMS user ID and password.

Removing the Common Event Infrastructure configuration:

If you need to remove the configuration for the Common Event Infrastructure, in preparation for uninstalling WebSphere Process Server, you must first remove the deployed enterprise applications and the database configuration.

To remove the configuration for the Common Event Infrastructure, follow these steps:

Removing the Common Event Infrastructure application:

If you need to remove the event server enterprise application and resources from WebSphere Process Server, you can use the event-application.jacl script.

If you prefer, you can remove the event server enterprise applications manually using the administrative console rather than using the `event-application.jacl` script. If use the administrative console, you must also manually remove the Common Event Infrastructure resources. For more information about these resources, see *Default configuration*.

To remove the event server enterprise application, use the wsadmin tool to run the `event-application.jacl` script.

To run the script on a Windows system, go to the *install_root*\event\application directory and run the following command (all on one line):

```
wsadmin -f event-application.jacl -profile event-profile.jacl -action uninstall
-node node_name -server server_name
```

To run the script on a Linux or UNIX system, go to the *install_root*/event/application directory and run the following command (all on one line):

```
wsadmin.sh -f event-application.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action
uninstall -node node_name -server server_name
[-appname app_name] [-trace]
```

To run the script, go to the *install_root*/event/application directory and run the following command (all on one line):

```
wsadmin.sh -f event-application.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action
uninstall -node node_name -server server_name
[-appname app_name] [-trace]
```

The `event-application.jacl` script uses these parameters:

node_name
> The WebSphere Process Server node from which you want to remove the event server enterprise application.

server_name
> The WebSphere Process Server from which you want to remove the event server enterprise application. This parameter is optional. If you do not specify a server, the enterprise application is removed from all servers in the node.

app_name
> The name of the deployed event server enterprise application you want to remove. This parameter is optional. If you do not specify an application name, all registered Common Event Infrastructure enterprise applications are removed.

The optional **-trace** parameter causes additional debugging information to display on the standard output.

Removing the event messaging enterprise application:

Before uninstalling the Common Event Infrastructure, you must remove the event messaging enterprise application.

To remove the event messaging enterprise application, use the wsadmin tool to run the `event-message.jacl` script.

To run the script on a Windows system, go to the *install_root*\event\application directory and run the following command (all on one line):

```
wsadmin -f event-message.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root\event\lib\cei_installer.jar -action
uninstall -node node_name -server server_name
[-eventprofilescope scope] -appname app_name [-trace]
```

To run the script on a Linux or UNIX system, go to the *install_root*/event/application directory and run the following command (all on one line):

```
wsadmin.sh -f event-message.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action install
  -node node_name -server server_name
[-eventprofilescope scope] -appname app_name [-trace]
```

To run the script, go to the *install_root*/event/application directory and run the following command (all on one line):

```
wsadmin.sh -f event-message.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action install
  -node node_name -server server_name
[-eventprofilescope scope] -appname app_name [-trace]
```

The parameters of the `event-message.jacl` script are as follows:

node_name
> The WebSphere Process Server node from which you want to remove the event messaging enterprise application.
>
> To find out the node name, do one of the following:
> - On Windows systems, run the *install_root*\bin\setupCmdLine script and then the `echo %WAS_NODE%` command.
> - On Linux and UNIX systems, run the *install_root*/bin/setupCmdLine and then the `echo $WAS_NODE` command.
>
> To find out the node name, run the *install_root*/bin/setupCmdLine and then the `echo $WAS_NODE` command.

server_name
> The WebSphere Process Server from which you want to remove the event messaging enterprise application. This parameter is optional. If you do not specify a server, the application is removed from all servers in the specified node.

scope
> The scope of the Common Event Infrastructure configuration profile objects to be removed. This parameter is optional. If you specify a scope, a the JMS transmission profile and emitter factory profiles in the specified scope are removed. The valid values are `cell`, `node`, and `server`.

app_name
>   The name of the deployed messaging enterprise application you want to remove. This parameter is required.

The optional **-trace** parameter causes additional debugging information to display on the standard output.

Removing the event database:

If you need to remove the event database, you can use the provided scripts. You must remove the database before you uninstall the Common Event Infrastructure.

When the database is configured, the configuration script also creates scripts for removing the database and the Java database connectivity (JDBC) provider. The scripts for removing the event database are placed in database-specific subdirectories of the *install_root*/event/dbscripts directory. The scripts for removing the JDBC provider are placed in database-specific subdirectories of the *install_root*/event/dsscripts directory.

Note: The event database can be shared among multiple event servers using the same JDBC provider configuration. Therefore, remove the JDBC provider configuration only if you have uninstalled the associated event database.

To remove the event database and JDBC provider, run the appropriate scripts from the following table.

Type	Operating system	Database script	JDBC configuration script
Cloudscape	Windows	rm_event_cloudscape.bat	rm_cloudscape_jdbc_provider.bat
Cloudscape	Linux/UNIX	rm_event_cloudscape.sh	rm_cloudscape_jdbc_provider.sh
DB2	Windows	rm_event_db2.bat	rm_db2_jdbc_provider.bat
DB2	Linux/UNIX	rm_event_db2.sh	rm_db2_jdbc_provider.sh
Oracle	Windows	rm_event_oracle.bat	rm_oracle_jdbc_provider.bat
Oracle	Linux/UNIX	rm_event_oracle.sh	rm_oracle_jdbc_provider.sh
Cloudscape	z/OS (Windows script)	rm_event_cloudscape.bat	rm_cloudscape_jdbc_provider.bat
Cloudscape	z/OS (Linux/UNIX script)	rm_event_cloudscape.sh	rm_cloudscape_jdbc_provider.sh
DB2	z/OS (Windows script)	rm_event_db2zos.bat	rm_db2zos_jdbc_provider.bat
DB2	z/OS (Linux/UNIX script)	rm_event_db2zos.sh	rm_db2zos_jdbc_provider.sh

You can remove the event database or JDBC provider at any time by running the appropriate script. To remove the JDBC provider, use the appropriate script and specify the scope in which you want to remove the JDBC provider:

rm_*db*_jdbc_provider *scope* [*server_name*]

The generated scripts use these parameters:

scope   The scope in which you want to remove the JDBC provider. The valid values are cell, node, and server.

server_name

> The name of the WebSphere Process Server from which you want to remove the JDBC provider, if **scope** is server. (If **scope** is cell or node, this parameter is ignored.)

Runtime configuration

You can configure the Common Event Infrastructure resources using the WebSphere Process Server administrative console, or from the command line with the wsadmin tool.

To see the Common Event Infrastructure resources in the administrative console, expand the **Resources** list and click **Common Event Infrastructure Provider**. The types of resources are displayed in the **Additional Properties** list. From here you can navigate to the individual resources of each type (for example, you can view a list of all event group profiles or emitter factory profiles). To change the configuration of a resource, click the resource name in the list and then edit the properties you want to change.

Refer to the WebSphere Process Server documentation for more information about the administrative console and the wsadmin tool.

In most circumstances, only certain properties need to be configured. For complete information about these resources and their properties, refer to the online help for the Common Event Infrastructure resources in the WebSphere administrative console.

Note: After changing the Common Event Infrastructure configuration, you must restart the WebSphere server.

Default configuration:

The Common Event Infrastructure components are installed as a set of WebSphere Process Server applications, services, and default resources.

You can customize the Common Event Infrastructure by configuring the provided resources or creating additional resources; for more information, see *"Runtime configuration"*.

The default configuration consists of the following objects:

Common Event Infrastructure service
> A service installed into the WebSphere server. This service enables WebSphere applications and clients to use the Common Event Infrastructure.

Common Event Infrastructure enterprise application
> The enterprise application for the event server. The deployment descriptor of the enterprise application associates the event server with the Common Event Infrastructure resources it uses.

Common Event Infrastructure messaging application
> The enterprise application for the message-driven bean that supports asynchronous event transmission to the event server. This application is available only if you have configured event messaging; for more information, see *"Configuring default event messaging" on page 254*.

Common Event Infrastructure Provider

A collection object containing the resources used by Common Event Infrastructure components, event sources, and event consumers.

Data store profile

A data store profile defines properties used by the default data store plug-in, which is used to persistently store events received by the event server. A default data store profile is provided; usually, no configuration is necessary for this resource, but in some circumstances you might want to adjust some properties for your environment. You might also need to create additional data store profiles if you want to set up multiple event servers in the same cell.

Event bus transmission profile

An event bus transmission profile defines properties used by emitters to access the event server synchronously using EJB calls; these profiles are used by emitter factory profiles. A default transmission profile is provided; usually, no configuration is necessary for this resource.

Event group profile list

An event group profile list is a collection containing the event group profiles used by the event server. The event group profile list used by an event server is specified in the deployment descriptor of the event server enterprise application. Usually, no configuration is necessary for this resource, but you might need to create additional event group profile lists if you want to set up multiple event servers in the same cell.

Event group profile

An event group profile defines an event group (a logical collection of events). Event groups are used to categorize events according to their content; when querying events from the event server or subscribing to event distribution, an event consumer can specify an event group to retrieve only the events in that group.

A default event group profile is provided; this profile defines an event group containing all events, and is associated with the JMS topic jms/cei/notification/AllEventsTopic. You can create additional event group profiles specifying whatever event criteria are appropriate for your application.

Emitter factory profile

An emitter factory profile defines properties used by emitters. The properties in an emitter factory profile affect the behavior of any emitter that is created using the associated emitter factory. The default emitter factory profile specifies synchronous transmission, no filtering, and sending each event as part of the current transaction. You might want to create an additional emitter factory profile to specify a different transaction mode or transmission profile.

Event server profile

A profile defining properties used by the event server. The default event server profile enables event distribution and persistence, and it is configured to use the default data store plug-in. Usually, no configuration is necessary for this resource, but you might need to create additional event server profiles if you want to set up multiple event servers in the same cell.

JMS Transmission Profile

A JMS transmission profile defines properties used by emitters to access the event server asynchronously using a JMS queue; it is referenced by

emitter factory profiles. This profile is available only if you have configured event messaging; for more information, see *"Configuring default event messaging" on page 254*.

Creating an emitter factory profile:

An emitter factory profile defines properties that are used for an emitter factory, which event sources use to create emitters.

The properties in an emitter factory profile affect the behavior of any emitter that is created using the associated emitter factory. You can use the default emitter factory profile or create additional profiles for your event sources to use. You might want to create an additional emitter factory profile to specify a different transaction mode or synchronous transmission profile. For more information about how these options affect the behavior of the emitter, see *Creating an event source*.

To create an emitter factory profile, follow these steps:
1. In the WebSphere administrative console, click **Resources > Common Event Infrastructure Provider > Emitter Factory Profile > New**.
2. Specify the properties of the new profile. Refer to the online help for the Emitter Factory Profile Settings page for detailed information about these properties.
3. Click **OK** to save your changes and create the emitter factory profile.

Event sources can now use the configured emitter factory to obtain emitters.

Creating an event group:

An event group defines a logical collection of events based on the content of their property data.

You can use an event group to query events from the event server. You can also associate an event group with a Java Message Service (JMS) destination for asynchronous event distribution.

To create an event group, follow these steps:
1. **Optional:** Set up one or more JMS destinations for the event group. An event group can be associated with one JMS topic, and one or more JMS queues. Refer to the documentation for your JMS provider for information on how to create JMS destinations and connection factories and bind them into a Java Naming and Directory Interface (JNDI) namespace.
2. Create a new event group profile. In the WebSphere administrative console, click **Resources > Common Event Infrastructure Provider > Event Group Profile List >***event_group_profile_list***> Event Group Profiles > New**.
3. Specify the properties of the event group profile. Refer to the online help for the Event Group Profile Settings page for detailed information about these properties.
4. Click **OK** to save your changes and create the event group profile.

Event consumers can now specify the event group when querying events. If event distribution is enabled in the event server profile, events belonging to the event group are also published to JMS destinations that are specified in the event group profile. Event consumers can then receive events asynchronously by subscribing to the appropriate destinations.

Configuring the Common Event Infrastructure Service

Configure the Common Event Infrastructure Service to process events in WebSphere applications and processes.

This task assumes you have installed the Common Event Infrastructure server, deployed a Message Driven Bean application (WebSphere messaging service or a JMS messaging service), and that you are logged into the WebSphere Process Server administrative console.

You configure the Common Event Infrastructure Service, to enable or disable the event server, by modifying the **Enable service at server startup** property, which specifies whether or not the service is started automatically for a specific application server.

1. In the administrative console navigation pane, click **Servers > Application servers**. A list of the Application servers is displayed in the content pane.
2. Click into the Application server you want to configure. The properties for that Application server are displayed in the Configuration tab.
3. Look in the **Container Settings** table, and expand the **Container Services** menu.
4. Click on **Common Event Infrastructure Service** to display its properties.
5. Under General Properties, select or clear the **Enable service at server startup** property check box.

   Note: If you disable the Common Event Infrastructure Service from the administrative console, the enterprise application is also disabled automatically. If you use the wsadmin tool to disable the service from a script, you must disable the enterprise application separately.

   CAUTION:
   Disabling the Common Event Infrastructure Service will prevent the Common Event Infrastructure Server from processing any events. No event information will be persisted in the database, nor will events be distributed to JMS destinations.

   Selected
   > [Default] The Common Event Infrastructure Service starts when the application server starts. This enables applications that generate events to run on the application server.

   Cleared
   > The Common Event Infrastructure Service will not start when the application server starts. Applications that generate events will not start on this application server.

   > Any attempt to start an application that uses the Common Event Infrastructure Service is rejected, and a message is issued. The server will continue to start without the application.
6. To save and apply your configuration, click the **OK** button.
7. Stop and restart the application server for the changes to take effect.

Configuring the Events service

Perform these steps to switch the Events service on or off.

This task assumes you have
- installed the Common Event Infrastructure server

- installed any Common Event Infrastructure Message-Driven Bean applications
- configured all the Common Event Infrastructure resources
- logged into the WebSphere Process Server administrative console

The Events service provides access to the Common Event Infrastructure server and ensures that information about the WebSphere server, as well as correlation sphere information, is automatically included in each event passed to the event infrastructure.

You configure the Events service by modifying the **Enable service at server startup** property; this specifies whether or not the service is started automatically for a specific application server. (You can also change the JNDI name of the Common Event Infrastructure emitter factory. See Step 5.)

CAUTION: Disabling the Events service will prevent the Common Event Infrastructure Server from processing any events. No event information will be persisted in the database, nor will events be distributed to JMS destinations.

1. In the administrative console navigation pane, click **Servers > Application Servers**. A list of the application servers is displayed in the content pane.
2. Click into the Application server you want to configure.
3. In the **Business Integration** table, select **Events service**. The Events service properties are displayed in the Configuration tab.
4. Under General Properties, select or clear the **Enable service at server startup** property check box.

   Selected
   > [Default] The Events service starts when the application server starts. This enables applications that generate events to run on the application server.
   >
   > **Important:** The Events service is utilized by event monitoring and should be enabled all the time.
   > An enabled Events service allows information about the WebSphere server, as well as correlation sphere information, to be automatically included in each event that will be passed to the event infrastructure.

   Cleared
   > The Events service does not start when the application server starts. The Events service is utilized by event monitoring, and a disabled Events service will not automatically gather and insert information about the WebSphere server into each event, and also will not create any correlation sphere information.
   >
   > Any attempt to start an application that uses the Events service is rejected, and a message is issued. The server will continue to start without the application.

5. Review the Java Naming and Directory Interface (JNDI) name of the event emitter profile factory that is used to submit events to the event infrastructure. The name that is provided is a default emitter factory JNDI from the Common Event Infrastructure Provider and is part of the WebSphere default profile. Unless you have generated an alternate profile, accept the default JNDI name.
6. To save and apply your configuration, click the **OK** button.
7. Stop and restart the Application server for the changes to take effect.

Events service settings:

The Events service provides access to the events infrastructure for WebSphere applications and ensures that information about the WebSphere server is automatically included in each event passed to the events infrastructure.

To view this administrative console page, click **Servers > Application Servers >***server_name* then, under **Business Integration**, click on **Events service**.

Enable service at server startup

This setting specifies whether the server attempts to start the Events service automatically.

Default	Selected
Range	**Selected**
	When the application server starts, it attempts to start the Events service automatically.
	Cleared
	The server does not try to start the Events service. If applications that run on this server need to use the service, the system administrator must start the service manually or select this property, then restart the server.

CAUTION:
Disabling the Events service will prevent the Common Event Infrastructure Server from processing any events. No event information will be persisted in the database, nor will events be distributed to JMS destinations.

Events emitter infrastructure factory JNDI name

The JNDI name for the factory that is used to create event emitters. The Event Emitter Factory is defined as a resource of the Common Event Infrastructure Provider. By default, this will specify the default Event Emitter Factory JNDI value of `com/ibm/events/configuration/emitter/Default`.

The event submitter first passes the event to its listener registry and then (as a common base event) on to the event emitter. The event emitter filters the event and, if required, passes it on to be stored in the event data store and / or distributed to the consumers through JMS.

Data type	String

Security and the Common Event Infrastructure
You can use WebSphere method-level declarative security to restrict access to Common Event Infrastructure functions.

The Common Event Infrastructure defines six security roles, each one associated with a related group of functions. These security roles control access to both programming interfaces and commands. (The default configuration of the Common Event Infrastructure does not require the use of these roles; however, in a Network

Deployment environment, the WebSphere Process Server needs to be authenticated with the same users assigned to the Common Event Infrastructure security roles. For more information about security roles, see *Learning about security* and *Role-based authorization* in the WebSphere Application Server Information Center.) If you are already a WebSphere Process Server authenticated user, and global security is turned on, you can access the Common Event Infrastructure resources.

Note:

> If the security roles are used by mapping specific users to the roles, the authenticated users need to be the same users as assigned to the security role. For additional information about authenticated users and the RunAs role, see *Assigning users to RunAs roles*.

The following table describes the security roles and the types of users associated with each role.

Table 16. Security roles and user types

Security role	User types
eventAdministrator	Event consumers that need to query, update, and delete events stored in the event database. This role provides access to the following interfaces: • EventAccess.purgeEvents() • EventAccess.eventExists() • EventAccess.queryEventByGlobalInstanceId() • EventAccess.queryEventsByAssociation() • EventAccess.queryEventsByEventGroup() • EventAccess.updateEvents() • Emitter.sendEvent() • Emitter.sendEvents() • eventquery.jacl • eventpurge.jacl • emitevent.jacl • eventbucket.jacl
eventConsumer	Event consumers that need to query events stored in the event database. This role provides access to the following interfaces: • EventAccess.eventExists() • EventAccess.queryEventByGlobalInstanceId() • EventAccess.queryEventsByAssociation() • EventAccess.queryEventsByEventGroup() • eventquery.jacl
eventUpdater	Event consumers that need to update events stored in the event database. This role provides access to the following interfaces: • EventAccess.updateEvents() • EventAccess.eventExists() • EventAccess.queryEventByGlobalInstanceId() • EventAccess.queryEventsByAssociation() • EventAccess.queryEventsByEventGroup() • eventquery.jacl

Table 16. Security roles and user types (continued)

Security role	User types
eventCreator	Event sources that need to submit events to an emitter using synchronous EJB calls. This role provides access to the following interfaces: • Emitter.sendEvent() • Emitter.sendEvents() • emitevent.jacl **Note:** The eventCreator role restricts access to event submission only if the emitter is configured to use synchronous EJB calls for event transmission. If the emitter uses asynchronous JMS messaging for event transmission, you must use JMS security to restrict access to the destination used to submit events.
catalogAdministrator	Event catalog applications that need to create, update, delete, or retrieve event definitions in the event catalog. This role provides access to all methods of the EventCatalog interface and all functions of the **eventcatalog.jacl** script. Because changes to the event catalog can result in generation of events, this role also provides access to event submission interfaces.
catalogReader	Event catalog applications that need to retrieve event definitions from the event catalog. This role provides access to the following interfaces: • EventCatalog.getAncestors() • EventCatalog.getChildren() • EventCatalog.getDescendants() • EventCatalog.getEventDefinition() • EventCatalog.getEventDefinitions() • EventCatalog.getEventExtensionNamesForSourceCategory() • EventCatalog.getEventExtensionToSourceCategoryBindings() • EventCatalog.getParent() • EventCatalog.getRoot() • EventCatalog.getSourceCategoriesForEventExtension() • eventcatalog.jacl (-listdefinitions option) • eventcatalog.jacl (-listcategories option) • eventcatalog.jacl (-exportdefinitions option)

Note:

> The security roles most relevant to utilizing the functionality of the Common Event Infrastructure are **eventAdministrator** and **eventConsumer** .

The event server message-driven bean runs using the WebSphere Process Server user identity. If you are using asynchronous JMS transmission to submit events to the event server, and you have enabled method-based security, you must map this user identity to the eventCreator role.

Note:

> If Java 2 security is enabled, you must modify your policy file to enable access to certain functions:

- If you are running an event source application and you want to generate your own globally unique identifiers (GUIDs), add the following entries:

```
permission java.io.FilePermission "${java.io.tmpdir}${/}guid.lock",
   "read, write, delete";
permission java.net.SocketPermission "*", "resolve";
```

- If you are using the default filter plug-in or the notification helper to filter events using XPath event selectors, add the following entries:

```
permission java.util.PropertyPermission "*", "read";
permission java.io.FilePermission
   "${was.install.root}${/}java${/}jre${/}lib${/}jxpath.properties",
   "read";
```

Applying service

You can use the IBM Update Installer for WebSphere Software to install interim fixes, fix packs, and refresh packs. The Update Installer for WebSphere Software is also known as the update installer program, the UpdateInstaller program, and the Update Installation Wizard.

Use the proper authorizations to successfully install product updates. Use the update installer program as the root user on a Linux or UNIX platform, or as the Administrator on a Windows platform.

The Update Installer Wizard is an InstallShield for Multiplatforms Wizard that runs with either a graphical user interface or in silent mode with or without a response file. When you omit the response file in silent mode, the wizard installs the last maintenance package that you downloaded to the default maintenance directory.

Important: Throughout this topic, certain directory paths are shown only in Linux and UNIX format for simplicity. The equivalent Windows paths are identical except for the direction of the slashes.

The following descriptions contain reference information about installing interim fixes, fix packs, and refresh packs on WebSphere Process Server products:

Overview of the installation procedure

To install an interim fix:

1. To update an existing copy of the update installer, back up and delete the updateinstaller directory of the existing update installer before downloading the new zipped or TAR file into the *install_root* directory.
2. Download the most current version of the update installer, fix pack, or refresh pack zipped or TAR file from the Support site into the *install_root* directory.
3. Unpack the zipped or TAR file that you downloaded to create the updateinstaller directory and several subdirectories, including the maintenance directory.
4. **Interim fix only:** Download the interim fix from the Support Web site into the maintenance directory.
5. Use the update installer to install the interim fix, fix pack, or refresh pack. The update installer creates a backup file in the *install_root*/properties/version/update/backup directory. IBM does not support user modifications to backup files.

Updating existing profiles in WebSphere Process Server products

The update installer updates the core product files in a WebSphere Process Server product. Service in a maintenance package might update the following core product files in the installation root directory:

- JAR files in the lib directory

- Scripts in the bin directory
- Profile templates

Some maintenance packages provide required service for existing profiles in addition to service for the core product files. Each maintenance package that has profile maintenance provides a script that changes the profile. The update installer prompts you to back up your configuration when installing a maintenance package that has required maintenance for profiles.

Some maintenance packages provide optional service for existing profiles. The readme file for the maintenance package describes whether the maintenance package contains optional service for existing profiles. If so, the readme file describes how to use the script provided with the maintenance package.

Use the backupConfig command to back up the configuration of each profile that the maintenance package can update. Or archive the *install_root*/profiles directory to back up all of the profiles at once.

If you uninstall a maintenance package, the update installer does not uninstall the maintenance package from profiles. The reason for not removing the maintenance is that you might have configured the profile after installing the maintenance. To restore an original profile, use the restoreConfig command or copy the profile from the archived profiles directory to replace the changed profile.

Viewing the fix level of the node

You can use the versionInfo command in the *install_root*/bin directory to display the exact fix and version level of the product. However, do not use the versionInfo command while installing or uninstalling a maintenance package.

Do not launch multiple copies of the Update Installer Wizard at one time:
Concurrent launches of the update installer program are not supported. Performing more than one update at the same time can produce unpredictable results, which might include a failed or faulty installation.

Required information

The graphical interface requires the following information that you must supply:

Table 17. Information required when installing a maintenance package

Field	Valid values	Description
File path of the installation root directory of the WebSphere product and the Update Installer	Identify the installation root directory for IBM WebSphere Process Server	Download and unpack the Update Installer for WebSphere Software within each set of core product files that you intend to update. The Update Installer application selects the product in its parent directory by default.
File name of the maintenance package to install.	Select a maintenance package to install from the maintenance directory.	The default maintenance package is the package with the latest date stamp and time stamp.

Important: For information about known problems, see *Known problems and workarounds for the update command* in the WebSphere Application Server Network Deployment, Version 6.0, information center.

The following procedure describes how to install a maintenance package. For a description of how to remove a maintenance package, see "Uninstalling service" on page 276.

1. Log on as root on a Linux or UNIX operating system, or as a member of the Administrator group on a Windows system.

   ▶ **AIX** **On AIX platforms:** In addition, verify that the umask setting is 0022. To verify the umask setting, issue the following command:

   ```
   umask
   ```

   To set the umask setting to 0022, issue the following command:

   ```
   umask 0022
   ```

   ▶ **HP-UX** ▶ **Linux** ▶ **Solaris** **On HP-UX, Linux and Solaris platforms:** In addition, verify that the umask setting is 022. To verify the umask setting, issue the following command:

   ```
   umask
   ```

   To set the umask setting to 022, issue the following command:

   ```
   umask 022
   ```

2. Install the product that you intend to update.

   You have very likely already installed the software that you are now updating. But if not, install the software now.

3. Back up and delete any older copy of the update installer before downloading the current update installer. To use a newer version of the update installer, you must first remove the older version.

   a. Back up any files and subdirectories in the *install_root*/updateinstaller/maintenance directory, if necessary.

   b. Delete the *install_root*/updateinstaller/maintenance directory and all of its subdirectories.

4. **Refresh packs and fix packs only:** Download the fix pack or refresh pack zipped file or TAR file from the Support site into a temporary directory.

   The zipped file or TAR file for a refresh pack or a fix pack contains the update installer. You can check for a newer version of the update installer code. Download the latest version of the Update Installer for WebSphere Software as a zipped file or a TAR file from the following IBM Web site:

   Update Installer for WebSphere Software

5. **Interim fixes only:** Download the update installer from the Support site into a temporary directory.

   Download the zipped file or TAR file for the Update Installer for WebSphere Software from the following IBM Web site:

   Update Installer for WebSphere Software

6. Unpack the zipped file or the TAR file.

   Unzip or untar the file into one of the following directories in a WebSphere Process Server environment (directories shown are the common default directories for WebSphere Process Server):

   - ▶ **AIX** **On AIX platforms:** *install_root*, which can be either /usr/IBM/WebSphere/AppServer or /usr/IBM/WebSphere/ProcServer

- **HP-UX** **Linux** **Solaris** **On HP-UX, Linux, and Solaris platforms:** *install_root*, which can be either /opt/IBM/WebSphere/AppServer or /opt/IBM/WebSphere/ProcServer

- **Windows** **On Windows platforms:** *install_root*, which can be either C:\Program Files\IBM\WebSphere\AppServer or C:\Program Files\IBM\WebSphere\ProcServer

Unpacking the file creates the following directory structure:

```
install_root   /updateinstaller
      /framework
      /lib
      /maintenance
      /responsefiles
```

Version information is stored in the version.txt file in the updateinstaller directory. A new version might ship to correspond to any new fix. Information in the version.txt file is displayed prominently in the title bar of the wizard and is also recorded in the updatelog.txt file.

Always download and use the latest version of the Update Installer Wizard when installing an interim fix.

7. **Interim fixes only:** Download the maintenance package *.pak file from the Support Web site into the maintenance directory.

Download maintenance packages for WebSphere Process Server from the following IBM Web page:

IBM Support site for WebSphere Process Server

Tip: Do not attempt to unzip or unpack the *.pak file.

8. **Windows** **On Windows platforms:** Use the Windows Services panel to stop all services for WebSphere Process Server processes.

9. Stop all Java processes that use the IBM Software Developer Kit (SDK) that the WebSphere Process Server product provides.

Before installing or uninstalling interim fixes, fix packs, and refresh packs on a machine, stop all Java processes on the machine that use the IBM SDK, Java Technology Edition that WebSphere Process Server provides.

WebSphere Process Server processes include:

- Process server processes
- The nodeagent process on a node when the node is federated into a deployment manager cell
- The dmgr process for the deployment manager server

The update installer program requires you to stop all WebSphere Process Server-related Java processes that are running on the system where you are using the update installer program. For example, Java processes can include:

- All Java Virtual Machines (JVMs)
- WebSphere Process Server processes, including:
  - Process server processes
  - The nodeagent process on a node when the node is federated into a deployment manager cell
  - The dmgr process for the deployment manager server
- IBM HTTP Server processes
- First steps consoles
- Installation verification test (IVT) processes
- The Profile Wizard

- Other InstallShield for Multiplatforms (ISMP) installation programs
- InstallShield for Multiplatforms uninstallation programs
- IBM WebSphere Integration Developer Java processes
- The IBM Agent Controller

Stop all Java processes, if necessary. If you install an interim fix while a WebSphere Process Server-related Java process runs, IBM does not guarantee that the product can continue to run successfully, or without error.

10. The Update Installer for WebSphere software requires a valid Java run time that is provided with WebSphere software. If the update installer program cannot locate a valid IBM or Sun SDK, such as the one shipped with WebSphere Process Server, the update installer cannot install maintenance packages. The Update Installer for WebSphere Software searches known locations for a suitable IBM SDK to use.

In order, the Update Installer Wizard looks for a valid Java Virtual Machine (JVM) in the following locations:

a. The *install_root*/updateinstaller/java/jre directory (when updating the product SDK)

b. The *install_root*/java/jre directory (which is the preferred SDK to use)

c. ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** The directory identified by one of the following environment variables on a Linux or UNIX system:

   1) *JAVA_HOME*

   2) *JAVAHOME*

   3) *JRE_HOME*

   4) *JREHOME*

   When no JVM is present in one of the first two locations, set one of the environment variables to point the Update Installer Wizard to a valid JVM.

The preferred method of setting the *JAVA_HOME* environment variable is using the setupCmdLine script provided with the WebSphere Process Server product. In some cases, failure to run setupCmdLine can result in the update installer program matching an SDK in an order that is different than the order described.

You can also force the installation to use the correct SDK with the following command:

`./update -is:javahome install_root/java/jre`

To use the setupCmdLine script to set the *JAVA_HOME* variable, perform the following procedure that is appropriate for your operating system:

▶ Linux ▶ UNIX **On Linux and UNIX platforms:**

a. Open a command shell window.

b. Change directories to the *install_root*/bin directory.

c. Issue the . ./setupCmdLine.sh command. Notice the space between the periods. The special format for this command sources the command to make the setting active for all processes started from the command shell.

d. Use the same command shell window to start the update installer, as described in a later step.

▶ Windows **On Windows platforms:**

a. Open a command prompt window.

b. Change directories to the *install_root*\bin directory.

c. Issue the setupCmdLine.bat command.

d. Use the same command prompt window to start the update installer, as described in a later step.

See the following technote for more information: Using the setupCmdLine script to set JAVA_HOME before running the Update Installer for WebSphere software.

11. Verify that the following prerequisite conditions are met:

- All of the product hardware and software prerequisites exist.

  To view the official statement of supported hardware and software for WebSphere Process Server, go to the WebSphere Process Server system requirements Web site.

- The WebSphere software that you are updating is correctly installed and is not corrupt.

- The WebSphere SDK, Java technology edition is not corrupt.

- The user is root on a Linux or UNIX system or a member of the Administrator group on a Windows system.

12. Change directories to the updateinstaller directory and use the update command to install the maintenance package.

Install the maintenance package on the deployment manager node before installing the maintenance package on each process server node that you intend to update.

Use the following command syntax to install the last maintenance package that you downloaded. The Update Installer Wizard runs as a background process and does not display the graphical user interface when running in silent mode:

```
update -silent
```

Or, issue the update command to start the graphical user interface:

```
update
```

To view tables that show all of the options available when using the update command, see "update command" on page 284.

This procedure results in installing maintenance packages to update WebSphere software.

After installing an maintenance package, continue to use your WebSphere software.

Sample options response file: install.txt

You can install an update silently using the options response file.

The install.txt file has one directive that identifies the backup file for installing a service update. Comments in the file describe how to set the string value.

The Update Installer for WebSphere Software Wizard reads the options file to determine responses and does not display the graphical user interface. The following command uses a copy of the options file named myresponsefile.txt for a silent installation:

```
./update -options "responsefiles/myresponsefile.txt" -silent
```

If you do not use the -silent option, the response file provides initial values for the graphical interface.

Important: Throughout this topic, certain directory paths are shown only in Linux and UNIX format for simplicity. The equivalent Windows paths are identical except for the direction of the slashes.

Location of the response file

The sample options response file is named install.txt. The file is in the *install_root*/updateinstaller/responsefiles directory after you unzip the Update Installer for WebSphere Software into the installation root directory of the WebSphere software product.

Installing silently

The options file supplies the values to the Update Installer Wizard when installing silently. The wizard reads the options file to determine responses and does not display the graphical user interface. The following command uses a copy of the options file named myresponsefile.txt for a silent installation:

```
update -options "myresponsefile.txt" -silent
```

Response file user entry validation

In a silent installation, response file validation is coded into the installation. If the validation does not pass, the failure is recorded in the log files in the *install_root*/logs/update/tmp directory.

Location of the maintenance package to be installed

> **Default directive setting**
> > -W maintenance.package=""

> **Valid setting**
> > You must set this directive to the location of the PAK file. For example, you might specify the following location on a Linux system:
> > *install_root*/updateinstaller/maintenance/PQ20029.pak

> **Error identifiers:**
> > - Maintenance package *maintenance_package_name* is already installed on the system.
> > - Selected product is not supported.
> > - Configuration failed. The config action that failed was: *configuration_action*.
> > - Install the following prerequisite APARs before installing the current maintenance to the target product: *list_ of_ prerequisite_ maintenance_ packages_ to_ install*
> > - Install the following prerequisite maintenance packages before installing the package you are currently attempting to install: *list_ of_ prerequisite_ maintenance_ packages_ to_ install*
> > - Uninstall the following APARs before applying the current maintenance to the target product: *list_ of_ prerequisite_ maintenance_ packages_ to_ uninstall*
> > - Uninstall the following maintenance packages before applying the current maintenance to the target product: *list_ of_ prerequisite_ maintenance_ packages_ to_ uninstall*
> > - Unable to locate the correct version of *the_update_installer*. Looking for version *version_identifier*.
> > - *Maintenance_package* is not a valid maintenance package.

Alternate product location

Although applying maintenance to another product is possible, always use the Update Installer Wizard within the directory structure of the product that you are updating. Do not use this directive unless absolutely necessary.

Default directive setting
-W product.location=""

Valid setting

You must set this directive to the installation root directory of the alternate product. For example, you might specify the following location on a Linux system:

/opt/IBM/WebSphere/ProcServer2

Error identifiers:

- Maintenance package *maintenance_package_name* is already installed on the system.
- Selected product is not supported.
- Configuration failed. The config action that failed was: *configuration_action*.
- Install the following prerequisite APARs before installing the current maintenance to the target product: *list_ of_ prerequisite_ maintenance_ packages_ to_ install*
- Install the following prerequisite maintenance packages before installing the package you are currently attempting to install: *list_ of_ prerequisite_ maintenance_ packages_ to_ install*
- Uninstall the following APARs before applying the current maintenance to the target product: *list_ of_ prerequisite_ maintenance_ packages_ to_ uninstall*
- Uninstall the following maintenance packages before applying the current maintenance to the target product: *list_ of_ prerequisite_ maintenance_ packages_ to_ uninstall*
- Unable to locate the correct version of *the_update_installer*. Looking for version *version_identifier*.
- *Maintenance_package* is not a valid maintenance package.
- *Alternate_product_directory* could not be validated as an existing directory.

Usage notes
- The file is not a read-only file.
- Edit this file directly with your flat-file editor of choice, such as Kate on SUSE Linux Enterprise Server or WordPad on a Windows platform.
- The file must exist to perform a silent installation. The Update Installer Wizard reads this file to determine installation parameters. Provide the fully qualified file path to the backup file.
- Save the copy of the options file in the responsefiles directory for best results.

Example install.txt file
Edit the version of the file that is included in the Update Installer for WebSphere Software zipped file. The following example is not guaranteed to be an accurate representation of the actual file.

```
################################################################################
#
# This is the silent install response file for installing maintenance packages
```

```
# using the update installer.
#
# A common use of an options file is to run the wizard in silent mode. This lets
# the options file author specify wizard settings without having to run the
# wizard in graphical or console mode. To use this options file for silent mode
# execution, *uncomment* and modify the parameters defined within.
#
# Use the following command line when running the wizard from the update
# installer directory:
#
#    update -options responsefiles/install.txt -silent
#
################################################################################
################################################################################
#
# Used to input the maintenance package full filename specification to be installed.
# Edit as appropriate.
#
# ie. -W maintenance.package="C:\Program Files\IBM\WebSphere\ProcServer\
#         updateinstaller\maintenance\PQ20029.pak"
#
# Note: If no package is specified, a default of the last downloaded maintenance
# package will be used (based on timestamp).
#
#-W maintenance.package=
################################################################################
#
# Used to modify the product install location that will be updated.
# This value should be left commented out if the Update Installer is
# being run from the recommended location
#
# ie. -W product.location="C:\Program Files\IBM\WebSphere\ProcServer"
#
# Note: If no location is specified, the parent directory to update installer
# will be used as default
#
#-W product.location=""
################################################################################
#
# Do not edit these values.
#
#
-W update.type="install"
```

Uninstalling service

You can use the Update Installer for WebSphere Software to uninstall interim fixes, fix packs, and refresh packs. The Update Installer for WebSphere Software is also known as the update installer program, the updateInstaller program, and the Update Installation Wizard.

Use the proper authorizations to successfully uninstall product updates. Use the update installer program as the root user on a Linux or UNIX platform, or as the Administrator on a Windows platform.

The Update Installer Wizard is an InstallShield for Multiplatforms Wizard that runs with either a graphical user interface or in silent mode with a response file.

Important: For information about known problems, see *Known problems and workarounds for the update command* in the WebSphere Application Server Network Deployment, Version 6.0, information center.

Important: Throughout this topic, certain directory paths are shown only in Linux and UNIX format for simplicity. The equivalent Windows paths are identical except for the direction of the slashes.

The following descriptions contain reference information about uninstalling interim fixes, fix packs, and refresh packs on WebSphere Process Server:

Overview of the uninstallation procedure

To uninstall a maintenance package:

1. Use the update installer to install the maintenance package, which creates a backup file in the *install_root*/properties/version/update/backup directory. IBM does not support user modifications to backup files.
2. Use the update installer program to remove the maintenance package as described in this topic.

Viewing the fix level of the node

You can use the versionInfo command in the *install_root*/bin directory to display the exact fix and version level of the product. However, do not use the versionInfo command while installing or uninstalling a maintenance package.

Do not launch multiple copies of the Update Installer Wizard at one time:
Concurrent launches of the update installer program are not supported. Performing more than one update at the same time can produce unpredictable results, which might include a failed or faulty installation.

Required information

The graphical interface requires the following information that you must supply:

Table 18. Information required when uninstalling a maintenance package

Field	Valid values	Description
File path of the installation root directory of the WebSphere product and the Update Installer	Identify the installation root directory for IBM WebSphere Process Server.	The Update Installer application defaults to select the product in its parent directory.
File name of the maintenance package to uninstall.	Select a maintenance package to uninstall from the *install_root*/properties/version/update/backup directory.	The default maintenance package is the package with the latest date stamp and time stamp in the *install_root*/properties/version/update/backup directory.

The following procedure describes how to uninstall a maintenance package.

1. Log on as root on a Linux or UNIX operating system, or as a member of the Administrator group on a Windows system.

   AIX **On AIX platforms:** In addition, verify that the umask setting is 0022. To verify the umask setting, issue the following command:

   ```
   umask
   ```

   To set the umask setting to 0022, issue the following command:

   ```
   umask 0022
   ```

   HP-UX **Linux** **Solaris** **On HP-UX, Linux and Solaris platforms:** In addition, verify that the umask setting is 022. To verify the umask setting, issue the following command:

   ```
   umask
   ```

   To set the umask setting to 022, issue the following command:

```
umask 022
```

2. Change directories to the updateinstaller directory in the installation root directory.

   For example, change directories to one of the following directories (common default directories for the WebSphere Process Server product are shown):

   - ▶ **AIX** **On AIX platforms:** /usr/IBM/WebSphere/AppServer/updateinstaller or /usr/IBM/WebSphere/ProcServer/updateinstaller

   - ▶ **HP-UX** ▶ **Linux** ▶ **Solaris** **On HP-UX, Linux, and Solaris platforms:** /opt/IBM/WebSphere/AppServer/updateinstaller or /opt/IBM/WebSphere/ProcServer/updateinstaller

   - ▶ **Windows** **On Windows platforms:** C:\Program Files\IBM\WebSphere\AppServer\updateinstaller or C:\Program Files\IBM\WebSphere\ProcServer\updateinstaller

3. ▶ **Windows** **On Windows platforms:** Use the Windows Services panel to stop all services for WebSphere Process Server and WebSphere Application Server processes.

4. Stop all Java processes that use the IBM Software Developer Kit (SDK).

   Before uninstalling interim fixes, fix packs, and refresh packs on a machine, stop all Java processes on the machine that use the IBM SDK, Java Technology Edition.

   WebSphere Process Server processes include:

   - Process server processes
   - The nodeagent process on a node when the node is federated into a deployment manager cell
   - The dmgr process for the deployment manager server

   Stop all Java processes, if necessary. If you uninstall a maintenance package while a WebSphere Process Server-related Java process runs, IBM does not guarantee that the product can continue to run successfully, or without error.

5. Determine if you are removing a maintenance package that updated the IBM SDK, Java Technology Edition. If so, you can clone the IBM SDK from the parent product to the Update Installer Wizard directory. Cloning the SDK copies the *install_root*/java/jre directory to the *install_root*/updateinstaller/java/jre directory.

   The Update Installer for WebSphere Software searches known locations for a suitable IBM SDK to use. In order, the Update Installer Wizard looks for a valid Java Virtual Machine (JVM) in the following locations:

   a. The *install_root*/updateinstaller/java/jre directory (when updating the product SDK)

   b. The *install_root*/java/jre directory (preferred SDK to use)

   c. ▶ **Linux** ▶ **UNIX** **On Linux and UNIX platforms:** The directory identified by one of the following environment variables on a Linux or UNIX system:

      1) JAVA_HOME
      2) JAVAHOME
      3) JRE_HOME
      4) JREHOME

      When no JVM is present in one of the first two locations, set one of the environment variables to point the Update Installer Wizard to a valid JVM.

   The preferred SDK for starting the Update Installer Wizard is the SDK in the parent product. Always use the product SDK when possible.

Important: To uninstall a fix pack or interim fix for the IBM SDK in the parent product, do not start the Update Installer Wizard using the product SDK that you intend to update. Using the SDK locks the SDK and prevents the update. Copy the SDK from the *install_root*/java/jre directory to the *install_root*/updateinstaller/java/jre directory. The Update Installer Wizard uses the SDK in the *install_root*/updateinstaller/java/jre directory if it is present.

Alternatively, copy the IBM SDK from the parent product to a temporary location and use the **-is:javahome** ISMP parameter to identify the location as you run the update installer command:
update -is:javahome="my_fully_qualified_temp_SDK_location"

6. Use the update installer to uninstall the maintenance package.

   Uninstall the interim fix on each application server node in a cell before uninstalling the maintenance package from the process server node.

   Issue one of the following commands to uninstall with the graphical interface:

Table 19. Update installer commands for uninstalling with the graphical interface

Command example	Type of installation	Description
update -W update.type="uninstall"	Graphical interface mode	Initializes the maintenance package field with the name of the maintenance package that was most recently installed. Accept all of the default values to uninstall the maintenance package with the most recent date stamp and time stamp.
update -W product.location="C:\Program Files \IBM\WebSphere\ProcServer" -W update.type="uninstall"	Graphical interface mode	Overrides the graphical interface with the location of the WebSphere software to update. The default maintenance package to uninstall is the most recently installed maintenance package for that software.
update -W backup.package="PQ20029.pak" -W update.type="uninstall"	Graphical interface mode	Overrides the maintenance package field with the name of the maintenance package to uninstall.
update -W product.location="C:\Program Files \IBM\WebSphere\ProcServer" -W backup.package="PQ20029.pak" -W update.type="uninstall"	Graphical interface mode	Overrides the location of the WebSphere software to update and the name of the maintenance package to uninstall.

Table 19. Update installer commands for uninstalling with the graphical interface (continued)

Command example	Type of installation	Description
update -options "responsefiles*file_name*"	Graphical interface mode with an options file	Overrides all default values with values that you specified in the options response file. If you omit either value from the response file, the default maintenance package is the installed package with the most recent date stamp and time stamp. The default software is the software installed in the parent directory.

Issue one of the following commands to use the silent interface:

Table 20. Update installer commands for uninstalling in silent mode

Command example	Type of installation	Description
update -W update.type="uninstall" -silent	Silent mode	Uninstalls the maintenance package with the most recent date stamp and time stamp to update the software that is installed in the parent directory.
update -W product.location="C:\Program Files \IBM\WebSphere\ProcServer" -W update.type="uninstall" -silent	Silent mode	Overrides the default location of the WebSphere software to update. The default maintenance package to uninstall is the most recently installed maintenance package for that software.
update -W backup.package="PQ20029.pak" -W update.type="uninstall" -silent	Silent mode	Overrides the interim fix field with the name of the maintenance package to uninstall.
update -W product.location="C:\Program Files \IBM\WebSphere\ProcServer" -W backup.package="PQ20029.pak" -W update.type="uninstall"	Silent mode	Overrides the location of the WebSphere software to update and the name of the maintenance package to uninstall.

Table 20. Update installer commands for uninstalling in silent mode (continued)

Command example	Type of installation	Description
`update -silent -options` `"responsefiles\`*file_name*`"`	Silent mode with an options file	Overrides all default values with values that you specified in the options response file. If you omit either value from the response file, the default maintenance package is the installed package with the most recent date stamp and time stamp. The default software is the software installed in the parent directory.

This procedure results in uninstalling maintenance packages to update WebSphere software.

After uninstalling maintenance packages, you can continue to use the WebSphere software.

Sample options response file: uninstall.txt

You can use the response file for uninstalling service using the Update Installer for WebSphere Software.

Uninstall an update silently using the options response file.

The uninstall.txt file has one directive that identifies the backup file for uninstalling a service update. Comments in the file describe how to set the string value.

The Update Installer for WebSphere Software Wizard reads the options file to determine responses and does not display the graphical user interface. The following command uses a copy of the options file named myresponsefile.txt for a silent uninstallation:

```
./update -options "responsefiles/myresponsefile.txt" -silent
```

If you do not use the -silent option, the response file provides initial values for the graphical interface.

Important: Throughout this topic, certain directory paths are shown only in Linux and UNIX format for simplicity. The equivalent Windows paths are identical except for the direction of the slashes.

Location of the response file: The sample options response file is named uninstall.txt. The file is in the *install_root*/updateinstaller/responsefiles directory after you unzip the Update Installer for WebSphere Software into the installation root directory of the WebSphere software product.

Uninstalling silently: The options file supplies the values to the Update Installer Wizard when uninstalling silently. The wizard reads the options file to determine

responses and does not display the graphical user interface. The following command uses a copy of the options file named myresponsefile.txt for a silent uninstallation:

```
update -options "myresponsefile.txt" -silent
```

Response file user entry validation: In a silent uninstallation, response file validation has been coded into the installation. If the validation does not pass, the failure is recorded in the log files in the *install_root*/logs/update/tmp directory.

Location of the maintenance package to be uninstalled

> **Default directive setting**
> > -W backup.package=""

> **Valid setting**
> > You must set this directive to the location of the backup file. The backup file reverses the application of the maintenance. For example, you might specify the following location on a Linux system:
> > ```
> > opt/properties/version/update/backup/maintenance_package_to_install
> > ```

> **Error identifiers:**
> > - The maintenance package cannot be uninstalled. Uninstalling the maintenance would break the following superseding maintenance packages. Uninstall the superseding maintenance packages first: *list_of_superseding_maintenance_packages*
> > - This maintenance package cannot be uninstalled. The following maintenance packages are dependent on the package that you are attempting to uninstall: *list_of_dependent_maintenance_packages*
> > - This maintenance package cannot be uninstalled. The following maintenance packages are dependent on the APARs you are attempting to uninstall: *list_of_dependent_maintenance_packages*
> > - No installation backup packages are available for uninstalling maintenance.

Alternate product location

> Although uninstalling maintenance from another product is possible, always use the Update Installer Wizard from the directory structure of the product that you are updating. Do not use this directive unless absolutely necessary.

> **Default directive setting**
> > -W product.location=""""

> **Valid setting**
> > You must set this directive to the installation root directory of the alternate product. For example, you might specify the following location on a Linux system:
> > ```
> > /opt/IBM/WebSphere/ProcServer2
> > ```

> **Error identifiers:**
> > - The maintenance package cannot be uninstalled. Uninstalling the maintenance would break the following superseding maintenance packages. Uninstall the superseding maintenance packages first: *list_of_superseding_maintenance_packages*
> > - This maintenance package cannot be uninstalled. The following maintenance packages are dependent on the package that you are attempting to uninstall: *list_of_dependent_maintenance_packages*

- This maintenance package cannot be uninstalled. The following maintenance packages are dependent on the APARs you are attempting to uninstall: *list_of_dependent_maintenance_packages*
- No installation backup packages are available for uninstalling maintenance.

Usage notes:
- The file is not a read-only file.
- Edit this file directly with your flat file editor of choice, such as Kate on SUSE Linux Enterprise Server or WordPad on a Windows platform.
- The file must exist to perform a silent uninstallation. The Update Installer Wizard reads this file to determine uninstallation parameters. Provide the fully qualified file path to the backup file.
- Save the copy of the options file in the responsefiles directory for best results.

Example uninstall.txt file: Edit the version of the file that is included in the Update Installer for WebSphere Software zipped file. The following example is not guaranteed to be an accurate representation of the actual file.

```
###############################################################################
#
# This is the silent install response file for uninstalling maintenance packages
# using the update installer.
#
# A common use of an options file is to run the wizard in silent mode. This lets
# the options file author specify wizard settings without having to run the
# wizard in graphical or console mode. To use this options file for silent mode
# execution, *uncomment* and modify the parameters defined within.
#
# Use the following command line when running the wizard from the update
# installer directory:
#
#    update -options responsefiles/uninstall.txt -silent
#
###############################################################################
###############################################################################
#
# Used to input the maintenance backup package filename to be uninstalled.
# This is the same filename as the package that was originally installed.
# A maintenance package can only be uninstalled if a backup package exists.
#
# ie. -W backup.package="PQ20029.pak"
#
# Note: If no package is specified, a default of the last installed maintenance
# package will be used.
#
#-W backup.package=""
###############################################################################
#
# Used to modify the product install location that will be updated.
# This value should be left commented out if the Update Installer is
# being run from the recommended location
#
# ie. -W product.location="C:\Program Files\IBM\WebSphere\ProcServer"
#
# Note: If no location is specified, the parent directory to update installer
# will be used as default
#
#-W product.location=""
###############################################################################
#
# Do not edit these values.
#
-W update.type="uninstall"
```

update command

The update command is the Update Installer for WebSphere Software program. The Update Installer Wizard is also known as the Update Installation Wizard, the update installer program, and the updateInstaller program.

The update installer program installs and uninstalls interim fixes, fix packs, and refresh packs to update WebSphere software.

Important: Throughout this topic, certain directory paths are shown only in Linux and UNIX format for simplicity. The equivalent Windows paths are identical except for the direction of the slashes.

Overview

The update command calls the update installer program to install and uninstall service to update WebSphere software. This topic describes the update installer command and its command-line parameters.

The following descriptions contain reference information about the command.

See "Applying service" on page 268 and "Uninstalling service" on page 276 for information about using the command.

Important: For information about known problems, see *Known problems and workarounds for the update command* in the WebSphere Application Server Network Deployment, Version 6.0, information center.

Command options

The following table list commands for installing and uninstalling interim fixes.

Commands for installing interim fixes: Issue one of the following commands to use the graphical interface:

Table 21. Update installer commands for installing with the graphical interface

Command example	Type of installation	Description
update	Graphical interface mode	Initializes the interim fix field with the name of the interim fix that has the most recent date stamp and time stamp. Accept all of the default values to install the interim fix with the most recent time stamp.
update -W prereqsfailedpanelInstallWizardBean.active= "false"	Graphical interface mode that bypasses prerequisites checking	Initializes the interim fix field with the name of the interim fix that has the most recent date stamp and time stamp. Bypasses prerequisites checking.

Table 21. Update installer commands for installing with the graphical interface (continued)

Command example	Type of installation	Description
`update -options "responsefiles\`*`file_name`*`"`	Graphical interface mode with an options file	Overrides all graphical interface values with values that you specified in the options response file. If you omit either value, the default maintenance package is the one with the most recent date stamp and time stamp. The default software is the software installed in the parent directory.
`update -W maintenance.package="C:\Program Files\IBM\WebSphere\ProcServer \updateinstaller\maintenance\PQ20029.pak"`	Graphical interface mode	Overrides the name of the maintenance package to apply.
`update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer"`	Graphical interface mode	Overrides the location of the WebSphere software to update.
`update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer" -W maintenance.package="C:\Program Files\IBM\WebSphere\ProcServer \updateinstaller\maintenance \PQ20029.pak"`	Graphical interface mode	Overrides the location of the WebSphere software to update and the name of the maintenance package to apply.

Issue one of the following commands to use the silent interface:

Table 22. Update installer commands for installing in silent mode

Command example	Type of installation	Description
`update -silent`	Silent mode	Installs the interim fix with the most recent time stamp to update the software that is installed in the parent directory.
`update -silent -W prereqsfailedpanelInstallWizardBean.active= "false"`	Silent mode that bypasses prerequisites checking	Installs the interim fix with the most recent time stamp to update the software that is installed in the parent directory. Bypasses prerequisites checking.
`update -W maintenance.package="C:\Program Files\IBM\WebSphere\ProcServer\updateinstaller \maintenance\PQ20029.pak" -silent`	Silent mode	By default, the wizard installs the interim fix with the most recent date stamp and time stamp. Use the package override to install another maintenance package. You do not need a response file. The default software is the software installed in the parent directory.
`update -silent -options "responsefiles\`*`file_name`*`"`	Silent mode with an options file	Overrides all default values with values that you specified in the options response file. If you omit either value from the response file, the default maintenance package is the one with the most recent date stamp and time stamp. The default software is the software installed in the parent directory.

Table 22. Update installer commands for installing in silent mode (continued)

Command example	Type of installation	Description
update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer" -silent	Silent mode	Updates the WebSphere software specified in the command with the maintenance package that has the most recent date stamp and time stamp. The silent installation does not refer to a response file.
update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer" -W maintenance.package="C:\Program Files\IBM\WebSphere\ProcServer\updateinstaller \maintenance\PQ20029.pak" -silent	Silent mode	Updates the WebSphere software specified in the command with the maintenance package specified in the command. The silent installation does not refer to a response file.

Commands for uninstalling interim fixes: Issue one of the following commands to uninstall with the graphical interface:

Table 23. Update installer commands for uninstalling with the graphical interface

Command example	Type of installation	Description
update -W update.type="uninstall"	Graphical interface mode	Initializes the interim fix field with the name of the interim fix that was most recently installed. Accept all of the default values to uninstall the interim fix with the most recent date stamp and time stamp.
update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer" -W update.type="uninstall"	Graphical interface mode	Overrides the graphical interface with the location of the WebSphere software to update. The default interim fix to uninstall is the most recently installed interim fix for that software.
update -W backup.package="PQ20029.pak" -W update.type="uninstall"	Graphical interface mode	Overrides the interim fix field with the name of the maintenance package to uninstall.
update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer" -W backup.package="PQ20029.pak" -W update.type="uninstall"	Graphical interface mode	Overrides the location of the WebSphere software to update and the name of the maintenance package to uninstall.
update -options "responsefiles*file_name*"	Graphical interface mode with an options file	Overrides all default values with values that you specified in the options response file. If you omit either value from the response file, the default maintenance package is the installed package with the most recent date stamp and time stamp. The default software is the software installed in the parent directory.

Issue one of the following commands to use the silent interface:

Table 24. Update installer commands for uninstalling in silent mode

Command example	Type of installation	Description
`update -W update.type="uninstall" -silent`	Silent mode	Uninstalls the interim fix with the most recent date stamp and time stamp to update the software that is installed in the parent directory.
`update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer" -W update.type="uninstall" -silent`	Silent mode	Overrides the default location of the WebSphere software to update. The default interim fix to uninstall is the most recently installed interim fix for that software.
`update -W backup.package="PQ20029.pak" -W update.type="uninstall" -silent`	Silent mode	Overrides the interim fix field with the name of the maintenance package to uninstall.
`update -W product.location="C:\Program Files\IBM\WebSphere\ProcServer" -W backup.package="PQ20029.pak" -W update.type="uninstall"`	Silent mode	Overrides the location of the WebSphere software to update and the name of the maintenance package to uninstall.
`update -silent -options "responsefiles\`*`file_name`*`"`	Silent mode with an options file	Overrides all default values with values that you specified in the options response file. If you omit either value from the response file, the default maintenance package is the installed package with the most recent date stamp and time stamp. The default software is the software installed in the parent directory.

Installing multiple interim fixes

Use a script to issue more than one command. Each command identifies one maintenance package to install. For example:

```
update -W maintenance.package="C:\Program
Files\IBM\WebSphere\ProcServer\updateinstaller\maintenance\PQ20028.pak"
-silentupdate -W maintenance.package="C:\Program
Files\IBM\WebSphere\ProcServer\updateinstaller\maintenance\PQ20029.pak"
-silent
```

Automating maintenance operations

Most fix packs and refresh packs include some maintenance for the IBM SDK, Java technology edition in the *install_root*/java/jre directory. When a refresh pack, fix pack, or interim fix updates the SDK, the Update Installer for WebSphere Software program clones the SDK in the product by starting an ISMP process to copy the SDK to the *install_root*/updateinstaller/java/jre directory:

```
install_root   /updateinstaller
     /java
        /jre
```

To use a script to perform a silent maintenance installation, you must launch the update installer program twice. The first command clones the SDK only and does not automatically relaunch the update installer program. The second command uses the cloned SDK to update the product and the SDK in the product.

The Update Installer for WebSphere always uses the SDK in the
install_root/updateinstaller directory if the SDK is present.

Issue the following commands from the script:

1. `update -silent [`*other_options*`] -W`
   `relaunchwizardexecInstallWizardBean.active=false`

   For example, use the following command to clone the SDK:

   ```
   /opt/IBM/WebSphere/ProcServer/updateinstaller/update \
       -silent \
       -W relaunchwizardexecInstallWizardBean.active=false \
   ```

   Identify the interim fix in the first command if the interim fix is not the last
   maintenance package that you downloaded. {Omit the Linux and UNIX
   line-continuation characters (\) when issuing the command on one line.}

2. `update -silent`

   The update installer program uses the cloned copy of the SDK in the
   install_root/updateinstaller directory at the next invocation of the command.
   For example, use the following command to install the update using the cloned
   SDK:

   ```
   /opt/IBM/WebSphere/ProcServer/updateinstaller/update \
       -silent -W maintenance.package=  \
       "/opt/IBM/WebSphere/ProcServer/updateinstaller/maintenance/  \
       6.0.1.0-WS-WPS-LinuxIA32-RP0000001.pak" \
       -W update.type="install" \
       -W product.location="/opt/IBM/WebSphere/ProcServer"
   ```

   {Omit the Linux and UNIX line-continuation characters (\) when issuing the
   command on one line.}

Logging

The following sections describe logging that occurs when installing and
uninstalling service.

Logs created when installing service: If no installation log file exists, refer to the
temporary log file in the *install_root*/logs/update/tmp directory. If all validations
pass, the installation occurs.

Then the update installer program creates the
install_root/logs/update/*maintenance_package*.install directory.

Within the directory are the updatelog.txt file, the compressed updatetrace.log.gz
file, and the compressed updateconfig.log.gz file. The updateconfig.log.gz file exists
only when the installation of service uses the internal configuration manager utility
to run ANT scripts.

Logs created when uninstalling service: If no log file exists after uninstalling an
interim fix, refer to the temporary log file in the *install_root*/logs/update/tmp
directory. If all validations pass, the uninstallation procedure occurs.

Then the update installer program creates the
install_root/logs/update/*maintenance_package*.uninstall directory.

Within the directory are the updatelog.txt file, the compressed updatetrace.log.gz
file, and the compressed updateconfig.log.gz file. The updateconfig.log.gz file exists
only when the removal of service uses the internal configuration manager utility to
run ANT scripts.

Indicators of success: The log file includes an indicator of success:

INSTCONFSUCCESS

The current operation was successful. You do not need to review the log file any further.

INSTCONFPARTIALSUCCESS

The current operation was partially successful. System should still be in a usable state, however some non-critical actions have failed. Consult the log file to determine what has failed and how to recover from the failure, if possible.

INSTCONFFAILED

The current operation failed. The system is no longer in a usable state. Consult the log file for more information.

Known problems and workarounds for the update command

You can review known problems and issues associated with the Update Installer for WebSphere Software programs.

For more information about known problems with the Update Installer that is used with WebSphere Process Server and WebSphere Application Server, refer to *Known problems and workarounds for the update command* in the WebSphere Application Server Network Deployment, Version 6.0, information center.

Uninstalling the product

Various methods exist for uninstalling IBM WebSphere Process Server. This topic has links to detailed procedures for uninstalling the product.

Select the link to the uninstallation procedure you require from the following list. Then use that procedure to uninstall WebSphere Process Server from your system.

- "Uninstalling the product using the GUI" on page 290 -- Describes how to uninstall IBM WebSphere Process Server, Version 6.0, and the underlying copy of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.1.2, using the Uninstallation Wizard graphical user interface (GUI).

- "Uninstalling the product silently" on page 297 -- Select the silent uninstallation method to uninstall the product silently by using a command-line invocation.

- "Preparing for reinstallation after a failed uninstallation" on page 302 -- If the uninstallation does not complete successfully, it can leave some files that can prevent you from reinstalling into the original directory. Follow the procedure for your platform in this section if your uninstallation failed and you plan to reinstall into the same directory. If you are not planning to reinstall, you do *not* have to follow these procedures.

Other topics in this section describe how to remove Business Process Choreographer and Common Event Infrastructure components from a WebSphere Process Server installation. These components are uninstalled during an uninstallation of WebSphere Process Server.

To uninstall related products, such as IBM HTTP Server, Web server plug-ins for WebSphere Application Server, WebSphere Application Server Application Clients, or the WebSphere Application Server Toolkit, see documented uninstallation procedures on the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

Uninstalling the product using the GUI

Use this procedure to uninstall IBM WebSphere Process Server, Version 6.0, and the underlying copy of WebSphere Application Server or WebSphere Application Server Network Deployment, Version 6.0.1.2, with the Uninstallation Wizard graphical user interface (GUI).

Do the following before uninstalling WebSphere Process Server using this procedure:

- Ensure that you want to uninstall WebSphere Process Server interactively.
- Determine if you want to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product when you are uninstalling WebSphere Process Server.
  - If you elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, the uninstaller program also removes all profiles, including all of the configuration data and applications in each profile.
  - If you elect *not* to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, any WebSphere Process Server profiles that have been created or augmented will be unaugmented back to WebSphere Application Server or WebSphere Application Server Network Deployment profiles if no other product has augmented the profiles after WebSphere Process Server.
- Back up the config folder, the installableApps folder, and the installedApps folder of each profile, if necessary. Back up all applications that are not stored in another location.
- Remove the event messaging enterprise application, the event database, and the configuration for the Common Event Infrastructure application, in that order. The instructions for removing these applications and database are found in the WebSphere Process Server information center in the following locations:
  - The instructions for removing the event messaging enterprise application are found in the section **Installing > Uninstalling the product > Removing the Common Event Infrastructure configuration > Removing the event messaging enterprise application**.
  - Those for removing the event database, in the section **Installing > Uninstalling the product > Removing the Common Event Infrastructure configuration > Removing the event database**.
  - And those for removing the configuration for the Common Event Infrastructure application, in the section **Installing > Uninstalling the product > Removing the Common Event Infrastructure configuration > Removing the Common Event Infrastructure application**.
- If you configured business process containers, you must delete all external resources manually after uninstalling WebSphere Process Server. To prepare for this, for each application server where you configured a business process container, perform the following steps before you uninstall the product:
  - If you use WebSphere MQ as the Java Message Service (JMS) provider, use the administrative console to view the queue connection factory for the business process container, and make a note of the name of the queue manager so that you can delete it later.
  - If you do not use a Cloudscape database for the business process container, use the administrative console to view the data source for the business process container, and make a note of the name of the database so that you

can delete it later. (If you use a Cloudscape database for the business process container, the database will be deleted automatically.)

- Ensure that you are uninstalling the product as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

Restriction: The Uninstallation Wizard does not perform partial, custom, or incremental uninstallations.

Restriction: `Windows` **On Windows platforms:** Windows platforms have a maximum length for file paths of 256 characters. If a file path for a profile directory is too long, the Uninstallation Wizard cannot remove the directory. The file path can be too long because of a long *profile_root* directory name, a long cell name, long process server names, or other long names used as file folder names in directories within the profile. Although Windows platforms allow the creation of long file paths, the operating systems do not allow deletion of the long file paths, even when attempting a manual deletion. To enable uninstallation if you encounter this problem, rename the directories and subdirectories for the files left behind to names that have fewer characters. Then manually delete the directories.

The uninstallation program is created during product installation. It is customized for each product installation, with specific disk locations and routines for removing installed features.

Estimating the time required to uninstall: The time required to uninstall is dependent on the processing speed of your machine. As a rough guideline, uninstalling WebSphere Process Server, WebSphere Application Server Network Deployment, and one process server profile takes approximately 20 minutes.

Perform the following steps to uninstall WebSphere Process Server.

1. Log on as root on a Linux or UNIX system, or as a user who belongs to the Administrator group on a Windows system.

2. If you are uninstalling the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, run the uninstallation program for the Web server plug-ins for WebSphere Application Server.

   If your system includes a Web server configured to run with the WebSphere Application Server or WebSphere Application Server Network Deployment, uninstall the plug-ins to remove the configuration from the Web server. See the uninstallation procedure for this product on the WebSphere Application Server Network Deployment, Version 6.0, information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

3. If you have a deployment manager installed, stop the deployment manager *dmgr* process with the **stopManager** command.

   Stop all *dmgr* processes that are running on the machine. For example, issue one of the following commands, depending on platform (where *profile_root* represents the installation directory of the deployment manager profile):

   - `Linux` `UNIX` **On Linux and UNIX platforms:** *profile_root*/bin/stopManager.sh -user *user_ID* -password *password*
   - `Windows` **On Windows platforms:** *profile_root*\bin\stopManager.bat -user *user_ID* -password *password*

4. Stop the nodeagent process with the **stopNode** command.

If you have nodes federated to a deployment manager on your system, stop the nodeagent process that might be running on each machine with a federated node. For example, issue one of the following commands to stop the nodeagent process, depending on platform (where *profile_root* represents the installation directory of the federated node):

- **Linux** **UNIX** **On Linux and UNIX platforms:** *profile_root*/bin/stopNode.sh

- **Windows** **On Windows platforms:** *profile_root*\bin\stopNode.bat

If servers are running and security is enabled, use one of the following commands instead:

- **Linux** **UNIX** **On Linux and UNIX platforms:** *profile_root*/bin/stopNode.sh -user *user_ID* -password *password*

- **Windows** **On Windows platforms:** *profile_root*\bin\stopNode.bat -user *user_ID* -password *password*

5. Stop each running process server with the **stopServer** command.

   Stop all server processes in all profiles on the machine. For example, issue one of the following commands to stop the server server1 in the profile, depending on platform. In this example, *profile_root* represents the installation location of the profile:

   - **Linux** **UNIX** **On Linux and UNIX platforms:** *profile_root*/bin/stopServer.sh server1

   - **Windows** **On Windows platforms:** *profile_root*\bin\stopServer.bat server1

   If servers are running and security is enabled, use one of the following commands instead:

   - **Linux** **UNIX** **On Linux and UNIX platforms:** *profile_root*/bin/stopServer.sh server1 -user *user_ID* -password *password*

   - **Windows** **On Windows platforms:** *profile_root*\bin\stopServer.bat server1 -user *user_ID* -password *password*

6. **Optional:** Back up configuration files and log files to refer to them later, if necessary.

   The uninstallation program does not remove log files in the *install_root* directory. If you elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, it does remove all profiles and all of the data in all profiles.

   Back up the config folder and the logs folder of each profile to refer to later, if necessary. You cannot reuse profiles so there is no need to back up an entire profile.

7. Issue the **uninstall** command from a command line.

   Issue one of the following commands, depending on platform:

   - **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/_uninstwbi/uninstall

   - **Windows** **On Windows platforms:** *install_root*_uninstwbi\uninstall.exe

   The Uninstallation Wizard starts and the Welcome panel is displayed.

8. Select whether to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product when uninstalling WebSphere Process Server.

   - To uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product when uninstalling WebSphere Process Server, select the check box beside the entry **Uninstall**

the underlying WebSphere Application Server, Version 6.0 (if WebSphere Application Server is installed) or **Uninstall the underlying WebSphere Application Server Network Deployment, Version 6.0** (if WebSphere Application Server Network Deployment is installed). Then select **Next** to continue.

- To *not* uninstall WebSphere Application Server or WebSphere Application Server Network Deployment, leave this check box unselected.

One of four panels is displayed:

- If any servers are running on your system, a warning panel alerts you to shut them down and restart the uninstallation. In this case, cancel the uninstallation and stop the running servers.

- If no servers are running, if you did *not* elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, and the uninstaller determines that profiles *can* be unaugmented successfully to WebSphere Application Server profiles, the Uninstallation summary panel is displayed. In this case, proceed to Step 10.

- If no servers are running, if you did *not* elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, and the uninstaller determines that profiles *cannot* be unaugmented successfully, a warning panel is displayed, which alerts you that your WebSphere Process Server profiles will be unusable. In this case, proceed to Step 9.

- If no servers are running and you *did* elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, a warning panel is displayed, which alerts you that your WebSphere Process Server profiles will be deleted. In this case, proceed to Step 9.

9. From the warning panel, select whether to continue with the uninstallation.

   - If you elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, the uninstaller program also removes all profiles, including all of the configuration data and applications in each profile.

   - If you do *not* elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, any WebSphere Process Server profiles that have been created or augmented will be unaugmented back to WebSphere Application Server or WebSphere Application Server Network Deployment profiles only if no other product has augmented the profiles after WebSphere Process Server.

   If you did not elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product and a warning panel appeared, it means the profiles cannot be unaugmented and will be unusable. Select **Next** to continue with the uninstallation or **Back** if you want to reconsider uninstalling the product. This example procedure assumes you want to continue with the uninstallation. The Uninstallation summary panel is displayed.

10. Review the Uninstallation summary panel, which lists a summary of the product and features that you are uninstalling.

    Select **Next** to continue uninstalling the product or **Back** if you want to reconsider uninstalling the product. This example procedure assumes you want to continue with the uninstallation.

Product uninstallation begins. If you selected to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, the uninstaller performs the following tasks in the following order:

- Unaugments profiles that were last augmented by WebSphere Process Server.
- Uninstalls WebSphere Process Server.
- Uninstalls WebSphere Application Server or WebSphere Application Server Network Deployment, which deletes the profiles.

The Uninstallation complete panel is displayed.

11. Select **Finish** to close the Uninstallation Wizard.

12. If you configured business process containers, you must delete all external resources manually.

    Do the following:

    - If you use WebSphere MQ as the Java Message Service (JMS) provider for any business process containers, delete the queue managers that you noted earlier.
    - Delete the databases that you noted earlier for each business process container that does not use a Cloudscape database. (If you use a Cloudscape database for a business process container, the database was deleted automatically.)

13. Remove any configuration entries in the managed node that describe a deleted deployment manager.

    A common topology is to install the core product files on multiple machines. One machine has the deployment manager and other machines have managed nodes created from custom profiles. If you delete an installation where you created a custom profile and federated the node into a deployment manager cell in another installation, you must remove the configuration from the deployment manager.

    The official statement of support for a node configuration problem in the managed node is that you use the **backupConfig** command after the initial installation. Use the command again whenever you make significant changes to the configuration that you must save. With a valid backup of the configuration, you can always use the **restoreConfig** command to get back to a previously existing state in the configuration.

    You can also use one of the following commands on the machine with the managed node to remove the node when the deployment manager is not running. In this example, *profile_root* represents the installation directory of the managed node profile:

    - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/bin removeNode.sh -force
    - ▶ Windows **On Windows platforms:** *profile_root*\bin removeNode.bat -force

    If you must manually clean up the configuration on the managed node, you can attempt the following unsupported procedure:

    a. Rename the *cell_name* directory for the node to the original name if the current name is not the original name.

       Go to one of the following directories and rename the *cell_name* directory to the original name. In this example, *profile_root* represents the installation directory of the node profile:

       - ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/config/cells/

- _Windows_ **On Windows platforms:** _profile_root_\config\cells\

b. Delete the _dmgr_node_name_ directory if it exists.

Go to one of the following directories to look for the _dmgr_node_name_ directory that you must delete. In this example, _profile_root_ represents the installation directory of the node profile:

- _Linux_ _UNIX_ **On Linux and UNIX platforms:**
  _profile_root_/config/cells/_original_cell_name_/nodes

- _Windows_ **On Windows platforms:**
  _profile_root_\config\cells_original_cell_name_\nodes

c. Edit the setupCmdLine.sh file on a Linux or UNIX operating system, or the setupCmdLine.bat file on a Windows system and change the cell name to the original cell name.

The file is in one of the following directories, depending on platform. In this example, _profile_root_ represents the installation directory of the node profile:

- _Linux_ _Windows_ **On Linux and UNIX platforms:** _profile_root_/bin

- _Windows_ **On Windows platforms:** _profile_root_\bin

Change the value of the WAS_CELL variable to the original cell name.

14. Remove any configuration entries in the deployment manager that describe a deleted managed node.

Open the administrative console of the deployment manager and click **System administration > Nodes**. Select the check box beside the node you wish to delete and then select **Remove node**.

If the administrative console cannot successfully remove the node, run the following command with the deployment manager running:

- _Linux_ _UNIX_ **On Linux and UNIX platforms:**
  _install_root_/bin/cleanupNode.sh _node_name_

- _Windows_ **On Windows platforms:** _install_root_\bin\cleanupNode.bat _node_name_

The official statement of support for a node configuration problem in the deployment manager is that you use the **backupConfig** command after the initial installation. Use the command again whenever you make significant changes to the configuration that you must save. With a valid backup of the configuration, you can always use the **restoreConfig** command to get back to a previously existing state in the configuration.

If you must manually clean up the configuration, you can attempt the following unsupported procedure:

a. Within the nodes directory of the deployment manager, remove the configuration directory for the node that you deleted.

Go to one of the following directories to find the _deleted_node_name_ file. In this example, _profile_root_ represents the installation directory of the deployment manager profile:

- _Linux_ _UNIX_ **On Linux and UNIX platforms:**
  _profile_root_/config/cells/_cell_name_/nodes

- _Windows_ **On Windows platforms:**
  _profile_root_\config\cells_cell_name_\nodes

b. Within the buses directory of the deployment manager, remove the configuration directory for the node that you deleted.

Go to one of the following directories to find the _deleted_node_name_ file. In this example, _profile_root_ represents the installation directory of the deployment manager profile:

- **On Linux and UNIX platforms:**
  profile_root/config/cells/*cell_name*/buses
- **On Windows platforms:**
  profile_root\config\cells*cell_name*\buses

c. Edit the `coregroup.xml` file in each subdirectory of the `coregroups` directory of the deployment manager. Look for elements of type *coreGroupServers*. Remove any coreGroupServers elements that have a reference to the node that you deleted.

Go to one of the following directories to find the file. In this example, *profile_root* represents the installation directory of the deployment manager profile:

- **On Linux and UNIX platforms:**
  profile_root/config/cells/*cell_name*/coregroups/*deleted_node_name*
- **On Windows platforms:**
  profile_root\config\cells*cell_name*\coregroups*deleted_node_name*

d. Edit the `nodegroup.xml` file in each subdirectory of the `nodegroups` directory of the deployment manager. Look for elements of type *members*. Remove any members elements that have a reference to the node that you deleted.

Go to one of the following directories to find the file. In this example, *profile_root* represents the installation directory of the deployment manager profile:

- **On Linux and UNIX platforms:**
  profile_root/config/cells/*cell_name*/coregroups/*deleted_node_name*
- **On Windows platforms:**
  profile_root\config\cells*cell_name*\coregroups*deleted_node_name*

This procedure uninstalls WebSphere Process Server, and if selected, WebSphere Application Server or WebSphere Application Server Network Deployment. After running the Uninstallation Wizard, the directory structure has only a few remaining directories, including the `logs` directory.

The uninstallation program leaves some log files in this directory, including the following:

- **On Linux and UNIX platforms:**
  install_root/logs/wbi/uninstlog.txt and *install_root*/logs/wbi/uninstconfig.log
- **On Windows platforms:** *install_root*\logs\wbi\uninstlog.txt and
  install_root\logs\wbi\uninstconfig.log

The `uninstlog.txt` file records file system or other unusual errors. Look for the INSTCONFSUCCESS indicator of success in the log:

```
Uninstall, com.ibm.ws.install.ni.ismp.actions.
   ISMPLogSuccessMessageAction, msg1,
   INSTCONFSUCCESS
```

If you intend to reinstall the product into the same installation root directory, you must do one of the following, depending on the success of the uninstallation:

- If uninstallation was successful, you must manually remove the *install_root* directory.

  Important: IBM recommends that you uninstall both WebSphere Process Server and the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product if you uninstall

and plan to reinstall WebSphere Process Server into the same directory. Therefore the *install_root* directory, which you must manually remove, should be empty.

- If uninstallation was not successful, you must manually uninstall the remaining artifacts of the product. See "Preparing for reinstallation after a failed uninstallation" on page 302 for more information. If you do not plan to reinstall, you do not need to perform this task.

For more information on the commands mentioned in this topic, see the WebSphere Application Server Network Deployment, Version 6.0, information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

Uninstalling the product silently

Use this procedure to silently uninstall IBM WebSphere Process Server, Version 6.0, and the underlying copy of WebSphere Application Server or WebSphere Application Server Network Deployment.

Do the following before uninstalling WebSphere Process Server using this procedure:

- Ensure that you have an existing WebSphere Process Server installation that you now want to uninstall.
- Determine that you want to uninstall WebSphere Process Server silently, instead of using the Uninstallation graphical user interface (GUI).
- Determine if you want to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product when you are uninstalling WebSphere Process Server.
  - If you elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, the uninstaller program also removes all profiles, including all of the configuration data and applications in each profile.
  - If you elect *not* to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, any WebSphere Process Server profiles that have been created or augmented will be unaugmented back to WebSphere Application Server or WebSphere Application Server Network Deployment profiles if no other product has augmented the profiles after WebSphere Process Server.
- Back up the `config` folder, the `installableApps` folder, and the `installedApps` folder of each profile, if necessary. Back up all applications that are not stored in another location.
- Remove the event messaging enterprise application, the event database, and the configuration for the Common Event Infrastructure application, in that order. The instructions for removing these applications and the database are found in the WebSphere Process Server information center in the following locations:
  - The instructions for removing the event messaging enterprise application are found in the section **Installing > Uninstalling the product > Removing the Common Event Infrastructure configuration > Removing the event messaging enterprise application**.
  - Those for removing the event database, in the section **Installing > Uninstalling the product > Removing the Common Event Infrastructure configuration > Removing the event database**.
  - And those for removing the configuration for the Common Event Infrastructure application, in the section **Installing > Uninstalling the**

product > Removing the Common Event Infrastructure configuration > Removing the Common Event Infrastructure application.

- If you configured business process containers, you must delete all external resources manually after uninstalling WebSphere Process Server. To prepare for this, for each application server where you configured a business process container, perform the following steps before you uninstall the product:
  - If you use WebSphere MQ as the Java Message Service (JMS) provider, use the administrative console to view the queue connection factory for the business process container, and make a note of the name of the queue manager so that you can delete it later.
  - If you do not use a Cloudscape database for the business process container, use the administrative console to view the data source for the business process container, and make a note of the name of the database so that you can delete it later. (If you use a Cloudscape database for the business process container, the database will be deleted automatically.)
- Ensure that you are uninstalling the product as the root user on a Linux or UNIX system, or as a member of the Administrator group on a Windows system.

Do the following to uninstall WebSphere Process Server silently:

1. Log on as root on a Linux or UNIX system, or as a user who belongs to the Administrator group on a Windows system.
2. If you are uninstalling WebSphere Application Server or WebSphere Application Server Network Deployment, run the uninstallation program for the Web server plug-ins for WebSphere Application Server or WebSphere Application Server Network Deployment (depending on which of these is installed).

   If your system includes a Web server configured to run with the WebSphere Application Server or WebSphere Application Server Network Deployment, uninstall the plug-ins to remove the configuration from the Web server. See the uninstallation procedure for this product on the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.
3. If you have a deployment manager installed, stop the deployment manager *dmgr* process with the **stopManager** command.

   Stop all *dmgr* processes that are running on the machine. For example, issue one of the following commands, depending on platform (where *profile_root* is the installation location of the deployment manager profile):

   - **Linux** **UNIX** **On Linux and UNIX platforms:** *profile_root*/bin/stopManager.sh -user *user_ID* -password *password*
   - **Windows** **On Windows platforms:** *profile_root*\bin\stopManager.bat -user *user_ID* -password *password*
4. Stop the nodeagent process with the **stopNode** command.

   If you have nodes federated to a deployment manager on your system, stop the nodeagent process that might be running on each machine with a federated node. For example, issue one of the following commands to stop the nodeagent process, depending on platform (where *profile_root* is the installation location of the federated profile):

   - **Linux** **UNIX** **On Linux and UNIX platforms:** *profile_root*/bin/stopNode.sh
   - **Windows** **On Windows platforms:** *profile_root*\bin\stopNode.bat

If servers are running and security is enabled, use one of the following commands instead:

- ![Linux] ![UNIX] **On Linux and UNIX platforms:**
  profile_root/bin/stopNode.sh -user *user_ID* -password *password*

- ![Windows] **On Windows platforms:** *profile_root*\bin\stopNode.bat -user *user_ID* -password *password*

5. Stop each running process server with the **stopServer** command.

   Stop all server processes in all profiles on the machine. For example, issue one of the following commands to stop the server1 process in the profile, depending on platform (where *profile_root* is the installation location of the profile):

   - ![Linux] ![UNIX] **On Linux and UNIX platforms:**
     profile_root/bin/stopServer.sh server1

   - ![Windows] **On Windows platforms:** *profile_root*\bin\stopServer.bat server1

   If servers are running and security is enabled, use one of the following commands instead:

   - ![Linux] ![UNIX] **On Linux and UNIX platforms:**
     profile_root/bin/stopServer.sh server1 -user *user_ID* -password *password*

   - ![Windows] **On Windows platforms:** *profile_root*\bin\stopServer.bat server1 -user *user_ID* -password *password*

   Note: If a running server is detected, a message will be written to the log file *install_root*/logs/wbi/uninstlog.txt and the uninstallation will fail.

6. **Optional:** Back up configuration files and log files to refer to them later, if necessary.

   The uninstallation program does not remove log files in the *install_root* directory. If you elect to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product, it does remove all profiles and all of the data in all profiles.

   Back up the config folder and the logs folder of each profile to refer to later, if necessary. You cannot reuse profiles so there is no need to back up an entire profile.

7. Run the command that uninstalls WebSphere Process Server.

   - ![Linux] ![UNIX] **On Linux and UNIX platforms:**
     install_root/_uninstwbi/uninstall -silent
     [-W uninstallWelcomePanel_UninstallWizardBean.uninstallUnderlyingWAS \
     ="true"]

   - ![Windows] **On Windows platforms:**
     *install_root*_uninstwbi\uninstall.exe -silent
     [-W uninstallWelcomePanel_UninstallWizardBean.uninstallUnderlyingWAS \
     ="true"]

   where the –W uninstallWelcomePanel_UninstallWizardBean.uninstallUnderlyingWAS ="true" option can be used to uninstall the underlying WebSphere Application Server or WebSphere Application Server Network Deployment installation. Do *not* include this option if you wish WebSphere Application Server or WebSphere Application Server Network Deployment to remain installed.

8. If you configured business process containers, you must delete all external resources manually.

   Do the following:

- If you use WebSphere MQ as the Java Message Service (JMS) provider for any business process containers, delete the queue managers that you noted earlier.
- Delete the databases that you noted earlier for each business process container that does not use a Cloudscape database. (If you use a Cloudscape database for a business process container, the database was deleted automatically.)

9. Remove any configuration entries in the managed node that describe a deleted deployment manager.

A common topology is to install the core product files on multiple machines. One machine has the deployment manager and other machines have managed nodes created from custom profiles. If you delete an installation where you created a custom profile and federated the node into a deployment manager cell in another installation, you must remove the configuration from the deployment manager.

The official statement of support for a node configuration problem in the managed node is that you use the **backupConfig** command after the initial installation. Use the command again whenever you make significant changes to the configuration that you must save. With a valid backup of the configuration, you can always use the **restoreConfig** command to get back to a previously existing state in the configuration.

You can also use one of the following commands on the machine with the managed node to remove the node when the deployment manager is not running (where *profile_root* is the installation location of the managed profile):

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/bin removeNode.sh -force
- ▶ Windows **On Windows platforms:** *profile_root*\bin removeNode.bat -force

If you must manually clean up the configuration on the managed node, you can attempt the following unsupported procedure:

a. Rename the *cell_name* directory for the node to the original name if the current name is not the original name.

Go to one of the following directories and rename the *cell_name* directory to the original name. In this example, *profile_root* is the installation location of the node profile.

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/config/cells/
- ▶ Windows **On Windows platforms:** *profile_root*\config\cells\

b. Delete the *dmgr_node_name* directory if it exists.

Go to one of the following directories to look for the *dmgr_node_name* directory that you must delete. In this example, *profile_root* is the installation location of the node profile.

- ▶ Linux ▶ UNIX **On Linux and UNIX platforms:** *profile_root*/config/cells/*original_cell_name*/nodes
- ▶ Windows **On Windows platforms:** *profile_root*\config\cells*original_cell_name*\nodes

c. Edit the setupCmdLine.sh file on a Linux or UNIX operating system, or the setupCmdLine.bat file on a Windows system and change the cell name to the original cell name.

The file is in one of the following directories, depending on platform (where *profile_root* is the installation location of the node profile):

- ▶ Linux ▶ Windows **On Linux and UNIX platforms:** *profile_root*/bin

- Windows **On Windows platforms:** `profile_root`\bin

  Change the value of the `WAS_CELL` variable to the original cell name.

10. Remove any configuration entries in the deployment manager that describe a deleted managed node.

    Open the administrative console of the deployment manager and click **System administration > Nodes**. Select the check box beside the node you wish to delete and then select **Remove node**.

    If the administrative console cannot successfully remove the node, run the following command with the deployment manager running:

    - Linux UNIX **On Linux and UNIX platforms:** `install_root`/bin/cleanupNode.sh `node_name`
    - Windows **On Windows platforms:** `install_root`\bin\cleanupNode.bat `node_name`

    The official statement of support for a node configuration problem in the deployment manager is that you use the **backupConfig** command after the initial installation. Use the command again whenever you make significant changes to the configuration that you must save. With a valid backup of the configuration, you can always use the **restoreConfig** command to get back to a previously existing state in the configuration.

    If you must manually clean up the configuration, you can attempt the following unsupported procedure:

    a. Within the `nodes` directory of the deployment manager, remove the configuration directory for the node that you deleted.

       Go to one of the following directories to find the *deleted_node_name* file. In this example, *profile_root* is the installation location of the deployment manager profile:

       - Linux UNIX **On Linux and UNIX platforms:** *profile_root*/config/cells/*cell_name*/nodes
       - Windows **On Windows platforms:** *profile_root*\config\cells*cell_name*\nodes

    b. Within the `buses` directory of the deployment manager, remove the configuration directory for the node that you deleted.

       Go to one of the following directories to find the *deleted_node_name* file. In this example, *profile_root* is the installation location of the deployment manager profile:

       - Linux UNIX **On Linux and UNIX platforms:** *profile_root*/config/cells/*cell_name*/buses
       - Windows **On Windows platforms:** *profile_root*\config\cells*cell_name*\buses

    c. Edit the `coregroup.xml` file in each subdirectory of the `coregroups` directory of the deployment manager. Look for elements of type *coreGroupServers*. Remove any coreGroupServers elements that have a reference to the node that you deleted.

       Go to one of the following directories to find the file. In this example, *profile_root* is the installation location of the deployment manager profile:

       - Linux UNIX **On Linux and UNIX platforms:** *profile_root*/config/cells/*cell_name*/coregroups/*deleted_node_name*
       - Windows **On Windows platforms:** *profile_root*\config\cells*cell_name*\coregroups*deleted_node_name*

d. Edit the nodegroup.xml file in each subdirectory of the nodegroups directory of the deployment manager. Look for elements of type *members*. Remove any members elements that have a reference to the node that you deleted.

Go to one of the following directories to find the file. In this example, *profile_root* is the installation location of the deployment manager profile:

- **Linux** **UNIX** **On Linux and UNIX platforms:**
  profile_root/config/cells/*cell_name*/coregroups/*deleted_node_name*

- **Windows** **On Windows platforms:**
  profile_root\config\cells*cell_name*\coregroups*deleted_node_name*

This procedure uninstalls WebSphere Process Server, and if selected, WebSphere Application Server or WebSphere Application Server Network Deployment. After running the silent uninstallation, the directory structure has only a few remaining directories, including the logs directory.

The uninstallation program leaves some log files in this directory, including the following:

- **Linux** **UNIX** **On Linux and UNIX platforms:**
  install_root/logs/wbi/uninstlog.txt and *install_root*/logs/wbi/uninstconfig.log

- **Windows** **On Windows platforms:** *install_root*\logs\wbi\uninstlog.txt and
  install_root\logs\wbi\uninstconfig.log

The uninstlog.txt file records file system or other unusual errors. Look for the INSTCONFSUCCESS indicator of success in the log:

```
Uninstall, com.ibm.ws.install.ni.ismp.actions.
   ISMPLogSuccessMessageAction, msg1,
   INSTCONFSUCCESS
```

If you intend to reinstall the product into the same installation root directory, you must do one of the following, depending on the success of the uninstallation:

- If uninstallation was successful, you must manually remove the *install_root* directory.

  Important: IBM recommends that you uninstall both WebSphere Process Server and the underlying WebSphere Application Server or WebSphere Application Server Network Deployment product if you uninstall and plan to reinstall WebSphere Process Server into the same directory. Therefore the *install_root* directory, which you must manually remove, should be empty.

- If uninstallation was not successful, you must manually uninstall the remaining artifacts of the product. See "Preparing for reinstallation after a failed uninstallation" for more information. If you do not plan to reinstall, you do not need to perform this task.

For more information on the commands mentioned in this topic, see the WebSphere Application Server Network Deployment, Version 6.0, information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

Preparing for reinstallation after a failed uninstallation

If the uninstallation program does not complete successfully, it can leave some files that can prevent you from reinstalling into the original directory. If you are not planning to reinstall, you do not need to follow these procedures.

You can reinstall without a clean machine. However, such an installation creates a coexistence scenario that can prevent you from installing into the original directory.

Cleaning the machine means deleting everything from the previous installation, including log files that are left behind by the Uninstallation Wizard or silent uninstallation procedure. Before you start the procedure, back up log files, if necessary. See "Log files" on page 340 for the location of log files.

Other related products might be part of your installation and might need to be uninstalled, such as:

- IBM HTTP Server
- Web server plug-ins
- Application Clients for WebSphere Application Server

For instructions on uninstalling these products, see the WebSphere Application Server Network Deployment, Version 6.0 information center at http://publib.boulder.ibm.com/infocenter/ws60help/index.jsp.

Follow the appropriate procedure for your platform to produce a clean machine.

- "Preparing for reinstallation after a failed uninstallation on an AIX system"
- "Preparing for reinstallation after a failed uninstallation on an HP-UX system" on page 306
- "Preparing for reinstallation after a failed uninstallation on a Linux system" on page 309
- "Preparing for reinstallation after a failed uninstallation on a Solaris system" on page 312
- "Preparing for reinstallation after a failed uninstallation on a Windows system" on page 315

Cleaning the system eliminates all evidence of a previously deleted installation.

After you have cleaned your system, go to "Installing the product" on page 44 to select an installation procedure.

Preparing for reinstallation after a failed uninstallation on an AIX system

This procedure cleans an AIX system if uninstallation of WebSphere Process Server fails. After running the uninstallation program, these manual steps remove registry entries that can prevent you from reinstalling the product into the original directory. If you are not planning to reinstall, do not perform this task.

Before performing this procedure, ensure you have uninstalled WebSphere Process Server using the Uninstallation Wizard or silently, and that the procedure was not completely successful. If the procedure was successful, you do not need to perform this task.

Determine the *install_root* directory for the product so that you remove the correct product and produce a clean system.

Default directories are shown in Table 25 on page 304:

Table 25. Planning table for identifying actual location of product installation

Identifier	Default directory location	Actual location
install_root	/usr/IBM/WebSphere/ProcServer or /usr/IBM/WebSphere/AppServer	
profile_root	/usr/IBM/WebSphere/ProcServer/profiles /*profile_name* or /usr/IBM/WebSphere/AppServer/profiles /*profile_name* A character space was added to these entries to enable them to fit in the table cell. The actual entries do not include a character space.	

The Installation Wizard and the Profile Wizard let you specify your own locations for installation root directories. Examine the following files to determine the actual locations:

- The ~/.WBIRegistry file identifies the installation root for all installed WebSphere Process Server products; the ~/.WASRegistry file, for all WebSphere Application Server products. These files are located in the home directory of the user ID from which the product was installed.

- The *install_root*/logs/wasprofile/wasprofile_create_*profile_name*.log file for each created profile identifies the installation location in the stanza with the <method>invokeWSProfile</method> tag.

Uninstalling the product leaves the *profile_root* directory, including the *profile_root*/logs directory with the pcatLog<timestamp>.txt file, where *profile_root* represents the installation location of the profile. It leaves the *install_root*/logs directory as well.

Reinstalling the product into a new directory when files remain from a previous installation can create a coexistence scenario. However, you can delete all files and registry entries to completely remove WebSphere Process Server. A clean system lets you reinstall the product into the original directory without coexistence.

Important: Throughout this procedure, steps address removing artifacts left after uninstallation of both WebSphere Process Server and WebSphere Application Server or WebSphere Application Server Network Deployment. The WebSphere Application Server product addressed is assumed to be the one underlying the installation of WebSphere Process Server.

Perform the following procedure to produce a clean system.

1. Log on as root.
2. Use the **kill** command to kill all Java processes that are running.

   If you are running Java processes that are not related to WebSphere Process Server or WebSphere Application Server products and it is not possible to stop them, stop all WebSphere Process Server and WebSphere Application Server product-related processes. Use the following command to determine all processes that are running:

   ps -ef | grep java

Stop all WebSphere Process Server and WebSphere Application Server product-related processes with the **kill -9 *java_pid_1 java_pid_2...java_pid_n*** command.

3. List WebSphere Process Server and WebSphere Application Server components that are installed.

   Type the following command to search for related packages:

   ```
   lslpp -l | grep -i WS
   ```

   To narrow your query to search for WebSphere Process Server packages only, type the following command:

   ```
   lslpp -l | grep -i WSEAA60
   ```

   WebSphere Process Server package names have a prefix of WSE and a suffix of 60. WebSphere Application Server Network Deployment, Version 6.0 package names have a prefix of WSB or WSP and a suffix of 60. Do not remove packages for WebSphere Process Server and WebSphere Application Server products that you did not uninstall.

4. Use the **geninstall** command to remove registry information for each component that is displayed in the list (for products that you uninstalled).

   For example, issue the following command to show packages with a prefix of WSE:

   ```
   lslpp -l | grep -i WSE
   ```

   The system displays the list of matching packages.

   Issue the following command to remove a registry entry (for example, `WSEAA60WBICoreComponent-6.0-0`):

   ```
   geninstall -u WSEAA60WBICoreComponent-6.0-0
   ```

5. Remove any profile directories that are not located in the installation root (*install_root*) directory.

   To determine the locations of profile directories, first use the `wasprofile -listProfiles` command to display profile names. Then, to determine where profile directories are located, use the `wasprofile -getPath -profileName` *profile_name* command, where *profile_name* is the name of the profile corresponding to a given directory.

6. Remove the installation root directory. Type `rm -rf *install_root*` to remove WebSphere Process Server directories. Ensure you specify the correct *install_root* for the product you uninstalled. For example, if you uninstalled WebSphere Process Server from the default directory /usr/IBM/WebSphere/ProcServer, issue the following command:

   ```
   rm -rf /usr/IBM/WebSphere/ProcServer
   ```

7. Edit the `vpd.properties` file to remove the entries for WebSphere Process Server and WebSphere Application Server or WebSphere Application Server Network Deployment.

   The file is located in the installation directory of the operating system, such as the `root` directory. Remove all entries for the installation of WebSphere Process Server that you have uninstalled. Each WebSphere Process Server entry starts with the characters `WSE`, followed by numbers representing the release number, and on the same line will have the *install_root* path corresponding to the installation you have uninstalled. (Each entry is on a single line if the file is displayed in a text editor with word wrap turned off.) For example, the line

   ```
   WSEAA60BPC|6|0|0|0|6.0.0.0|1=Bpc|BPC||IBM||6.0.0.0
   |/usr/IBM/WebSphere/ProcServer|0|0|1|WSEAA60|6|0|0|0|6.0.0.0|1|0|true|
   |true|3|WSEAA60BPC|6|0|0|0|6.0.0.0|1
   ```

corresponds to the Business Process Choreographer component (indicated by BPC in the example), for an installation that was installed in the directory /usr/IBM/WebSphere/ProcServer.

> **Note:** This text appears in several lines in this document for formatting purposes but would be a single line in the `vpd.properties` file.

Each WebSphere Application Server or WebSphere Application Server Network Deployment entry in the `vpd.properties` file has a similar format. For information about these entries to help you determine which to delete, and for more information about the `vpd.properties` file, refer to the WebSphere Application Server Network Deployment, Version 6.0 information center.

Do not delete or rename the `vpd.properties` file because the InstallShield for MultiPlatforms (ISMP) program uses it for other products that it installs. If the WebSphere Process Server or WebSphere Application Server product that you are uninstalling is the only product with entries in the `vpd.properties` file, you can delete this file.

8. Edit the `.WBIRegistry` and `.WASRegistry` files.

   These files are located in the home directory of the user ID from which the product was installed.

   The `.WBIRegistry` file contains a one-line entry for each WebSphere Process Server product installation; the `.WASRegistry` file, for each WebSphere Application Server product installation.

   You can delete these files if there is just one line in each that identifies the product that you removed. Otherwise, use a flat-file editor to remove the line that identifies the installation root directory of the product that you removed. Leave the other lines intact. Do not delete the `.WBIRegistry` and `.WASRegistry` files unless you removed all of the installations listed in the files.

9. Run the `odmclean.sh` and `aixclean.sh` scripts.

   Do not run the `aixclean.sh` script if the WebSphere MQ product is installed.

   a. Obtain the scripts from the technote document titled, Manual uninstall On AIX requires `odmclean.sh` and `aixclean.sh` on the WebSphere Application Server Support site.

   b. Edit the `odmclean.sh` script and replace every instance of the string /usr/WebSphere/AppServer with the actual installation root directory.

   c. Run the `aixclean.sh` script from the command line:

      `./aixclean.sh`

   d. Run the `odmclean.sh` script from the command line:

      `./odmclean.sh`

This procedure results in having a clean system. You can reinstall into the same directories now. A clean system has no trace of a previously deleted installation.

After you have cleaned your system, go to "Installing the product" on page 44 to choose an installation procedure.

Preparing for reinstallation after a failed uninstallation on an HP-UX system

This procedure cleans an HP-UX system if uninstallation of WebSphere Process Server fails. After running the uninstallation program, these manual steps remove registry entries that can prevent you from reinstalling the product into the original directory. If you are not planning to reinstall, do not perform this task.

Before performing this procedure, ensure you have uninstalled WebSphere Process Server using the Uninstallation Wizard or silently, and that the procedure was not completely successful. If the procedure was successful, you do not need to perform this task.

Determine the *install_root* directory for the product so that you remove the correct product and produce a clean system.

Default directories are shown in Table 26:

Table 26. Planning table for identifying actual location of product installation

Identifier	Default directory location	Actual location
install_root	/opt/IBM/WebSphere/ProcServer or /opt/IBM/WebSphere/AppServer	
profile_root	/opt/IBM/WebSphere/ProcServer/profiles /*profile_name* or /opt/IBM/WebSphere/AppServer/profiles /*profile_name* A character space was added to these entries to enable them to fit in the table cell. The actual entries do not include a character space.	

The Installation Wizard and the Profile Wizard let you specify your own locations for installation root directories. Examine the following files to determine the actual locations:

- The `~/.WBIRegistry` file identifies the installation root for all installed WebSphere Process Server products; the `~/.WASRegistry` file, for all WebSphere Application Server products. These files are located in the home directory of the user ID from which the product was installed.
- The *install_root*`/logs/wasprofile/wasprofile_create_`*profile_name*`.log` file for each created profile identifies the installation location in the stanza with the <method>invokeWSProfile</method> tag.

Uninstalling the product leaves the *profile_root* directory, including the *profile_root*`/logs` directory with the `pcatLog<timestamp>.txt` file, where *profile_root* represents the installation location of the profile. It leaves the *install_root*`/logs` directory as well.

Reinstalling the product into a new directory when files remain from a previous installation can create a coexistence scenario. However, you can delete all files and registry entries to completely remove WebSphere Process Server. A clean system lets you reinstall the product into the original directory without coexistence.

Important: Throughout this procedure, steps address removing artifacts left after uninstallation of both WebSphere Process Server and WebSphere Application Server or WebSphere Application Server Network Deployment. The WebSphere Application Server product addressed is assumed to be the one underlying the installation of WebSphere Process Server.

Perform the following procedure to produce a clean system.

1. Log on as root.

2. Use the **kill** command to kill all Java processes that are running.

   If you are running Java processes that are not related to WebSphere Process Server or WebSphere Application Server products and it is not possible to stop them, stop all WebSphere Process Server and WebSphere Application Server product-related processes. Use the following command to determine all processes that are running:

   ```
   ps -ef | grep java
   ```

   Stop all WebSphere Process Server and WebSphere Application Server product-related processes with the **kill -9** *java_pid_1 java_pid_2...java_pid_n* command.

3. Use the HP-UX System Administration Manager (SAM) utility to remove packages.

   a. Start the SAM utility and verify that your DISPLAY and TERM environment variables are set properly.

   b. Select **Software management**.

   c. Select **View installed software**.

   d. Look for WebSphere Process Server, WebSphere Application Server, or IBM HTTP Server entries in the SD list.

   e. Close the SD list.

   f. Select **Remove local host software**.

   g. Select any of the following instances that are displayed in the SD Remove List:

   - **WSEAA60**
   - **IBM HTTP Server**
   - **WSBAA60**
   - **WSPAA60**
   - **WSCAA**
   - **gsk7bas**

   h. Select **Actions > Mark for remove**.

   i. Select **Actions > Remove**.

   j. Select **OK** in the Remove analysis dialog box.

   k. Select **Logs** to display real-time removal of selected packages.

   l. Select **Done** when all packages are removed.

   m. Exit SAM.

4. Search for the packages to verify their removal.

   Type `swlist | grep WS` to show packages for WebSphere Process Server and WebSphere Application Server.

   To narrow your query to search for WebSphere Process Server packages only, type the following command:

   ```
   swlist | grep WSEAA60
   ```

5. Remove any profile directories that are not located in the installation root (*install_root*) directory.

   To determine the locations of profile directories, first use the `wasprofile -listProfiles` command to display profile names. Then, to determine where profile directories are located, use the `wasprofile -getPath -profileName` *profile_name* command, where *profile_name* is the name of the profile corresponding to a given directory.

6. Remove the installation root directory.

Type `rm -rf` *install_root* to remove WebSphere Process Server directories. Ensure you specify the correct *install_root* for the product you uninstalled. For example, if you uninstalled WebSphere Process Server from the default installation directory /opt/IBM/WebSphere/ProcServer, issue the following command:

```
rm -rf /opt/IBM/WebSphere/ProcServer
```

7. Edit the `.WBIRegistry` and `.WASRegistry` files. These files are located in the home directory of the user ID from which the product was installed.

The `.WBIRegistry` file contains a one-line entry for each WebSphere Process Server product installation; the `.WASRegistry` file, for each WebSphere Application Server product installation.

You can delete these files if there is just one line in each that identifies the product that you removed. Otherwise, use a flat-file editor to remove the line that identifies the installation root directory of the product that you removed. Leave the other lines intact. Do not delete the `.WBIRegistry` and `.WASRegistry` files unless you removed all of the installations listed in the files.

This procedure results in having a clean system. You can reinstall into the same directories now. A clean system has no trace of a previously deleted installation.

After you have cleaned your system, go to "Installing the product" on page 44 to choose an installation procedure.

Preparing for reinstallation after a failed uninstallation on a Linux system

This procedure cleans a Linux system if uninstallation of WebSphere Process Server fails. After running the uninstallation program, these manual steps remove registry entries that can prevent you from reinstalling the product into the original directory. If you are not planning to reinstall, do not perform this task.

Before performing this procedure, ensure you have uninstalled WebSphere Process Server using the Uninstallation Wizard or silently, and that the procedure was not completely successful. If the procedure was successful, you do not need to perform this task.

Determine the *install_root* directory for the product so that you remove the correct product and produce a clean system.

Default directories are shown in Table 27:

Table 27. Planning table for identifying actual location of product installation

Identifier	Default directory location	Actual location
install_root	/opt/IBM/WebSphere/ProcServer or /opt/IBM/WebSphere/AppServer	
profile_root	/opt/IBM/WebSphere/ProcServer/profiles /*profile_name* or /opt/IBM/WebSphere/AppServer/profiles /*profile_name* A character space was added to these entries to enable them to fit in the table cell. The actual entries do not include a character space.	

The Installation Wizard and the Profile Wizard let you specify your own locations for installation root directories. Examine the following files to determine the actual locations:

- The ~/.WBIRegistry file identifies the installation root for all installed WebSphere Process Server products; the ~/.WASRegistry file, for all WebSphere Application Server products. These files are located in the home directory of the user ID from which the product was installed.
- The *install_root*/logs/wasprofile/wasprofile_create_*profile_name*.log file for each created profile identifies the installation location in the stanza with the <method>invokeWSProfile</method> tag.

Uninstalling the product leaves the *profile_root* directory, including the *profile_root*/logs directory with the pcatLog<timestamp>.txt file, where *profile_root* represents the installation location of the profile. It leaves the *install_root*/logs directory as well.

Reinstalling the product into a new directory when files remain from a previous installation can create a coexistence scenario. However, you can delete all files and registry entries to completely remove WebSphere Process Server. A clean system lets you reinstall the product into the original directory without coexistence.

Important: Throughout this procedure, steps address removing artifacts left after uninstallation of both WebSphere Process Server and WebSphere Application Server or WebSphere Application Server Network Deployment. The WebSphere Application Server product addressed is assumed to be the one underlying the installation of WebSphere Process Server.

Perform the following procedure to produce a clean system.

1. Log on as root.
2. Use the **kill** command to kill all Java processes that are running.

   If you are running Java processes that are not related to WebSphere Process Server or WebSphere Application Server products and it is not possible to stop them, stop all WebSphere Process Server and WebSphere Application Server product-related processes. Use the following command to determine all processes that are running:

   ps -ef | grep java

   Stop all WebSphere Process Server and WebSphere Application Server product-related processes with the **kill -9** *java_pid_1 java_pid_2...java_pid_n* command.

3. Search for related packages. Issue the following command to show packages for the WebSphere Process Server and WebSphere Application Server products:

   rpm -qa | grep WS

   To narrow your query to search for WebSphere Process Server packages only, type the following command:

   rpm -qa | grep WSEAA60

   For example, after issuing the command rpm -qa | grep WSEAA60, the following list of packages might be displayed:

   ```
   WSEAA60WBICoreComponent-6.0-0
   WSEAA60WBIServerSamplesComponent-6.0-0
   WSEAA60BPCComponent-6.0-0
   WSEAA60WBIServerComponent-6.0-0
   WSEAA60JavadocsComponent-6.0-0
   WSEAA60LicensingComponent-6.0-0
   ```

```
WSEAA60CEISamplesComponent-6.0-0
WSEAA60AddBytesNonHP-6.0-0
WSEAA60WBICoreSamplesComponent-6.0-0
WSEAA60CEIComponent-6.0-0
WSEAA60BPCSamplesComponent-6.0-0
```

WebSphere Process Server package names have a prefix of WSE and a suffix of 60. WebSphere Application Server Network Deployment, Version 6.0, package names have a prefix of WSB or WSP and a suffix of 60. Do not remove packages for WebSphere Process Server and WebSphere Application Server products that you did not uninstall.

4. If there are packages to delete, type rpm **-e** *packagename* to remove any packages for the product that you uninstalled.

   Alternatively, you can search for packages to verify that every item in the list is something to delete:

   ```
   rpm -qa | grep WSEAA60
   ```

   If the list contains packages that you intend to delete and no others, remove all of the packages with the following command:

   ```
   rpm -qa | grep WSEAA60 | xargs rpm -e
   ```

   If there is a problem with package dependencies, you can use the following command to remove the packages:

   ```
   rpm -e packagename --nodeps --justdb
   ```

   The nodeps option skips the dependency check. The justdb option updates only the package database, and not the file system. Using only the nodeps option can cause a failure in package removal if there is any mismatch in the dependent file system (files and directories).

5. Remove any profile directories that are not located in the installation root (*install_root*) directory.

   To determine the locations of profile directories, first use the wasprofile -listProfiles command to display profile names. Then, to determine where profile directories are located, use the wasprofile -getPath -profileName *profile_name* command, where *profile_name* is the name of the profile corresponding to a given directory.

6. Remove the installation root directory. Type rm **-rf** *install_root* to remove WebSphere Process Server directories. Ensure you specify the correct *install_root* for the product you uninstalled. For example, if you uninstalled WebSphere Process Server from the default installation directory /opt/IBM/WebSphere/ProcServer, issue the following command:

   ```
   rm -rf /opt/IBM/WebSphere/ProcServer
   ```

7. Edit the vpd.properties file to remove the entries for WebSphere Process Server and WebSphere Application Server or WebSphere Application Server Network Deployment.

   The file is located in the installation directory of the operating system, such as the root directory. Remove all entries for the installation of WebSphere Process Server that you have uninstalled. Each WebSphere Process Server entry starts with the characters WSE, followed by numbers representing the release number, and on the same line will have the *install_root* path corresponding to the installation you have uninstalled. (Each entry is on a single line if the file is displayed in a text editor with word wrap turned off.) For example, the line

   ```
   WSEAA60BPC|6|0|0|0|6.0.0.0|1=Bpc|BPC||IBM||6.0.0.0
   |/opt/IBM/WebSphere/ProcServer|0|0|1|WSEAA60|6|0|0|0|6.0.0.0|1|0|true|
   |true|3|WSEAA60BPC|6|0|0|0|6.0.0.0|1
   ```

corresponds to the Business Process Choreographer component (indicated by BPC in the example), for an installation that was installed in the directory /opt/IBM/WebSphere/ProcServer.

> **Note:** This text appears in several lines in this document for formatting purposes but would be a single line in the `vpd.properties` file.

Each WebSphere Application Server or WebSphere Application Server Network Deployment entry in the `vpd.properties` file has a similar format. For information about these entries to help you determine which to delete, and for more information about the `vpd.properties` file, refer to the WebSphere Application Server Network Deployment, Version 6.0 information center.

Do not delete or rename the `vpd.properties` file because the InstallShield for MultiPlatforms (ISMP) program uses it for other products that it installs. If the WebSphere Process Server or WebSphere Application Server product that you are uninstalling is the only product with entries in the `vpd.properties` file, you can delete this file.

8. Edit the `.WBIRegistry` and `.WASRegistry` files.

   These files are located in the home directory of the user ID from which the product was installed.

   The `.WBIRegistry` file contains a one-line entry for each WebSphere Process Server product installation; the `.WASRegistry` file, for each WebSphere Application Server product installation.

   You can delete these files if there is just one line in each that identifies the product that you removed. Otherwise, use a flat-file editor to remove the line that identifies the installation root directory of the product that you removed. Leave the other lines intact. Do not delete the `.WBIRegistry` and `.WASRegistry` files unless you removed all of the installations listed in the files.

This procedure results in having a clean system. You can reinstall into the same directories now. A clean system has no trace of a previously deleted installation.

After you have cleaned your system, go to "Installing the product" on page 44 to choose an installation procedure.

Preparing for reinstallation after a failed uninstallation on a Solaris system

This procedure cleans a Solaris system if uninstallation of WebSphere Process Server fails. After running the uninstallation program, these manual steps remove registry entries that can prevent you from reinstalling the product into the original directory. If you are not planning to reinstall, do not perform this task.

Before performing this procedure, ensure you have uninstalled WebSphere Process Server using the Uninstallation Wizard or silently, and that the procedure was not completely successful. If the procedure was successful, you do not need to perform this task.

Determine the *install_root* directory for the product so that you remove the correct product and produce a clean system.

Default directories are shown in Table 28 on page 313:

Table 28. Planning table for identifying actual location of product installation

Identifier	Default directory location	Actual location
install_root	/opt/IBM/WebSphere/ProcServer or /opt/IBM/WebSphere/AppServer	
profile_root	/opt/IBM/WebSphere/ProcServer/profiles /*profile_name* or /opt/IBM/WebSphere/AppServer/profiles /*profile_name* A character space was added to these entries to enable them to fit in the table cell. The actual entries do not include a character space.	

The Installation Wizard and the Profile Wizard let you specify your own locations for installation root directories. Examine the following files to determine the actual locations:

- The ~/.WBIRegistry file identifies the installation root for all installed WebSphere Process Server products; the ~/.WASRegistry file, for all WebSphere Application Server products. These files are located in the home directory of the user ID from which the product was installed.
- The *install_root*/logs/wasprofile/wasprofile_create_*profile_name*.log file for each created profile identifies the installation location in the stanza with the <method>invokeWSProfile</method> tag.

Uninstalling the product leaves the *profile_root* directory, including the *profile_root*/logs directory with the pcatLog<timestamp>.txt file, where *profile_root* represents the installation location of the profile. It leaves the *install_root*/logs directory as well.

Reinstalling the product into a new directory when files remain from a previous installation can create a coexistence scenario. However, you can delete all files and registry entries to completely remove WebSphere Process Server. A clean system lets you reinstall the product into the original directory without coexistence.

Important: Throughout this procedure, steps address removing artifacts left after uninstallation of both WebSphere Process Server and WebSphere Application Server or WebSphere Application Server Network Deployment. The WebSphere Application Server product addressed is assumed to be the one underlying the installation of WebSphere Process Server.

Perform the following procedure to produce a clean system.

1. Log on as root.
2. Use the **kill** command to kill all Java processes that are running.

   If you are running Java processes that are not related to WebSphere Process Server or WebSphere Application Server products and it is not possible to stop them, stop all WebSphere Process Server and WebSphere Application Server product-related processes. Use the following command to determine all processes that are running:

   ```
   ps -ef | grep java
   ```

Stop all WebSphere Process Server and WebSphere Application Server product-related processes with the **kill -9** *java_pid_1 java_pid_2...java_pid_n* command.

3. Search for related packages. Issue the following command to show packages for the WebSphere Process Server and WebSphere Application Server products (if no packages appear when using these commands, skip the next step):

   `pkginfo | grep WS`

   To narrow your query to search for WebSphere Process Server packages only, type the following command:

   `pkginfo | grep WSEAA60`

   For example, after issuing the command `pkginfo | grep WSEAA60`, the following list of packages might be displayed:

   ```
   application WSEAA60AB                  Non-HPRepository
   application WSEAA60BM                  BPCSamples
   application WSEAA60BN                  BPCSamples.ismp.component
   application WSEAA60BO                  Bpc.ismp.component
   application WSEAA60BP                  Bpc
   application WSEAA60CA                  WBICoreSamples.ismp.component
   application WSEAA60CC                  WBICore.ismp.component
   application WSEAA60CE                  CEI
   application WSEAA60CI                  CEI.ismp.component
   application WSEAA60CM                  CEISamples
   application WSEAA60CS                  WBICoreSamples
   application WSEAA60EMSCO               CEISamples.ismp.component
   application WSEAA60JC                  Javadocs.ismp.component
   application WSEAA60JD                  Javadocs
   application WSEAA60LC                  LAP Component
   application WSEAA60SA                  Samples
   application WSEAA60SC                  WBIServerSamples.ismp.component
   application WSEAA60SS                  WBIServerSamples
   application WSEAA60WC                  WBICore
   application WSEAA60WS                  WBIServer
   ```

   WebSphere Process Server package names have a prefix of WSE and a suffix of 60. WebSphere Application Server Network Deployment, Version 6.0, package names have a prefix of WSB or WSP and a suffix of 60. Do not remove packages for WebSphere Process Server and WebSphere Application Server products that you did not uninstall.

4. Change directories to the directory where package information is registered.

   `cd /var/sadm/pkg`

5. Issue the following command to remove any WebSphere Process Server or WebSphere Application Server product-related packages.

   `pkgrm packagename1 packagename2 packagename3 ...`

   Do not remove packages for WebSphere Process Server and WebSphere Application Server products that you did not uninstall.

   Issue the following commands from the /var/sadm/pkg directory to search for and remove any WebSphere Application Server product-related packages that are registered in the /var/sadm/pkg directory:

   a. Change directories to the correct directory: `cd /var/sadm/pkg`
   b. `ls |grep WSB|xargs -i pkgrm -n {}` for WebSphere Application Server products
   c. `ls |grep WSC|xargs -i pkgrm -n {}` for WebSphere Application Server Clients
   d. `ls |grep WSP|xargs -i pkgrm -n {}` for Web server plug-ins for WebSphere Application Server
   e. `ls |grep WSE|xargs -i pkgrm -n {}` for WebSphere Process Server products

   Package names for Web server plug-ins for WebSphere Application Server are:

```
WSPAA60
WSPAA60AC
WSPAA60BC
WSPAA60CC
WSPAA60DC
WSPAA60FC
WSPAA60FB
WSPAA60GC
WSPAA60HC
```

If there is a problem removing the packages, remove the related package directories in the `/var/sadm/pkg` directory, including the preremove files. For example, remove the following file before issuing the `pkgrm -n WSBAA60` command:

`/var/sadm/pkg/WSBAA60/install/preremove`

6. Remove any profile directories that are not located in the installation root (*install_root*) directory.

   To determine the locations of profile directories, first use the `wasprofile -listProfiles` command to display profile names. Then, to determine where profile directories are located, use the `wasprofile -getPath -profileName` *profile_name* command, where *profile_name* is the name of the profile corresponding to a given directory.

7. Remove the installation root directory. Type `rm -rf` *install_root* to remove WebSphere Process Server directories. Ensure you specify the correct *install_root* for the product you uninstalled. For example, if you uninstalled WebSphere Process Server from the default installation directory `/opt/IBM/WebSphere/ProcServer`, issue the following command:

   `rm -rf /opt/IBM/WebSphere/ProcServer`

   Remove all of the profile directories as well.

8. Edit the `.WBIRegistry` and `.WASRegistry` files.

   These files are located in the home directory of the user ID from which the product was installed.

   The `.WBIRegistry` file contains a one-line entry for each WebSphere Process Server product installation; the `.WASRegistry` file, for each WebSphere Application Server product installation.

   You can delete these files if there is just one line in each that identifies the product that you removed. Otherwise, use a flat-file editor to remove the line that identifies the installation root directory of the product that you removed. Leave the other lines intact. Do not delete the `.WBIRegistry` and `.WASRegistry` files unless you removed all of the installations listed in the files.

This procedure results in having a clean system. You can reinstall into the same directories now. A clean system has no trace of a previously deleted installation.

After you have cleaned your system, go to "Installing the product" on page 44 to choose an installation procedure.

Preparing for reinstallation after a failed uninstallation on a Windows system

This procedure cleans a Windows system if uninstallation of WebSphere Process Server fails. After running the uninstallation program, these manual steps remove registry entries that can prevent you from reinstalling the product into the original directory. If you are not planning to reinstall, do not perform this task.

Before performing this procedure, ensure you have uninstalled WebSphere Process Server using the Uninstallation Wizard or silently, and that the procedure was not completely successful. If the procedure was successful, you do not need to perform this task.

Determine the *install_root* directory for the product so that you remove the correct product and produce a clean system.

Default directories are shown in Table 29:

Table 29. Planning table for identifying actual location of product installation

Identifier	Default directory location	Actual location
install_root	`C:\Program Files\IBM\WebSphere\ProcServer` or `C:\Program Files\IBM\WebSphere\AppServer`	
profile_root	`C:\Program Files\IBM\WebSphere\ProcServer\profiles \profile_name` or `C:\Program Files\IBM\WebSphere\AppServer\profiles \profile_name` A character space was added to these entries to enable them to fit in the table cell. The actual entries do not include a character space.	

Windows **On Windows platforms:** If you move either installation root directory, move it to a directory with a shorter path name. Windows platforms have a length restriction of 258 characters for a command. A problem can occur that prevents the successful creation of a profile when either path is too long. The maximum length for the *install_root* directory is 60 characters. The maximum length for the *profile_root* directory is 80 characters.

The Installation Wizard and the Profile Wizard let you specify your own locations for installation root directories. Examine the following files to determine the actual locations:

- The `%USERPROFILE%\.WBIRegistry` file identifies the installation root for all installed WebSphere Process Server products; the `%USERPROFILE%\.WASRegistry` file, for all WebSphere Application Server products.
- The *install_root*`\logs\wasprofile\wasprofile_create_`*profile_name*`.log` file for each created profile identifies the installation location in the stanza with the <method>invokeWSProfile</method> tag.

Uninstalling the product leaves the *profile_root* directory, including the *profile_root*`\logs` directory with the `pcatLog<timestamp>.txt` file, where *profile_root* represents the installation location of the profile. It leaves the *install_root*`\logs` directory as well.

Reinstalling the product into a new directory when files remain from a previous installation can create a coexistence scenario. However, you can delete all files and registry entries to completely remove WebSphere Process Server. A clean system lets you reinstall the product into the original directory without coexistence.

Important: Throughout this procedure, steps address removing artifacts left after uninstallation of both WebSphere Process Server and WebSphere

Application Server or WebSphere Application Server Network Deployment. The WebSphere Application Server product addressed is assumed to be the one underlying the installation of WebSphere Process Server.

Perform the following procedure to produce a clean system.

1. Log on with a user ID that belongs to the Administrator group.
2. Verify that you have an Emergency Recovery Disk. Instructions for creating this disk are in the Windows help documentation.

   This step is a safeguard. This procedure does not require the recovery disk.
3. Use the `regback.exe` program from the Windows Resource Kit to back up the registry.

   This step is a safeguard. This procedure does not require the backup copy of the registry.
4. Delete product registry entries for the WebSphere Process Server and WebSphere Application Server products that you uninstalled.

   Invoke `regedit.exe` from a command prompt, to edit the Windows system registry.

   CAUTION:
   Handle the Registry with care. You can easily make a mistake while using the registry editor to view and edit registry contents. The editor does not warn you of editing errors, which can be extremely dangerous. A corrupt registry can disrupt your system to the point where your only option is to reinstall the Windows operating system.

   a. Use **Ctrl-F** to search for all instances of *WebSphere*, to determine whether you should delete each entry. You might not be able to remove all of the entries related to WebSphere Process Server and WebSphere Application Server, which is not a problem.

   b. Expand and select keys related to **WebSphere Process Server** and **WebSphere Application Server** products.

   Delete the following keys if present for the WebSphere Application Server product:
   - HKEY_CURRENT_USER\ Software\ Microsoft\ Windows\ CurrentVersion\ Explorer\ MenuOrder\ Start Menu\ Programs\ IBM WebSphere\ Application Server Network Deployment v6
   - HKEY_LOCAL_MACHINE\ Software\IBM\ WebSphere Application Server Network Deployment\ 6.0.0.0
   - HKEY_LOCAL_MACHINE\ Software\ IBM\ Web server Plug-ins for IBM WebSphere Application Server\ 6.0.0.0

   Delete the following keys if present for the WebSphere Process Server product:
   - HKEY_CURRENT_USER\ Software\ Microsoft\ Windows\ CurrentVersion\ Explorer\ MenuOrder\ Start Menu\ Programs\ IBM WebSphere\Process Server 6.0
   - HKEY_LOCAL_MACHINE\Software\IBM\WebSphere Process Server\6.0.0.0

   c. Select **Edit > Delete** from the menu bar for each related key.

   d. Select **Yes** when asked to confirm deletion of the key.

   e. Select **Registry > Exit** from the menu bar when you are finished.
5. Delete any profile directories that are not located in the installation root (*install_root*) directory.

To determine the locations of profile directories, first use the `wasprofile -listProfiles` command to display profile names. Then, to determine where profile directories are located, use the `wasprofile -getPath -profileName` *profile_name* command, where *profile_name* is the name of the profile corresponding to a given directory.

6. Delete the installation root directory for the product that you uninstalled.

7. Open a Windows Explorer window and browse to the `C:\Documents and Settings\All Users\Start Menu\Programs\IBM WebSphere` directory.

   If you have only one installation of WebSphere Application Server, delete the following folder if it is present:

   `Application Server v6`

   If you have only one installation of WebSphere Application Server Network Deployment, delete the following folder if it is present:

   `Application Server Network Deployment v6`

   If you have only one installation of WebSphere Process Server, delete the following folder if it is present:

   `Process Server 6.0`

   If you have multiple versions of WebSphere Application Server or WebSphere Process Server installed, the folder names will be appended with a number, for example, `Application Server Network Deployment v6 (2)` or `Process Server 6.0 (2)`. In this case, you can use the following procedure to determine which folder(s) to delete:

   a. Open `C:\Documents and Settings\All Users\Start Menu\Programs\IBM WebSphere` in Windows Explorer.

   b. Open the `Application Server v6` or `Application Server Network Deployment v6` subfolder, if one exists in the IBM WebSphere folder.

   c. Right-click the `First steps` subfolder and select Properties, then select the Shortcut tab.

   d. Examine the Target property and determine if the Target directory points to the WebSphere Application Server installation that failed to uninstall. If that is the case, delete the `Application Server v6` or `Application Server Network Deployment v6` folder.

   e. Repeat steps b through d, but this time for step b start with the `Process Server 6.0` subfolder, and for step d, determine if the Target directory points to the WebSphere Process Server installation that failed to install.

   f. Repeat steps b through e for each additional set of folders (for example, `Application Server Network Deployment v6 (2)` or `Process Server 6.0 (2)`).

8. Delete the `%WINDIR%\IsUninst.exe` file.

9. Edit the `vpd.properties` file to remove the entries for WebSphere Process Server and WebSphere Application Server or WebSphere Application Server Network Deployment.

   The file is located in the installation directory of the operating system, such as the `C:\WINNT` or `C:\Windows` directory. Remove all entries for the installation of WebSphere Process Server that you have uninstalled. Each WebSphere Process Server entry starts with the characters WSE, followed by numbers representing the release number, and on the same line will have the *install_root* path corresponding to the installation you have uninstalled. (Each entry is on a single line if the file is displayed in a text editor with word wrap turned off.) For example, the line

```
WSEAA60BPC|6|0|0|0|6.0.0.0|1=Bpc|BPC||IBM||6.0.0.0
|C:\Program Files\IBM\WebSphere\ProcServer|0|0|1|WSEAA60|6|0|0|0|6.0.0.0|1|0
|true|true|3|WSEAA60BPC|6|0|0|0|6.0.0.0|1
```

corresponds to the Business Process Choreographer component (indicated by BPC in the example), for an installation that was installed in the directory C:\Program Files\IBM\WebSphere\ProcServer.

> **Note:** This text appears in several lines in this document for formatting purposes but would be a single line in the vpd.properties file.

Each WebSphere Application Server or WebSphere Application Server Network Deployment entry in the vpd.properties file has a similar format. For information about these entries to help you determine which to delete, and for more information about the vpd.properties file, refer to the WebSphere Application Server Network Deployment, Version 6.0 information center.

Do not delete or rename the vpd.properties file because the InstallShield for MultiPlatforms (ISMP) program uses it for other products that it installs. If the WebSphere Process Server or WebSphere Application Server product that you are uninstalling is the only product with entries in the vpd.properties file, you can delete this file.

10. Edit the .WBIRegistry and .WASRegistry files.

    The location of these files is the home directory of the user ID from which the product was installed.

    The .WBIRegistry file contains a one-line entry for each WebSphere Process Server product installation; the .WASRegistry file, for each WebSphere Application Server product installation.

    You can delete these files if there is just one line in each that identifies the product that you removed. Otherwise, use a flat-file editor to remove the line that identifies the installation root directory of the product that you removed. Leave the other lines intact. Do not delete the .WBIRegistry and .WASRegistry files unless you removed all of the installations listed in the files.

11. Restart your server if a prompt is displayed that directs you to restart.

This procedure results in having a clean system. You can reinstall into the same directories now. A clean system has no trace of a previously deleted installation.

After you have cleaned your system, go to "Installing the product" on page 44 to choose an installation procedure.

Removing the Business Process Choreographer configuration

Use this task to remove the business process container, human task container, Business Process Choreographer Explorer, and the associated resources.

1. Ensure that all the stand-alone servers, the database, and the application server (or at least one application server per cluster) are running.

2. For each enterprise application that contains human tasks or business processes, stop and uninstall all human task templates and all business process templates, then uninstall the application.

3. Perform one of the following actions:

   • To uninstall the business process container, human task container, Business Process Choreographer Explorer, and the associated resources, perform "Using a script to remove the Business Process Choreographer configuration" on page 320.

- If you want to reuse parts of the existing configuration, perform "Using the administrative console to remove the Business Process Choreographer configuration" on page 321.

The Business Process Choreographer configuration has been removed.

Using a script to remove the Business Process Choreographer configuration

Use this task to remove the business process container, task container, and Business Process Choreographer Explorer configuration, and the associated resources.

Before you can remove the Business Process Choreographer configuration, you must stop all process and task templates, delete all process and task instances, then stop and remove the configuration for all enterprise applications that contain business processes or human tasks.

1. Change to the Business Process Choreographer `sample` directory:

   On Windows platforms, enter the command:

   `cd install_root\ProcessChoreographer\sample`

   On UNIX and Linux platforms, enter:

   `cd install_root/ProcessChoreographer/sample`

2. Run the script `bpeunconfig.jacl`. Use the appropriate command in the following table. In the following cases, also specify the appropriate options:

   - For stand-alone servers, stop the application server and use the `-conntype NONE` option. This step ensures that any Cloudscape databases are not locked and can be removed automatically.

   - In a Network Deployment (ND) environment, run the script, as follows:
     - If the deployment manager is not running, run the script on the deployment manager, using the `-conntype NONE` option.
     - If the deployment manager is running, stop the application server from which the configuration is to be removed, then run the script, omitting the `-conntype NONE` option.

       When the script is running on the application server node from which the Business Process Choreographer configuration is to be removed, the script can automatically delete any Cloudscape databases.

   - If WebSphere security is enabled, specify also the user ID and password:

     `-userid userID  -password password`

   - If you are not configuring the default profile, specify also the profile name:

     `-profileName profileName`

   For a single server on Windows, use the command:

   ```
   install_root\bin\wsadmin.bat -f bpeunconfig.jacl
       -server Server -node Node
       [-deleteDB deleteDatabase]
   ```

   For a cluster on Windows, use the command:

   ```
   install_root\bin\wsadmin.bat -f bpeunconfig.jacl
       -cluster Cluster
   ```

   For a single server on UNIX, use the command:

   ```
   install_root/bin/wsadmin.sh -f bpeunconfig.jacl
       -server Server -node Node
       [-deleteDB deleteDatabase]
   ```

   For a cluster on UNIX, use the command:

   ```
   install_root/bin/wsadmin.sh -f bpeunconfig.jacl
       -cluster Cluster
   ```

Where:

userID The user ID.

password

> The password for the user ID.

profileName

> The name of the profile that is being configured. If you are configuring the default profile, this option is optional.

Server The name of the application server. If only one server exists, this parameter is optional.

Node The name of the node. This is optional. If the node is omitted, the local node is used.

Cluster The name of the cluster.

deleteDatabase

> A Boolean value that specifies whether to delete Cloudscape databases:
>
> **yes**
> **no**

If you omit a parameter, you are prompted for it.

3. **Optional:** Delete the database used by Business Process Choreographer.

   For both the Business Process Choreographer database and the messaging database the following apply:

   - The `bpeunconfig.jacl` script lists the databases that were used by the configuration that has been removed. You can then more easily identify the databases that are to be removed.

   - When a Cloudscape database is used for the Business Process Choreographer database, the `bpeunconfig.jacl` script optionally removes the database, unless it is locked by a running application server. If the database is locked, stop the server, and use the `-conntype NONE` option.

4. **Required:** Delete the database used by WebSphere default messaging. This database cannot be reused in a new configuration.

   For both the Business Process Choreographer database and the messaging database the following apply:

   - The `bpeunconfig.jacl` script lists the databases that were used by the configuration that has been removed. You can then more easily identify the databases that are to be removed.

   - When Cloudscape is the messaging database, the `bpeunconfig.jacl` script optionally removes the database, unless it is locked by a running application server. If the database is locked, stop the server, and use the `-conntype NONE` option.

5. **Optional:** For WebSphere MQ only, delete the queue manager used by Business Process Choreographer.

The Business Process Choreographer applications and associated resources (such as scheduler, data sources, listener ports, connection factories, queue destinations, activation specs, work area partition, mail session, and authentication aliases) have been removed.

Using the administrative console to remove the Business Process Choreographer configuration

Use this task to remove part or all of the business process container, task container, and Business Process Choreographer Explorer configuration, and the associated resources.

Before you can uninstall the business process container, you must stop all process and task templates, delete all tasks and process instances, then stop and uninstall all enterprise applications that contain business processes or human tasks.

1. Uninstall the Business Process Choreographer enterprise applications.
   a. Display the enterprise applications.

      In the administrative console, select **Applications** → **Enterprise Applications**.
   b. Identify the scope of the Business Process Choreographer installation.

      Look for applications named BPEContainer_*Scope*.
      - If Business Process Choreographer was installed on an application server, *Scope* has the value of *nodeName_serverName*.
      - If Business Process Choreographer was installed on a cluster, *Scope* has the value of *clusterName*.
   c. Optional: If you installed the business process container, uninstall it.
      1) Select BPEContainer_*Scope*, then click **Stop**.
      2) Select the application again, then click **Uninstall** → **OK** → **Save** → **Save**.
   d. Optional: If you installed Business Process Choreographer Explorer, uninstall it.
      1) Select BPCExplorer_*Scope*, then click **Stop**.
      2) Select the application again, then click **Uninstall** → **OK** → **Save** → **Save**.
   e. Optional: If you installed the human task container, uninstall it.
      1) Select TaskContainer_*Scope*, then click **Stop**.
      2) Select the application again, then click **Uninstall** → **OK** → **Save** → **Save**.
2. Remove all or any of the following resources that you do not want to reuse:
   a. Optional: Find the Business Process Choreographer data source (the default name is BPEDataSource*dbType*) and note its associated authentication data alias (if any) and Java Naming and Directory Interface (JNDI) name before removing it (for a single server, the default name is jdbc/BPEDB).

      To find the data sources:
      1) Click **Resources** → **JDBC Providers**.
      2) On the JDBC Providers pane, select **Server**. Then click **Apply**.
      3) Select *JDBC_provider*. Then click **Data sources**.
      4) If you are using an Oracle database management system, remove also a second data source: BPEDataSourceOracleNonXA.
   b. Optional: For a database other than a Cloudscape database, remove the JDBC provider of the data source identified in step 2, unless it contains further data sources that you still need.
   c. Optional: Remove the appropriate connection factories and queues.
      - For default messaging, before you remove the connection factories, note their associated authentication data aliases. Then remove the JMS connection factories and JMS queues.
        1) Click **Resources** → **JMS Providers** → **Default messaging**.
        2) On the Default messaging provider pane, select **Server**. Then click **Apply**.
      - For WebSphere MQ, remove the JMS queue connection factories and JMS queue destinations.
        1) Click **Resources** → **JMS Providers** → **WebSphere MQ**.

2) On the WebSphere MQ messaging provider pane, select **Server**. Then click **Apply**.

For the business process container the JNDI names are normally as follows:
```
jms/BPECF
jms/BPECFC
jms/BPEIntQueue
jms/BPEApiQueue
jms/BPERetQueue
jms/BPEHldQueue
```

For the human task container the JNDI names are normally as follows:
```
jms/HTMCF
jms/HTMIntQueue
jms/HTMHldQueue
```

d. Optional: If you are using WebSphere default messaging as the JMS provider, remove the activation specifications.

1) Click **Resources** → **JMS Providers** → **Default messaging** → **JMS activation specification**.

2) Remove the following activation specifications:
```
BPEApiActivationSpec
BPEInternalActivationSpec
HTMInternalActivationSpec
```

e. Optional: If you are using WebSphere MQ as the JMS provider, remove the listener ports.

1) Click **Servers** → **Application servers** → *serverName*.

2) Under Communications, click **Messaging** → **Message Listener Service** → **Listener Ports**.

3) On the Application servers pane, remove the following listener ports:
```
BPEInternalListenerPort
BPEApiListenerPort
BPEHoldListenerPort
HTMInternalListenerPort
```

f. Optional: Delete the authentication data aliases.

- If the data source identified in step 2 on page 322 had an authentication data alias, remove that alias.

  Usually, the alias for the database is named *cellName*/BPEAuthDataAlias*dbType_Scope*, where:
  cellName
      The name of the cell
  dbType
      The database type
  Scope
      One of the values given in step 1b on page 322

- If the connection factory setting identified in step 2c on page 322 had an authentication data alias, remove that alias.

  Usually, the alias for the database is named *cellName*/BPEAuthDataAliasJMS_*Scope*, where:
  cellName
      The name of the cell
  Scope
      One of the values given in step 1b on page 322

The authentication data alias is in **Security** → **Global security** → **JAAS Configuration** → **J2C Authentication data**.

g. Optional: Remove the scheduler configuration for the data source JNDI name.

   1) Click **Resources** → **Schedulers**.

   2) Select **Server**. Then click **Apply**.

   3) On the Schedulers pane, note the work manager name, then select and delete the scheduler BPEScheduler.

h. Optional: Remove the work manager.

   1) Click **Resources** → **Asynchronous beans** → **Work managers**.

   2) Select **Server**. Then click **Apply**.

   3) On the Work managers pane, select and delete the work manager whose name you noted in step 2g.

i. Optional: Remove the work area partition.

   1) Click **Servers** → **Application servers** → *serverName*.

   2) Under Business Process Services, click **Work area partition service**.

   3) On the Application servers pane, select and delete the work area partition BPECompensation.

j. Optional: Remove the mail session.

   1) Click **Resources** → **Mail Providers**.

   2) On the Mail Providers pane, select **Cell**. Then click **Apply**.

   3) Click **Built-in Mail Provider**.

   4) Under Additional Properties, select **Mail sessions**.

   5) Select and delete HTMMailSession_*Scope*, where *Scope* is the scope identified in step 1b on page 322

k. In a cluster, repeat the removal of any server level resources for each cluster member.

l. Save your configuration changes.

m. Restart the application server.

3. **Optional:** If you use WebSphere default messaging for Business Process Choreographer, you can delete the bus member, bus, and data source:

   a. Click **Service integration** → **Buses** → **BPC.***cellName***.Bus** → **Messaging engines**.

   b. Select the messaging engine *nodeName***.***serverName***-BPC.***cellName***.Bus**for the node and server where you are removing the Business Process Choreographer configuration.

   c. In *Additional Properties*, select *Data store*, and note the JNDI name for the data source.

   d. Go to **Service integration** → **Buses** → **BPC.***cellName***.Bus** → **Bus members** and remove the bus member identified by Node=*nodeName*, Server=*serverName*.

   e. Optional: If you removed the last member of the bus BPC.*cellName*.Bus, you can also remove the bus.

   f. Optional: Remove the data source. Click **Resources** → **JDBC Providers** → **Server** → **Apply** → **Cloudscape JDBC Provider** → **Data Sources**, then delete the data source that you noted in step 3c.

4. **Optional:** Delete the Business Process Choreographer database.

5. **Optional:** If you are using WebSphere MQ, delete the queue manager used by Business Process Choreographer.

6. If you use WebSphere default messaging for Business Process Choreographer, delete the datastore for the message engine. If you use the default data store, you can delete the data store by deleting the following directory:

- On Windows systems, delete

  install_root\profiles*profileName*\databases\com.ibm.ws.sib\
      nodeName.serverName-BPC.*cellName*.Bus
- On UNIX and Linux systems, delete

  install_root/profiles/*profileName*/databases/com.ibm.ws.sib/
      nodeName.serverName-BPC.*cellName*.Bus

The Business Process Choreographer configuration has been removed.

Removing the Common Event Infrastructure configuration

If you need to remove the configuration for the Common Event Infrastructure, in preparation for uninstalling WebSphere Process Server, you must first remove the deployed enterprise applications and the database configuration.

To remove the configuration for the Common Event Infrastructure, follow these steps:

Removing the Common Event Infrastructure application

If you need to remove the event server enterprise application and resources from WebSphere Process Server, you can use the event-application.jacl script.

If you prefer, you can remove the event server enterprise applications manually using the administrative console rather than using the `event-application.jacl` script. If use the administrative console, you must also manually remove the Common Event Infrastructure resources. For more information about these resources, see *Default configuration*.

To remove the event server enterprise application, use the wsadmin tool to run the `event-application.jacl` script.

To run the script on a Windows system, go to the *install_root*\event\application directory and run the following command (all on one line):

```
wsadmin -f event-application.jacl -profile event-profile.jacl -action uninstall
-node node_name -server server_name
```

To run the script on a Linux or UNIX system, go to the *install_root*/event/application directory and run the following command (all on one line):

```
wsadmin.sh -f event-application.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action
uninstall -node node_name -server server_name
[-appname app_name] [-trace]
```

To run the script, go to the *install_root*/event/application directory and run the following command (all on one line):

```
wsadmin.sh -f event-application.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action
uninstall -node node_name -server server_name
[-appname app_name] [-trace]
```

The `event-application.jacl` script uses these parameters:

node_name
> The WebSphere Process Server node from which you want to remove the event
> server enterprise application.

server_name
> The WebSphere Process Server from which you want to remove the event
> server enterprise application. This parameter is optional. If you do not specify
> a server, the enterprise application is removed from all servers in the node.

app_name
> The name of the deployed event server enterprise application you want to
> remove. This parameter is optional. If you do not specify an application name,
> all registered Common Event Infrastructure enterprise applications are
> removed.

The optional **-trace** parameter causes additional debugging information to display
on the standard output.

Removing the event messaging enterprise application

Before uninstalling the Common Event Infrastructure, you must remove the event
messaging enterprise application.

To remove the event messaging enterprise application, use the wsadmin tool to run
the event-message.jacl script.

To run the script on a Windows system, go to the *install_root*\event\application
directory and run the following command (all on one line):

```
wsadmin -f event-message.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root\event\lib\cei_installer.jar -action
uninstall -node node_name -server server_name
[-eventprofilescope scope] -appname app_name [-trace]
```

To run the script on a Linux or UNIX system, go to the
install_root/event/application directory and run the following command (all on
one line):

```
wsadmin.sh -f event-message.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action install
  -node node_name -server server_name
[-eventprofilescope scope] -appname app_name [-trace]
```

To run the script, go to the *install_root*/event/application directory and run the
following command (all on one line):

```
wsadmin.sh -f event-message.jacl -profile event-profile.jacl
  -wsadmin_classpath install_root/event/lib/cei_installer.jar -action install
  -node node_name -server server_name
[-eventprofilescope scope] -appname app_name [-trace]
```

The parameters of the event-message.jacl script are as follows:

node_name
> The WebSphere Process Server node from which you want to remove the event
> messaging enterprise application.
>
> To find out the node name, do one of the following:
> * On Windows systems, run the *install_root*\bin\setupCmdLine script and
>   then the echo %WAS_NODE% command.
> * On Linux and UNIX systems, run the *install_root*/bin/setupCmdLine and
>   then the echo $WAS_NODE command.

To find out the node name, run the *install_root*/bin/setupCmdLine and then the `echo $WAS_NODE` command.

server_name
> The WebSphere Process Server from which you want to remove the event messaging enterprise application. This parameter is optional. If you do not specify a server, the application is removed from all servers in the specified node.

scope
> The scope of the Common Event Infrastructure configuration profile objects to be removed. This parameter is optional. If you specify a scope, a the JMS transmission profile and emitter factory profiles in the specified scope are removed. The valid values are `cell`, `node`, and `server`.

app_name
> The name of the deployed messaging enterprise application you want to remove. This parameter is required.

The optional **-trace** parameter causes additional debugging information to display on the standard output.

Removing the event database
If you need to remove the event database, you can use the provided scripts. You must remove the database before you uninstall the Common Event Infrastructure.

When the database is configured, the configuration script also creates scripts for removing the database and the Java database connectivity (JDBC) provider. The scripts for removing the event database are placed in database-specific subdirectories of the *install_root*/event/dbscripts directory. The scripts for removing the JDBC provider are placed in database-specific subdirectories of the *install_root*/event/dsscripts directory.

Note: The event database can be shared among multiple event servers using the same JDBC provider configuration. Therefore, remove the JDBC provider configuration only if you have uninstalled the associated event database.

To remove the event database and JDBC provider, run the appropriate scripts from the following table.

Type	Operating system	Database script	JDBC configuration script
Cloudscape	Windows	rm_event_cloudscape.bat	rm_cloudscape_jdbc_provider.bat
Cloudscape	Linux/UNIX	rm_event_cloudscape.sh	rm_cloudscape_jdbc_provider.sh
DB2	Windows	rm_event_db2.bat	rm_db2_jdbc_provider.bat
DB2	Linux/UNIX	rm_event_db2.sh	rm_db2_jdbc_provider.sh
Oracle	Windows	rm_event_oracle.bat	rm_oracle_jdbc_provider.bat
Oracle	Linux/UNIX	rm_event_oracle.sh	rm_oracle_jdbc_provider.sh
Cloudscape	z/OS (Windows script)	rm_event_cloudscape.bat	rm_cloudscape_jdbc_provider.bat
Cloudscape	z/OS (Linux/UNIX script)	rm_event_cloudscape.sh	rm_cloudscape_jdbc_provider.sh
DB2	z/OS (Windows script)	rm_event_db2zos.bat	rm_db2zos_jdbc_provider.bat

Type	Operating system	Database script	JDBC configuration script
DB2	z/OS (Linux/UNIX script)	rm_event_db2zos.sh	rm_db2zos_jdbc_provider.sh

You can remove the event database or JDBC provider at any time by running the appropriate script. To remove the JDBC provider, use the appropriate script and specify the scope in which you want to remove the JDBC provider:

rm_*db*_jdbc_provider *scope* [*server_name*]

The generated scripts use these parameters:

scope   The scope in which you want to remove the JDBC provider. The valid values are cell, node, and server.

server_name
> The name of the WebSphere Process Server from which you want to remove the JDBC provider, if **scope** is server. (If **scope** is cell or node, this parameter is ignored.)

Troubleshooting installation

How to troubleshoot an unsuccessful installation of WebSphere Process Server.

Use this topic to diagnose possible problems when the installation is unsuccessful. The installer program records the following indicators of success at the end of the primary log file, which can be found in *install_root*/logs/wbi/log.txt on Linux and UNIX platforms or *install_root*\logs\wbi\log.txt on Windows platforms:

- INSTCONFSUCCESS: installation was successful
- INSTCONFPARTIALSUCCESS: installation was partly successful. Some installation actions failed but can be retried.
- INSTCONFFAILED: installation was not successful. Recovery is not possible.

If the result is INSTCONFPARTIALSUCCESS or INSTCONFFAILED, continue analyzing the problem by following these steps:

1. If the installation process displayed any error messages, check "Error messages: installation and profile creation and augmentation" on page 332 for an explanation.

   If the message corresponds to any of those described, correct the problem, clean up any installed portions, and try to reinstall.

   For details on uninstalling any installed portions before reinstalling, refer to the WebSphere Process Server, Version 6.0, online information center at http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp, and make the following selection in the navigation panel: **WebSphere Process Server 6.0 > Installing > Uninstalling the product > Preparing for reinstallation after a failed uninstallation**.

2. Determine if the installation of WebSphere Application Server Network Deployment was successful. If the installation of WebSphere Process Server was not successful, first check *install_root*/logs/log.txt on Linux and UNIX platforms or *install_root*\logs\log.txt on Windows platforms for errors to determine if the installation of WebSphere Application Network Deployment was successful. If the installation of WebSphere Application Server Network Deployment failed, refer to the installation troubleshooting information for WebSphere Application Server Network Deployment, at the WebSphere Application Server Network Deployment, Version 6.0, Information Center and

use the information found there to correct the problems before attempting to reinstall WebSphere Process Server. If the installation of WebSphere Application Server Network Deployment succeeded and the installation of WebSphere Process Server failed, use the troubleshooting information below to correct the problems.

3. Check the WebSphere Process Server installation log files for errors after installing.

   Refer to "Log files" on page 340 for the names, locations, and descriptions of the various log files that are created. Check the log files in this sequence:

   `Linux` `UNIX` **On Linux and UNIX platforms:**

   a. *install_root*/logs/wbi

   b. %tmp% if no files are found in *install_root*/logs/wbi

   c. *install_root*/logs/wasprofile/wasprofile_create_ *profile_name*.log or *install_root*/logs/wasprofile/wasprofile_augment_ *profile_name*.log. If you performed a Complete installation, which creates a stand-alone server named default, the value for *profile_name* will be default.

   d. Any additional log or trace files generated by installation actions. Look in *install_root*/logs/wbi for trace files generated during the installation (or uninstallation) process. Look in *profile_root*/logs for those generated by profile creation or augmentation, where *profile_root* represents the installation location of the WebSphere Process Server profile (by default, *install_root*/profiles/*profile_name* on Linux and UNIX platforms). These files are primarily intended for use by IBM technical support.

   `Windows` **On Windows platforms:**

   a. *install_root*\logs\wbi

   b. %tmp% if no files are found in *install_root*\logs\wbi

   c. *install_root*\logs\wasprofile\wasprofile_create_ *profile_name*.log or *install_root*\logs\wasprofile\wasprofile_augment_ *profile_name*.log. If you performed a Complete installation, which creates a stand-alone server named default, the value for *profile_name* will be default.

   d. Any additional log files generated by installation actions. Look in *install_root*\logs\wbi for trace files generated during the installation (or uninstallation) process. Look in *profile_root*\logs for those generated by profile creation or augmentation, where *profile_root* represents the installation location of the WebSphere Process Server profile (by default, *install_root*\profiles*profile_name* on Windows platforms). These files are primarily intended for use by IBM technical support.

4. If there is no information in the installation logs, use the -log parameter with a response file.

   Certain events can prevent the InstallShield for Multiplatforms (ISMP) from starting the Installation Wizard. Such an event is not enough disk space to launch the Installation Wizard, for example. If your installation fails and there is no information in the installation logs, use the -log parameter with a response file to record entries for events that cause the ISMP program to fail to start the Installation Wizard. This will work with any one of the following response files:

   - responsefile.wps.txt
   - responsefile.pcaw.standAloneProfile.txt
   - responsefile.pcaw.dmgrProfile.txt
   - responsefile.pcaw.managedProfile.txt

For more information about response files, refer to the WebSphere Process Server, Version 6.0, online information center at http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp, and make the following selection in the navigation panel: **WebSphere Process Server 6.0 > Installing > Installing the product > Installing the product silently**.

You will need to copy a response file from *WebSphere Process Server CD 1* to your system's hard drive to use it. The syntax of the **install** command for logging such events is as in the following examples (your paths to the response file and the log file, and the actual name of the response file might differ):

▶ AIX ◀ **On AIX platforms:**

```
install -options "/usr/IBM/WebSphere/silentFiles/myresponsefile.txt"
        -silent -log # !/usr/IBM/WebSphere/myOptionFiles/log.txt  @ALL
```

▶ HP-UX ◀ ▶ Linux ◀ ▶ Solaris ◀ **On HP-UX, Linux, and Solaris platforms:**

```
install -options "/opt/IBM/WebSphere/silentFiles/myresponsefile.txt"
        -silent -log # !/opt/IBM/WebSphere/myOptionFiles/log.txt  @ALL
```

▶ Windows ◀ **On Windows platforms:**

```
install.exe -options "C:\IBM\WebSphere\silentFiles\myresponsefile.txt"
            -silent -log # !C:\IBM\WebSphere\silentFiles\log.txt  @ALL
```

5. Determine whether the installation problem is caused by a configuration script that failed.

   The *install_root*/logs/wbi/instconfig.log file on Linux and UNIX platforms or *install_root*\logs\wbi\instconfig.log file on Windows platforms indicates configuration problems that can prevent the product from working correctly. Search on the string action failed to find the name of the configuration script that failed.

6. Verify that no files exist in the *install_root*/classes directory.

   IBM Support sometimes queues work for customers and provides test or debugging fixes. A common location for the fixes is in the *install_root*/classes directory.

   By default, the *install_root*/classes directory is picked up first in the WebSphere Process Server class path to let it override other classes.

   Putting a fix in the directory lets you verify that the fix does indeed solve your problem. After verifying that the fix solves the problem, you should delete the fix from the *install_root*/classes directory to return the system to a working state.

   If you do not remove such fixes from the *install_root*/classes directory, you can experience errors.

7. Uninstall the product, clean up any log files or other artifacts that are left behind, and reinstall after turning on tracing if the error logs do not contain enough information to determine the cause of the problem.
   - Report the stdout and stderr logs to the console window, by adding the -is:javaconsole parameter to the **install** command:
     - ▶ Linux ◀ ▶ UNIX ◀ **On Linux and UNIX platforms:**

       ```
       install -is:javaconsole
       ```

       Capture the stream to a file with the following commands:

       ```
       install -is:javaconsole > captureFileName.txt 2>&1
       ```
     - ▶ Windows ◀ **On Windows platforms:**

       ```
       install.exe -is:javaconsole
       ```

       Capture the stream to a file with the following commands:

       ```
       install.exe -is:javaconsole > drive:\captureFileName.txt
       ```

- Capture additional information to a log of your choice with the `-is:log` *file_name* option.
- Turn on additional installation logging by passing the `-W Setup.product.install.logAllEvents="true"` parameter to the **install** command:
  - **> Linux** **> UNIX** **On Linux and UNIX platforms:**

    `install -W Setup.product.install.logAllEvents="true"`
  - **Windows** **On Windows platforms:**

    `install.exe -W Setup.product.install.logAllEvents="true"`

8. If you have successfully created a process server profile, use the First steps console or the command line method to start the process server.

   Start the First steps console for a particular node (where *profile_root* represents the installation location of the WebSphere Process Server profile (by default, *install_root*/profiles/*profile_name* on Linux and UNIX platforms and *install_root*\profiles*profile_name* on Windows platforms):

   - **> Linux** **> UNIX** **On Linux and UNIX platforms:**
     profile_root/firststeps/wbi/firststeps.sh
   - **Windows** **On Windows platforms:**
     profile_root\firststeps\wbi\firststeps.bat

   Start the server from the command line:

   a. Change directories to the *profile_root*/bin directory in the profile.

   b. Start the server process.
      - **> Linux** **> UNIX** **On Linux and UNIX platforms:** ./startServer.sh *server_name*
      - **Windows** **On Windows platforms:** startServer.bat *server_name*

9. Verify that the server starts and loads properly by looking for a running Java process and the *Open for e-business* message in the SystemOut.log and SystemErr.log files.

   If no Java process exists or if the message does not appear, examine the same logs for any miscellaneous errors. Correct any errors and retry.

   You can find the SystemOut.log and SystemErr.log files in the following platform-specific directories:

   - **> Linux** **> UNIX** **On Linux and UNIX platforms:**
     profile_root/logs/*server_name*
   - **Windows** **On Windows platforms:** *profile_root*\profiles\logs*server_name*

10. Use the First steps console or the command line method to stop the process server *server_name*, if it is running, and to start the deployment manager if one exists.

    To stop *server_name* from the command line:
    - **> Linux** **> UNIX** **On Linux and UNIX platforms:**
      profile_root/bin/stopServer.sh *server_name*
    - **Windows** **On Windows platforms:** *profile_root*\bin\stopServer.bat *server_name*

    If you enable security, specify the -user and the -password parameters of the command.

    To start the deployment manager from the command line:
    - **> Linux** **> UNIX** **On Linux and UNIX platforms:**
      profile_root/bin/startManager.sh
    - **Windows** **On Windows platforms:** *profile_root*\bin\startManager.bat

11. Verify that the server starts and loads properly by looking for a running Java process and the *Server dmgr open for e-business* message in the *profile_root*/logs/*server_name*/SystemOut.log file.

> **Linux** **UNIX** **On Linux and UNIX platforms:** Open a command window and issue the **top** command to see a display of running processes. If the top command is not available on your system, use the **ps** command:

```
ps -ef | grep java
```

> **Windows** **On Windows platforms:** Press **Ctrl+Alt+Delete** and type **T** to open the Task Manager. Click the **Processes** tab and the **Image Name** column header to sort by image name. Look for processes named java.exe.

If no Java process exists or if the message does not appear, examine the same logs for any miscellaneous errors. Correct any errors and try again to start the deployment manager.

For current information available from IBM Support on known problems and their resolution, see the IBM WebSphere Process Server support page.

IBM Support has documents that can save you time gathering the information that you need to resolve a problem. Before opening a PMR, see the IBM WebSphere Process Server support page.

Error messages: installation and profile creation and augmentation

The following lists some of the most commonly found error messages encountered when installing WebSphere Process Server.

Note: For information about messages that might be generated by the installation of WebSphere Application Server Network Deployment, refer to the troubleshooting information available at the WebSphere Application Server Network Deployment, Version 6.0, information center.

- "Invalid node name/Invalid host name/Invalid cell name: The name starts with an invalid character." on page 333
- "The Location of JDBC driver classpath files is invalid." on page 333
- "You have chosen a database other than DB2." on page 333
- "Profile is in use. Stop the server before continuing." on page 333
- "Concurrent profile creation, augmentation, or deletion is not supported." on page 333
- "The Installation Wizard cannot install WebSphere Process Server." on page 334
- "Supported IBM JDK was not found." on page 334
- "A supported version of IBM WebSphere Application Server was not found." on page 334
- **Linux** **UNIX** **On Linux and UNIX platforms:** "There is insufficient free disk space on the system." on page 334
- "Previous WebSphere Process Server uninstallation failed." on page 335
- "WebSphere Process Server installation not valid" on page 335
- "INFO: The Common Event Infrastructure application was not uninstalled because it is being used by other products." on page 335
- "INFO: WebSphere Application Server was not uninstalled because it is being used by the Common Event Infrastructure application." on page 335
- **Windows** **On Windows platforms:** "Error: The input line is too long" on page 336
- **AIX** **On AIX platforms:** "Note: The following file systems will be expanded during the installation" on page 337
- **Linux** **UNIX** **On Linux and UNIX platforms:** "The disk space is nn Mbyte less than required. The installation cannot continue." on page 337

- "Specify a different directory or perform a manual uninstall" on page 337
- "Error writing file = There may not be enough temporary disk space." on page 338
- "Error: localhost is not a valid host name for remote access" on page 338
- **Linux** **On Linux platforms:** "The installer could not successfully add the product information into the RPM database." on page 339
- **Linux** **UNIX** **On Linux and UNIX platforms:** "Error: java.io.IOException: konqueror: not found" on page 339

If you do not see a problem that resembles yours, or if the information provided does not solve your problem, contact IBM WebSphere Process Server support for further assistance.

Invalid node name/Invalid host name/Invalid cell name: The name starts with an invalid character.

Check that the node name, host name, and cell name contain a valid sequence of characters. Use the IBM defaults provided or make sure that your names do not use disallowed characters, as described below:

A node name or a cell name cannot have any spaces, and the following characters are not allowed: / \ * , : ; = + ? | < > & % ' ". A host name cannot have any spaces, cannot start with any of the above characters, and cannot be surrounded by brackets ([ ]).

The Location of JDBC driver classpath files is invalid.

The remainder of this message says: `The following files could not be found.` *`list of files`* `Please reenter the directory for the Location of the JDBC driver classpath files`. For the given panel's database configuration, the Profile Wizard will verify that the necessary jar files exist for the JDBC driver. If the Profile Wizard can't verify that the files exist (each database type has a different set), it will present you with this message along with the list of files. This should help you find the correct directory to specify.

You have chosen a database other than DB2.

The remainder of this message says: `Business rules and selectors only support DB2 as a repository. If you intend to use business rules or selectors, then you must configure their repository database manually. Refer to the Information Center documentation for instructions.` For deployment manager and managed (custom) profiles, you will need to perform additional configuration steps if a database other than IBM DB2 Universal, DB2 Universal OS/390 V7.1, DB2 Universal OS/390 V8.1, or DB2 CLI is selected. For more information, refer to "Installing business rules for network deployment" in the WebSphere Process Server information center.

Profile is in use. Stop the server before continuing.

The Profile Wizard will not augment an existing profile if it is currently running. You do not need to exit the Profile Wizard; shut down the server and then continue with the Profile Wizard.

Concurrent profile creation, augmentation, or deletion is not supported.

The remainder of this message says: `Wait until the current creation or deletion operation is complete before continuing.` When a profile is being created, augmented, or deleted, a global lock is made on the Profile Registry. This lock prevents other changes (create/augment/delete) from occurring at the same time.

Solution: Run only one instance of any Profile Wizard at a time. Wait until the other creation, augmentation, or deletion process is finished before continuing. If you determine that no other creation, augmentation, or deletion process is running, manually release the `profileRegistry.xml` lock, which might have been left over from the prior installation attempt. To release this lock, delete the file *install_root*/properties/profileregistry.xml_LOCK.

The Installation Wizard cannot install WebSphere Process Server.

The log file entry is: `The Installation Wizard cannot install WebSphere Process Server. The installation response file for WebSphere Application Server Network Deployment, responsefile.nd.txt, was not found.`

Possible solution: If the installation image was copied from one location to another (for example, from a product CD to your C:\ drive, on Windows) make sure you also copy the `WAS` directory (containing the file `responsefile.nd.txt`) and that it exists in the same root directory as the `WBI`directory for the installation image.

Supported IBM JDK was not found.

The log file entry is: `Supported IBM JDK was not found. The IBM JDK shipped with this product must be located at <install_image_root>/JDK. Please correct this problem and try again.`

Possible solution: If the installation image was copied from one location to another (for example, from a product CD to your C:\ drive, on Windows) make sure you also copy the JDK directory and that it exists in the same root directory as the `WBI` directory for the installation image. Then launch the installation program again (`WBI/install` on Linux or UNIX operating systems or `WBI\install.exe` on Windows operating systems).

A supported version of IBM WebSphere Application Server was not found.

The log file entry is: `A supported version of IBM WebSphere Application Server was not found. The installation files for the version of IBM WebSphere Application Server Network Deployment shipped with this product must be located at <install_image_root>/WAS. Please correct this problem and try again.`

This error occurs if the version of WebSphere Application Server Network Deployment shipped with WebSphere Process Server is not detected in the installation image root directory, and either you are trying to install a new instance of WebSphere Application Server Network Deployment for use with WebSphere Process Server or the Installation Wizard is attempting to upgrade your existing WebSphere Application Server installation to the supported level.

If the installation image was copied from one location to another (for example, from a product CD to your C:\ drive, on Windows) make sure you also copy the WAS directory and that it exists in the same root directory as the `WBI` directory for the installation image.

There is insufficient free disk space on the system.

▶ Linux ▶ UNIX **On Linux and UNIX platforms:** The log file entry is: `There is insufficient free disk space on the system. /tmp Required: 535 MB. Available: n MB. Please ensure there is enough free disk space on all required filesystems and retry the operation.`

A total of 535 MB of /tmp disk space is required on Linux and UNIX platforms when the WebSphere Process Server Installation Wizard silently installs WebSphere Application Server or WebSphere Application Server Network Deployment or needs to upgrade an existing installation of WebSphere Application Server or WebSphere Application Server Network Deployment to the supported level.

Previous WebSphere Process Server uninstallation failed.

The log file entry is: A previous attempt to uninstall WebSphere Process Server failed for the following installation location: <install_root>. Follow the instructions on preparing for reinstallation after a failed uninstallation in the product information center to uninstall WebSphere Process Server and then reinstall the product before attempting to use it.

This error occurs in the Installation Wizard if you attempt to add features or launch the Profile Wizard for an installation of WebSphere Process Server that is no longer valid.

For more information, refer to the WebSphere Process Server, Version 6.0, online information center at http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp, and make the following selection in the navigation panel: **WebSphere Process Server 6.0 > Installing > Uninstalling the product > Preparing for reinstallation after a failed uninstallation**.

WebSphere Process Server installation not valid

The log file entry is: The selected installation of WebSphere Process Server is no longer valid since the underlying WebSphere Application Server product has been uninstalled. Please uninstall WebSphere Process Server from the following location: <install_root>. You must then reinstall WebSphere Process Server before attempting to use the product.

This error occurs in the Installation Wizard if you attempt to add features or launch the Profile Wizard for an installation of WebSphere Process Server that is no longer valid because the underlying WebSphere Application Server product is uninstalled.

INFO: The Common Event Infrastructure application was not uninstalled because it is being used by other products.

When uninstalling WebSphere Process Server, this message will be logged if the Common Event Infrastructure application is in use by products other than the instance of WebSphere Process Server that you are uninstalling.

INFO: WebSphere Application Server was not uninstalled because it is being used by the Common Event Infrastructure application.

When uninstalling WebSphere Process Server, this message will be logged if the underlying WebSphere Application Server product is still in use by another product using the Common Event Infrastructure and therefore cannot be uninstalled.

A suitable JVM could not be found.

If you get the message "A suitable JVM could not be found. Please run the program again using the option -is:javahome <JAVA HOME DIR>," it is because the JDK shipped with WebSphere Process Server could not be found. If the installation image was copied from one location to another (for example, from the product CD

to your C:\ drive, on Windows) make sure you also copy the JDK directory and that it exists in the same root directory as the WBI directory for the installation image.

Error: The input line is too long

[Windows] **On Windows platforms:** This is a profile creation error. It can occur during installation or when using the Profile Wizard.

Installation problem (Complete installation only)

The following error within a log in the *install_root*\profiles\default\logs directory indicates that a wsadmin action has failed to create a profile for a Complete installation. The failure is because the length of the file path and the node name on the command string has caused the entire command to exceed the operating system limit for command length.

```
The input line is too long.
```

The installation directory path must be no longer than 60 characters.

- **Option 1:** If the installation failed, reinstall the WebSphere Process Server using a shorter directory path and a shorter node name.

    The node name field is available during a custom installation. The length of the default node name is usually short enough. Avoid using a node name that is longer than 10 characters if possible.

- **Option 2:** If the installation was successful but the ISMPWSProfileLaunchAction failed, use the Profile Wizard to create the profile. Use a shorter profile directory path, a shorter profile name, and a shorter node name when creating the profile.

    You can select your own profiles path, which could be C:\profiles, for example.

    You can select your own profile name.

    Verify from the *install_root*/logs/wbi/log.txt file that the ISMPConfigManagerLaunchAction is successful.

    Examine the following messages in the log.txt file to determine whether the installation was successful. If so, you can run the Profile Wizard to create the default profile.

```
(date time), Install,
    com.ibm.ws.install.ni.ismp.actions.ISMPConfigManagerLaunchAction,
    msg1, INSTCONFSUCCESS: Post-installation configuration is successful.
(date time), Install,
    com.ibm.ws.install.ni.ismp.actions.ISMPWSProfileLaunchAction,
    err, INSTCONFFAILED: Cannot complete required configuration actions
    after the installation. The configuration failed. The installation is
    not successful. Refer to
    C:\Program Files\IBM\WebSphere\ProcServer\logs\wasprofile\
      wasprofile_create_default.log for more details.
(date time), Install,
    com.ibm.ws.install.ni.ismp.actions.ISMPLogFileAction,
    msg1, Profile Creation is finished.
(date time), Install,
    com.ibm.ws.install.ni.ismp.actions.ISMPLogSuccessMessageAction,
    msg1, INSTCONFFAILED
```

Profile Wizard problem

The following error within a log in the *profile_root*\logs directory indicates that a **wsadmin** action has failed to create a profile. The variable *profile_root* represents the installation location of the WebSphere Process Server profile (by default, *install_root*/profiles/*profile_name* on Linux and UNIX platforms and

install_root\profiles*profile_name* on Windows platforms). The failure is because the length of the file path, the cell name, and the node name on the command string has caused the entire command to exceed the operating system limit for command length.

```
The input line is too long.
```

The number of characters in the *profile_root* must be no more than 80 characters.

If your directory path is 80 characters or less and you still have a problem, edit the *install_root*\bin\setupCmdLine.bat file to make it use the Windows **subst** command. The **subst** command maps an entire path to a virtual drive. After editing the file, run the Profile Wizard again. If changing the setupCmdLine.bat file does not fix the problem, you can install the WebSphere Process Server product using a shorter installation path, such as C:\WPS.

See "The input line is too long" section of "Problems starting or using the wsadmin command" on the WebSphere Application Server Network Deployment, Version 6.0, information center for a description of how to edit the setupCmdLine.bat file.

Note: The following file systems will be expanded during the installation

▶ AIX ◀ **On AIX platforms:** You can allocate expansion space for directories on AIX. If the Installation Wizard does not have enough space, InstallShield for MultiPlatforms (ISMP) issues a system call for more space that increases the space allocation dynamically. The message you might see when this occurs for the /usr directory is similar to the following example:

```
NOTE: The following file systems will be expanded during the installation:
/usr
```

The disk space is nn Mbyte less than required. The installation cannot continue.

▶ Linux ◀ ▶ UNIX ◀ **On Linux and UNIX platforms:** If the file system is not dynamically expandable, an insufficient amount of disk space results in a message that is similar to the following example:

```
The disk space is 33 Mbyte less than required. The installation cannot
continue.
```

Specify a different directory or perform a manual uninstall

This error indicates that you deleted the installation root directory before using the uninstaller program to remove the product. Now you are attempting to reinstall into the same directory.

To correct the problem, you must remove registry entries that can prevent you from reinstalling the product into the original directory.

To "clean" your system in this way, refer to the WebSphere Process Server, Version 6.0, online information center at http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp, and make the following selection in the navigation panel: **WebSphere Process Server 6.0 > Installing > Uninstalling the product > Preparing for reinstallation after a failed uninstallation**.

The warning entry in the $TMP/log.txt file is:

```
(Month day, year time), Install,
   com.ibm.ws.install.ni.ismp.actions.ISMPWarningDialogAction,
   wrn, Specify a different directory or perform a manual uninstall
   to remove all packages before reinstalling to the same directory.
```

Error writing file = There may not be enough temporary disk space.

```
Error writing file =  There may not be enough temporary disk space.
Try using -is:tempdir to use a temporary directory on a partition
 with more disk space.
```

This error can occur when you have not provided enough temp space to create a profile. Verify that you have a minimum of 40 MB of temp space available before creating a profile.

For more information about creating profiles, refer to the WebSphere Process Server, Version 6.0, online information center at http://publib.boulder.ibm.com/infocenter/dmndhelp/v6rxmx/index.jsp, and make the following selection in the navigation panel: **WebSphere Process Server 6.0 > Installing > Configuring the product after installation > Creating and augmenting profiles by using the Profile Wizard**.

Error: localhost is not a valid host name for remote access

This error occurs when you enter localhost as the value for the Host name field in the Profile Wizard.

The host name is the network name for the physical machine on which the node is installed. The host name must resolve to a physical network node on the server. When multiple network cards exist in the server, the host name or IP address must resolve to one of the network cards. Remote nodes use the host name to connect to and to communicate with this node. Selecting a host name that other machines can reach within your network is extremely important. Do not use the generic localhost identifier for this value.

If you define coexisting nodes on the same computer with unique IP addresses, define each IP address in a domain name server (DNS) look-up table. Configuration files for stand-alone process servers do not provide domain name resolution for multiple IP addresses on a machine with a single network address.

The value that you specify for the host name is used as the value of the hostName property in configuration documents for the stand-alone process server. Specify the host name value in one of the following formats:

- Fully qualified domain name servers (DNS) host name string, such as xmachine.manhattan.ibm.com
- The default short DNS host name string, such as xmachine
- Numeric IP address, such as 127.1.255.3

The fully qualified DNS host name has the advantage of being totally unambiguous and also flexible. You have the flexibility of changing the actual IP address for the host system without having to change the process server configuration. This value for host name is particularly useful if you plan to change the IP address frequently when using Dynamic Host Configuration Protocol (DHCP) to assign IP addresses. A format disadvantage is being dependent on DNS. If DNS is not available, then connectivity is compromised.

The short host name is also dynamically resolvable. A short name format has the added ability of being redefined in the local `hosts` file so that the system can run the process server even when disconnected from the network. Define the short name to 127.0.0.1 (local loopback) in the `hosts` file to run disconnected. A format disadvantage is being dependent on DNS for remote access. If DNS is not available, then connectivity is compromised.

A numeric IP address has the advantage of not requiring name resolution through DNS. A remote node can connect to the node you name with a numeric IP address without DNS being available. A format disadvantage is that the numeric IP address is fixed. You must change the setting of the hostName property in configuration documents whenever you change the machine IP address. Therefore, do not use a numeric IP address if you use DHCP, or if you change IP addresses regularly. Another format disadvantage is that you cannot use the node if the host is disconnected from the network.

The installer could not successfully add the product information into the RPM database.

▶ `Linux` **On Linux platforms:** If the last line in the *install_root*/logs/wbi/log.txt file is something similar to the following example, the problem might be a corrupt RedHat Package Manager (RPM) database:

```
(date, time),
Plugin.Install,
com.ibm.wizard.platform.linux.LinuxProductServiceImpl,
wrn, The installer could not successfully add the product
information into the RPM database. Installation will continue
as this is not critical to the installation of the product.
```

Run the following command to verify that the problem is a corrupt RPM database:

```
rpm -q --all
```

If the command hangs, the problem is a corrupt RPM database.

Error: java.io.IOException: konqueror: not found

▶ `Linux` ▶ `UNIX` **On Linux and UNIX platforms:** The ISMP Launch Browser action throws the following exception on Linux and UNIX systems:

```
com.installshield.wizardx.actions.LaunchBrowserAction, err, java.io.IOException:
konqueror: not found
STACK_TRACE: 11
java.io.IOException: konqueror: not found
      at java.lang.UNIXProcess.forkAndExec(Native Method)
      at java.lang.UNIXProcess.<init>(UNIXProcess.java:72)
      at java.lang.Runtime.execInternal(Native Method)
      at java.lang.Runtime.exec(Runtime.java:602)
      at java.lang.Runtime.exec(Runtime.java:524)
      at java.lang.Runtime.exec(Runtime.java:490)
      at com.installshield.util.BrowserLauncher.openURL
(BrowserLauncher.java:578)
      at com.installshield.wizardx.actions.LaunchBrowserAction.execute
(LaunchBrowserAction
.java:62)
      at com.installshield.wizard.RunnableWizardBeanContext.run
RunnableWizardBeanContext.
java:21)
```

This action searches for a Netscape, Mozilla, or Konqueror browser for displaying an HTML page or a Web site. In the case of the Web server plug-ins for WebSphere

Application Server, the target page is the Plug-ins roadmap. Even though the ISMP Launch Browser action might find Mozilla or Netscape, the exception is thrown and a log entry occurs.

You can safely ignore this error.

Log files

This topic describes the various log files that are created during installation and uninstallation of IBM WebSphere Process Server, Version 6.0, and during profile creation and augmentation.

Consult the applicable logs if problems occur during installation, uninstallation, or during profile creation or augmentation. Table 30 shows the logs, content, and indicators of success and failure for WebSphere Process Server, Version 6.0.

Log files for WebSphere Process Server components

Attention:
- If the logs directory does not exist on your system, the installation failed very early in the process. In this case, review the /tmp/log.txt file on Linux and UNIX platforms or the %TEMP%\log.txt file on Windows platforms.

  Important: On Windows platforms, the %TEMP% directory can be hidden from the Windows GUI. It usually resolves to C:\Documents and Settings*username*\Local Settings\Temp. To find the %TEMP% directory, do one of the following:
  - At a command prompt, type cd %TEMP%.
  - At a command prompt, type echo %TEMP% and copy and paste the result into Windows Explorer.
- Some directory paths, file names, and indicator values in Table 30 contain spaces to allow the entries to fit in the table cells. The actual directory paths, file names, and indicator values do not contain spaces.
- The variable *install_root* represents the installation directory of WebSphere Process Server. The variable *profile_root* represents the root location of a profile, by default, *install_root*/profiles/*profile_name* on Linux and UNIX platforms or *install_root*\profiles*profile_name* on Windows platforms.

Table 30. Installation and profile logs for WebSphere Process Server components

Log	Content	Indicators
• **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/logs/wbi/log.txt • **Windows** **On Windows platforms:** *install_root*\logs\wbi\log.txt	Logs all installation events relating to WebSphere Process Server.	**INSTCONFFAILED** Total installation failure. **INSTCONFSUCCESS** Successful installation. **INSTCONFPARTIALSUCCESS** Installation errors occurred but the installation is still usable. Additional information in other log files identifies the errors.

Table 30. Installation and profile logs for WebSphere Process Server components (continued)

Log	Content	Indicators

• Linux UNIX **On Linux and UNIX platforms:** *install_root* /logs/wbi/instconfig.log
 	
• Windows **On Windows platforms:** *install_root*\logs\wbi \instconfig.log
	Logs configuration actions that run at the end of the installation process to configure components, install system applications, and create Windows shortcuts and registry entries.	Contains a series of <record> elements that document the configuration actions. If a post-installation configuration action fails, text like the following appears in the log:
		
		`<record>`
		`<date>2005-05-26T11:41:17</date>`
		`<millis>1117132877344</millis>`
		`<sequence>742</sequence>`
		`<logger>com.ibm.ws.install.configmanager.`
		`ConfigManager</logger>`
		`<level>WARNING</level>`
		`<class>com.ibm.ws.install.configmanager`
		`.ConfigManager</class>`
		`<method>executeAllActionsFound</method>`
		`<thread>12</thread>`
		`<message>Configuration action failed: com.`
		`ibm.ws.install.configmanager.actionengine.`
		`ANTAction-D:\WBI\AS\properties\version`
		`\install.wbi\6.0.0.0\config\`
		`full\install\90SInstallCEI.ant</message>`
		`</record>`
		
		If no actions fail, the following message is the last log entry:
		
		`<record>`
		`  . . .`
		`<message>No errors were encountered while`
		`executing the repository actions</message>`
		`</record>`

• Linux UNIX **On Linux and UNIX platforms:** *profile_root*/logs /pcatLog<*timestamp*>.txt
 	
• Windows **On Windows platforms:** *profile_root*\logs \pcatLog<*timestamp*>.txt
 	
Important: If this file does not exist in this directory on your system, profile creation failed early in the process. In this case, review the pcatLog.txt file in the *user_home* directory, where *user_home* represents the directory /root on Linux and UNIX platforms or C:\Documents and Settings\Administrator on Windows platforms.
	Logs all events that occur when a default profile is created during a Complete installation, when the Profile Wizard is run, or when the **wasprofile** command is used.	**INSTCONFFAILED**
		    Total profile creation failure.
		
		INSTCONFSUCCESS
		    Successful profile creation.
		
		INSTCONFPARTIALSUCCESS
		    Profile creation errors occurred but the profile is still functional. Additional information in other log files identifies the errors.

Table 30. Installation and profile logs for WebSphere Process Server components (continued)

Log	Content	Indicators

• **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/logs/wasprofile /wasprofile_create_ *profile_name*.log
• **Windows** **On Windows platforms:** *install_root*\logs \wasprofile \wasprofile_create_ *profile_name*.log
	• Traces all events that occur during the creation of the named profile.
	• Created during a Complete installation, when using the Profile Wizard, or when using the **wasprofile** command.
		INSTCONFFAILED
		    Total profile creation failure.
		INSTCONFSUCCESS
		    Successful profile creation.
		INSTCONFPARTIALSUCCESS
		    Profile creation errors occurred but the profile is still functional. Additional information in other log files identifies the errors.

• **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/logs/wasprofile /wasprofile_augment_ *profile_name*.log
• **Windows** **On Windows platforms:** *install_root*\logs\wasprofile \wasprofile_augment_ *profile_name*.log
This directory path must be less than 256 characters in length.
 	
Important: This file name might also appear as was_profile_augment_ *profile_name*_<timestamp>.log
	• Traces all events that occur during the augmentation of the named profile.
	• Created during a Complete installation, when using the Profile Wizard, or when using the **wasprofile** command.
		INSTCONFFAILED
		    Total profile augmentation failure.
		INSTCONFSUCCESS
		    Successful profile augmentation.
		INSTCONFPARTIALSUCCESS
		    Profile augmentation errors occurred but the profile is still functional. Additional information in other log files identifies the errors.

• **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/logs/wasprofile /wasprofile_delete_ *profile_name*.log
• **Windows** **On Windows platforms:** *install_root*\logs\wasprofile \wasprofile_delete_ *profile_name*.log
	• Traces all events that occur during the deletion of the named profile.
	• Created when profile deletion is performed with the **wasprofile** command.
		INSTCONFFAILED
		    Total profile deletion failure.
		INSTCONFSUCCESS
		    Successful profile deletion.
		INSTCONFPARTIALSUCCESS
		    Profile deletion errors occurred but the profile is still deleted. Additional information in other log files identifies the errors.

• **Linux** **UNIX** **On Linux and UNIX platforms:** *install_root*/logs /wasprofile.log
• **Windows** **On Windows platforms:** *install_root*\logs \wasprofile.log
	• Traces all events that occur during the deletion of profiles.
	• Created during uninstallation if you choose to uninstall the underlying WebSphere Application Server Network Deployment.
		INSTCONFFAILED
		    Total profile deletion failure.
		INSTCONFSUCCESS
		    Successful profile deletion.
		INSTCONFPARTIALSUCCESS
		    Profile deletion errors occurred but the profile is still deleted. Additional information in other log files identifies the errors.

Table 30. Installation and profile logs for WebSphere Process Server components (continued)

Log	Content	Indicators

• `Linux` `UNIX` **On Linux and UNIX platforms:** *install_root*/logs/log.txt
• `Windows` **On Windows platforms:** *install_root*\logs\log.txt
	• Logs all installation events relating to WebSphere Application Server Network Deployment.
	• Created when WebSphere Application Server Network Deployment is silently installed.
		INSTCONFFAILED
		    Total installation failure.
		
		INSTCONFSUCCESS
		    Successful installation.
		
		INSTCONFPARTIALSUCCESS
		    Installation errors occurred but the installation is still usable. Additional information in other log files identifies the errors.

• `Linux` `UNIX` **On Linux and UNIX platforms:** *install_root* /logs/instconfig.log • `Windows` **On Windows platforms:** *install_root* \logs\instconfig.log	• Logs configuration actions that run at the end of the installation process to configure components, install system applications, and create Windows shortcuts and registry entries. • Created when WebSphere Application Server Network Deployment is silently installed.	Contains a series of `<record>` elements that document the configuration actions.

• `Linux` `UNIX` **On Linux and UNIX platforms:** *install_root* /logs/wbi/uninstlog.txt
• `Windows` **On Windows platforms:** *install_root* \logs\wbi\uninstlog.txt
	Logs all uninstallation events relating to WebSphere Process Server.	**INSTCONFFAILED**
		    Total uninstallation failure.
		
		INSTCONFSUCCESS
		    Successful uninstallation.
		
		INSTCONFPARTIALSUCCESS
		    The Uninstallation Wizard successfully removed the core product files, but errors occurred during configuration. Additional information in other log files identifies the errors.

• `Linux` `UNIX` **On Linux and UNIX platforms:** *install_root* /logs/wbi/uninstconfig.log • `Windows` **On Windows platforms:** *install_root* \logs\wbi\uninstconfig.log	Logs configuration actions that run at the end of the uninstallation process.	Contains a series of `<record>` elements that document the configuration actions.

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