

WebSphere Business Integration Server  
Express and Express Plus



# WebSphere Business Integration Server Express Installation Guide for Linux

*Version 4.3.1*



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Express and Express Plus



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*Version 4.3.1*

**Note!**

Before using this information and the product it supports, read the information in "Notices" on page 67.

**30July2004**

This edition of this document applies to IBM WebSphere Business Integration Server Express, version 4.3.1 and IBM WebSphere Business Integration Server Express Plus, version 4.3.1.

To send us your comments about this IBM WebSphere Business Integration document, e-mail [doc-comments@us.ibm.com](mailto:doc-comments@us.ibm.com). We look forward to hearing from you.

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## About this document

The products IBM(R) WebSphere(R) Business Integration Server Express and IBM WebSphere Business Integration Server Express Plus are made up of the following components: InterChange Server Express, the associated Toolset Express, CollaborationFoundation, and a set of software integration adapters. The tools in Toolset Express help you to create, modify, and manage business processes. You can choose from among the prepackaged adapters for your business processes that span applications. The standard processes template — CollaborationFoundation — allows you to quickly create customized processes.

This document describes how to install and set up IBM WebSphere Business Integration Server Express and IBM WebSphere Business Integration Server Express Plus systems.

Except where noted, all the information in this guide applies to both IBM WebSphere Business Integration Server Express and IBM WebSphere Business Integration Server Express Plus. The term WebSphere Business Integration Server Express and its variants refer to both products.

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## Audience

This document is for consultants and system administrators who install, deploy, and administer WebSphere Business Integration Server Express or Express Plus in the Linux(TM) environment.

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## Related documents

The complete set of documentation available with this product describes the features and components common to all WebSphere Business Integration Server Express and Express Plus installations, and includes reference material on specific components.

You can download, install, and view the documentation at the following site:  
<http://www.ibm.com/websphere/wbiserverexpress/infocenter>.

**Note:** Important information about this product may be available in Technical Support Technotes and Flashes issued after this document was published. These can be found on the WebSphere Business Integration Support Web site, <http://www.ibm.com/software/integration/websphere/support/>. Select the component area of interest and browse the Technotes and Flashes sections.

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## Typographic conventions

This document uses the following conventions:

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|                           |  |
|---------------------------|--|
| <code>courier font</code> | Indicates a literal value, such as a command name, filename, information that you type, or information that the system prints on the screen. |
| <b>bold</b>               | Indicates a new term the first time that it appears.   |

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|  |   |
|--|---|
| <i>italic</i>  | Indicates a variable name or a cross-reference. When you view a PDF file, cross-references are both italic and blue. You can select a cross-reference to jump to the target information.  |
| <i>italic courier</i>  | Indicates a variable name within literal text.  |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">boxed courier</div> | Separates a code fragment from the rest of the text.  |
| blue outline   | A blue outline, which is visible only when you view a manual online, indicates a cross-reference hyperlink. Select inside the outline to jump to the object of the reference.   |
| { }  | In a syntax line, curly braces surround a set of options from which you must choose only one.   |
| [ ]  | In a syntax line, brackets surround an optional parameter.  |
| ...  | In a syntax line, ellipses indicate a repetition of the previous parameter. For example, <code>option[,...]</code> means that you can enter multiple, comma-separated options.  |
| \  | In this document, backslashes (\) are used as the convention for directory paths. For UNIX(R) installations, substitute slashes (/) for backslashes. All IBM WebSphere Business Integration Server Express pathnames are relative to the directory where the product is installed on your system. |
| <i>ProductDir</i>  | Represents the directory where the product is installed.  |

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## New in this release

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### New in this release 4.3.1

This is the first release of this guide. Release 4.3.1 includes production-mode support for the following operating systems:

- IBM OS/400 V5R2, V5R3
- Red Hat Enterprise Linux AS 3.0 Update 1
- SuSE Linux Enterprise Server 8.1 SP3
- Microsoft Windows 2003



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# Chapter 1. Installing WebSphere Business Integration Server Express or Express Plus -- an overview

The IBM WebSphere Business Integration Server Express and Express Plus products are supplied with a Graphical User Interface (GUI)-based setup program called the Launchpad that guides you step-by-step through the installation and configuration of the prerequisite and product software.

This guide details each step of the installation and configuration processes. The steps must be performed in the following order:

1. Learn basic Launchpad operation, including how to start, stop, and use the tool to view the product *Quick Start Guide*. See Chapter 2, "Starting and stopping the Launchpad and viewing the Quick Start Guide," on page 3.
2. Check that required software prerequisites are installed, install selected prerequisites if desired, and install the WebSphere Business Integration Server Express or Express Plus product. See Chapter 3, "Installing required software prerequisites and WebSphere Business Integration Server Express or Express Plus," on page 7.
3. Start and administer your system. See Chapter 4, "Starting and administering the WebSphere Business Integration Server Express or Express Plus system," on page 27.
4. Optionally verify that your system is installed and operating correctly by using a supplied sample called System Test. See Chapter 5, "Verifying the installation," on page 31.
5. Optionally install an Adapter Capacity Pack for WebSphere Business Integration Server Express Plus. See Chapter 6, "Installing the Adapter Capacity Pack for WebSphere Business Integration Server Express Plus," on page 33.
6. Optionally install a Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus. See Chapter 7, "Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus," on page 39.

Additional chapters in the guide provide information on the following:

- Chapter 8, "Manually configuring System Monitor and Failed Event Manager," on page 43.
- Chapter 9, "Upgrading the system," on page 51.
- Appendix A, "Meeting hardware and software requirements," on page 59.
- Appendix B, "Silently installing and uninstalling WebSphere Business Integration Server Express or Express Plus and Capacity Packs," on page 63.

Each chapter (except for the Appendixes) ends with a section called "Taking the next step." This section instructs you on which chapter to proceed to based on where you are at in the installation process and on the products you plan to install.

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## Taking the next step

To begin the installation and configuration processes, proceed to Chapter 2, "Starting and stopping the Launchpad and viewing the Quick Start Guide," on page 3 to learn basic Launchpad functions.



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## Chapter 2. Starting and stopping the Launchpad and viewing the Quick Start Guide

In order to use the Launchpad GUI to lead you through installation and configuration of WebSphere Business Integration Server Express or Express Plus, you must be able to start and stop it. You must also be able to view the product *Quick Start Guide* for a procedure to verify that your system is installed and operating correctly.

This chapter contains the following sections:

- “Starting the Launchpad”
- “Stopping the Launchpad” on page 5
- “Viewing the product Quick Start Guide from the Launchpad” on page 5
- “Taking the next step” on page 5

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### Starting the Launchpad

Before you start the Launchpad, do the following:

- Check that your system meets the hardware requirements listed in the section “Checking hardware requirements” on page 59.
- Create a user for WebSphere Business Integration Server Express or Express Plus by following the instructions in “Creating a user account” on page 62.
- Check the following site for any available Fix Packs for your product:  
<http://www.ibm.com/software/integration/websphere/support/>
- Ensure that you have root user privileges on the machine on which you will install the product. If this requirement is not met, an error message outlining the problem will appear and the Launchpad program will terminate.
- The installation instructions throughout this document assume installation from product CDs. If you are installing from ESDs obtained from Passport Advantage, do the following:
  - Refer to your Passport Advantage information for downloading instructions.
  - Extract all ESDs to the same directory on your file system and install from machine to ensure proper installer function. Do *not* create CDs based on the ESD images and attempt to install from them. If you do, installation can fail since configuration utilities for some software prerequisites might not be packaged with the ESDs containing the actual prerequisite software.
  - Ensure that the user who untars the files is the same user who will install WebSphere Business Integration Server Express or Express Plus. The product installer will not work properly if different users perform these tasks.

To invoke the Launchpad, do the following:

1. Insert the CD containing the Base Components of WebSphere Business Integration Server Express or Express Plus into your computer.
2. Mount the CD-ROM drive, as follows:
  - On a Red Hat Linux system:  
`mount /dev/cdrom /mnt/cdrom`
  - On a SuSE Linux system:  
`mount /dev/cdrom /media/cdrom`

3. Run the following command to start the Launchpad:

- On a Red Hat Linux system:  
/mnt/cdrom/start\_launchpad.sh
- On a SuSE Linux system:  
/media/cdrom/start\_launchpad.sh

The Launchpad Welcome screen appears.

**Important:** From this point on, throughout this document, the term *mount\_point* will be used to represent the path /mnt/cdrom on a Red Hat Linux system; /media/cdrom on a SuSE Linux system.

Buttons on the left side of the Welcome screen allow quick selection of several tasks. The Launchpad Welcome screen for the WebSphere Business Integration Server Express product differs slightly from that of the WebSphere Business Integration Server Express Plus product. Here is the Launchpad Welcome screen for the WebSphere Business Integration Server Express product.



Figure 1. WebSphere Business Integration Server Express Launchpad Welcome screen

The buttons on this screen control the following tasks:

**Install Product**

Leads you to install the appropriate software prerequisites based on the product components you intend to install and then installs the product components as well.

**First Steps**

Launches the *Quick Start Guide*.

**Exit** Stops the Launchpad.

Here is the Launchpad Welcome screen for the WebSphere Business Integration Server Express Plus product. Note that the Express Plus version has an extra button called **Install Capacity Pack**. This button lets you launch the installers for the Adapter Capacity Pack and Collaboration Capacity Pack. Installation procedures for the Adapter Capacity Pack and Collaboration Capacity Pack are

described in Chapter 6, “Installing the Adapter Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 33 and Chapter 7, “Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 39.



Figure 2. WebSphere Business Integration Server Express Plus Launchpad Welcome screen

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## Stopping the Launchpad

To exit the Launchpad, select the Launchpad button labeled **Exit**.

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## Viewing the product Quick Start Guide from the Launchpad

The Launchpad provides a quick and easy way to view the product *Quick Start Guide*. To view this documentation, select the Launchpad button labeled **First Steps**.

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## Taking the next step

If you are comfortable performing the basic Launchpad GUI operations outlined in this chapter, proceed to Chapter 3, “Installing required software prerequisites and WebSphere Business Integration Server Express or Express Plus,” on page 7 for information on how to use the Launchpad to identify necessary prerequisites, install selected prerequisites, and install WebSphere Business Integration Server Express or Express Plus.





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## Chapter 3. Installing required software prerequisites and WebSphere Business Integration Server Express or Express Plus

The WebSphere Business Integration Server Express or Express Plus system can determine the prerequisite software needed for your installation based on the components you plan to install. The Launchpad checks if necessary prerequisite software is installed on your machine. If certain items are not installed, it can install them.

The Launchpad then launches the GUI installer that leads you through installation of WebSphere Business Integration Server Express or Express Plus. A second GUI is available to uninstall the products. Silent installation and uninstallation are also possible.

The installation instructions throughout the sections in this chapter assume the following:

- WebSphere Business Integration Server Express or Express Plus v4.3.1 is *not* already installed on your machine. If you have installed WebSphere Business Integration Server Express v4.3.1 and want to upgrade to WebSphere Business Integration Server Express Plus v4.3.1, see Chapter 9, “Upgrading the system,” on page 51 for instructions.
- Components will be installed on a machine running a supported Linux version in a production environment. See Table 4 on page 60 for a listing of which product components are supported on each of the Linux versions in a production environment. No components are supported on any Linux version in development environments.
- Components that are not supported on the Linux platform but are needed to administer the InterChange Server Express (such as the System Manager tool, which is only part of the Toolset Express for Windows), will be installed and reachable on a remote Windows machine by following the installation and configuration instructions in the *WebSphere Business Integration Server Express Installation Guide for Windows*.
- Installation is of a WebSphere Business Integration Server Express Plus system. Installation of a WebSphere Business Integration Server Express system might show slightly different screens.
- You have reviewed and understand the information in Chapter 2, “Starting and stopping the Launchpad and viewing the Quick Start Guide,” on page 3 and have started the Launchpad.

This chapter contains the following sections:

- “Identifying which software prerequisites are required” on page 8
- “Installing selected software prerequisites” on page 12
- “Installing WebSphere Business Integration Server Express and Express Plus using the GUI” on page 19
- “Uninstalling WebSphere Business Integration Server Express and Express Plus using the GUI” on page 25
- “Taking the next step” on page 26

See Appendix B, “Silently installing and uninstalling WebSphere Business Integration Server Express or Express Plus and Capacity Packs,” on page 63 for instructions on performing silent installation and uninstallation.

## Identifying which software prerequisites are required

The WebSphere Business Integration Server Express or Express Plus system can determine the prerequisite software needed for your installation based on the components you plan to install. See the section “Deciding which WebSphere Business Integration Server Express and Express Plus components to install” on page 22 for descriptions of available components. Certain entries on the GUI screens have help icons next to them. When you select an icon, a window opens with relevant information about the feature and the prerequisites required for the feature.

To communicate to the system which components you plan to install, perform the following steps:

1. Select the Launchpad button labeled **Install Product**. The Select User screen appears.

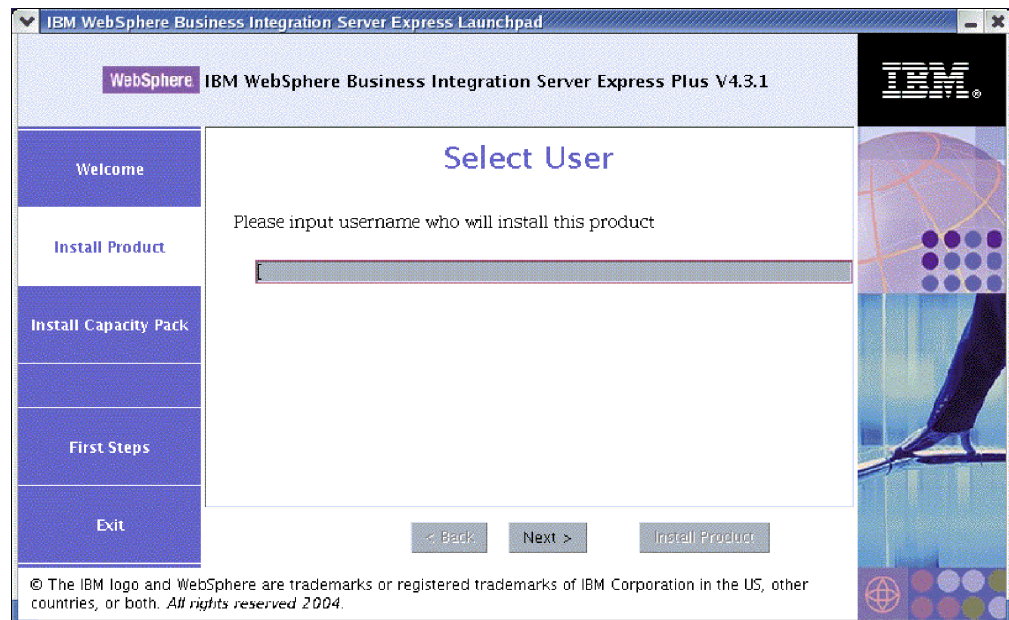


Figure 3. Select User screen

2. On the Select User screen, type the name of the user who will install WebSphere Business Integration Server Express or Express Plus (the user name you created by following the instructions in “Creating a user account” on page 62), and then select **Next**. The Install Server screen appears.

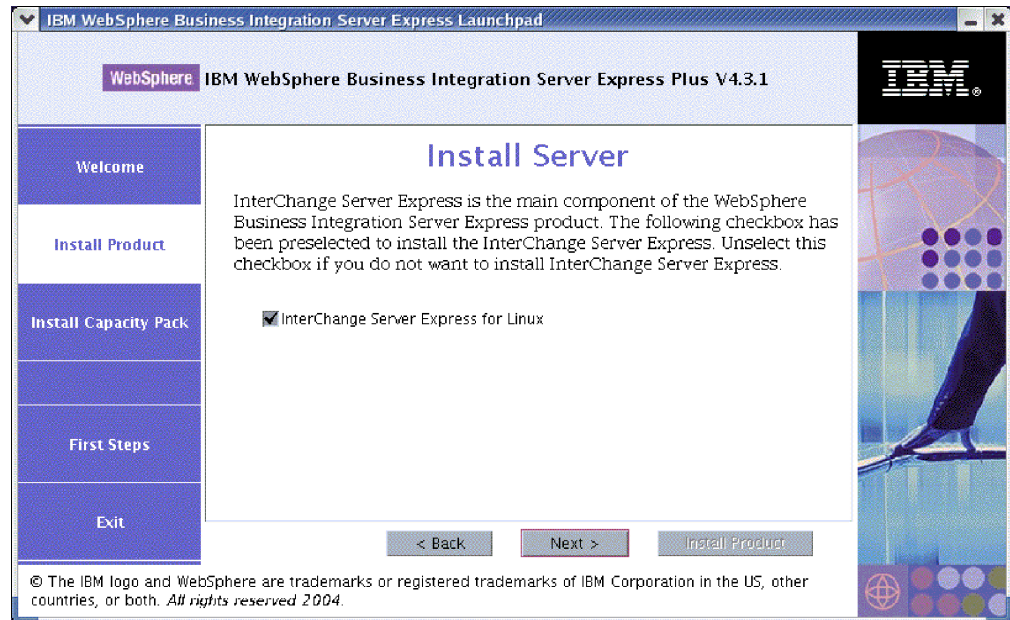


Figure 4. Install Server screen

3. On the Install Server screen, the checkbox beside the entry **InterChange Server Express for Linux** is selected by default. Do one of the following:
  - To install the InterChange Server Express component, select **Next**.
  - To *not* install the InterChange Server Express component, unselect the checkbox and select **Next**.

The Install Tools screen appears.

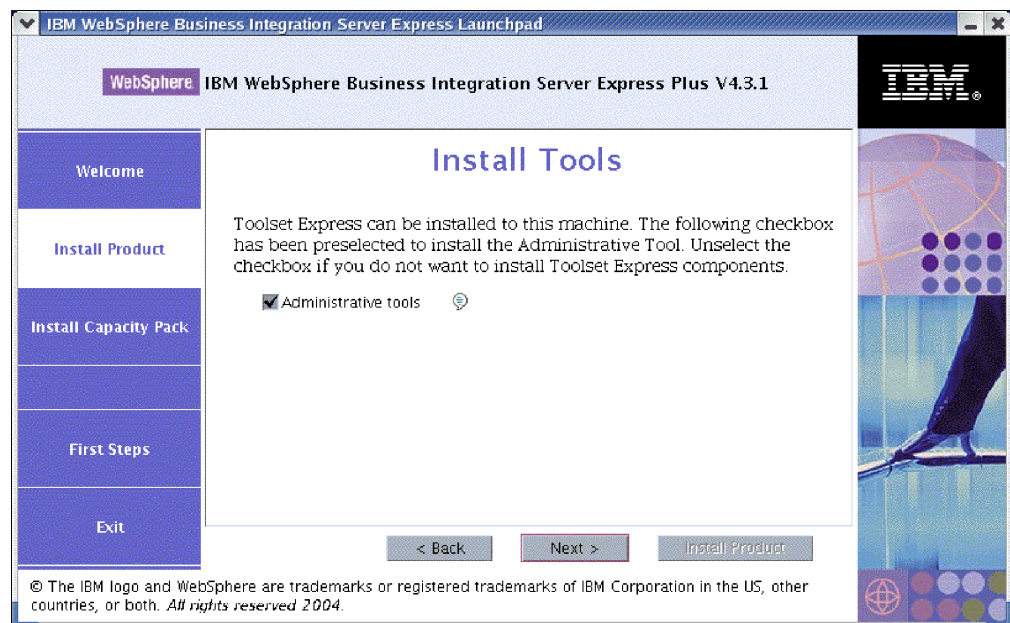


Figure 5. Install Tools screen

4. On the Install Tools screen, the checkbox beside the entry **Administrative tools** is selected by default. Do one of the following:
  - To install the Administrative tools, select **Next**.

- To *not* install the Administrative tools, unselect the checkbox and select **Next**. The Install Adapters screen appears.

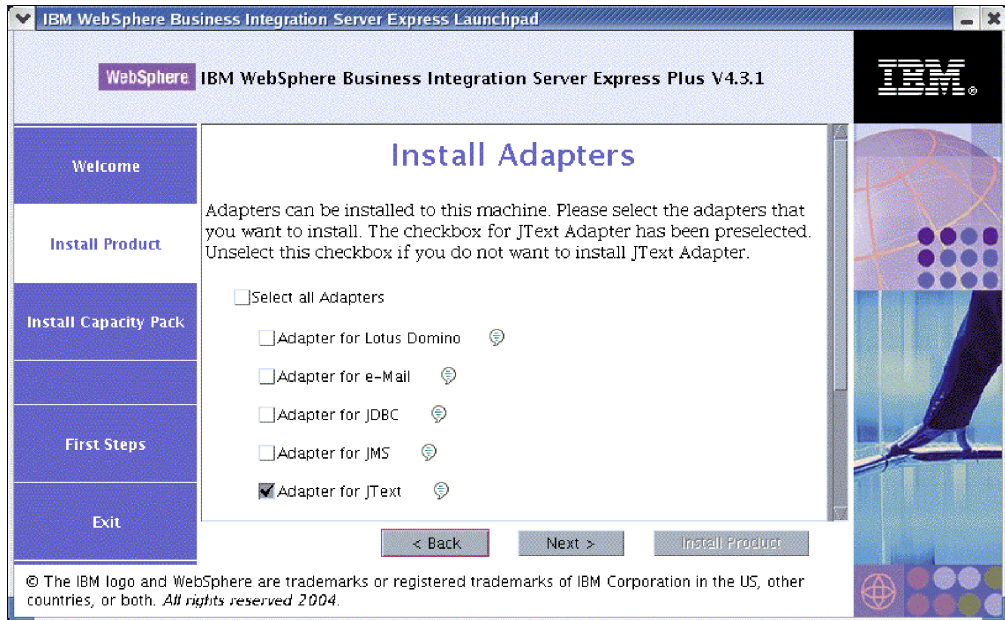


Figure 6. Install Adapters screen

5. On the Install Adapters screen, do one of the following:
  - Install all of the adapters by selecting the checkbox beside the entry **Select all Adapters** and then selecting **Next**.
  - Install selected adapters by selecting the checkbox beside each individually and then selecting **Next**.
  - Install no adapters by unselecting the checkbox beside the entry **Adapter for JText** and then selecting **Next**.

**Note:** The Adapter for JText is selected by default because it is required to run the System Test sample, which is part of the Samples component. (The Samples component can be selected from the Install Samples screen, described in Step 6 on page 11.)

The Install Samples screen appears.

**Important:** You can install as many adapters as you want. However, a maximum of *three* can be registered with the InterChange Server Express if you are installing WebSphere Business Integration Server Express; a maximum of *five* if you are installing WebSphere Business Integration Server Express Plus.

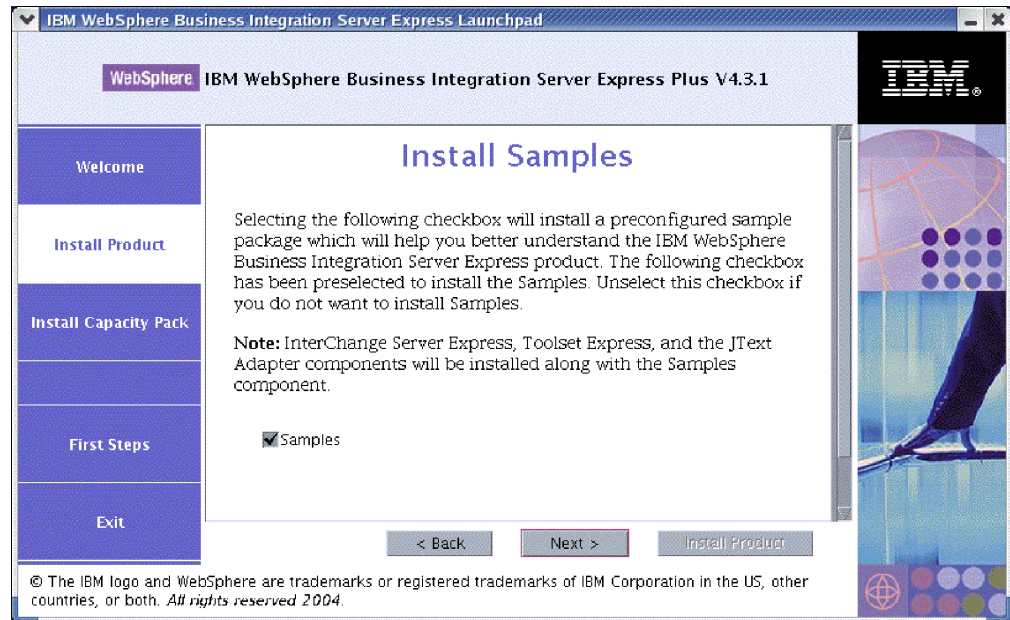


Figure 7. Install Samples screen

6. On the Install Samples screen, the checkbox beside the entry **Samples** is selected by default. Do one of the following:

- To install the Samples component, select **Next**.

**Note:** The Samples component requires installation of the InterChange Server Express, the Toolset Express, and the JText Adapter. Therefore, when you elect to install the Samples component, the InterChange Server Express, the Toolset Express, and the JText Adapter are installed as well, regardless of whether you elected to install them in previous screens.

- To *not* install the Samples component, unselect the checkbox and select **Next**.

The Software Prerequisites screen appears.

From the selections you made in the previous steps, the Launchpad determines the software prerequisites needed for the components you are installing, identifies whether any or all are installed on your system, and posts the results of its analysis on the Software Prerequisites screen. The list that appears on this screen for your particular system might contain all or only some of the following entries, depending on which WebSphere Business Integration Server Express or Express Plus components you elected to install:

- A database (one of two supported)
- IBM WebSphere Application Server - Express V5.1
- IBM WebSphere MQ 5.3.0.2 CSD06 and higher CSD levels
- IBM Java Development Kit 1.3.1\_07

The Launchpad displays the installation status of each prerequisite. Status values can include **Not Installed**, **Optional**, or **OK**, and for the database selection only, **Not Configured**.

The following example Software Prerequisites screen from the Launchpad for the WebSphere Business Integration Server Express Plus product shows the results

when the Launchpad finds only IBM Java Development Kit 1.3.1\_07 and IBM WebSphere MQ 5.3.0.2 CSD06 installed.

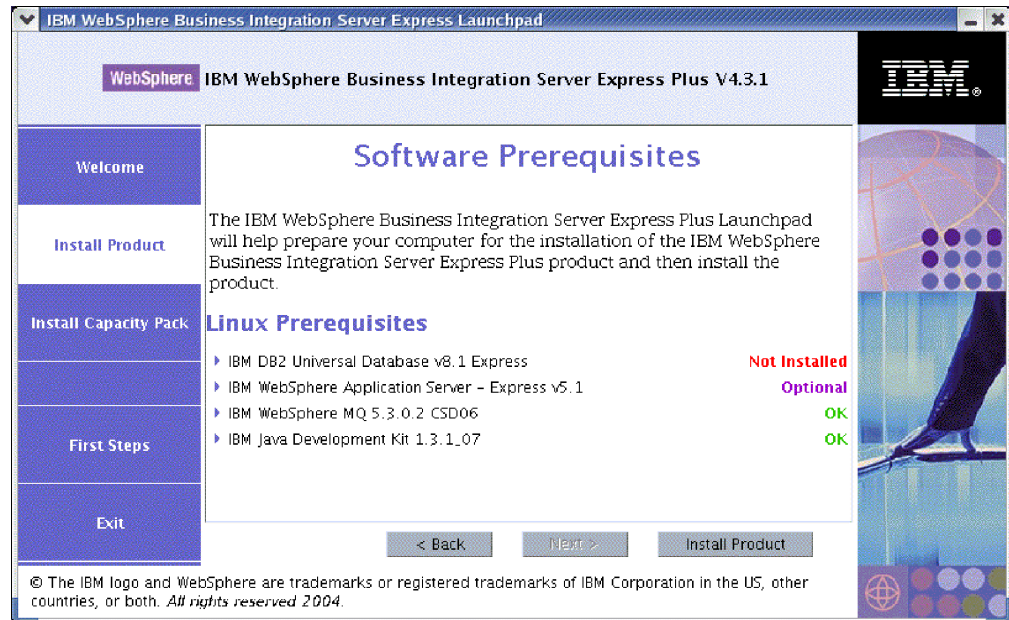


Figure 8. Software Prerequisites screen before installing selected prerequisites

If any software program you require for your system has a status of **Not Installed** or **Optional**, you can use the Launchpad to install it. If you have a database installed and its status is **Not Configured**, you can use the Launchpad to configure it. See “Installing selected software prerequisites” for information on which tasks the Launchpad can perform related to each prerequisite.

## Installing selected software prerequisites

The Launchpad has determined which prerequisites are needed for your system:

- If you plan to install the InterChange Server Express component of WebSphere Business Integration Server Express or Express Plus, you will need a database to hold the repository (which contains metadata for installed components). The Launchpad can automatically install and configure a supported database, or configure an existing supported database. See “Installing and configuring a database” on page 13 for more information.
- If you plan to use System Monitor or Failed Event Manager (which are installed as components of the Administrative Toolset Express) you need to install a Web application server. The Launchpad can automatically install WebSphere Application Server Express v5.1. See “Installing WebSphere Application Server Express” on page 16 for more details. Other Web application servers are supported.

**Important:** If you want the WebSphere Business Integration Server Express or Express Plus installer to automatically configure System Monitor and Failed Event Manager for use with the Express or Express Plus product and with WebSphere Application Server Express or WebSphere Application Server, you *must* have one of the supported versions of WebSphere Application Server Express or WebSphere Application Server installed *before* you run the WebSphere Business Integration Server Express or Express Plus installer. Otherwise, you

will have to manually configure System Monitor and Failed Event Manager, as detailed in Chapter 8, “Manually configuring System Monitor and Failed Event Manager,” on page 43. If you are using Tomcat as your Web application server, you will need to manually configure it. See Chapter 8, “Manually configuring System Monitor and Failed Event Manager,” on page 43 for details.

The automatic configuration that the WebSphere Business Integration Server Express or Express Plus installer performs assumes that no Web server, such as IBM HTTP Server, is installed. The resulting default URLs are, as follows:

- For System Monitor: `http://hostname:7089/ICSMonitor`
- For Failed Event Manager: `http://hostname:7089/FailedEvents`
- Every installation of WebSphere Business Integration Server Express and Express Plus requires installation of WebSphere MQ 5.3.0.2 CSD06 or a higher CSD level. However, whether you need to install both the server and client or just the client depends on the WebSphere Business Integration Server Express or Express Plus components you plan to install. The Launchpad can automatically install this software. See “Installing WebSphere MQ” on page 17 for details.
- If you plan to perform collaboration and mapping development, you need to have the IBM Java Development Kit 1.3.1\_07 prerequisite installed. The Launchpad can automatically install this software. See “Installing the Java Development Kit” on page 18 for details.
- If you plan to use System Monitor or Failed Event Manager (which are installed as components of the Administrative Toolset Express), you need to install a Web browser on a remote machine running on a Windows platform. See “Installing a Web browser on a remote machine” on page 19 for more information.

Complete tables of all required software exist in the section “Checking software requirements” on page 59. If you have previously installed the appropriate versions of prerequisite products, you might not need to reinstall them through the Launchpad. Check the configuration instructions for the specific software.

## Installing and configuring a database

IBM WebSphere Business Integration Server Express and Express Plus support IBM DB2(R) Universal Database(TM) v8.1 Express, Fix Pack 5 and higher, and IBM DB2 Universal Database v8.1 Enterprise, Fix Pack 2 and higher. Before installing or configuring a database, do the following:

- Ensure that you have administrator privileges to create a new database and add new users.
- Review the minimum requirements for the database in the section “Checking minimum database requirements” on page 61.

The Launchpad has already determined whether you require a database, and if so, whether one is installed and configured appropriately. To obtain information about the condition of your database requirements, do the following:

1. From the Launchpad Software Prerequisites screen, expand the entry **IBM DB2 Universal Database v8.1 Express**. This area of the screen explains what the Launchpad has found on your machine.
2. Do one of the following, depending on which software the Launchpad has found on the machine:
  - If no supported database is installed, a button is offered to launch installation of IBM DB2 Universal Database v8.1 Express. In this case, follow

the instructions in the section “Installing and configuring a new installation of IBM DB2 Universal Database v8.1 Express.”

- If IBM DB2 Universal Database v8.1 Express is installed, but not upgraded to the necessary Fix Pack level, a button is offered to apply Fix Pack 5 to the installation. In this case, follow the instructions in the section “Updating the Fix Pack level of an existing installation of IBM DB2 Universal Database v8.1 Express” on page 15.
- If IBM DB2 Universal Database v8.1 Express or Enterprise is installed and at the correct Fix Pack level, a button is offered to launch configuration of the existing installation. In this case, follow the instructions in the section “Configuring an existing installation of IBM DB2 Universal Database v8.1 Express or Enterprise” on page 15.

## Installing and configuring a new installation of IBM DB2 Universal Database v8.1 Express

If no supported database is installed on your machine or if you want to install and configure IBM DB2 Universal Database v8.1 Express regardless of having another supported database already installed, follow the instructions in this section.

The installation instructions in this section assume that this is the first time you are installing DB2 UDB Express on your machine. If you have previously installed DB2 UDB Express through the Launchpad, uninstalled it following standard DB2 uninstallation procedures, and are now reinstalling it through the Launchpad, you must first do the following before you use the Launchpad to reinstall DB2 UDB Express:

- Manually delete four residual user IDs that the Launchpad automatically created when it performed the first DB2 UDB Express installation. To remove these IDs, enter the following commands:

```
userdel db2inst1 -r
userdel dasusr1 -r
userdel db2fenc1 -r
userdel smbadmin -r
```

- Remove the following DB2 service port line from the `/etc/services` file:  
`db2c_db2inst1 50001/tcp`
- Manually delete copies of the files `serverexp` or `OptionFile_DB2.txt` that might exist in the `/tmp` directory.
- Ensure that the directory containing the DB2 aliases does *not* contain the `SMB_DB` alias from the previous DB2 installation.

To install IBM DB2 UDB Express, do the following:

1. If you have not done so already, on the Launchpad Software Prerequisites screen, expand the entry **IBM DB2 Universal Database v8.1 Express**. This area of the screen explains what the Launchpad has found on your machine.
2. Select the button labeled **Install IBM DB2 Universal Database v8.1 Express**. A dialog appears, which requests that you insert the appropriate CD into the machine.

**Important:** Select the button labeled **Install IBM DB2 Universal Database v8.1 Express** located within the highlighted area under **IBM DB2 Universal Database v8.1 Express**, *not* the button labeled **Install Product** located at the bottom of the screen.



3. Insert the CD containing IBM DB2 UDB Express into the machine and select **OK**. (If the Launchpad does not detect the installation program, an "Open" dialog box is displayed, in which you must select the location to which the CD is mounted.)

Silent installation of the database begins. A dialog will notify you when installation is complete and will prompt you to insert the second DB2 CD, which contains Fix Pack 5.

**Note:** IBM DB2 Express is installed by default in the directory  
/opt/IBM/db2/V8.1/.

4. Insert the CD containing Fix Pack 5 into the machine and select **OK**. (If the Launchpad does not detect the installation program, an "Open" dialog box is displayed, in which you must select the location to which the CD is mounted.) Silent installation of Fix Pack 5 and configuration of the database begin.

After silent installation of Fix Pack 5 and configuration of the database complete, verify that the status of DB2 in the Launchpad changed from **Not Installed** to **OK**.

The installation and configuration processes do the following:

- Create the following DB2 users:
  - db2inst1
  - db2fenc1
  - dasusr1
- Create a user named smbadmin with a password of smbP4\$\$word.
- Create a database named SMB\_DB.
- Grant the appropriate authorities to the smbadmin user in the SMB\_DB table.

### **Updating the Fix Pack level of an existing installation of IBM DB2 Universal Database v8.1 Express**

If the Launchpad finds a pre-existing installation of IBM DB2 v8.1 Express without Fix Pack 5 applied, it offers to automatically patch the software.

1. If you have not done so already, on the Launchpad Software Prerequisites screen, expand the entry **IBM DB2 Universal Database v8.1 Express**. This area of the screen explains what the Launchpad has found on your machine.
2. In the area under **IBM DB2 Universal Database v8.1 Express**, select the button labeled **Apply Fixpack5**. Silent installation of the patch and configuration of the database execute and the software status in the Launchpad changes to **OK**.

The patching and configuration processes do the following:

- Create the following DB2 users:
  - db2inst1
  - db2fenc1
  - dasusr1
- Create a user named smbadmin with a password of smbP4\$\$word.
- Create a database named SMB\_DB.
- Grant the appropriate authorities to the smbadmin user in the SMB\_DB table.

### **Configuring an existing installation of IBM DB2 Universal Database v8.1 Express or Enterprise**

If IBM DB2 Universal Database v8.1 Express or Enterprise is installed and you want to configure it for use with WebSphere Business Integration Server Express or Express Plus, do the following:

1. If you have not done so already, on the Launchpad Software Prerequisites screen, expand the entry **IBM DB2 Universal Database v8.1 Express**. This area of the screen explains what the Launchpad has found on your machine.
2. In the area under **IBM DB2 Universal Database v8.1 Express**, select the button labeled **Continue**.

**Note:** If you have two or more instances in your DB2 system, a drop-down box appears. In this case, select the instance in which you want to create the database to be used by the InterChange Server Express.

After IBM DB2 Universal Database v8.1 is successfully configured, you will see a message that the database configuration is complete. The configuration process does the following:

- Creates a user named `smbadmin`, with a password of `smbP4$$word`.
- Creates a database named `SMB_DB`.
- Grants the appropriate authorities to the `smbadmin` user in the `SMB_DB` table.

**Tip:** If you are using DB2 Enterprise, it does not restart the database manager when the machine is restarted. Because the database manager is not running, two problems can occur if the machine is restarted during the installation of WebSphere Business Integration Server Express or Express Plus:

- Repository creation can fail. When repository creation fails because of this issue, the Installer log includes the following message line: No start database manager command was issued.
- Startup of InterChange Server Express can fail, because without the DB manager running, InterChange Server Express cannot connect to `SMB_DB`. When this failure occurs, the `InterchangeSystem.log` file messages include this line: No start database manager command was issued.

Both of these problems can be addressed by following these steps:

1. Open the DB2 Control Center.
2. Expand the **All Cataloged Systems** folder, then expand the folder for your host, and then expand the **Instances** folder.
3. In the **Instances** folder, right-click the **DB2** icon and choose **Start**. This DB2 message displays: DB2START processing was successful.

After you have performed these steps, you can create a repository and start InterChange Server Express.

## Installing WebSphere Application Server Express

This prerequisite is required if you intend to install the Toolset Express components System Monitor and Failed Event Manager, both of which require a Web application server with a Servlet engine. If you have already installed WebSphere Application Server versions 5.0.2 or 5.1, WebSphere Application Server Express versions 5.0.2 or 5.1, or Tomcat versions 4.1.24 or 4.1.27, this prerequisite is satisfied.

To install IBM WebSphere Application Server Express, do the following:

1. If you have not already done so, from the Launchpad Software Prerequisites screen, expand **IBM WebSphere Application Server - Express V5.1**.
2. Select **Install** to start the silent installation of IBM WebSphere Application Server Express V5.1. A dialog appears, which requests that you insert the appropriate CD into the machine.

- Important:** Select the button labeled **Install** located within the highlighted area under **IBM WebSphere Application Server - Express V5.1**, *not* the button labeled **Install Product** located at the bottom of the screen.
3. Insert the CD labeled *WebSphere Application Server - Express V5.1 Components Disk 1* into the machine and select **OK**. (If the Launchpad does not detect the installation program, an "Open" dialog box is displayed, in which you must select the location to which the CD is mounted.) Silent installation begins.
- Notes:**
- a. WebSphere Application Server Express is installed by default in the directory `/opt/IBM/WebSphere/Express51`.
  - b. You will not be prompted to insert the CD labeled *WebSphere Application Server - Express V5.1 Components Disk 2*. This CD contains the WebSphere Studio Site Developer tool. The Launchpad does not install this optional tool automatically; however, you can install it manually as a stand-alone product. See "Installing the WebSphere Studio Site Developer tool" on page 48 for installation instructions.
4. After silent installation of WebSphere Application Server Express completes, verify that its status in the Launchpad changed from **Optional** to **OK**.

## Installing WebSphere MQ

WebSphere MQ messaging software is required to run the WebSphere Business Integration Server Express and Express Plus products. Whether both the server and client or just the client components are needed depends on which WebSphere Business Integration Server Express or Express Plus components you plan to install:

- If you intend to install the InterChange Server Express component, you must install the WebSphere MQ server and client. Installation of the server and client enables communication between InterChange Server Express and connectors.
- If you intend to install only adapters, you need to install only the WebSphere MQ client.

The Launchpad has already determined whether you require the server and client or just the client and presents one of the following entries on the Launchpad Software Prerequisites screen:

- If you must install IBM WebSphere MQ 5.3.0.2 CSD06 server and client, you see the entry **IBM WebSphere MQ 5.3.0.2 CSD06**.
- If you must install only the IBM WebSphere MQ 5.3.0.2 CSD06 client, you see the entry **IBM WebSphere MQ Client 5.3.0.2 CSD06**.

To install the IBM WebSphere MQ 5.3.0.2 CSD06 server and client or client alone, do the following:

1. From the Launchpad Software Prerequisites screen, expand **IBM WebSphere MQ 5.3.0.2 CSD06** or **IBM WebSphere MQ Client 5.3.0.2 CSD06** (whichever appears on your system).
2. Ensure that the radio button beside **Install IBM WebSphere MQ 5.3.0.2 CSD06 Server and Client (101 MB)** or **Install IBM WebSphere MQ 5.3.0.2 CSD06 Client Only (16 MB)** is selected.
3. Select **Install** to start the silent installation of IBM WebSphere MQ 5.3.0.2 CSD06. A dialog appears, which requests that you insert the appropriate CD into the machine.

**Important:** Select the button labeled **Install** located within the highlighted area under **IBM WebSphere MQ 5.3.0.2 CSD06** or **IBM WebSphere MQ Client 5.3.0.2 CSD06**, *not* the button labeled **Install Product** located at the bottom of the screen.

4. Insert the CD containing IBM WebSphere MQ 5.3.0.2 CSD06 into the machine and select **OK**. (If the Launchpad does not detect the installation program, an "Open" dialog box is displayed, in which you must select the location to which the CD is mounted.) Silent installation of WebSphere MQ begins.

**Note:** WebSphere MQ is installed by default in the directory `/opt/mqm`.

5. After silent installation of WebSphere MQ completes, verify that its status in the Launchpad changed from **Not Installed** to **OK**.

**Note:** WebSphere MQ 5.3.0.2 CSD06 software has its own software and network prerequisites. If these prerequisites are not met, the silent installation of this product will fail. For more details, see WebSphere MQ documentation.

If the Launchpad finds a pre-existing installation of WebSphere MQ 5.3.0.2 without CSD06 applied, it offers to automatically patch the software. In this case, when you expand the selection **IBM WebSphere MQ 5.3.0.2 CSD06** or **IBM WebSphere MQ Client 5.3.0.2 CSD06** on the Launchpad Software Prerequisites screen, you can select **Apply CSD06**. Silent installation of the patch executes and the software status in the Launchpad changes to **OK**.

## Installing the Java Development Kit

The IBM Java Development Kit 1.3.1\_07 is required for performing collaboration and mapping development.

**Note:** A C++ compiler is also required for performing collaboration and mapping development and its path must be on your PATH variable. This compiler is not supplied with the WebSphere Business Integration Server Express or Express Plus product.

To install the IBM Java Development Kit 1.3.1\_07, do the following:

1. From the Launchpad Software Prerequisites screen, expand **IBM Java Development Kit 1.3.1\_07**.
2. Select **Install**. A dialog appears, which requests that you insert the appropriate CD into the machine.

**Important:** Select the button labeled **Install** located within the highlighted area under **IBM Java Development Kit 1.3.1\_07**, *not* the button labeled **Install Product** located at the bottom of the screen.

3. Insert the CD containing IBM Java Development Kit 1.3.1\_07 into the machine and select **OK**. (If the Launchpad does not detect the installation program, an "Open" dialog box is displayed, in which you must select the location to which the CD is mounted.) Silent installation of IBM Java Development Kit 1.3.1\_07 begins.

**Note:** The JDK is installed by default in the directory `/opt/IBMJava2-131/`.

4. After silent installation of IBM Java Development Kit 1.3.1\_07 completes, verify that its status in the Launchpad changed from **Not Installed** to **OK**.

## Installing a Web browser on a remote machine

A Web browser is required if you intend to install the Administrative Toolset Express components System Monitor and Failed Event Manager. This browser must exist and be reachable on a remote machine running on a Windows platform. Supported Web browsers on Windows include Microsoft Internet Explorer 6 Service Pack 1 or later and Netscape Navigator 4.7x.

The following example Software Prerequisites screen from the Launchpad for the WebSphere Business Integration Server Express Plus product shows the results when the Launchpad finds all needed prerequisites installed.

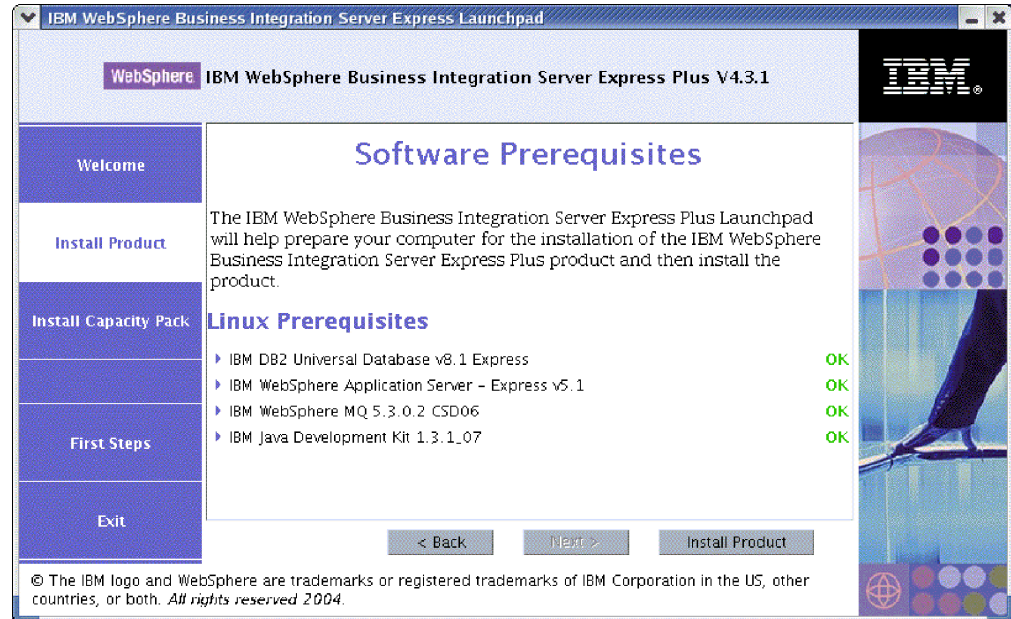


Figure 9. Software Prerequisites screen after installing prerequisites

## Installing WebSphere Business Integration Server Express and Express Plus using the GUI

If the software prerequisites required for your planned installation each have a status of **OK**, you can proceed to installing WebSphere Business Integration Server Express or Express Plus by doing the following:

1. Select the button labeled **Install Product** located at the bottom of the Launchpad Software Prerequisites screen. A dialog appears, which requests that you insert the appropriate CD into the machine.
2. Insert the CD containing the Base Components of WebSphere Business Integration Server Express or Express Plus into the machine and select **OK**. (If the Launchpad does not detect the installation program, an "Open" dialog box is displayed, in which you must select the location to which the CD is mounted.)

The Software License Agreement screen appears.

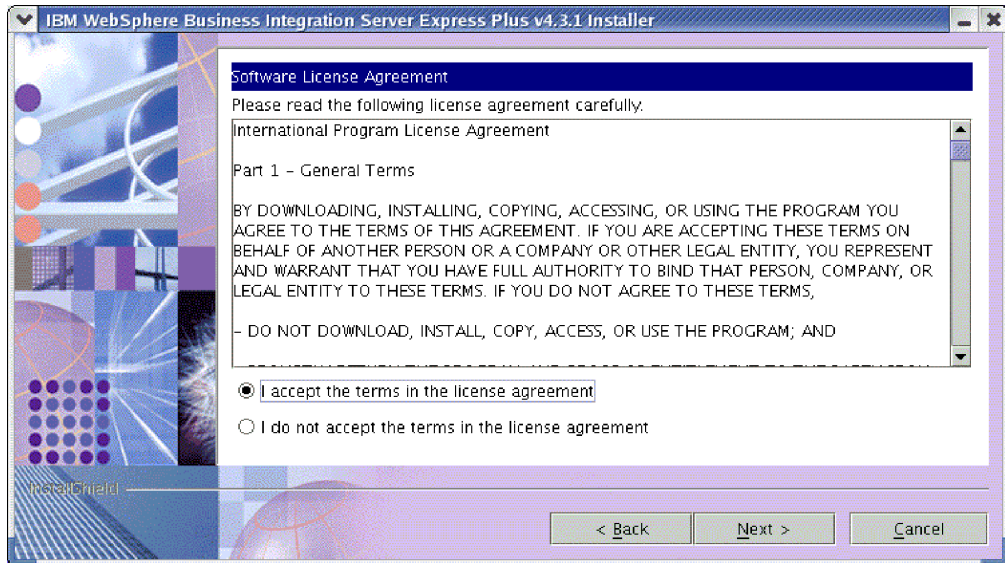


Figure 10. Software License Agreement screen

3. Read and accept the terms of the Software License Agreement by selecting the radio button beside the entry **I accept the terms in the license agreement**, then select **Next**.

The Destination screen appears.

**Note:** If you are running the installer in a non-English locale, a button labeled **English** appears on the Software License Agreement screen. Select this button to view the software license agreement in English. The text of the button then changes to the non-English language used for the installer. Select the button again to display the software license agreement in the non-English language used for the installer.

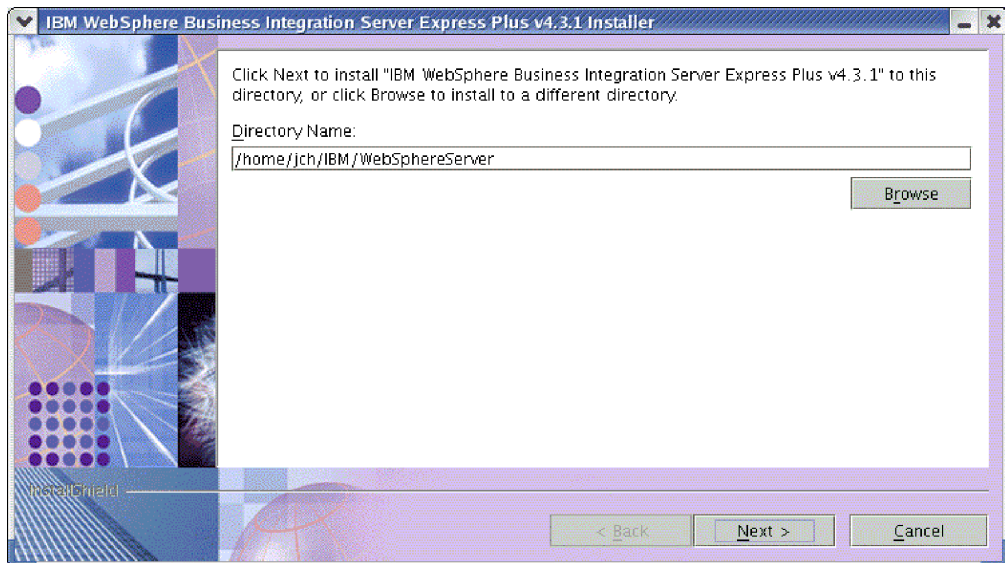


Figure 11. Destination screen

4. On the Destination screen, accept the default installation location of `Home_directory/IBM/WebSphereServer` (where `Home_directory` is the home

directory of the user identified on the previous Select User screen) or browse for a different location, then select **Next**.

**Note:** The directory path must not contain any spaces. Throughout this document, the installation directory *Home\_directory/IBM/WebSphereServer* will be referred to as *ProductDir*.

One of the following occurs:

- If you selected to install the InterChange Server Express component, the installer checks that appropriate prerequisites exist and are configured properly and that two or fewer processors exist on the machine on which the InterChange Server Express component is to be installed.
  - If the prerequisite conditions are not met, an error message is displayed and you are forced to cancel the installation.
  - If the prerequisite conditions are met, product installation begins. In this case, continue with these instructions at Step 6.
- If you did not select to install the InterChange Server Express component, the Name Server Configuration screen appears. In this case, continue with these instructions at Step 5.

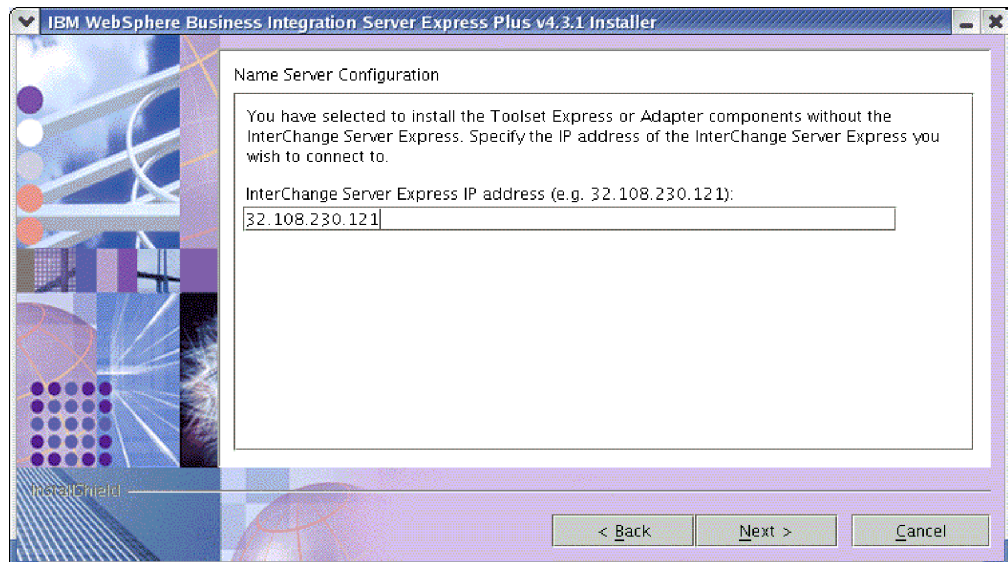


Figure 12. Name Server Configuration screen

5. On the Name Server Configuration screen, type the IP address of the computer on which you have installed or plan to install the InterChange Server Express component, and then select **Next** to begin the installation process. See the section “Configuring the Name Server” on page 23 for more information about the Name Server.
6. As the installation process begins, the installer verifies that enough disk space exists for the installation:
  - If enough space does not exist, the **Next** button is disabled since installation cannot be completed with the provided disk space. In this case, you must select **Back** and unselect some features or sub-features, delete some unneeded space on the specified file system or change the target location altogether by revisiting the Destination screen.
  - If enough space does exist, installation and configuration begin. A number of informational screens are presented. When installation and configuration are

complete, the Post-installation Summary screen appears, which indicates if the process was successful or if problems were encountered. Select **Finish** to exit the installation GUI.

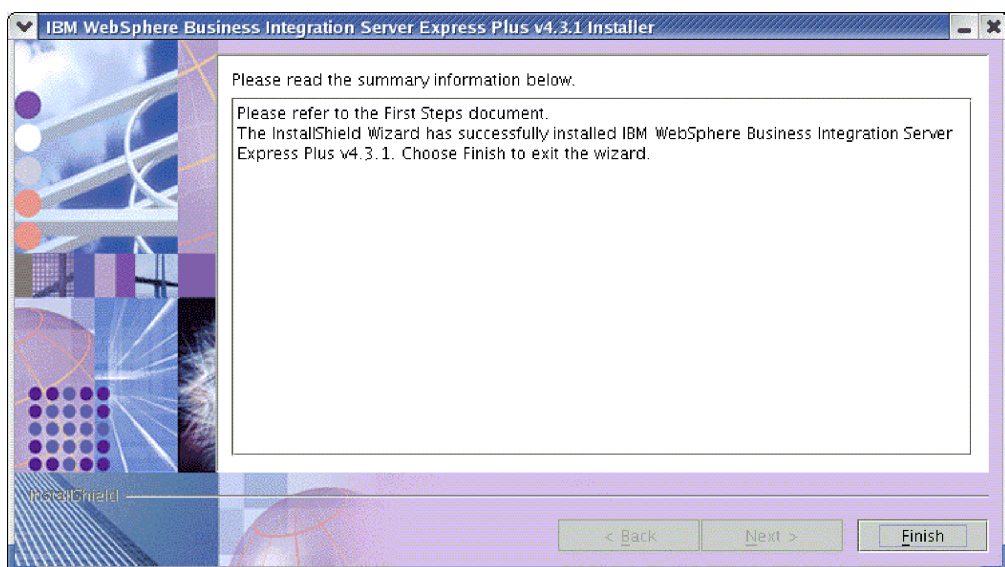


Figure 13. Post-installation Summary screen

The installation process has completed the following:

- Installed product components.
- Configured the `InterchangeSystem.cfg` file used by the InterChange Server Express.
- Configured a queue manager for WebSphere MQ.
- Added a new system variable called `LD_ASSUME_KERNEL` to the `/etc/profile` file and set its value to `2.4.19`.
- Provided platform-specific configuration and registration.
- Deployed content to the InterChange Server Express.

At this point, you can view the files and directory structure of your system, as detailed in “Viewing WebSphere Business Integration Server Express and Express Plus files and directories” on page 24. The log file called `wbi_server_exp_install_log.txt`, which details the installation process, is located in the `ProductDir` directory.

## Deciding which WebSphere Business Integration Server Express and Express Plus components to install

When you are installing WebSphere Business Integration Server Express and Express Plus, you can install all or some subset of product components. The installable components are selectable from the screens that appear when you select the **Install Product** button from the left panel of the Launchpad or from within the response file used during silent installation.

The components available for installation are identical on all supported Linux versions. Support for installed components can differ based on whether they are being used in production or development environments. See Table 4 on page 60 for a listing of which product components are supported on each of the Linux versions in both production and development environments.



During installation on a Linux system, you can choose from the following set of components:

- InterChange Server Express component
- Toolset Express component, which includes the following subcomponent:
  - Administrative toolsBy installing the Administrative tools, you receive the following:
  - System Monitor
  - Failed Event Manager
- A choice of adapter components from the following list. You can install as many adapters as you want. However, a maximum of *three* can be registered with the InterChange Server Express if you are installing WebSphere Business Integration Server Express; a maximum of *five* if you are installing WebSphere Business Integration Server Express Plus.
  - Adapter for e-Mail
  - Adapter for iSeries
  - Adapter for JDBC
  - Adapter for JMS
  - Adapter for JText
  - Adapter for Lotus(R) Domino(R)
  - Adapter for SWIFT
  - Adapter for Web Services
  - Adapter for WebSphere MQ
  - Adapter for XML

**Notes:**

1. Some adapters have corresponding Object Discovery Agents (ODAs), which are installed if those adapters are selected. With any adapter selection, the following components are also installed:
    - e-Mail Adapter
    - XML Data Handler
    - Adapter Framework
  2. The Adapter for COM, Adapter for Exchange, and Adapter for Portal Infranet 6.x are supported only on the Windows 2000 and Windows 2003 platforms. However, each of these adapters can be configured as a distributed adapter to communicate with InterChange Server Express installed on a Linux platform. For information on configuring distributed adapters, see the *System Implementation Guide*.
- Samples component, which installs a preconfigured sample called System Test that you can run to verify that your installation is installed and operating correctly. See Chapter 5, “Verifying the installation,” on page 31 for more details.

See the *System Administration Guide* for descriptions of the InterChange Server Express and Toolset Express components; the individual adapter guides for descriptions of the adapters. All documentation is available at the following Web site: <http://www.ibm.com/websphere/wbiserverexpress/infocenter>.

## Configuring the Name Server

If you install the Administrative Toolset Express component or adapters in a different location from the InterChange Server Express component of WebSphere Business Integration Server Express or Express Plus, the installer must configure a

Name Server. As a result, the installer queries you for the IP address of the machine that contains or will contain the InterChange Server Express. The installer obtains this information from the IP address you type in the Name Server Configuration screen during installation and uses it for the value of the ORB\_HOST property in the *ProductDir/bin/CWSharedEnv.sh* file on the local machine.

## Viewing WebSphere Business Integration Server Express and Express Plus files and directories

After WebSphere Business Integration Server Express or Express Plus is installed, you can view the resulting file system and its contents. The directories are located by default under the *Home\_directory/IBM/WebSphereServer* directory, which will be referred to as *ProductDir* throughout this document.

**Note:** The particular files and directories that appear in *ProductDir* depend on the components selected during installation. The files and directories in your installation might differ from the ones listed below.

*Table 1. Directory structure of WebSphere Business Integration Server Express and Express Plus installations on a Linux system*

| Directory name  | Contents   |
|---|--|
| <ul style="list-style-type: none"> <li>• <i>_uninstWBIServerExp</i> (in WebSphere Business Integration Server Express installations)</li> <li>• <i>_uninstWBIServerExpPlus</i> (in WebSphere Business Integration Server Express Plus installations)</li> </ul> | This directory contains the Java Virtual Machine (JVM) and the executable file that is used to remove WebSphere Business Integration Server Express or Express Plus.   |
| <i>_uninstZip</i>   | This directory contains a listing of all files unzipped during installation.   |
| <i>bin</i>  | This directory contains the executable files and <i>.sh</i> files that the system uses.  |
| <i>collaborations</i>   | This directory contains subdirectories that contain <i>.class</i> files and message files for installed collaborations.  |
| <i>connectors</i>   | This directory contains files specific to each adapter in the system. It also contains adapter-specific files that you may need to install in the application that the adapter supports.   |
| <i>DataHandlers</i>   | This directory contains the <i>.jar</i> file for the data handler that the system uses.  |
| <i>DevelopmentKits</i>  | This directory contains sample files to assist the developer in creation of various system components. Samples provided include: Server Access for EJB, Server Access for J2EE Connector Architecture, connectors (C++ and Java), and Object Discovery Agents. |
| <i>DLMs</i>   | This directory contains subdirectories that contain Dynamic Loadable Modules (DLMs) and other files for InterChange Server Express maps.   |
| <i>jre</i>  | This directory contains the IBM Java Runtime Environment (JRE) files.  |
| <i>legal</i>  | This directory contains the license files.   |
| <i>lib</i>  | This directory contains <i>.jar</i> files for the system.  |
| <i>logs</i>   | This directory contains various log files.   |
| <i>messages</i>   | This directory contains the generated message files.   |

Table 1. Directory structure of WebSphere Business Integration Server Express and Express Plus installations on a Linux system (continued)

| Directory name | Contents   |
|----------------|--|
| mqseries       | This directory contains files specific to WebSphere MQ, including certain executable files.                      |
| ODA            | This directory contains the Object Discovery Agent .jar and .sh files for each agent.                            |
| repository     | This directory contains the definitions for the system components.   |
| Samples        | This directory contains component definitions for benchmarking samples and sample mail files for collaborations. |
| src            | This directory contains samples of Relationship Service APIs for cross-referencing.                              |
| templates      | This directory contains the start_connName.sh file.  |
| WBFEM          | This directory contains the Failed Event Manager files.  |
| WBSM           | This directory contains the System Monitor files.  |

## Installing additional components after initial installation

After you have installed WebSphere Business Integration Server Express or Express Plus, you can later install additional components. To do this, select the **Install Product** button from the left panel of the Launchpad. The Launchpad then offers screens from which you can select components to install, as detailed in “Identifying which software prerequisites are required” on page 8. If you have already installed some components from a particular screen, the screen appears but the checkboxes beside components that are already installed are disabled.

**Important:** The user who installs additional components must be the same user who installed the product. Problems with permissions can result if the same user does not perform both tasks.

The Launchpad determines whether additional software prerequisites are required based on your new selections and leads you through their installation, as well as installation of the new WebSphere Business Integration Server Express or Express Plus components.

## Uninstalling WebSphere Business Integration Server Express and Express Plus using the GUI

IBM provides an uninstallation GUI program that lets you remove your entire WebSphere Business Integration Server Express or Express Plus installation, or select specific components for removal.

**Important:** The user who uninstalls the product must be the same user who installed the product. Problems with permissions can result if the same user does not perform both tasks.

To run the uninstallation GUI, do the following:

1. Enter one of the following commands to launch the uninstallation GUI, depending on whether you have installed WebSphere Business Integration Server Express or Express Plus:
  - `ProductDir/_uninstWBIServerExp/uninstaller.bin` on WebSphere Business Integration Server Express systems.

- *ProductDir/\_uninstWBIServerExpPlus/uninstaller.bin* on WebSphere Business Integration Server Express Plus systems.

The Uninstallation Welcome screen appears.

2. On the Uninstallation Welcome screen, select **Next**.

The Uninstallation Feature screen appears. The installed components appear with checks next to them.

3. On the Uninstallation Feature screen, leave any components selected that you want to be removed and select **Next**.

The Pre-uninstallation Summary screen appears.

4. On the Pre-uninstallation Summary screen, select **Next** to confirm your selections. The Uninstaller removes the selected components.

The Post-uninstallation Finish screen appears.

5. On the Post-uninstallation Finish screen, select **Finish** to exit the uninstallation GUI.

**Note:** You might need to manually delete the *Home\_directory/IBM/WebSphereServer* directory.

---

## Taking the next step

After you have successfully installed your software prerequisites and WebSphere Business Integration Server Express or Express Plus, proceed to Chapter 4, “Starting and administering the WebSphere Business Integration Server Express or Express Plus system,” on page 27.

By first following the instructions in Chapter 4, “Starting and administering the WebSphere Business Integration Server Express or Express Plus system,” on page 27 and then Chapter 5, “Verifying the installation,” on page 31, even if you plan to install an Adapter or Collaboration Capacity Pack for a WebSphere Business Integration Server Express Plus installation, you will verify that your base system is installed and operating properly before you install additional components.

---

## Chapter 4. Starting and administering the WebSphere Business Integration Server Express or Express Plus system

To start your system, you must launch the InterChange Server Express component of WebSphere Business Integration Server Express or Express Plus. To efficiently manage the system, you must launch the System Manager tool on a connected Windows machine and register the InterChange Server Express with the System Manager. The System Manager is supported only on Windows 2000 and Windows XP platforms.

This chapter contains the following sections:

- “Starting WebSphere Business Integration Server Express or Express Plus”
- “Setting up InterChange Server Express”
- “Taking the next step” on page 29

---

### Starting WebSphere Business Integration Server Express or Express Plus

To start WebSphere Business Integration Server Express or Express Plus, do the following:

1. Start the WebSphere MQ queue manager and listener by entering the following commands:

```
/opt/mqm/bin/strmqm WebSphereICS.queue.manager  
/opt/mqm/bin/runmqtsr -t TCP -p 1414 -m WebSphereICS.queue.manager
```

**Note:** To process business objects larger than 4 MB in WebSphere MQ, you must change the default value for the **Maximum Message Length** property of the queue manager, queue, and channel you want to use. To change these values, do the following:

- a. Enter the following commands:

```
ALTER QMGR MAXMSGL(104857600)  
ALTER QLOCAL(queue_name) MAXMSGL(104857600)  
DEFINE CHANNEL(channel_name) CHLTYPE(SVRCONN) TRPTYPE(TCP) \\  
MAXMSGL(104857600)
```

- b. Shut down and restart WebSphere MQ.

2. Enter the following command to start the InterChange Server Express and Persistent Naming Server:

```
ProductDir/bin/ics_manager -start
```

To verify that the server is running and ready, in the InterChangeSystem.log file in *ProductDir*, check for the following message:

```
InterChange Server "Server_Name" is ready
```

---

### Setting up InterChange Server Express

To efficiently manage InterChange Server Express, you must register it with and connect to it through System Manager. The following sections describe how to perform these tasks:

- “Starting System Manager on the remote Windows machine” on page 28
- “Registering InterChange Server Express with System Manager” on page 28

- “Connecting to InterChange Server Express” on page 29
- “Changing the InterChange Server Express password” on page 29
- “Restarting InterChange Server Express” on page 29

## Starting System Manager on the remote Windows machine

System Manager is the GUI to InterChange Server Express and the repository. It runs only on Windows 2000 and Windows XP platforms.

To start System Manager, on the remote Windows machine, select **Start > Programs > IBM WebSphere Business Integration Express > Toolset Express > Administrative > System Manager**.

**Note:** The System Manager perspective should appear by default. If it does not, select **Window > Open Perspective > Other** in the WebSphere WorkBench menu bar, and then double-click **System Manager** to start System Manager.

## Registering InterChange Server Express with System Manager

System Manager can manage instances of InterChange Server Express. You must register any instance you want to manage with System Manager. After you register the server, its name always appears in System Manager, unless you remove it.

To register an InterChange Server Express instance, follow these steps:

1. Ensure that the Windows client hosting the System Manager can access the Name Server correctly by checking that the ORB\_HOST property in the *ProductDir\bin\CWSharedEnv.bat* file is set to the IP address of the machine running the InterChange Server Express. If it is not, set this value by entering the following on a command line on the Windows client:

```
set ORB_HOST=IP_address
```

**Note:** Alternatively, you can set `ORB_HOST=machine_name` and then add the line `IP_address machine_name` to the `%windir%\system32\drivers\etc\hosts` file. In this example, *IP\_address* is the IP address of the machine hosting the InterChange Server Express; *machine\_name* is the name of the machine hosting the InterChange Server Express.

2. Ensure that the Name Server can correctly retrieve by name the InterChange Server Express on the Linux machine by checking the `/etc/hosts` file on the Linux machine for entries similar to

```
ip_address localhost.localdomain localhost
```
3. In System Manager, right-click **InterChange Server Instances** in the left pane, then select **Register Server**.
4. In the **Register new server** dialog box, browse for or enter the name of the InterChange Server Express.

**Note:** Select the **Test Server** check box if you intend to use the server in an integrated test environment. An integrated test environment communicates only with servers that are registered as local test servers.

5. Type the User Name and password and select the **Save User ID and Password** check box. The default User Name is `admin` and the password is `null`.
6. Select **OK**.

The server name appears in the left pane of the System Manager window. If it does not, expand the InterChange Server Instances folder.

## Connecting to InterChange Server Express

Verify that the registered InterChange Server Express is running by connecting to it. To connect to InterChange Server Express using System Manager, follow these steps:

1. In the System Manager, right-click the name of the InterChange Server Express in the left pane and select **Connect**.
2. Select **OK** on the Server User ID and Password confirmation screen.

**Tip:** If the icon beside the name of the InterChange Server Express in the left pane of System Manager is green in color, the InterChange Server Express is already connected to System Manager.

## Changing the InterChange Server Express password

InterChange Server Express is protected by a password that only the InterChange Server Express administrator knows. The server is shipped with the default password null, but if you want to change the password for security reasons, you can do so after setting up the system.

To change an InterChange Server Express password, follow these steps:

1. In System Manager, right-click the InterChange Server Express name in the left pane, then select **Change Password**.
2. In the dialog that opens, type the old password, the new password, reenter the new password to confirm it, and then select **OK**.

## Restarting InterChange Server Express

For password changes to take effect, you must shut down InterChange Server Express, then restart it by doing the following:

1. In System Manager, right-click the running InterChange Server Express name in the left pane and select **Shut Down**.
2. On the Shut Down Server dialog box, either shut down the server gracefully, after allowing it to finish current work, or shut it down immediately, without performing cleanup.  
Select **Gracefully**, then select **OK**.

**Note:** Select **Immediately** only when you must shut down the server without waiting.

3. Restart InterChange Server Express by entering the following command:  

```
ProductDir/bin/ics_manager -start
```
4. Connect to InterChange Server Express by right-clicking the InterChange Server Express name in System Manager. In the dialog that opens, enter the user name and password for the server and select **OK**.

---

## Taking the next step

Your installation of WebSphere Business Integration Server Express or Express Plus is complete. Do one of the following:

- If you installed the Samples component during installation of WebSphere Business Integration Server Express or Express Plus and want to verify that your installation is installed and operating correctly, proceed to Chapter 5, “Verifying the installation,” on page 31.

- If you did not install the Samples component during installation of WebSphere Business Integration Server Express or Express Plus, do one of the following:
  - If you do not need to install optional Adapter or Collaboration Capacity Packs for a WebSphere Business Integration Server Express Plus installation, proceed to the *System Implementation Guide* for information on configuring the adapters that you chose during installation.
  - If you need to install an optional Adapter Capacity Pack, proceed to Chapter 6, “Installing the Adapter Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 33.
  - If you need to install an optional Collaboration Capacity Pack, proceed to Chapter 7, “Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 39.
- If you installed WebSphere Business Integration Server Express V4.3.1 and are upgrading to Express Plus V4.3.1, refer to the information in Chapter 9, “Upgrading the system,” on page 51.



---

## Chapter 5. Verifying the installation

If you installed the Samples component during installation of WebSphere Business Integration Server Express or Express Plus, you have a sample called System Test with which you can verify the operation of your installed system.

This chapter contains the following sections:

- “Locating instructions to run the System Test sample”
- “Taking the next step”

---

### Locating instructions to run the System Test sample

To verify that your system is installed and operating properly, run the System Test sample. Instructions on running this sample are in the *Quick Start Guide*, which can be accessed by selecting the button labeled **First Steps** on the Launchpad.

**Note:** It is recommended that you run the System Test sample *before* you install Adapter or Collaboration Capacity Packs.

After successfully running the sample, return to this section and review the information in “Taking the next step.”

---

### Taking the next step

Your installation of WebSphere Business Integration Server Express or Express Plus is complete and verified. Do one of the following:

- If you do not need to install optional Adapter or Collaboration Capacity Packs for a WebSphere Business Integration Server Express Plus installation, proceed to the *System Implementation Guide* for information on configuring the adapters that you chose during installation.
- If you need to install an optional Adapter Capacity Pack for a WebSphere Business Integration Server Express Plus installation, proceed to Chapter 6, “Installing the Adapter Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 33.
- If you need to install an optional Collaboration Capacity Pack for a WebSphere Business Integration Server Express Plus installation, proceed to Chapter 7, “Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 39.
- If you installed WebSphere Business Integration Server Express V4.3.1 and are upgrading to Express Plus V4.3.1, refer to the information in Chapter 9, “Upgrading the system,” on page 51.



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## Chapter 6. Installing the Adapter Capacity Pack for WebSphere Business Integration Server Express Plus

A WebSphere Business Integration Server Express Plus installation can support up to *three* adapters supplied through an optional Adapter Capacity Pack. (Adapter Capacity Packs cannot be used with WebSphere Business Integration Server Express installations.) These three are in addition to the one to five adapters you might have installed during installation of WebSphere Business Integration Server Express Plus.

The Launchpad provides a way to launch the GUI installer that leads you through installation of an Adapter Capacity Pack. A second GUI is available to uninstall the product. Silent installation and uninstallation are also possible.

This chapter contains the following sections:

- “Installing an Adapter Capacity Pack using the GUI”
- “Uninstalling the Adapter Capacity Pack using the GUI” on page 36
- “Taking the next step” on page 37

See Appendix B, “Silently installing and uninstalling WebSphere Business Integration Server Express or Express Plus and Capacity Packs,” on page 63 for instructions on performing silent installation and uninstallation.

---

### Installing an Adapter Capacity Pack using the GUI

To successfully install an Adapter Capacity Pack, you and your system must meet the following prerequisites:

- WebSphere Business Integration Server Express must not be installed on the same machine on which you are installing the adapter. (Adapters supplied with Adapter Capacity Packs can be used only with an existing WebSphere Business Integration Server Express Plus installation.)
- If the adapter will not be installed on the same machine as InterChange Server Express, an installation of the WebSphere MQ 5.3.0.2 CSD06 Client must exist on the same machine on which the adapter will be installed.
- In order for the adapter license to be registered successfully, InterChange Server Express *must be running* and, if installed on a remote machine, running and reachable.

The installation GUI supplied with the Adapter Capacity Pack installs and registers with the InterChange Server Express up to three adapters, which can be selected from the list in the section “Deciding which adapter to install” on page 35. The installer installs and registers only one adapter at a time (thus, you must run the Adapter Capacity Pack installer separately for each adapter you want to install).

To invoke the Launchpad to launch the installation GUI, do the following:

1. Select the button labeled **Install Capacity Pack** from the left column of the Launchpad.

The Install Capacity Pack screen appears with two buttons.

2. Select **Install Adapter Capacity Pack**.

The Select User screen appears.

3. On the Select User screen, type the name of the user who will install the Adapter Capacity Pack, and then select **Install Product**. A dialog appears, which requests that you insert the appropriate CD into the machine.
4. Insert the appropriate CD into the machine and select **OK**. (If the Launchpad does not detect the installation program, an "Open" dialog box is displayed, in which you must select the location to which the CD is mounted.) The GUI launches to install the Adapter Capacity Pack and the Welcome screen appears.
5. At the Welcome screen, select **Next**.  
The Software License Agreement screen appears.
6. Read and accept the terms of the Software License Agreement by selecting the radio button beside the entry **I accept the terms in the license agreement**, then selecting **Next**.

The installer checks that the prerequisites listed at the beginning of this section have been met. If any have not been met, it forces you to cancel the installation by selecting the **Cancel** button. If all prerequisites have been met, the Feature screen appears.

**Note:** If you are running the installer in a non-English locale, a button labeled **English** appears on the Software License Agreement screen. Select this button to view the software license agreement in English. The text of the button then changes to the non-English language used for the installer. Select the button again to display the software license agreement in the non-English language used for the installer.

7. On the Feature screen, select one adapter from the list of available adapters, by selecting the radio button beside its name, then select **Next**. For more information about which adapter to select, see the section "Deciding which adapter to install" on page 35.  
One of the following screens appears:
  - If the InterChange Server Express is installed on the local machine, the InterChange Server Express Password screen appears. In this case, proceed to Step 10 on page 35.
  - If the InterChange Server Express exists on a remote machine, the Server IP Address Configuration screen appears. In this case, proceed to Step 8.
8. On the Server IP Address Configuration screen, type the IP address of the computer on which you have installed the InterChange Server Express component. If the InterChange Server Express is on an OS/400 machine, select the checkbox beside the entry **InterChange Server Express is on OS/400**. Then select **Next**. One of the following screens appears:
  - If you did not select the checkbox beside the entry **InterChange Server Express is on OS/400**, the InterChange Server Express Password screen appears. In this case, proceed to Step 10 on page 35.
  - If you selected the checkbox beside the entry **InterChange Server Express is on OS/400**, the Server Name Configuration screen appears. In this case, proceed to Step 9.
9. On the Server Name Configuration screen, do the following:
  - a. Type the name of the InterChange Server Express instance on the OS/400 machine. (The default is QWBIDFT. If you created a different name for your instance, type it instead.)
  - b. Type the ORB port number. (The default is 14500. If you used a different port number, type it instead.)

Then select **Next**.

The InterChange Server Express Password screen appears.

10. On the InterChange Server Express Password screen, type the password of the user admin for the InterChange Server Express, and then select **Next**.

The Pre-installation Summary screen appears.

11. On the Pre-installation Summary screen, review your selection and installation location and select **Next**.

The installer verifies that enough disk space exists for the installation. Installation then proceeds, as follows:

- If enough space does not exist, the **Next** button is disabled since installation cannot be completed with the provided disk space. In this case, you must select **Back** and delete some unneeded space on the specified file system.
  - If enough space does exist, installation and configuration begin. When installation and configuration are complete, the installer attempts to connect to the server to register the license for this adapter. A message dialog informs you if the adapter was registered successfully; an error dialog alerts you if registration was unsuccessful or if you exceeded the maximum number of adapters that can be registered with the InterChange Server Express. Select **OK** to exit the dialog. For more information on how the system updates the license file, see "Updating the license file" on page 36. The Post-installation Summary screen appears, which indicates if the process was successful or if problems were encountered.
12. On the Post-installation Summary screen, select **Finish** to exit the installation GUI.

## Deciding which adapter to install

Running the Adapter Capacity Pack installer allows you to choose one adapter component from the following:

- Adapter for mySAP.com
- Adapter for Oracle Applications
- Adapter for Telcordia
- Adapter for WebSphere Commerce

### Notes:

1. Some adapters have corresponding Object Discovery Agents (ODAs), which are installed if those adapters are selected. With any adapter selection, the following components are also installed:
  - e-Mail Adapter
  - XML Data Handler
  - Adapter Framework
2. The Adapter for MetaSolv Applications, Adapter for JD Edwards OneWorld, Adapter for Siebel eBusiness Applications, Adapter for i2, and Adapter for PeopleSoft are supported only on the Windows 2000 and Windows 2003 platforms. However, each of these adapters can be configured as a distributed adapter to communicate with InterChange Server Express installed on the Linux platform. For information on configuring distributed adapters, see the *System Implementation Guide*.

For descriptions of individual adapters, see the Adapter documentation at the following Web site: <http://www.ibm.com/websphere/wbi/serverexpress/infocenter>.

## Updating the license file

The Adapter Capacity Pack installer and uninstaller update the adapter license file in the InterChange Server Express component of WebSphere Business Integration Server Express Plus any time an adapter is installed or uninstalled. In this way, the license file is always current. Up to three adapters installed from an Adapter Capacity Pack can be registered with the InterChange Server Express. These three adapters can be registered in addition to the one to five adapters you might have installed during WebSphere Business Integration Server Express Plus installation.

The installer and uninstaller obtain the connection password of the InterChange Server Express from the InterChange Server Express Password screen during the installation and uninstallation processes. Near the end of the installation and uninstallation processes, a message dialog informs you if the adapter was registered successfully; an error dialog alerts you if registration was unsuccessful or if you exceeded the maximum number of adapters that can be registered with the InterChange Server Express.

**Note:** You can install as many adapters as you want. However, a maximum of *eight* adapters can be registered with the InterChange Server Express. This total number is composed of the up to five adapters you might have selected during installation of WebSphere Business Integration Server Express Plus *plus* the number of adapters you have installed by running the Adapter Capacity Pack installer.

---

## Uninstalling the Adapter Capacity Pack using the GUI

IBM provides an uninstallation GUI program that lets you remove your Adapter Capacity Pack installation.

**Important:** To ensure that the adapter license file in the InterChange Server Express is updated by the uninstallation, the InterChange Server Express *must be running* during the uninstallation process.

To run the uninstallation GUI, do the following:

1. Enter the following command to launch the uninstallation GUI:  
`ProductDir/_uninstAdapterCP/uninstall.bin`  
The Uninstallation Welcome screen appears.
2. On the Uninstallation Welcome screen, select **Next**.  
The Uninstallation Feature screen appears. The installed components appear with checks next to them.
3. On the Uninstallation Feature screen, leave any components selected that you want to be removed and select **Next**.  
The Pre-uninstallation Summary screen appears.
4. On the Pre-uninstallation Summary screen, select **Next**.  
The InterChange Server Express Password screen appears.
5. On the InterChange Server Express Password screen, type the password for the user `admin` of the InterChange Server Express and select **Next**. For more information on how the system updates the license file, see "Updating the license file."  
A message dialog appears. It informs you, as follows:

- If the license was updated successfully, select **OK** to exit the dialog. The Uninstaller removes the selected components and the Post-uninstallation Summary screen appears.
  - If the license was not updated successfully, select **Yes** to continue with the uninstallation without upgrading the license or **No** to cancel the uninstallation. If you select **Yes**, the Uninstaller removes the selected components and the Post-uninstallation Summary screen appears.
6. On the Post-uninstallation Summary screen, select **Finish** to exit the uninstallation GUI.

---

## Taking the next step

Do one of the following, depending on whether you plan to install a Collaboration Capacity Pack:

- If you need to install a Collaboration Capacity Pack, proceed to Chapter 7, “Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 39.
- If you do not need to install a Collaboration Capacity Pack, proceed to the *System Implementation Guide* for information on configuring the adapters that you chose during installation of WebSphere Business Integration Server Express Plus and this Adapter Capacity Pack.





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## Chapter 7. Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus

Installing an optional Collaboration Capacity Pack allows use of *one* collaboration group with a WebSphere Business Integration Server Express Plus installation. (Collaboration Capacity Packs cannot be used with WebSphere Business Integration Server Express installations.) Only one Collaboration Capacity Pack can be installed for use with one WebSphere Business Integration Server Express Plus installation.

The Launchpad provides a way to launch the GUI installer that leads you through installation of the Collaboration Capacity Pack. A second GUI is available to uninstall the product. Silent installation and uninstallation are also possible.

This chapter contains the following sections:

- “Installing the Collaboration Capacity Pack using the GUI”
- “Uninstalling the Collaboration Capacity Pack using the GUI” on page 42
- “Taking the next step” on page 42

See Appendix B, “Silently installing and uninstalling WebSphere Business Integration Server Express or Express Plus and Capacity Packs,” on page 63 for instructions on performing silent installation and uninstallation.

---

### Installing the Collaboration Capacity Pack using the GUI

To successfully install the Collaboration Capacity Pack, you and your system must meet the following prerequisites:

- You must have WebSphere Business Integration Server Express Plus installed on the machine on which you are installing the Collaboration Capacity Pack (a Collaboration Capacity Pack cannot be installed with a WebSphere Business Integration Server Express installation).
- The Collaboration Capacity Pack must be installed on the same machine on which the InterChange Server Express component is installed.
- You cannot have an existing Collaboration Capacity Pack installation on the machine.
- The InterChange Server Express component must *not* be running.

The Collaboration Capacity Pack installation GUI installs the selected collaboration group and deploys the installed content to the InterChange Server Express.

To invoke the Launchpad to launch this installation GUI, do the following:

1. Select the button labeled **Install Capacity Pack** from the Launchpad.  
The Install Capacity Pack screen appears with two buttons.
2. Select **Install Collaboration Capacity Pack**. A dialog appears, which requests that you insert the appropriate CD into the machine.
3. Insert the appropriate CD into the machine and select **OK**. (If the Launchpad does not detect the installation program, an “Open” dialog box is displayed, in which you must select the location to which the CD is mounted.) The GUI launches to install the Collaboration Capacity Pack. The Launchpad first checks

if the InterChange Server Express component of WebSphere Business Integration Server Express Plus is installed on the local machine. It then acts, as follows:

- If the InterChange Server Express component is not installed on the local machine, a warning dialog alerts you that installation can fail. Select **Cancel** to cancel the installation or **Install** to continue the installation. If you elect to continue the installation, the Welcome screen appears.
  - If the InterChange Server Express component is installed on the local machine, the Welcome screen appears.
4. At the Welcome screen, select **Next**.  
The Software License Agreement screen appears.
  5. Read and accept the terms of the Software License Agreement by selecting the radio button beside the entry **I accept the terms in the license agreement**, then selecting **Next**.  
The installer checks that the prerequisites listed at the beginning of this section have been met. If any have not been met, it forces you to cancel the installation by selecting the **Cancel** button. If all prerequisites have been met, the Feature screen appears.

**Note:** If you are running the installer in a non-English locale, a button labeled **English** appears on the Software License Agreement screen. Select this button to view the software license agreement in English. The text of the button then changes to the non-English language used for the installer. Select the button again to display the software license agreement in the non-English language used for the installer.

6. On the Feature screen, select one collaboration group from the list of available collaboration groups, by selecting the radio button beside its name, then select **Next**. For more information on the collaboration groups selectable from this screen, see “Deciding which collaboration group to install.”  
The Pre-installation Summary screen appears.
7. On the Pre-installation Summary screen, review your selection and installation location and select **Next**.  
The installer verifies that enough disk space exists for the installation. Installation then proceeds, as follows:
  - If enough space does not exist, the **Next** button is disabled since installation cannot be completed with the provided disk space. In this case, you must select **Back** and delete some unneeded space on the specified file system.
  - If enough space does exist, installation and configuration begin. When installation and configuration are complete, the Post-installation Summary screen appears, which indicates if the process was successful or if problems were encountered.
8. On the Post-installation Summary screen, select **Finish** to exit the installation GUI.

## Deciding which collaboration group to install

Installing a Collaboration Capacity Pack allows you to choose one collaboration group from the following:

- Collaborations for Customer Relationship Management V1.0
- Collaborations for Financials and Human Resources V1.0
- Collaborations for Order Management V1.0
- Collaborations for Procurement V1.0

Each collaboration group is made up of several individual collaborations, as follows:

- Collaborations for Customer Relationship Management V1.0
  - Collaboration for Contact Manager
  - Collaboration for Contract Sync
  - Collaboration for Customer Manager
  - Collaboration for Customer Credit Manager
  - Collaboration for Installed Product
  - Collaboration for Billing Inquiry
  - Collaboration for Vendor Manager
- Collaborations for Financials and Human Resources V1.0
  - Collaboration for AR Invoice Sync
  - Collaboration for Department Manager
  - Collaboration for Employee Manager
  - Collaboration for GL Movement
  - Collaboration for Invoice Generation
- Collaborations for Order Management V1.0
  - Collaboration for ATP To Sales Order
  - Collaboration for Available To Promise
  - Collaboration for Item Manager
  - Collaboration for Price List Manager
  - Collaboration for Sales Order Processing
  - Collaboration for Order Billing Status
  - Collaboration for Order Delivery Status
  - Collaboration for Order Status
  - Collaboration for Return Billing Status
  - Collaboration for Return Delivery Status
  - Collaboration for Return Status
  - Collaboration for Contact Manager
  - Collaboration for Customer Manager
  - Collaboration for Trading Partner Order Management
- Collaborations for Procurement V1.0
  - Collaboration for Inventory Level Manager
  - Collaboration for Inventory Movement
  - Collaboration for BOM Manager
  - Collaboration for Purchasing
  - Collaboration for Vendor Manager

The installer installs all files associated with the collaboration group, including a set of generic business objects that all collaborations use. You can download, install, and view documentation about the individual collaborations at the following site: <http://www.ibm.com/websphere/wbi/serverexpress/infocenter>.

---

## Uninstalling the Collaboration Capacity Pack using the GUI

IBM provides an uninstallation GUI program that lets you remove your Collaboration Capacity Pack installation. To run the uninstallation GUI, do the following:

1. Enter the following command to launch the uninstallation GUI:  
`ProductDir/_uninstCollabCP/uninstall.bin`  
The Uninstallation Welcome screen appears.
2. On the Uninstallation Welcome screen, select **Next**.  
The Pre-uninstallation Summary screen appears.
3. On the Pre-uninstallation Summary screen, select **Next**. The Uninstaller removes the components.  
The Post-uninstallation Summary screen appears.
4. On the Post-uninstallation Summary screen, select **Finish** to exit the uninstallation GUI.

---

## Taking the next step

After you have successfully installed a Collaboration Capacity Pack for a WebSphere Business Integration Server Express Plus installation, proceed to the *System Implementation Guide* for information on the following:

- Configuring the adapters that you chose during installation of WebSphere Business Integration Server Express Plus or an optional Adapter Capacity Pack.
- Configuring collaboration objects, business objects, and maps.
- Deploying objects to the repository.

---

## Chapter 8. Manually configuring System Monitor and Failed Event Manager

System Monitor is a tool that allows you to monitor a WebSphere Business Integration Server Express or Express Plus system from the Web. It allows you to configure how you view data and also allows you to view historical data in addition to current data.

Failed Event Manager is a tool that allows you to work with failed events in the WebSphere Business Integration Server Express or Express Plus system from the Web and (on systems using Tomcat 4.1.24 only) to set up role-based access to failed events. (To create custom roles, you must install the WebSphere Studio Site Developer tool. Refer to the instructions in “Installing the WebSphere Studio Site Developer tool” on page 48 for details.) For more information on how to configure security for Failed Event Manager, see the *System Administration Guide*.

**Important:** Follow the instructions in this chapter only if you intend to use the System Monitor and Failed Event Manager components of the Toolset Express and:

- You are using WebSphere Application Server version 5.0.2 or 5.1 or WebSphere Application Server Express 5.0.2 or 5.1 as your Web application server but did not have it installed before installing WebSphere Business Integration Server Express or Express Plus. In this case, see the section “Configuring System Monitor and Failed Event Manager to use WebSphere Application Server or WebSphere Application Server Express” on page 44.
- You are using Tomcat 4.1.24 and 4.1.27 as your Web application server. In this case, see the section “Configuring System Monitor and Failed Event Manager to use Tomcat” on page 46.

You do *not* need to follow the instructions in this chapter if a supported version of WebSphere Application Server or WebSphere Application Server Express existed on your system before you installed the Administrative Toolset Express component of WebSphere Business Integration Server Express or Express Plus. In this case, System Monitor and Failed Event Monitor were automatically installed and configured to work with WebSphere Application Server or WebSphere Application Server Express by the WebSphere Business Integration Server Express or Express Plus installer.

The automatic configuration assumes that no Web server, such as IBM HTTP Server, is installed. The application server created is named ICSMonitor. System Monitor and Failed Event Manager are configured to use a default port number of 7089. From a Web browser running on a remote Windows machine, you can access System Monitor with the URL `http://hostname:7089/ICSMonitor`; Failed Event Manager with the URL `http://hostname:7089/FailedEvents`.

This chapter includes the following sections:

- “Configuring System Monitor and Failed Event Manager to use WebSphere Application Server or WebSphere Application Server Express” on page 44

- “Configuring System Monitor and Failed Event Manager to use Tomcat” on page 46
- “Installing the WebSphere Studio Site Developer tool” on page 48
- “Taking the next step” on page 49

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## Configuring System Monitor and Failed Event Manager to use WebSphere Application Server or WebSphere Application Server Express

This section describes how to configure System Monitor and Failed Event Manager to use WebSphere Application Server or WebSphere Application Server Express. For instructions on using Tomcat instead, see “Configuring System Monitor and Failed Event Manager to use Tomcat” on page 46.

To configure System Monitor and Failed Event Manager to use WebSphere Application Server or WebSphere Application Server Express, you run a script supplied with WebSphere Business Integration Server Express and Express Plus. The script is called `CWDashboard.sh` and is located in the directory `ProductDir/bin` (where `ProductDir` represents the directory `Home_directory/IBM/WebSphereServer` by default). You can run this script to configure the tools to work with or without a Web server, such as IBM HTTP Web Server.

Before proceeding, ensure that you have installed WebSphere Application Server or WebSphere Application Server Express versions 5.0.2 or 5.1. (You can install WebSphere Application Server Express v5.1 from the WebSphere Business Integration Server Express or Express Plus Launchpad.) Then proceed to one of the following sections, depending on whether you want to use your installation with a Web server:

- “Configuring System Monitor and Failed Event Manager when using a Web server”
- “Configuring System Monitor and Failed Event Manager when not using a Web server” on page 45

### Configuring System Monitor and Failed Event Manager when using a Web server

WebSphere Application Server is supplied with a Web server; WebSphere Application Server Express is not. If you are using WebSphere Application Server Express and want to use a Web server, you must obtain and install the IBM HTTP Server (available for free from the IBM Web site) and the Web server plug-in for WebSphere Application Server Express. See the WebSphere Application Server Express documentation for more information.

To configure System Monitor and Failed Event Manager to use a Web server, perform the following steps:

1. Run `CWDashboard.sh` with the following parameters:
  - Installation path for WebSphere Application Server or WebSphere Application Server Express, for example, `/opt/IBM/WebSphere/Express502/AppServer`
  - Fully qualified host name of the machine on which you are installing, for example, `hostname.ibm.com`
  - WebSphere Business Integration Server Express or Express Plus installation directory, for example, `Home_directory/IBM/WebSphereServer`

- The path to the DB2 installation's java directory, for example, *DB2\_Installation\_Dir/java*
- y (for HTTP server yes)

Here is an example command:

```
Home_directory/IBM/WebSphereServer/CWDashboard.sh \
"opt/IBM/WebSphere/Express502/AppServer" \
hostname.ibm.com "Home_directory/IBM/WebSphere/Server" \
"DB2_Installation_Dir/java" y
```

**Important:** Certain steps in this procedure show commands broken on one or more lines. These line breaks were inserted to enable the text to fit on the page. When typing the actual commands, insert spaces at these points, not line breaks.

2. From the WebSphere Administrator's Console (accessible from a Web browser on a remote Windows machine), expand **Environment** in the left navigation pane, select the **Update Web Server Plugin** link, and select **OK**.
3. If the ICSMonitor Application Server is started, stop it:  
`/opt/IBM/WebSphere/Express502/AppServer/bin/stopServer.sh ICSMonitor`
4. Run the following command:  
`./home/db2inst1/sqlllib/db2profile`
5. Start the ICSMonitor Application Server:  
`/opt/IBM/WebSphere/Express502/AppServer/bin/startServer.sh ICSMonitor`
6. To access System Monitor, type the URL:  
`http://hostname/ICSMonitor`

where *hostname* is the name of the computer on which WebSphere Application Server or WebSphere Application Server Express is installed.

7. To access Failed Event Manager, type the URL:  
`http://hostname/FailedEvents`

where *hostname* is the name of the computer on which WebSphere Application Server or WebSphere Application Server Express is installed.

## Configuring System Monitor and Failed Event Manager when not using a Web server

If you are not using a Web server with your installation, you must configure System Monitor and Failed Event Manager to use a different port number. Do the following:

1. Run *ProductDir/bin/CWDashboard.sh* with the following parameters:
  - Installation path for WebSphere Application Server or WebSphere Application Server Express, for example, */opt/IBM/WebSphere/Express502/AppServer*
  - Fully qualified host name of the machine on which you are installing, for example, *hostname.ibm.com*
  - WebSphere Business Integration Server Express or Express Plus installation directory, for example, *Home\_directory/IBM/WebSphereServer*
  - The path to the DB2 installation's java directory, for example, *DB2\_Installation\_Dir/java*
  - n (for no HTTP server)
  - New Port number, for example 7089
  - New SSL port number (default is 7043)

Here is an example command:

```
Home_directory/IBM/WebSphereServer/CWDashboard.sh \
"/opt/IBM/WebSphere/Express502/AppServer" \
hostname.ibm.com "Home_directory/IBM/WebSphereServer \
"DB2_Installation_Dir/java" n 7089 7043
```

**Important:** Certain steps in this procedure show commands broken on one or more lines. These line breaks were inserted to enable the text to fit on the page. When typing the actual commands, insert spaces at these points, not line breaks.

2. If the ICSMonitor Application Server is started, stop it:  
`/opt/IBM/WebSphere/Express502/AppServer/bin/stopServer.sh ICSMonitor`
3. Run the following command:  
`./home/db2inst1/sql1lib/db2profile`
4. Start the ICSMonitor Application Server:  
`/opt/IBM/WebSphere/Express502/AppServer/bin/startServer.sh ICSMonitor`
5. To access System Monitor, type the URL:  
`http://hostname:portnumber/ICSMonitor`

where *hostname* is the name of the computer on which WebSphere Application Server or WebSphere Application Server Express is installed.

6. To access Failed Event Manager, type the URL:  
`http://hostname:portnumber/FailedEvents`

where *hostname* is the name of the computer on which WebSphere Application Server or WebSphere Application Server Express is installed.

---

## Configuring System Monitor and Failed Event Manager to use Tomcat

This section describes how to configure System Monitor and Failed Event Manager to use Tomcat. For instructions on using WebSphere Application Server or WebSphere Application Server Express as the Web application server instead of Tomcat, see “Configuring System Monitor and Failed Event Manager to use WebSphere Application Server or WebSphere Application Server Express” on page 44. Before proceeding, ensure that you have Tomcat version 4.1.24 or 4.1.27 installed on your system.

**Note:** Tomcat 4.1.24 and 4.1.27 are not supported in double byte character set language environments.

### Configuring System Monitor to use Tomcat

To configure System Monitor to use Tomcat, follow these steps:

1. Create the ICSMonitor directory under *Tomcat\_home/webapps* (where *Tomcat\_home* is the path of the Tomcat installation in your environment).
2. Extract the WAR file contents into the ICSMonitor directory.

**Note:** If you used the WebSphere Business Integration Server Express or Express Plus installer to install the product, the *CWDashboard.war* file is located in the *ProductDir/WBSM* directory.

3. Copy the *xerces.jar* file from *Tomcat\_home/webapps/ICSMonitor/WEB-INF/lib* to *Tomcat\_home/common/lib*.
4. Rename the *xercesImpl.jar* file, located in the *Tomcat\_home/common/endorsed* directory, to *xercesImpl.jar.old*.



5. Edit the `setclasspath.sh` file, located in the `Tomcat_home/bin` directory, by doing the following:
  - a. Set the `JAVA_OPTS` property as follows:
 

```
-DDASHBOARD_URL=http://HostName[:PortNumber]/ICSMonitor
-DDASHBOARD_HOME=Tomcat_home/webapps/ICSMonitor
-DORBNamingProvider=CosNaming
-Dorg.omg.CORBA.ORBClass=com.ibm.CORBA.iiop.ORB
-Dorg.omg.CORBA.ORBInitialPort=ORB_PORT
-Dorg.omg.CORBA.ORBInitialHost=ORB_HOST
-Dcom.ibm.CORBA.Debug.Output=stdout
```

**Important:** The lines beginning with the characters `-D` all appear on separate lines to enable them to fit on the page. Insert only spaces, not line breaks, between the `-D` lines.
  - b. Append the path to the `db2java.zip` file to the class path in `setclasspath.sh`. The `db2java.zip` file is located, by default, in the `DB2_Installation_Dir/java` directory.
6. (Optional) Change the port number in the `Tomcat_home/conf/server.xml` file. The default port number is 8080.
7. Run the following command:
 

```
./home/db2inst1/sqllib/db2profile
```
8. Start Tomcat, as follows:
 

```
Tomcat_home/bin/startup.sh
```

## Configuring Failed Event Manager to use Tomcat

To configure Failed Event Manager to use Tomcat, follow these steps:

1. Create the `FailedEvents` directory under `Tomcat_home/webapps` (where `Tomcat_home` is the path of the Tomcat installation in your environment).
2. Extract the WAR file contents into the `FailedEvents` directory.
 

**Note:** The `FailedEvents.war` file is located in the `ProductDir/WBFEM/Tomcat` directory.
3. Copy the `xerces.jar` file from `Tomcat_home/webapps/FailedEvents/WEB-INF/lib` to `Tomcat_home/common/lib`.
4. Rename the `xercesImpl.jar` file, located in the `Tomcat_home/common/endorsed` directory, to `xercesImpl.jar.old`.
5. Edit the `setclasspath.sh` file, located in the `Tomcat_home/bin` directory, by doing the following:
  - a. Set the `JAVA_OPTS` property as follows:
 

```
-DFEM_HOME=Tomcat_home/webapps/FailedEvents
-DORBNamingProvider=CosNaming
-Dorg.omg.CORBA.ORBClass=com.ibm.CORBA.iiop.ORB
-Dorg.omg.CORBA.ORBInitialPort=ORB_PORT
-Dorg.omg.CORBA.ORBInitialHost=ORB_HOST
-Dcom.ibm.CORBA.Debug.Output=stdout
```

**Important:** The lines beginning with the characters `-D` all appear on separate lines to enable them to fit on the page. Insert only spaces, not line breaks, between the `-D` lines.
  - b. Append the path to the `db2java.zip` file to the class path in `setclasspath.sh`. The `db2java.zip` file is located, by default, in the `DB2_Installation_Dir/java` directory.
6. (Optional) Change the port number in the `Tomcat_home/conf/server.xml` file.

The default port number is 8080.

7. Run the following command:

```
. /home/db2inst1/sqllib/db2profile
```

8. Start Tomcat, as follows:

```
Tomcat_home/bin/startup.sh
```

By default, security is enabled in the Tomcat 4.1.24 version of the Failed Event Manager. A user with the role of Administrator must be created in the `Tomcat_home/conf/server.xml` file so that the administrator can gain full access to the application. For details on how to create roles and use security in Failed Event Manager, refer to the *System Administration Guide*.

---

## Installing the WebSphere Studio Site Developer tool

Failed Event Manager requires the WebSphere Studio Site Developer tool to fully utilize its features.

To install the WebSphere Studio Site Developer tool, do the following:

1. Insert the CD labeled *WebSphere Application Server - Express V5.1 Components Disk 1* into your machine.
2. Start the WebSphere Application Server Launchpad by entering the following commands:

```
mount /dev/cdrom mount_point  
mount_point/IBMWASExp5.1/launchpad.sh
```

3. Select **Install** to start the installation program.  
The Welcome screen appears.
4. On the Welcome screen, select **Next** to confirm that you want to install WebSphere Application Server - Express V5.1.  
The Software License Agreement screen appears.
5. On the Software License Agreement screen, accept the license agreement by selecting the radio button next to **I accept the terms in the license agreement**, and then selecting **Next**.  
The Setup screen appears.
6. On the Setup screen, select the radio button beside the entry **Custom**, and then click **Next**.  
The Feature screen appears.

**Note:** By default, the installation program chooses the **Typical** installation. However, to be sure that the WebSphere Studio Site Developer is selected on the Feature Panel, you must select **Custom** installation.

7. On the Feature screen, under Product Installation > Development Tools, select the checkbox beside the entry **WebSphere Studio Site Developer 5.1.1 (with 5.1 Test Environment)** and then click **Next**.  
The Destination screen appears.
8. On the Destination screen, overwrite the default installation location with the location `/opt/IBM/WebSphere/Express51`. Installation begins.

**Note:** The default is `/opt/IBM/WebSphere/AppServer`.

9. After the installation begins, the installation program asks you to insert the CD labeled *WebSphere Application Server - Express V5.1 Components Disk 2*. Insert this CD and select **OK**. Installation completes and the Post-installation screen appears.

10. On the Post-installation screen, select **Finish** to exit the GUI.

---

## Taking the next step

If you have successfully installed your system prerequisites, installed WebSphere Business Integration Server Express or Express Plus, and configured System Monitor and Failed Event Manager, proceed to Chapter 4, “Starting and administering the WebSphere Business Integration Server Express or Express Plus system,” on page 27 for instructions on how to start your WebSphere Business Integration Server Express or Express Plus system.



---

## Chapter 9. Upgrading the system

This chapter describes general procedures for upgrading WebSphere Business Integration Server Express v4.3.1 to Express Plus v4.3.1. It contains the following sections:

- “Meeting system prerequisites”
- “Preparing the existing system”
- “Upgrading from WebSphere Business Integration Server Express v4.3.1 to Express Plus v4.3.1” on page 53
- “Starting the new upgraded version” on page 56
- “Validating the upgrade” on page 57
- “Testing the upgraded version” on page 57
- “Backing up the upgraded version” on page 57
- “Taking the next step” on page 58

---

### Meeting system prerequisites

During the upgrade procedure, components you have already installed are preselected for upgrade and cannot be unselected. Additional components not already installed can be selected for installation during the upgrade process. The upgrade procedure assumes the following:

- WebSphere Business Integration Server Express v4.3.1 is already installed on your machine and you are now installing WebSphere Business Integration Server Express Plus v4.3.1.
- Components will be installed on a machine running the Linux operating system in a production environment. See Table 4 on page 60 for a listing of which product components are supported on each of the Linux versions in a production environment. No components are supported on any Linux version in development environments.
- You will perform the upgrade in a development environment, then move the upgrade to your production environment after system tests have been completed.
- You have all appropriate software available. For a list of required software, see “Checking software requirements” on page 59.
- You will perform the upgrade to the InterChange Server Express component as well as to the Toolset Express, adapter, and Samples components if they exist on separate machines. You will do this by running the installers for the appropriate platforms on the various machines.
- You have reviewed and understand the information in Chapter 2, “Starting and stopping the Launchpad and viewing the Quick Start Guide,” on page 3.

---

### Preparing the existing system

Before upgrading any system, you must perform the following steps:

- “Putting the system in a quiescent state” on page 52
- “Backing up the system” on page 52
- “Shutting down the system” on page 53

## Putting the system in a quiescent state

Before you upgrade your system, you must make sure it is in a quiescent state. This means that all in-progress events are completed and all in-doubt transactions are resolved before backing up the environment and performing the upgrade procedure.

The following steps describe how to put the system in a quiescent state:

1. Resubmit failed events or discard the events (this step is optional).
2. Stop all connectors from polling the event tables by setting the connector `PollFrequency` property to `No` and restarting the connector.
3. Let all events run through the system, including all in-process events. All in-doubt transactions must be resolved.
4. Clear the queues by removing any old events from the queues.

**Note:** Perform step 4 only if you are not processing your failed events and choose to resubmit the events from the application. Otherwise, the queues should be empty, but double-check to be sure.

See the *System Administration Guide* for more information about how to stop a running system gracefully.

## Backing up the system

Backing up the system allows you to recover any files that might be overwritten inadvertently during the installation of the new version. Before performing the upgrade procedure, back up both static data and dynamic data (changeable data that you back up on a regular basis, regardless of upgrades). For examples of static and dynamic data, see Table 2 on page 53.

To back up the system, do the following:

- Back up your current ICS Express repository using the `repos_copy` utility. For example, suppose your InterChange Server Express instance is named `WICSEX` and it has the default login `admin` and default password `null`. The following `repos_copy` command creates a backup of the repository objects in a file called `RepositoryExpress.txt`:

```
repos_copy -sWICSEX -oRepositoryExpress.txt -uadmin -pnull
```

- Back up the product directory. Important items to include in this backup are any customizations, including the following:
  - Custom `.jar` files (such as custom data handlers) and Java packages, which are typically in the `lib` subdirectory of the product directory
  - All startup scripts
  - The configuration file for WebSphere MQ, which resides in the following directory:

```
ProductDir/mqseries/crossworlds_mq.tst
```

IBM recommends taking a system backup of the *entire* InterChange Server Express product directory.

- Arrange for a System Administrator to back up the file structure. Environment settings and other files must be copied.
- Arrange for an System Administrator to back up IBM WebSphere MQ.
- Arrange for the database administrator (DBA) to back up the database. This should be a complete backup, including schema information and stored

procedures. If you have configured your system to use databases *in addition to* the ICS Express repository database, make sure you back up these other databases as well.

**Note:** Use the appropriate database utility to perform this step. For example, DB2 provides an export utility. Consult your database server documentation for instructions.

Table 2 summarizes how to back up the different components.

*Table 2. Backup methods for data*

| Type of data  | Backup method   |
|---|---|
| <b>Static data</b>                                      |   |
| Repository  | Use the <code>repos_copy</code> utility to save some or all of the customized system components. For more information, see the description of how to back up components in the <i>System Administration Guide</i> . |
| Custom map Java class files (.class)                    | To include these files in your system backup, make sure the following directory is in your system backup:<br><i>ProductDir/DLMs</i>   |
| Custom connectors                                       | Include the following directory in your system backup:<br><i>ProductDir/connectors/connector_name</i> , where " <i>connector_name</i> " is the name of the custom connector.  |
| Customized startup scripts                              | If you have customized any startup scripts, make sure that they are included in your system backup.   |
| ICS Express configuration file (InterchangeSystem.cfg)  | Include in your system backup the ICS Express configuration file, which resides in the <i>ProductDir</i> directory.   |
| <b>Dynamic data</b>                                     |   |
| Cross-reference, failed events, and relationship tables | Use the database backup utility for the database. For more information, see the description of how to back up system components in the <i>System Administration Guide</i> .   |
| Connector event archive tables                          | Use the database backup utility for the database that contains these tables.  |
| Log files   | Include the following directory in your system backup:<br><i>ProductDir/logs</i>  |

## Shutting down the system

After backups are complete, you can shut down the system as follows:

1. Shut down InterChange Server Express and its related components.
2. Shut down the database server.
3. Shut down the IBM Object Request Broker (ORB).
4. Shut down WebSphere MQ.

For more information on system shutdown, see the *System Administration Guide*.

## Upgrading from WebSphere Business Integration Server Express v4.3.1 to Express Plus v4.3.1

After the system is in a quiescent state and backed up, you can safely start the upgrade procedure. The Launchpad provides a way to launch the GUI installer that leads you through upgrading WebSphere Business Integration Server Express v4.3.1 to Express Plus v4.3.1. The GUI does the following:

- Installs WebSphere Business Integration Server Express Plus product components.
- Installs any new adapters you select.
- Does not drop your existing database.
- Retains your existing repository and does not redeploy it.
- When run on the remote Windows machine containing the Toolset Express tools used to administer the InterChange Server Express, adds Process Designer Express to the Toolset Express on that machine.

To invoke the Launchpad to launch the GUI, do the following:

1. Select the button labeled **Install Product** in the left column of the Launchpad. The Upgrade Product screen appears.
2. On the Upgrade Product screen, select **Next**. The Select User screen appears.
3. On the Select User screen, type the name of the user who will install WebSphere Business Integration Server Express Plus, and then select **Next**. The Install Server screen appears.

**Important:** The upgrade must be performed by the same user who owns the home directory in which the existing WebSphere Business Integration Server Express V4.3 system is installed.

4. On the Install Server screen, do one of the following:
  - If you have the version 4.3.1 InterChange Server Express component installed, the checkbox beside the entry **InterChange Server Express for Linux** is selected and disabled. Select **Next**.
  - If you do *not* have the version 4.3.1 InterChange Server Express component installed, the checkbox beside the entry **InterChange Server Express for Linux** is selected and enabled. You can proceed in one of two ways:
    - Leave the entry selected to install the version 4.3.1 InterChange Server Express component during the upgrade of other installed components.
    - Unselect the checkbox to keep the version 4.3.1 InterChange Server Express component from being installed.

Select **Next**.

The Install Tools screen appears.

5. On the Install Tools screen, do one of the following:
  - If you have the version 4.3.1 Toolset Express Administrative tools installed, the checkbox beside the entry **Administrative tools** is selected and disabled. Select **Next**.
  - If you do *not* have the version 4.3.1 Toolset Express Administrative tools installed, the checkbox beside the entry **Administrative tools** is selected and enabled. You can proceed in one of two ways:
    - Leave the checkbox selected to install the version 4.3.1 Administrative tools during the upgrade of other installed components.
    - Unselect the checkbox to keep the version 4.3.1 Administrative tools from being installed.

Select **Next**.

The Install Adapters screen appears.

6. On the Install Adapters screen, if you have version 4.3.1 adapters installed, the checkbox beside each installed adapter is selected and disabled. In addition, if



you have not already installed the Adapter for JText, it is selected by default because it is required to run the System Test sample. (The System Test sample is part of the Samples component, which can be selected from the Install Samples screen, described in Step 7.) Do one of the following:

- If you do not want to install any other adapters than the ones you have already installed, unselect the checkbox beside the Adapter for JText if necessary and select **Next**.
- If you want to install only the Adapter for JText in addition to the other adapters you have already installed, leave the checkbox beside the Adapter for JText selected and select **Next**.
- If you want to install other adapters in addition to the Adapter for JText and the ones you have already installed, leave the checkbox beside the Adapter for JText selected, and select the checkboxes beside the other adapters you want to add. Alternatively, select the checkbox beside the entry **Select all Adapters** to install all of the adapters you have not already installed. Then select **Next**.

The Install Samples screen appears.

**Important:** You can install as many adapters as you want. However, a maximum of *five* can be registered with the InterChange Server Express when you are installing WebSphere Business Integration Server Express Plus.

7. On the Install Samples screen, do one of the following:

- If you have the version 4.3.1 Samples component installed, the checkbox beside the entry **Samples** is selected and disabled. Select **Next**.
- If you do *not* have the version 4.3.1 Samples component installed, the checkbox beside the entry **Samples** is checked and enabled. You can proceed in one of two ways:
  - Leave the entry selected to install the version 4.3.1 Samples component during the upgrade of other installed components.
  - Unselect the checkbox to keep the version 4.3.1 Samples component from being installed.

Select **Next**.

**Note:** The Samples component requires installation of the InterChange Server Express, the Toolset Express, and the JText Adapter. Therefore, when you elect to install the Samples component, the InterChange Server Express, the Toolset Express, and the JText Adapter are installed as well, regardless of whether you elected to install them in previous screens.

The Software Prerequisites screen appears.

8. On the Software Prerequisites screen, the installer informs you of any required prerequisites. Do one of the following:

- If the Software Prerequisites screen indicates that no additional prerequisites are needed, proceed to Step 9.
  - If the Software Prerequisites screen indicates that additional prerequisites are needed, refer to the sections “Identifying which software prerequisites are required” on page 8 and “Installing selected software prerequisites” on page 12 for instructions on how to install the prerequisites.
9. Select the button labeled **Install Product** located at the bottom of the Software Prerequisites screen.

The Software License Agreement screen appears.

10. Read and accept the terms of the Software License Agreement by selecting the radio button beside the entry **I accept the terms in the license agreement**, then select **Next**.

**Note:** If you are running the installer in a non-English locale, a button labeled **English** appears on this screen. Select this button to view the software license agreement in English. The text of the button then changes to the non-English language used for the installer. Select the button again to display the software license agreement in the non-English language used for the installer.

One of the following occurs:

- If the InterChange Server Express component is already installed and will be upgraded or you are installing the InterChange Server Express component during the upgrade, the installer checks that appropriate prerequisites exist and are configured properly and that two or fewer processors exist on the machine on which the InterChange Server Express component is to be upgraded or installed.
    - If the prerequisite conditions are not met, an error message is displayed and you are forced to cancel the installation.
    - If the prerequisite conditions are met, product installation begins. In this case, continue with these instructions at Step 12.
  - If the InterChange Server Express component is not already installed and will not be installed during the upgrade, the Name Server Configuration screen appears. In this case, continue with these instructions at Step 11.
11. On the Name Server Configuration screen, type the IP address of the computer on which you have installed or plan to install the InterChange Server Express component, and then select **Next** to begin the installation process. See the section “Configuring the Name Server” on page 23 for more information about the Name Server.
  12. As the installation process begins, the installer verifies that enough disk space exists for the installation:
    - If enough space does not exist, the **Next** button is disabled since installation cannot be completed with the provided disk space. In this case, you must select **Back** and unselect some features or sub-features or delete some unneeded space on the specified file system.
    - If enough space does exist, installation and configuration begin. A number of informational screens are presented. When installation and configuration are complete, the Post-installation Summary screen appears, which indicates if the process was successful or if problems were encountered. Select **Finish** to exit the GUI.

---

## Starting the new upgraded version

After you have completed your upgrade, you can start the WebSphere Business Integration Server Express Plus system using your existing version of the repository by doing the following:

1. Ensure that all required supporting software is running. Supporting software includes the following:
  - WebSphere MQ (make sure that Queue Manager and the Listener are both up and running)
  - The database server
2. Start InterChange Server Express. Starting this component automatically starts the Persistent Naming Server as well.

For instructions on how to start InterChange Server Express, refer to “Starting WebSphere Business Integration Server Express or Express Plus” on page 27.

You can check the `InterChangeSystem.log` file in the `ProductDir` directory to confirm a successful startup.

**Note:** If InterChange Server Express fails to start up after you upgrade the system, review this upgrade procedure to be sure you followed all the instructions. If the cause of the failure is still unknown, consult IBM technical support for assistance before attempting adjustments or restoring from backup.

---

## Validating the upgrade

To validate the success of the upgrade, you must ensure that the repository schema was created and that all objects were loaded successfully. You must perform some of the following tasks on the machine running System Manager.

- Validate that the IBM Object Request Broker (ORB) is running successfully by trying to connect with System Manager.
- Validate that WebSphere MQ queues are created and loaded with no errors. Select Statistics from the Server menu in System Manager, then ensure all the queues are in place.
- Validate that all connectors found their given queues successfully. Select System View from the Server menu in System Manager, and verify that the connectors have green-light icons next to them, and that the status of the connectors is Inactive.
- Validate that all connectors and business objects show up correctly in System Manager.
- Check for errors in the log file by selecting Log Viewer from the Tools menu in System Manager.

**Attention:** If any errors exist in the log file, you must resolve them before continuing.

---

## Testing the upgraded version

Before moving the upgraded system from development to production, IBM recommends that you perform tests on every interface and every business process in production. Consider the following items when testing the system:

- Connectors — Test connector connectivity by starting up each connector. Make sure that the configuration changes have been made. In the connector log file, make sure the connector can connect to the specified application.
- Scripts and stored procedures — Scripts and stored procedures need to be tested only if they were upgraded. Scripts must be modified to contain the new directory path locations.
- Volume and performance — If past performance measurements have been taken, take new performance measurements and compare the two to make sure that the system is stable.

---

## Backing up the upgraded version

When your upgrade process is complete, back up your WebSphere Business Integration Server Express Plus system. See “Backing up the system” on page 52.

---

## Taking the next step

Your upgrade to WebSphere Business Integration Server Express Plus is complete. If you want to install an optional Adapter or Collaboration Capacity Pack, see the chapters Chapter 6, “Installing the Adapter Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 33 or Chapter 7, “Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 39.

---

## Appendix A. Meeting hardware and software requirements

The topics in this section give you a brief overview of the system hardware and software requirements, the supported databases, and the user account required to run WebSphere Business Integration Server Express and Express Plus software.

This section contains the following sections:

- “Checking hardware requirements”
- “Checking software requirements”
- “Checking minimum database requirements” on page 61
- “Creating a user account” on page 62

---

### Checking hardware requirements

IBM recommends that you run WebSphere Business Integration Server Express or Express Plus on a dedicated system. The system should have restricted access to maintain security.

Table 3 lists the minimum hardware requirements. However, the actual requirements for your system may be greater, depending on the complexity of your specific environment, throughput, and data object size. Also, the following information is for the WebSphere Business Integration Server Express or Express Plus system only. If you choose to run other applications on the same system, make appropriate adjustments.

*Table 3. Hardware requirements*

| Component   | Minimum required   |
|---|--|
| Processor   | Pentium III @ 1 GHz  |
| Memory  | At least 512 MB  |
| Disk space: WebSphere Business Integration Server Express or Express Plus and supporting software | 40 GB  |
| Disk space: WebSphere Business Integration Server Express or Express Plus databases               | <ul style="list-style-type: none"><li>• Repository 300-500 MB</li><li>• Rollback 500 MB</li><li>• Temporary 500 MB</li></ul> |

---

### Checking software requirements

The WebSphere Business Integration Server Express or Express Plus system consists of IBM components and third-party components. IBM components are delivered on the product CDs. Third-party software is not provided by IBM.

Reference the following tables for information on software requirements:

- Table 4 on page 60 lists the Linux versions on which WebSphere Business Integration Server Express and Express Plus are supported.
- Table 5 on page 60 lists the required software supplied with WebSphere Business Integration Server Express and Express Plus.
- Table 6 on page 61 lists other software required but *not supplied* with WebSphere Business Integration Server Express and Express Plus.

- Table 7 on page 61 lists optional supported software that can be used with WebSphere Business Integration Server Express and Express Plus.

IBM supports the third-party product versions that are listed in Table 6 on page 61 and Table 7 on page 61. If you find a problem in one of the third-party product versions that is no longer supported by the third-party vendor, an upgrade to a supported version may be necessary.

*Table 4. Supported Linux versions for WebSphere Business Integration Server Express and Express Plus*

| Software                     | Version and patch | Product components supported in a production environment   | Product components supported in a development environment |
|------------------------------|-------------------|--|---|
| Red Hat Enterprise AS Linux  | 3.0, Update 1     | InterChange Server Express, the Administrative Toolset Express System Monitor and Failed Event Manager tools, and Adapters are supported on this version of Linux. | No components are supported.                              |
| SuSE Linux Enterprise Server | 8.1, SP3          | InterChange Server Express, the Administrative Toolset Express System Monitor and Failed Event Manager tools, and Adapters are supported on this version of Linux. | No components are supported.                              |

*Table 5. Software supplied with WebSphere Business Integration Server Express and Express Plus*

| Software   | Version and patch   | Comments  |
|--|---|---|
| IBM WebSphere MQ Server and Client   | <b>For Red Hat Linux:</b><br>Version 5.3.0.2 with CSD06 with iFix for Red Hat Linux 3.0<br><b>For SuSE Linux:</b><br>Version 5.3.0.2 with CSD06 |   |
| IBM DB2 Universal Database Server and Client Express Edition<br><br>Building DB2 stored procedures requires a DB2-supported C or C++ compiler. | Version 8.1 FP5   |   |
| IBM WebSphere Application Server, Express Web Application Server   | Version 5.1   | For System Monitor and Failed Event Manager.                          |
| IBM JCE  | Version 1.2.1   |   |
| IBM Java Development Kit   | Version 1.3.1_07  | Required for compiling collaborations and maps.                       |
| IBM JRE  | Version 1.3.1_07  |   |
| IBM JSSE   | Version 1.0.3   | Provides cryptographic services to Adapters for XML and Web Services. |
| IBM Object Request Broker (ORB)  | Version 1.3.1_07  |   |

Table 6. Required prerequisite software (based on function) not supplied with WebSphere Business Integration Server Express and Express Plus

| Software             | Version and patch       | Comments  |
|----------------------|-------------------------|---|
| Adobe Acrobat Reader | Version 4.05 or later   | Required to view documents. IBM recommends using Acrobat Reader with Search option so that you can take advantage of the PDF Search feature. Go to <a href="http://www.adobe.com">www.adobe.com</a> for the latest version of Adobe Acrobat Reader for your platform. |
| Netscape Navigator   | Version 4.7x            | Required to view documents.   |
| GNU/Linux g++        | Version 2.9.5.3 or 2.96 | Required to compile stored procedures with DB2 UDB Express.   |

Table 7. Optional supported software for use with WebSphere Business Integration Server Express and Express Plus

| Software   | Version and patch                           | Comments   |
|--|---|--|
| Supported database can replace supplied IBM DB2 UDB Server and Client Express Edition:<br><br>IBM DB2 Universal Database Server and Client Enterprise Server Edition (building DB2 stored procedures requires a DB2-supported C or C++ compiler) | Version 8.1, FP 2 Enterprise Server Edition | DB2-supported compiler is not supplied with this product.  |
| Supported Web application servers for System Monitor and Failed Event Manager (any can replace supplied WebSphere Application Server Express Edition version 5.1):<br><br>WebSphere Application Server   | Version 5.0.2.4 FP4 or 5.1                  | Any Web application server that supports JSP 1.1 or later and Servlets 2.2 or later.   |
| WebSphere Application Server Express   | Version 5.0.2.4                             | Any Web application server that supports JSP 1.1 or later and Servlets 2.2 or later.   |
| Tomcat   | Version 4.1.24 or 4.1.27                    | Any Web application server that supports JSP 1.1 or later and Servlets 2.2 or later. No double-byte character set (DBCS) support at this time. |

## Checking minimum database requirements

WebSphere Business Integration Server Express and Express Plus are certified for use with IBM DB2 Express version 8.1 FP5 and IBM DB2 Enterprise version 8.1 FP2.

DB2 Express or Enterprise must be configured to meet the following criteria:

**Note:** Building DB2-stored procedures requires a DB2-supported C or C++ compiler. For information about working with stored procedures, read the DB2 documentation.

- WebSphere Business Integration Server Express or Express Plus administrator user with database and table creation privileges created.
- 50 MB of disk space for data files available for the InterChange Server Express repository database.
- The maxappls and maxagents parameters configured with a minimum of 50 user connections each.
- The tablespace for the mapping tables (optional) configured to contain at least 50 MB of data.
- Maximum application heap size configured to be at least 2048.

---

## Creating a user account

Before you use the Launchpad to install WebSphere Business Integration Server Express or Express Plus, you must create a user responsible for installing WebSphere Business Integration Server Express or Express Plus.

To create a new user, do the following:

1. Log in to your Linux system as the root user.
2. Run the following command to create a user and set the user's password:  

```
/user/sbin/useradd -d HomeDirectory -g InitialGroup -G OtherGroups -m  
user_name -p user_password
```



---

## Appendix B. Silently installing and uninstalling WebSphere Business Integration Server Express or Express Plus and Capacity Packs

You can install or uninstall WebSphere Business Integration Server Express or Express Plus, an Adapter Capacity Pack, or a Collaboration Capacity Pack, without using the supplied GUIs. Silent installations and uninstallations are run from a command line.

In a silent installation, the responses you normally specify manually when you run the installer are stored in a supplied template response file. This response file is then read by an executable that installs the components. You must make necessary modifications to this response file before running the executable. Documentation describing the options that can be set exists within each file.

A silent uninstallation might or might not require use of a response file.

This chapter contains the following sections:

- “Silently installing WebSphere Business Integration Server Express and Express Plus”
- “Silently uninstalling WebSphere Business Integration Server Express and Express Plus” on page 64
- “Silently installing the Adapter Capacity Pack” on page 64
- “Silently uninstalling the Adapter Capacity Pack” on page 64
- “Silently installing the Collaboration Capacity Pack” on page 65
- “Silently uninstalling the Collaboration Capacity Pack” on page 65

---

### Silently installing WebSphere Business Integration Server Express and Express Plus

Response files for silently installing WebSphere Business Integration Server Express and Express Plus are located in the Launchpad directory on the CD root and are named, as follows:

- For WebSphere Business Integration Server Express silent installation:  
WBIServerExpressResponseFile.txt
- For WebSphere Business Integration Server Express Plus silent installation:  
WBIServerExpressPlusResponseFile.txt

To perform a silent installation, do the following:

1. Review the assumptions and installation-by-GUI procedure described in Chapter 3, “Installing required software prerequisites and WebSphere Business Integration Server Express or Express Plus,” on page 7 so you are familiar with the required prerequisites and installation options. Documentation describing the options that can be set exists within the response file as well.
2. Copy the response file from the CD media to a directory of your choice and modify it with the settings needed for your installation.
3. Move to the directory containing the modified response file.
4. Issue the following command:

```
mount_point/Launchpad/setupLinux.bin -silent -options <response_file_name>
```

---

## Silently uninstalling WebSphere Business Integration Server Express and Express Plus

To perform a silent uninstallation of all WebSphere Business Integration Server Express or Express Plus components, do the following:

1. Move to the directory `ProductDir/_uninstWBIServerExp` in a WebSphere Business Integration Server Express installation; to `ProductDir/_uninstWBIServerExpPlus` in a WebSphere Business Integration Server Express Plus installation.
2. Issue the following command:  

```
uninstaller.bin -silent
```

### **Important:**

1. The user who uninstalls the product must be the same user who installed the product. Problems with permissions can result if the same user does not perform both tasks.
2. You might need to manually delete the `Home_directory/IBM/WebSphereServer` directory.

---

## Silently installing the Adapter Capacity Pack

**Important:** To ensure that the adapter license file in the InterChange Server Express is updated by the installation, the InterChange Server Express *must be running* during the installation process.

The name of the response file used to silently install the Adapter Capacity Pack is `adaptercp_silent.txt` and it is located on the CD in the directory `Launchpad/AdapterCapacityPack`.

To perform a silent installation, do the following:

1. Review the assumptions and installation-by-GUI procedure described in Chapter 6, “Installing the Adapter Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 33 so you are familiar with the required prerequisites and installation options. Documentation describing the options that can be set exists within the response file as well.
2. Copy the response file from the CD media to a directory of your choice and modify it with the settings needed for your installation.
3. Move to the directory containing the modified response file.
4. Issue the following command:  

```
mount_point/AdapterCapacityPack/setupLinux.bin -silent
```

---

## Silently uninstalling the Adapter Capacity Pack

**Important:** To ensure that the adapter license file in the InterChange Server Express is updated by the uninstallation, the InterChange Server Express *must be running* during the uninstallation process.

The name of the response file used to silently uninstall the Adapter Capacity Pack is `adaptercp_silent_uninst.txt` and it is located on the CD in the directory `Launchpad/AdapterCapacityPack`.

To perform a silent uninstallation, do the following:

1. Copy the `adaptercp_silent_uninst.txt` response file from the CD to the directory `ProductDir/_uninstAdapterCP`.
2. Modify the response file with the settings needed for your uninstallation.
3. Move to the directory `ProductDir/_uninstAdapterCP`.
4. Issue the following command:

```
uninstaller.bin -silent -options adaptercp_silent_uninst.txt
```

---

## Silently installing the Collaboration Capacity Pack

The name of the response file used to silently install the Collaboration Capacity Pack is `collabcp_silent.txt` and it is located on the CD in the directory `Launchpad/CollabCapacityPack`.

To perform a silent installation, do the following:

1. Review the assumptions and installation-by-GUI procedure described in Chapter 7, “Installing the Collaboration Capacity Pack for WebSphere Business Integration Server Express Plus,” on page 39 so you are familiar with the required prerequisites and installation options. Documentation describing the options that can be set exists within the response file as well.
2. Copy the response file from the CD media and modify it with the settings needed for your installation.
3. Move to the directory containing the modified response file.
4. Issue the following command:

```
mount_point/CollabCapacityPack/setupLinux.bin -silent \
-options collabcp_silent.txt
```

---

## Silently uninstalling the Collaboration Capacity Pack

To perform a silent uninstallation of the Collaboration Capacity Pack, do the following:

1. Move to the directory `ProductDir/_uninstCollabCP`.
2. Issue the following:

```
uninstaller.bin -silent
```



---

## Notices

---

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WebSphere Business Integration Server Express V4.3.1, WebSphere Business Integration Server Express Plus V4.3.1





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