

WebSphere Business Integration Server
Express and Express Plus



WebSphere Business Integration Server Express Installation Guide for OS/400 and i5/OS

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Express and Express Plus



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Note!

Before using this information and the product it supports, read the information in "Notices" on page 65.

22April2005

This edition of this document applies to IBM WebSphere Business Integration Server Express, version 4.4 and IBM WebSphere Business Integration Server Express Plus, version 4.4.

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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, Collaboration Foundation, 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.

Audience

This document is for consultants and system administrators who install, deploy, and administer WebSphere Business Integration Server Express or Express Plus in the OS/400 and i5/OS environments.

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.

Typographic conventions

This document uses the following conventions:

courier font	Indicates a literal value, such as a command name, filename, information that you type, or information that the system prints on the screen.
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bold	Indicates a new term the first time that it appears. Sometimes indicates names or menu items displayed in the graphical user interface.
<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.
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 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.

New in this release

New in release 4.4

The following changes in installation have been made in this release and are reflected in this guide:

- New Typical and Custom installation options
- Installation of First Steps application
- "Quick Start" is now called "Quick Validate" and supported with embedded online documentation from First Steps
- Console is now part of administrative tools (in Toolset Express) so no longer is installed separately
- Integrated Test Environment (ITE) is now supported with an InterChange Server Express on OS/400 or i5/OS and does not have to be run on a Windows system. Therefore InterChange Server Express can no longer be installed on a Windows system in addition to the OS/400 or i5/OS.
- Installation of Web Deployment application
- Role-based access control and user-defineable username and password
- Support of installations on the same system of WebSphere Business Integration Server Express (or Express Plus) 4.3.1 and 4.4
- Instructions are provided for deleting the MQ queue manager and listener. These are no longer deleted automatically in case the queue manager is being used by another application.

New in 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

Chapter 1. Installation overview

IBM WebSphere Business Integration Server Express and Express Plus include 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.

The installation is performed using a Windows system which will remotely install the product on the OS/400 or i5/OS system. Therefore, the OS/400 or i5/OS system must be on a network with the Windows system you plan to use for the installation. The product contains some components that only run on a Windows-based system. These components consist of software tools ("Tools Express") and a "First Steps" application that you can use set up, configure, customize, and manage the product. The installation program will install files to both the OS/400 or i5/OS system and the Windows system, as required.

The Launchpad allows you to perform a standard, or Typical installation that automatically installs a default set of components, or a Custom installation that allows you to choose which components to install. In both cases, the Launchpad detects whether your system already has other required software prerequisites installed and displays this information. Once the prerequisites are installed, the Launchpad continues to guide you until installation is complete.

This guide details each step of the installation and initial configuration processes required to get IBM WebSphere Business Integration Server Express or Express Plus operating. The major steps are as follows:

1. Make sure the systems on which you plan to install this product meet the hardware and software requirements. Refer to <http://www.ibm.com/software/integration/wbiserverexpress> for specific requirements.
2. Start the Launchpad and from it, start the product installation. (Chapter 2)
3. Decide if you want a Typical or a Custom installation. Refer to Chapter 3 to find out the differences between a typical and a custom installation. The Launchpad will check for supported software prerequisites. Refer to <http://www.ibm.com/software/integration/wbiserverexpress> for a list of supported prerequisite software. Then proceed through the remainder of the Launchpad installation process. (Chapter 3)
4. Perform any required additional configuration steps. (Chapter 3)
5. Start the system and perform initial administration. (Chapter 4)
6. (Optional but recommended.) Use the "Quick Validate" procedure, found in First Steps, to verify that your system is installed and operating correctly. (Chapter 5)
7. (Optional for WebSphere Business Integration Server Express Plus only) Install an Adapter Capacity Pack. (Chapter 6)
8. (Optional for WebSphere Business Integration Server Express Plus only) Install a Collaboration Capacity Pack. (Chapter 7)

Additional chapters in the guide provide information on the following:

- Chapter 8, "Upgrading WebSphere Business Integration Server Express and Express Plus," on page 49.

- “Silent installation and uninstallation,” on page 61.

Taking the next step

To begin the installation and configuration processes, proceed to Chapter 2, “Starting the Launchpad,” on page 3 to learn basic Launchpad functions.

Chapter 2. Starting the Launchpad

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 learn the basic functions.

This chapter contains the following sections:

- “Before you start”
- “Invoking the Launchpad” on page 4
- “Taking the next step” on page 5

Before you start

Before you start the Launchpad, do the following:

- Ensure that your OS/400 or i5/OS user profile has *ALLOBJ, *SECADM, *JOBCTL special authorities.
- Check that your OS/400 or i5/OS system meets the hardware requirements listed at <http://www.ibm.com/software/integration/wbiserverexpress/>.
- If you will be using the Windows client for the Tools Express components, check that your Windows system meets the hardware requirements listed at <http://www.ibm.com/software/integration/wbiserverexpress/>.
- Check the following site for any available Fix Packs for your product: <http://www.ibm.com/software/integration/websphere/support/>.
- On the Windows system, make sure that all Windows applications have been shut down.
- On the Windows system, ensure that you have Windows Administrator privileges and a Windows user ID of less than 20 characters. 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 hard drive and install from the hard drive 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 component folders of the directory into which you extract the ESDs have no spaces in their names. For instance, C:\Program Files\WBISE is not a valid directory because the folder Program Files has a space in its name. C:\WBISE is a valid directory because the folder WBISE does not have a space in its name.
- Ensure that you have administrator privileges to create a new database and add new users.

Invoking the Launchpad

To invoke the Launchpad, insert the WebSphere Business Integration Server Express OS/400 and i5/OS CD into your Windows-based computer. The i5/OS System Information screen appears and prompts for the OS/400 or i5/OS system name, userid, and password. Enter the information and click **OK**.

For example:



Figure 1. OS/400 and i5/OS System Information screen for login information

Note: Although the user interface is labeled "i5/OS System Information," this interface also works with supported OS/400 systems. The same holds true for other parts of the installation user interface labeled "i5/OS" that you may see while installing this product.

The Launchpad Welcome screen appears. Buttons on the left side of the Welcome screen allow quick selection of several tasks.

Figure 1 is an example of the Launchpad Welcome screen for WebSphere Business Integration Server Express Plus. Note that the Launchpad screens for WebSphere Business Integration Server Express differ slightly from that of WebSphere Business Integration Server Express Plus (shown) because the Launchpad for WebSphere Business Integration Server Express Plus includes a button labeled **Install Capacity Pack**. The items that can be installed from this button are not available with WebSphere Business Integration Server Express.



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

The buttons on the Welcome 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.

Install Capacity Pack

Allows you to install collaborations or additional adapters beyond those provided with the base installation. (Available with WebSphere Business Integration Express Plus only.)

Install Guide

Links to a Web page that directs you to the WebSphere Business Integration Server Express Information Center, from which you can obtain all product documentation, including this installation guide.

First Steps

Launches the First Steps Application. The First Steps application is a single interface from which you can use and manage the WebSphere Business Integration Server Express or Express Plus after installation is complete.

Exit Closes the Launchpad.

Taking the next step

When 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.

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. If certain items are not installed, it can install them.

The Launchpad offers two installation options: Typical and Custom.

The Typical installation automatically installs the following components:

- InterChange Server Express
- JText adapter
- Samples
- Toolset Express

For more information on these components refer to “Components available for installation” on page 8.

The Typical installation also automatically detects whether you have the required prerequisite components and can install many of them for you.

The Custom installation allows you to choose which components to install. It, like the Typical installation, also detects whether the prerequisites are installed and can install them for you. See the section “Deciding which components to install (Custom installation only)” on page 8 for descriptions of available components. For further information on the Custom installation, see the section “Custom installation” on page 15.

For more information on the Typical installation option, see the section “Typical installation” on page 9.

The installation instructions throughout this chapter assume the following:

- The Host Servers are started on the OS/400 or i5/OS system (use the STRHOSTSVR CL command with parameter SERVER(*ALL)). They must be started for the installation to be successful.
- WebSphere Business Integration Server Express or Express Plus version 4.4 is *not* already installed on your machine. If you have a previous version of the product or capacity packs installed and want to upgrade them to version 4.4, or have installed WebSphere Business Integration Server Express V4.4 and want to upgrade to WebSphere Business Integration Server Express Plus V4.4, see Chapter 8, “Upgrading WebSphere Business Integration Server Express and Express Plus,” on page 49 for instructions.
- Server Express components will be installed on either Version 5 Release 2 of OS/400 or Version 5 Release 3 of i5/OS. The Tools Express components will be installed on the machine running the Windows XP or Windows 2003 operating system. See <http://www.ibm.com/software/integration/wbiserverexpress/> for a listing of which product components are supported on each of the Windows platforms in both production and development environments.

- 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 the Launchpad,” on page 3 and have started the Launchpad.

This chapter contains the following sections:

- “Deciding which components to install (Custom installation only)”
- “Typical installation” on page 9
- “Custom installation” on page 15
- “Software prerequisites” on page 23
- “Using First Steps” on page 26
- “Directory structure and files” on page 29
- “Installing additional components after initial installation” on page 31
- “Uninstalling WebSphere Business Integration Server Express and Express Plus” on page 31
- “Taking the next step” on page 33

See “Silent installation and uninstallation,” on page 61 for instructions on performing silent installation and uninstallation.

Deciding which components to install (Custom installation only)

When you are installing WebSphere Business Integration Server Express and Express Plus using the Custom installation, you can install all or some subset of product components. The installable components are selectable from the screens that appear after you select the **Custom** button from the Choose the Setup Type screen of the Launchpad or from within the response file used during silent installation.

Note: As mentioned earlier, with the Typical installation, the Launchpad automatically selects the components for installation.

The following sections describe the installable components.

Toolset Express runs on a Windows-based system. It is supported in a production or development environment on the Windows 2003 platform. It is supported on the Windows XP platform in a development environment only.

See the *System Administration Guide* for more detailed 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>.

Components available for installation

During installation, you can choose from the following set of components:

- InterChange Server Express
- Toolset Express, which includes the following subcomponents:
 - Administrative tools - Manage and monitor various system environments. This includes the Console, for managing components on the OS/400 or i5/OS system, System Manager, Flow Manager, Log Viewer, and Relationship Manager.

- Development tools - Configure, customize, or develop new or existing system components. These include Business Object Designer Express, Connector Configurator Express, Map Designer Express, Process Designer Express (available with WebSphere Business Integration Server Express Plus installations only) , Relationship Designer Express, and Test Connector Express. You also receive WebSphere Studio WorkBench 3.0.1 (WSWB301).

Web-based tools, which include the following:

- System Monitor
- Failed Event Manager
- Web Deployment
- A choice of adapters from the following list:
 - Adapter for e-Mail
 - Adapter for iSeries
 - Adapter for JDBC
 - Adapter for JMS
 - Adapter for JText
 - Adapter for Lotus Domino
 - Adapter for Healthcare data protocols
 - Adapter for HTTP
 - Adapter for SWIFT
 - Adapter for TCP/IP
 - Adapter for Web Services
 - Adapter for WebSphere Commerce
 - Adapter for WebSphere MQ
 - Adapter for XML

Note: 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:

- Data Handler for EDI
- Data Handler for XML
- Samples component, which installs a preconfigured sample called System Test that you can run to verify that your installation is installed and operating correctly.

Typical installation

To begin the Typical installation, follow these steps:

1. Select **Install Product** from the Welcome Screen.



Figure 3. Welcome screen

- The Choose the Setup Type screen appears.
2. Select **Typical** from the Choose the Setup Type screen.

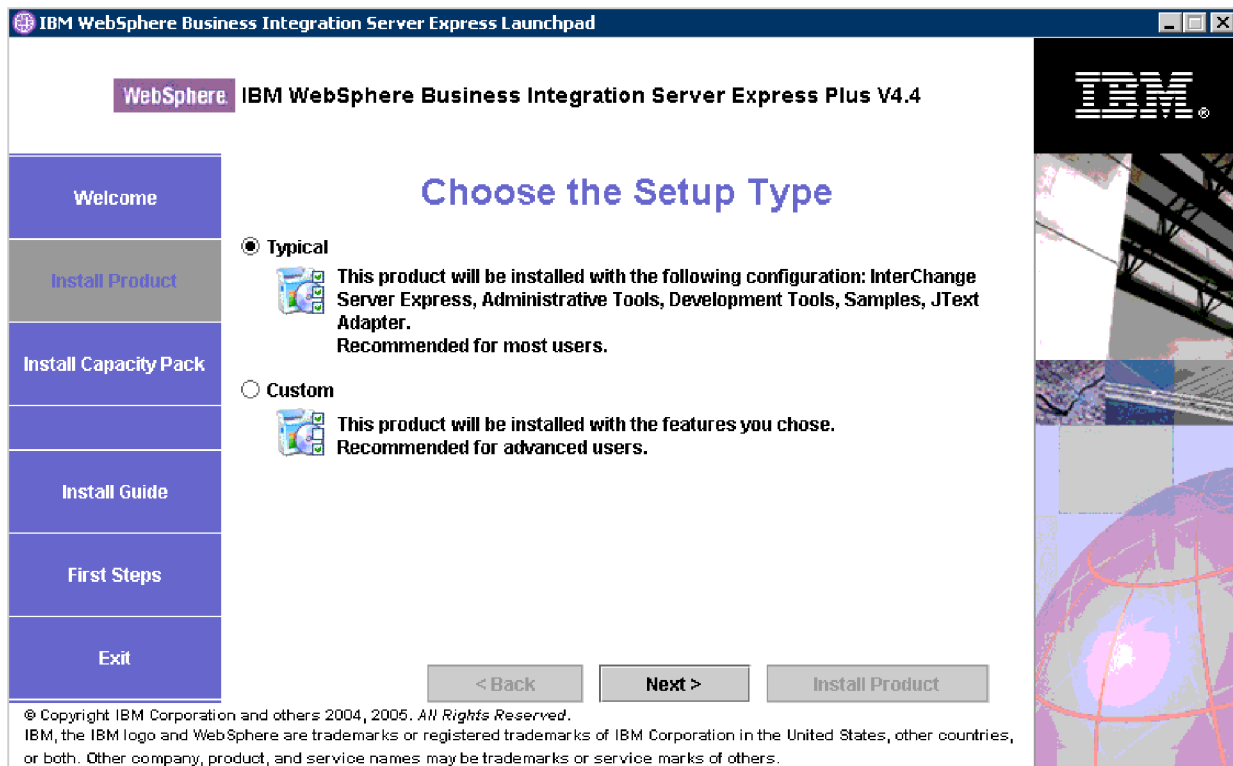


Figure 4. Choose the Setup Type screen

After you have selected Typical installation, the Software Prerequisites screen appears.

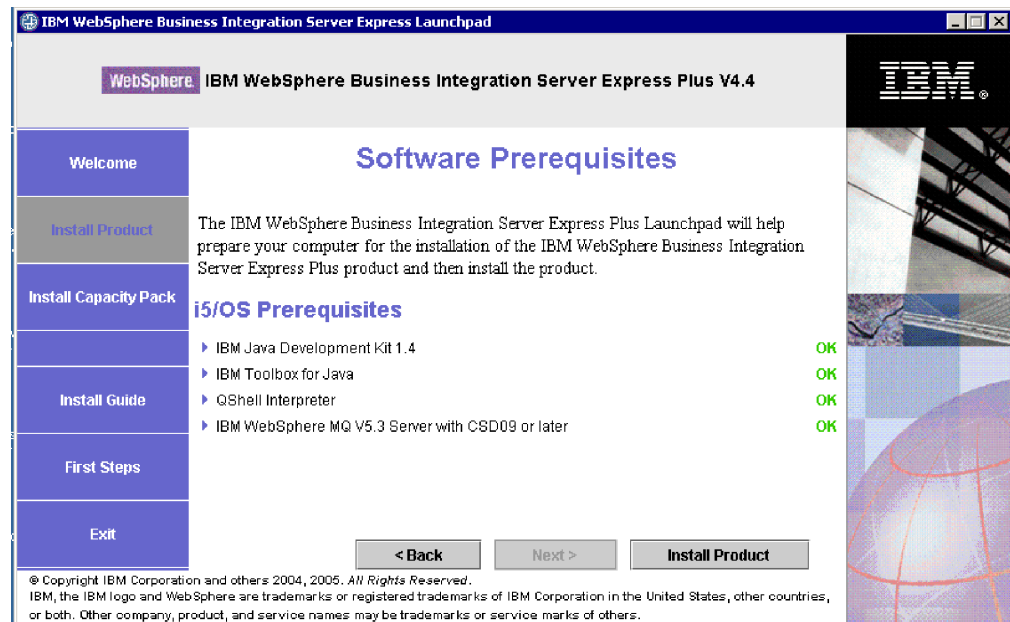


Figure 5. Software Prerequisites screen

3. 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**.

If any software program you require for your system has a status of **Not Installed** or **Optional**, you can use the Launchpad to either install it or to direct you to where to obtain it.

To install a software program using Launchpad, click on the product or item name. Other selectable buttons or options become visible. For example, an **Install** button might become available. Select the **Install** button to begin the installation of the program. When the installation process for the software program is complete, you will be returned to the Software Prerequisites screen and the program name will have **OK** next to it.

(Custom installation only.) If the DB2 Universal Database for iSeries is **Not Configured**, you can use the Launchpad to configure it. Click on the word "Database" to start; additional fields are displayed. Refer to "Database installation and configuration" on page 25 for important information before you configure the database.

Note: If you already have earlier versions of the prerequisite software installed on this system, refer to "Upgrading software prerequisites" on page 51 for more detailed information about how the Launchpad will behave, and what you might need to do depending on the version.

For more information on the installation of software prerequisites, including why you may need to install certain prerequisites, refer to the section "Software prerequisites" on page 23. Note that for a Custom installation, this screen will list more prerequisites than shown in the illustration. In addition, the screen will display prerequisites for both the OS/400 or i5/OS system and the Windows client.

Once the software prerequisites required for your planned installation each have a status of **OK**, select the button labeled **Install Product** located at the bottom of the screen.

The Software License Agreement screen appears.

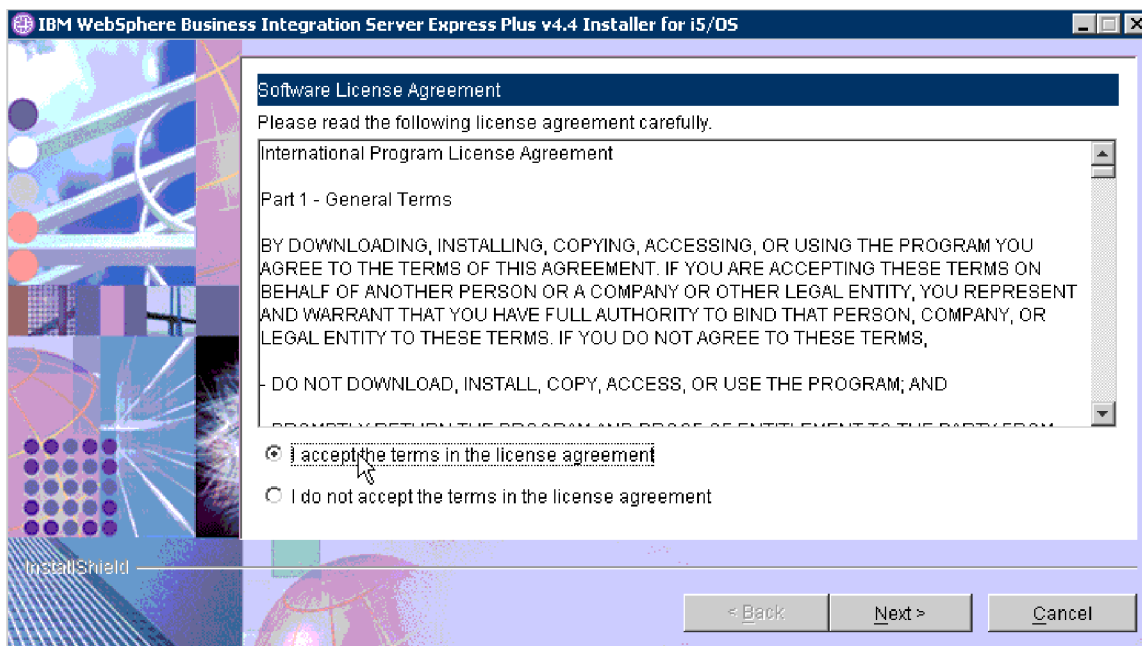


Figure 6. Software License agreement screen

4. 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 RBAC Information screen appears.

Note: If you are performing a custom installation and selected to install web-based tools, the next screen will be the web-based tools port configuration screen. It will be followed by the RBAC Information screen. Refer to “Additional Custom installation information” on page 22 for information about the web-based tools port configuration screen, then return to this section to continue.

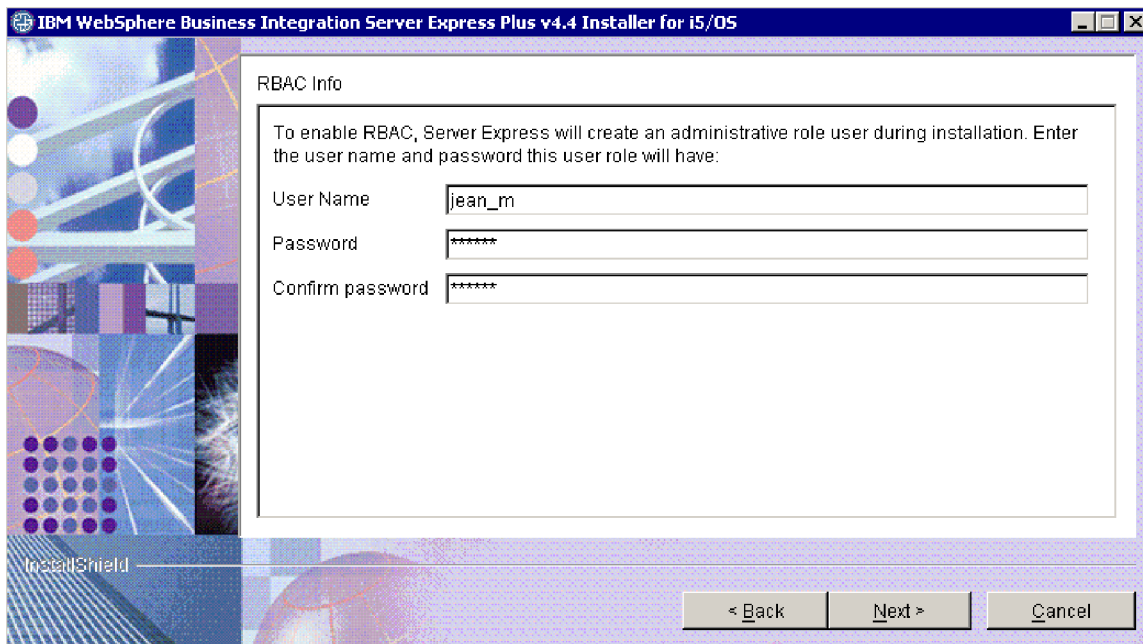


Figure 7. RBAC Information screen

5. To enable Role-Based Access Control (RBAC), enter a User Name and password, then select **Next**.
Make note of the User Name and password that you enter. You will need it later.

Note: RBAC enhances the security of server access. The User Name and password provided will be used to create the server administrator role during deployment to the server. This information is stored in the InterChangeSystem.cfg file, with the password encrypted. Any additional roles or password changes regarding RBAC must subsequently be done through the System Manager.

A summary screen appears.

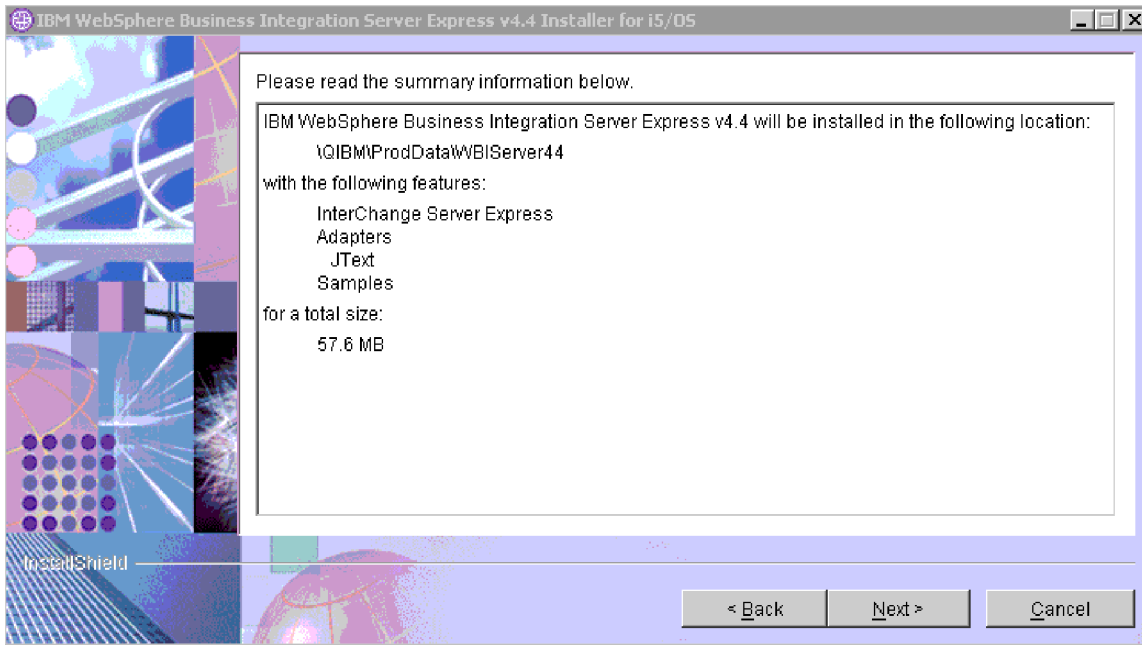


Figure 8. Pre-installation summary screen for components to be installed on OS/400 or i5/OS

6. The pre-installation summary screen provides a summary of the installation selections you have made. All of these components are installed on the OS/400 or i5/OS system. Read over the information to make sure it is correct, then select **Next**.

The installation process begins. A status bar appears, indicating that installation is underway. Various messages state what components are being installed or configured. This process could take some time, depending on your system.

As the installation process begins, the installer verifies that enough disk space exists for the installation. If enough space does not exist, a panel will be displayed with only the **Back** and **Cancel** buttons enabled since installation cannot be completed with the provided disk space. In this case, you must free some space on the specified drive.

7. When installation is complete, a Results screen may appear. If any errors occurred during instance creation, they will also be displayed on this screen. If you do not see a results screen before the summary screen, please view the QWBIDFT44.create log file to verify a success message at the end of the log. The log file is located on your OS/400 or i5/OS system in /QIBM/UserData/WBIServer44/Logs/QWBIDFT44.create. From the Results screen if it appeared, click **Next**. Otherwise proceed to step 8.
8. A summary screen appears.

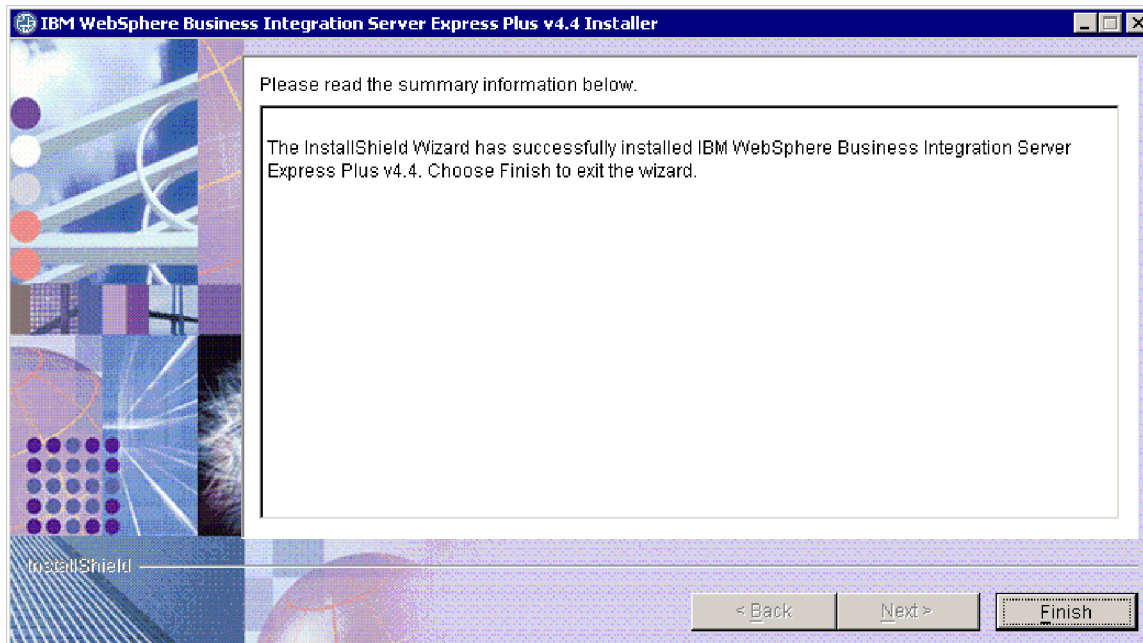


Figure 9. Finish summary screen

9. Click the Finish button.

Note: If you are performing a Custom installation, proceed now to “Additional Custom installation steps” on page 20.

A message appears informing you that the installation is complete and asks if you would like to launch the First Steps application. For more information on this application, refer to the section “Using First Steps” on page 26 .

10. The Launchpad remains open. Click the Exit button on the Launchpad to close it.

Custom installation

This section describes the component selection screens that are unique to the Custom installation. After you have navigated through these screens, see step 3 on page 11 to complete the installation process.

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.

Selecting installation components

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

1. On the Choose the Setup Type screen, select the **Custom** radio button. The Install Server screen appears.



Figure 10. Install Server screen

2. On the Install Server screen, the check box beside the entry **InterChange Server Express** is selected by default. Leave this checked to install InterChange Server Express.

The **Use default ports** check box is also selected. Leave this selected to use the default ports listed for the name server, MQ listener, and HTTP. These port numbers need to be changed only if they are already in use by another application. The default ports are as follows if WebSphere Business Integration Express 4.3.1 is not detected on the system: Name server port - 14500; MQ listener port - 1416, HTTP port - 4443. If WebSphere Business Integration Express 4.3.1 is detected, the default ports are Name server port - 14501; MQ listener port - 1417, HTTP port - 4443. Use the NETSTAT *CNN command on the OS/400 or i5/OS system to determine whether these ports are in use, or contact your network administrator. To use different ports for any of the choices, deselect the **Use default ports** check box and enter the port numbers you wish to use.

Select **Next**. The Install Tools screen appears.

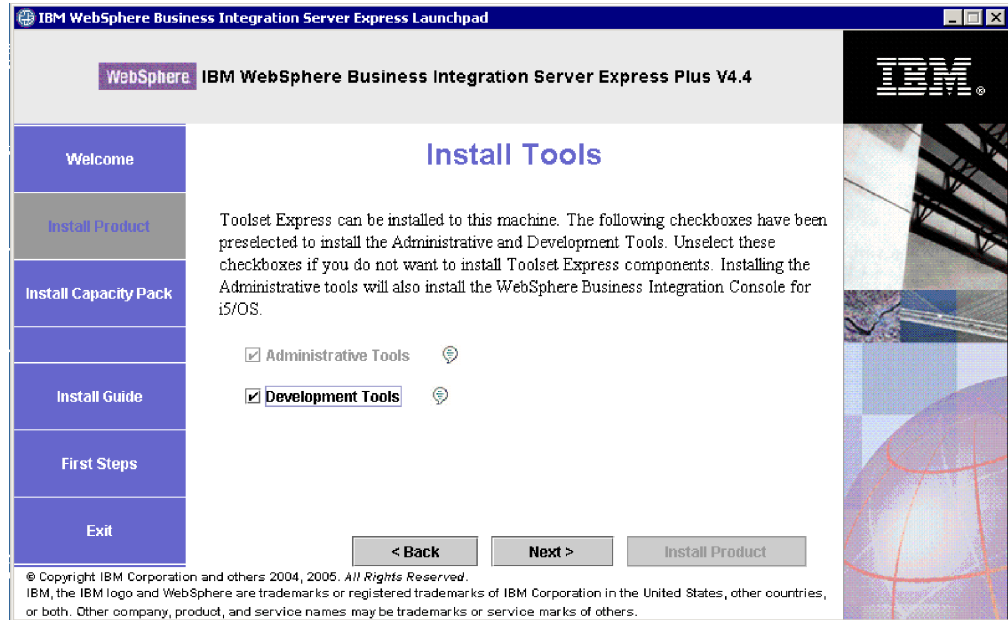


Figure 11. Install Tools screen

3. On the Install Tools screen, the check boxes beside the entries **Administrative Tools** and **Development Tools** are selected by default. The tools will be installed on the Windows system. Do one of the following:

- To install *both* the Administrative tools and Development tools, leave the check boxes selected with the defaults as shown.
- To install *only* the Administrative tools, deselect the check box beside the entry **Development Tools**.

Note: You cannot install only the Development tools. They require that Administrative tools also be installed.

- To install *neither* the Administrative tools nor Development tools, deselect the check boxes beside the entries **Administrative Tools** and **Development Tools**.

Tip: Deselect the check box beside **Development Tools** first. This action enables the check box beside **Administrative Tools**, so you can then deselect it.

Select **Next**. The Web-based tools screen appears.

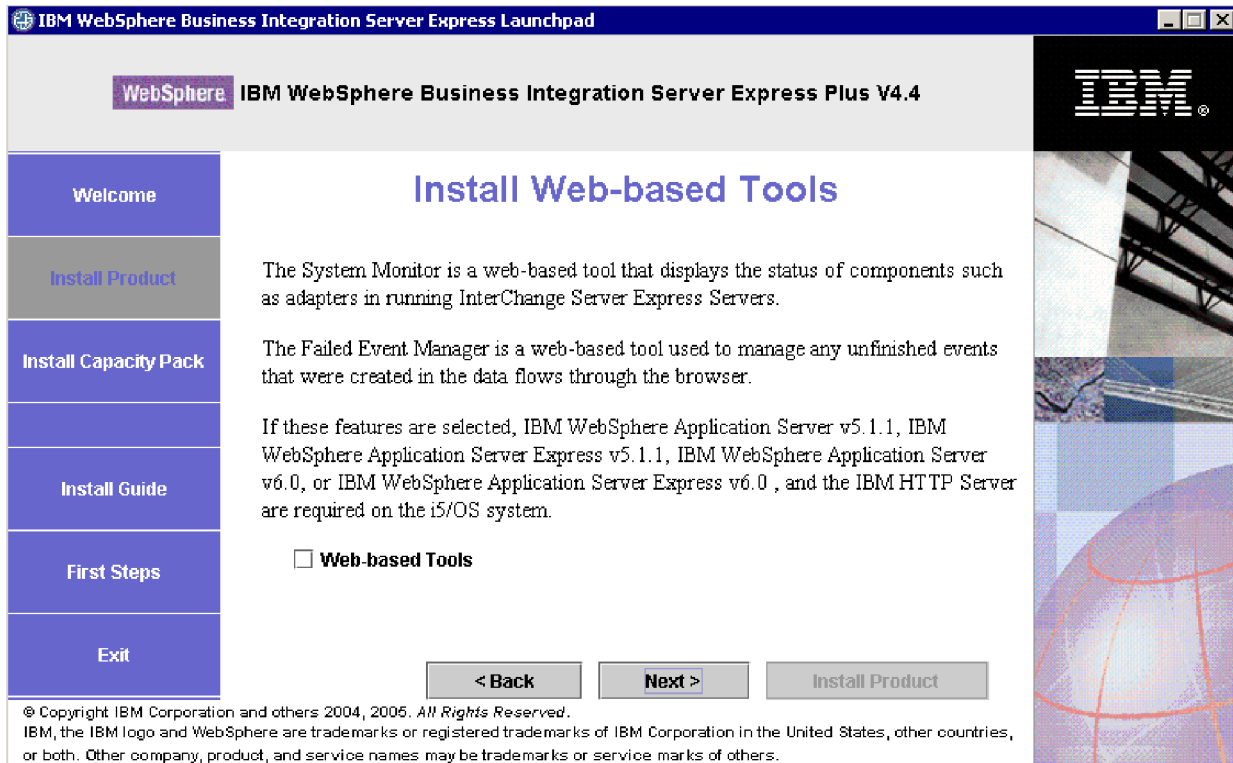


Figure 12. Install Web-based Tools screen

4. Check the check box next to **Web-based Tools** to install the web-based tools (System Monitor, Failed Event Manager, and Web Deployment). The web-based tools are installed on the OS/400 or i5/OS system. The web-based tools require that a supported version of WebSphere Application Server or WebSphere Application Server Express be installed on the OS/400 or i5/OS system. If a supported version of WebSphere Application Server or WebSphere Application Server Express is not yet installed, you will be notified and prompted to install it later on in the installation process. The web-based tools will be configured to work with the WebSphere Application Server or WebSphere Application Server Express. An application server instance is created called ICSMON44.

Note: The web-based tools can be installed after the initial installation of WebSphere Business Integration Server Express. As with installing any additional WebSphere Business Integration Server Express, component, just run Launchpad again and select the desired components (in this case web-based tools).

For more information about installation of web-based tools, refer to “Additional Custom installation information” on page 22. Leave the check box empty if you do not want web-based tools, and select **Next**. The Install Adapters screen appears.

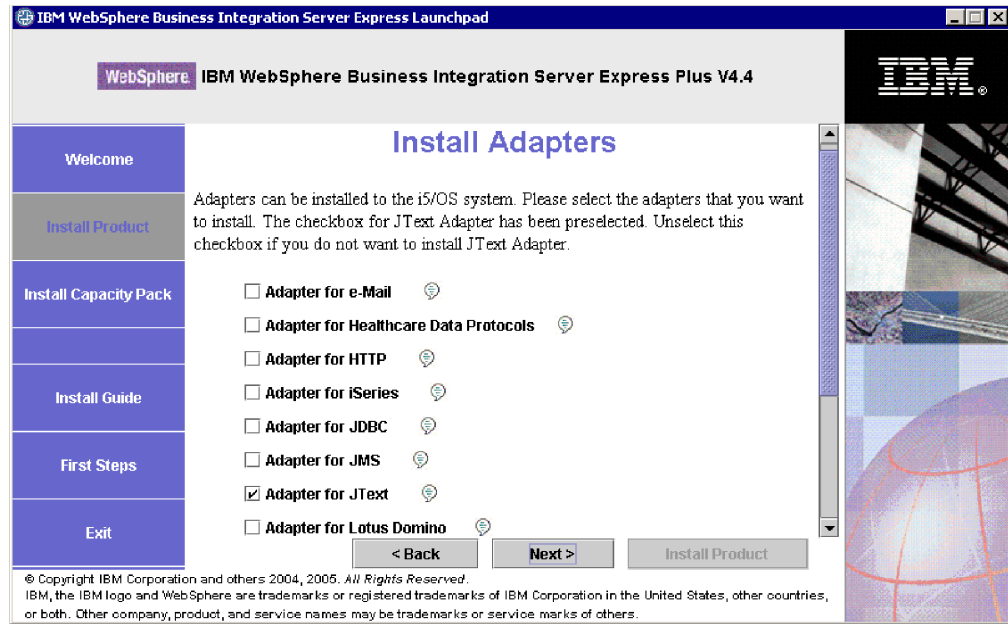


Figure 13. Install Adapters screen

5. On the Install Adapters screen, select the adapters you want to install. The adapters are installed on the OS/400 or i5/OS system. 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 and is required to complete the Quick Validate process to verify the installation. For more information about Quick Validate, refer to Chapter 5.

Note: If an OS/400 V5R2 system does not have a licensed version of the Crypto Access Provider (5722AC3) installed, then an encryption screen appears before the Install Adapters screen.

Select **Next** .

The Install Samples screen appears.

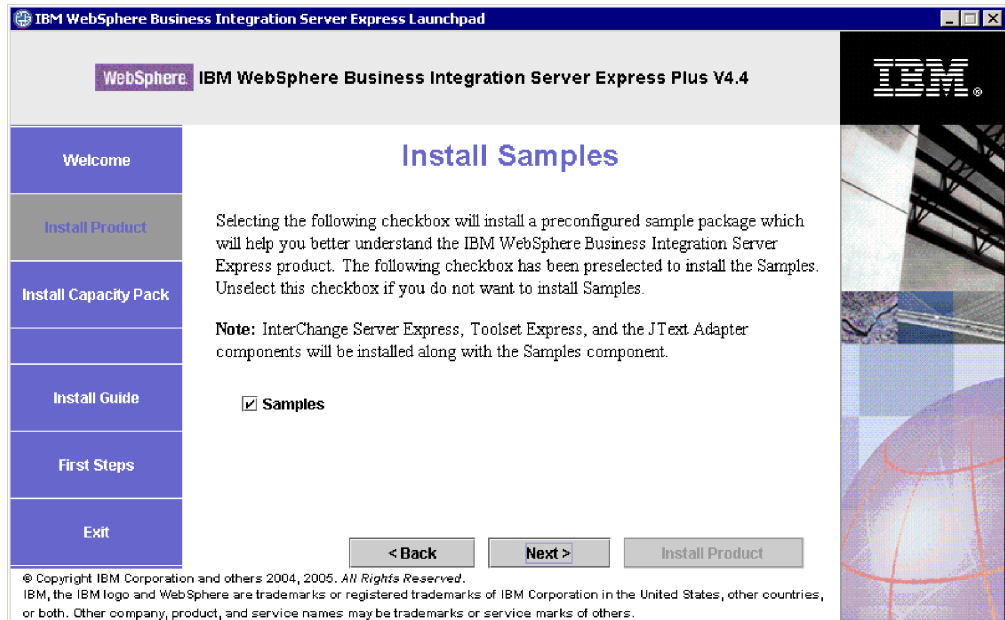


Figure 14. Install Samples screen

6. On the Install Samples screen, the check box beside the entry **Samples** is preselected by default. The samples are required for the Quick Validate process that you can use to verify your system's installation. They are installed on the OS/400 or i5/OS system.

- 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, deselect the check box and select **Next**.

At this point the installation program checks whether you have the required prerequisites for options you selected. After it is finished, the Software Prerequisites screen appears.

7. Follow step 3 on page 11 through step 9 on page 15 in the "Typical Installation" section and then continue with the additional steps in the following section, "Additional Custom installation steps."

Note: If you are planning on using a remote IBM DB2 Universal Database for iSeries, refer to "IBM DB2 Universal Database" on page 25.

Additional Custom installation steps

With a Custom installation, additional screens appear after the summary screen described in step 9 on page 15. Their use is described in the following steps:

1. After you have selected "Finish" (as in step 9 on page 15), another installation wizard starts. The following screen appears:

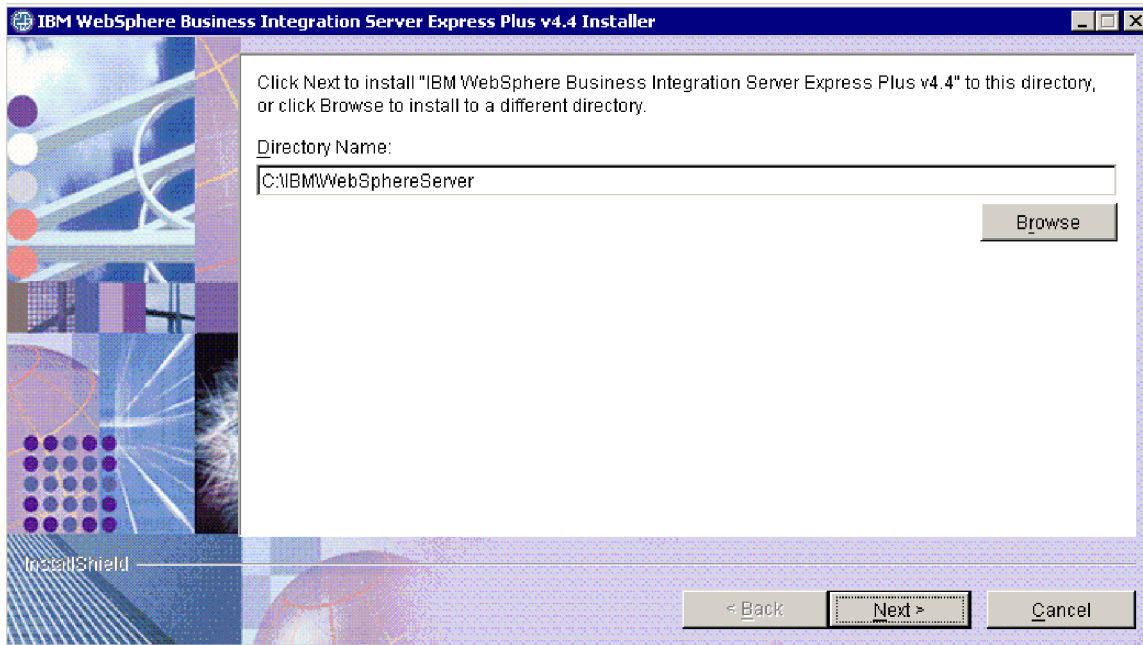


Figure 15. Windows directory selection screen

The default path for the installation of product components on the Windows system is displayed. Accept the default or change it, and select **Next**. The pre-installation summary screen appears.

Note: The directory path must not contain any spaces. Throughout the rest of this document, the installation directory `C:\IBM\WebSphereServer` (or the alternative path that you entered) will be referred to as *ProductDir*.

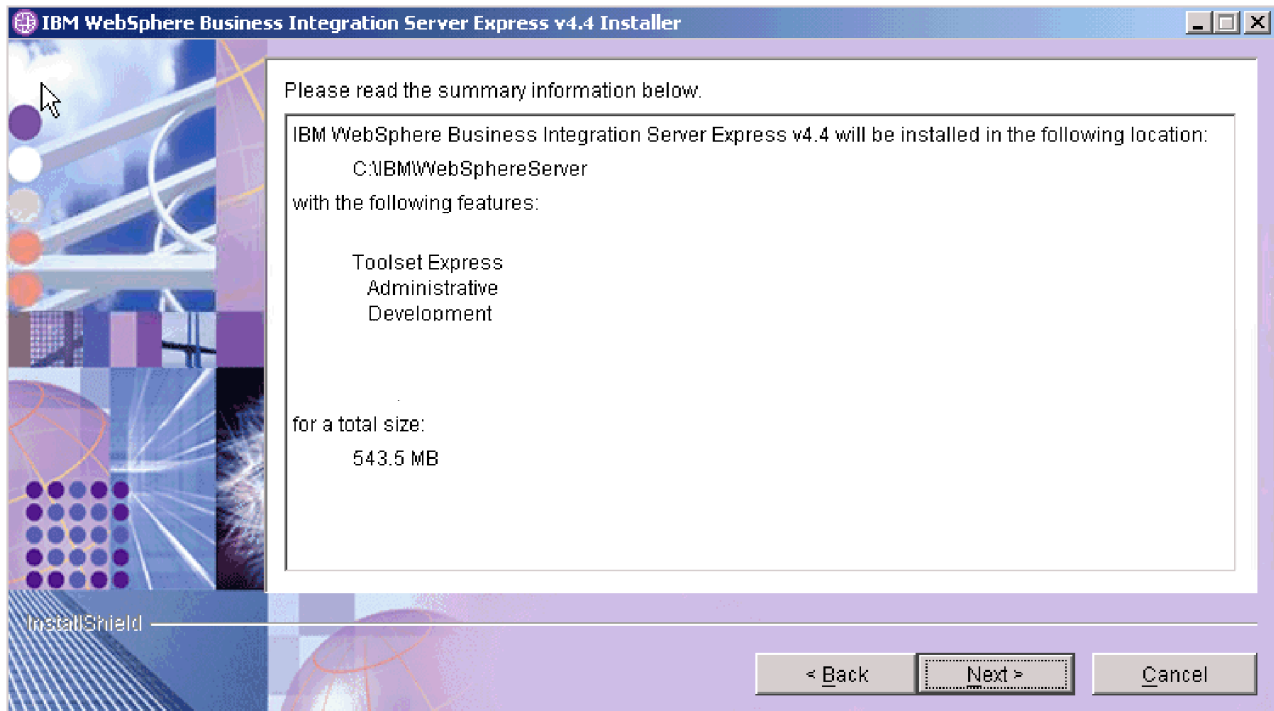


Figure 16. Pre-installation summary screen for components installed on the Windows system

2. Confirm that all the desired components will be installed on the Windows system, and if so, select **Next** to start the installation. A progress bar will be displayed.
3. When the installation is complete, a final screen will appear. Click the **Finish** button. A message appears informing you that the installation is complete and asks if you would like to launch the First Steps application. For more information on this application, refer to the section “Using First Steps” on page 26.
4. The Launchpad remains open. Click the **Exit** button on the Launchpad to close it.

Additional Custom installation information

During the Custom installation process, if you choose to install web-based tools, you must configure port numbers for them. During the operation of the installation wizard for components installed on the OS/400 or i5/OS system, the following screen appears after the License Agreement screen and before the RBAC Information screen:

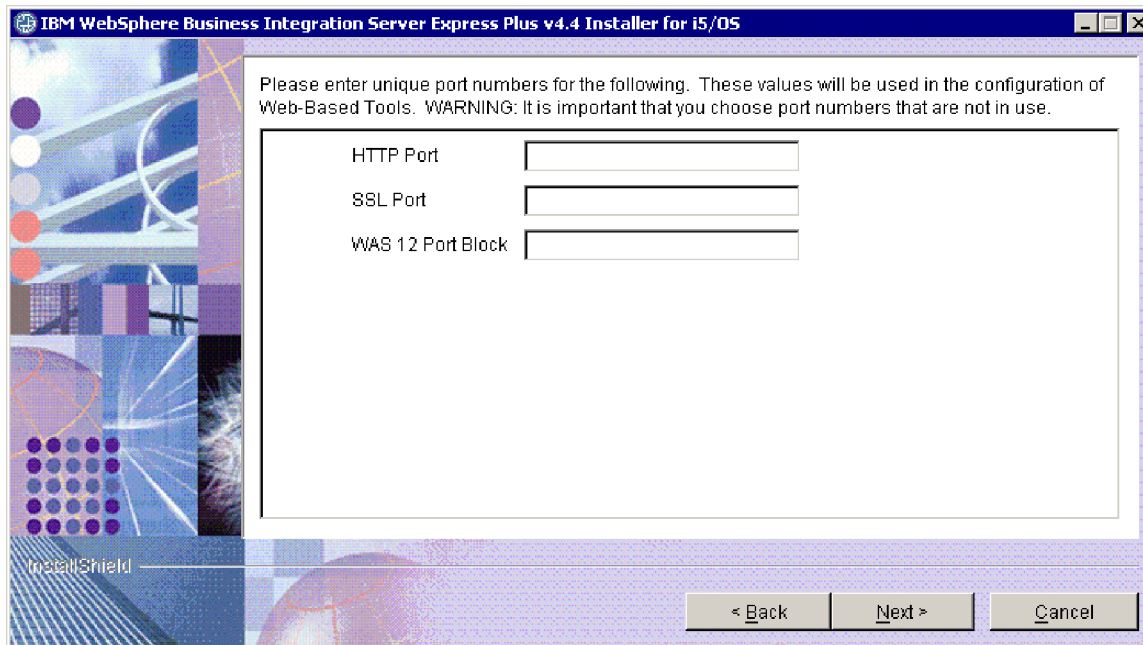


Figure 17. Web-based tools port configuration screen

On this screen, enter the port numbers you will use. These numbers are defined as follows:

- HTTP port: the HTTP port used for the application. You will access the web-based tools with using this port number, as in the URL described below.
- SSL port: used for HTTP with SSL communication
- WAS 12 Port Block: Enter the first port number to use in a range of twelve consecutive ports to use for the WebSphere Application Server.

Use the NETSTAT *CNN command on the OS/400 or i5/OS system to determine which ports are available for use, or contact your network administrator.

You will be able to access the web tools by entering a URL with the following syntax into your web browser on a client system:

- System Monitor and Failed Event Manager:
`http://hostname:HTTPportnum/ICSMonitor`
- Web Deployment:
`http://hostname:HTTPportnum/WebDeployment`

where *hostname* is the name of your OS/400 or i5/OS system, and *portnum* is the HTTP port number provided in this screen.

Software prerequisites

For the Typical installation, these components have already been predetermined. For the Custom installation, the software prerequisites needed are based on the components you are installing. The Launchpad identifies whether any or all prerequisites are installed on your system, and posts the results of its analysis on the Software Prerequisites screen.

You will be directed to install the OS/400 or i5/OS licensed program prerequisites onto your OS/400 or i5/OS system. Only WebSphere MQ and WebSphere Application Server Express licensed programs for OS/400 and i5/OS can be

automatically installed using Launchpad. The CDs for the other licensed programs are shipped with the OS/400 or i5/OS operating system CDs and need to be installed on the OS/400 or i5/OS using the install instructions for those licensed programs.

Table 1 lists the software prerequisites. The list that appears on your screen might contain all or some of the items, depending on which installation option you choose.

Table 1. Possible software prerequisites

Prerequisite	Description
Java Development Kit 1.4.2 on Windows system	Needed for collaboration and mapping development.
WebSphere MQ 5.3.0.2 CSD07 or higher CSD on the Windows system and MQ 5.3.0.2 CSD09 or higher CSD on the OS/400 or i5/OS system.	Required for every installation of WebSphere Business Integration Server Express and Express Plus.
IBM DB2 Universal Database for iSeries	Required for the Interchange Server repository. Provided with the OS/400 or i5/OS operating system.
WebSphere Application Server 5.1.1 or 6.0, or WebSphere Application Server Express 5.1.1 or 6.0 on the OS/400 or i5/OS system	Needed if you plan to install System Monitor, Failed Event Manager, or Web Deployment. For more information, see Chapter 8.
Web browser on Windows system	Required if you plan to use System Monitor, Failed Event Manager, or Web Deployment.
IBM Toolbox for Java	Required for all components. Provided with OS/400 or i5/OS.
AC3 Crypto Access Provider (5722AC3)	Required for adapters. Provided with OS/400 or i5/OS.
QShell Interpreter	Required for entering commands on the OS/400 or i5/OS system. Provided with OS/400 or i5/OS.
IBM HTTP Server for OS/400 or i5/OS	Required for web-based tools. Provided with OS/400 or i5/OS.

Note: IBM Toolbox for Java, AC3 Crypto Access Provider (5722AC3), QShell Interpreter, and IBM HTTP Server for OS/400 are OS/400 Licensed Program Products that are provided on CDs shipped with your OS/400 or i5/OS system. If your OS/400 or i5/OS system does not have them installed, the Launchpad prompts you to locate the CDs for them and install them.

If you previously installed the appropriate database version, make sure that it is configured correctly, as indicated in the section “IBM DB2 Universal Database” on page 25.

If you already have earlier versions of the prerequisite software installed on this system, refer to “Upgrading software prerequisites” on page 51 for more detailed information about how the Launchpad will behave, and what you might need to do depending on the version.

If any prerequisite is damaged, the Launchpad will display an Error status.

Database installation and configuration

This section provides additional information you may need when installing or configuring a database.

WebSphere Business Integration Server Express and Express Plus 4.4 for OS/400 and i5/OS are certified for use with IBM DB2 Universal Database (UDB) for iSeries that is provided with your OS/400 v5R2 or i5/OS v5R3 operating system.

IBM DB2 Universal Database

The following information concerns the IBM DB2 Universal Database for iSeries:

Minimum database requirements: The database must be configured as follows:

- 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.

Installing the database with the Launchpad: The information below will help you install a database using the Launchpad. WebSphere Business Integration Express supports an IBM DB2 Universal database on a local or remote OS/400 or i5/OS system. This database is provided with the operating system. Selecting **Database** from the Software Prerequisites screen will cause additional selections to appear, allowing you to specify either a remote or local database.

Note: If you are using a remote database, before installing the default instance from the Launchpad you must create a collection named QWBIDFT44 on the remote system. This collection will be used as the default instances repository. The Launchpad will verify that a connection can be made to the remote QWBIDFT44 database using the user ID and password specified in the remote configuration section of the Launchpad. If the remote collection cannot be accessed or there are errors accessing it, you will receive an error message and the option to change the information you provided from Launchpad. After this remote collection is verified, it will be used during the install process as the InterChange Server Express repository, and InterChange Server Express will be configured to use this remote database.

Choose **Use Local Database** if the database to be used is on the OS/400 or i5/OS system that you have previously specified. If you use a local database, a collection named QWBIDFT44 will be created on the local system. If the database is on a different OS/400 or i5/OS system, select **Use Remote Database** and then select **Continue**. Enter the Host Name, User Name, and Password for the additional system and select **Continue**.

Installing a Web browser

A Web browser is required on the Windows client if you intend to install the Toolset Express components System Monitor, Failed Event Manager, and Web Deployment. The Launchpad cannot automatically install a supported Web browser, but it offers instructions for finding a supported version.

If you do not have a supported Web browser installed and want to view these instructions, on the Launchpad Software Prerequisites screen, expand the entry **Web Browser**. The screen indicates the Web sites from which you can obtain a supported browser.

Installation results

The installation process has completed the following:

- Installed product components.
- Created a default instance of the InterChange Server Express called QWBIDFT44 on the OS/400 or i5/OS system (if you chose to install InterChange Server Express or Samples)
- If Toolset Express was installed, configured the `Cwtools.cfg` file (on the Windows system) used by Toolset Express.
- Configured the `InterchangeSystem.cfg` file used by the InterChange Server Express.
- Configured a queue manager for WebSphere MQ.
- Configured InterChange Server Express to automatically start with the TCP/IP auto-start services on OS/400 or i5/OS.
- Provided platform-specific configuration and registration.
- If Samples were installed, configured an instance of the JText adapter in the `/Samples` directory.
- Deployed content to the InterChange Server Express or Express Plus server.

Log files are created during the installation process that detail the components installed and other actions taken. On OS/400 and i5/OS, the `install.log` file is located in the directory `/QIBM/ProdData/WBIServer44/`.

On Windows, if the tools are installed (Custom installation only), the log file called `wbi_server_exp_install_log.txt` is created and is located in the directory `ProductDir\log\`.

At this point, you can view the files and directory structure of your systems, as detailed in “Directory structure and files” on page 29.

Using First Steps

The First Steps application is a single interface from which you can use and manage WebSphere Business Integration Server Express or Express Plus. It is installed by the Windows installer when the WebSphere Business Integration Server Express or Express Plus is installed.

First Steps can be launched from the Launchpad or under the Windows Start menu. If WebSphere Business Integration Server Express or Express Plus has not been installed at the point when First Steps is launched, then most of the First Steps functionality will be disabled and you will be directed to first install the product.

This section contains information on the uses of this application and a breakdown of its various components.

Platform (Menu Bar)

The Platform menu item allows you to switch between the OS/400 or i5/OS and Windows versions of First Steps, for management and access to various components on these two systems, respectively. First Steps will remember the last platform that was selected the next time it is launched.

Welcome

The Welcome screen is opened by default when First Steps is launched. This screen has a check box for specifying if First Steps should be launched the next time the computer is rebooted. The check box is selected by default. If you leave the check box selected, First Steps adds a shortcut to the startup Windows program manager menu. If the check box is deselected, that shortcut is removed if already there, or not included if opening the application for the first time. This check box will be disabled if First Steps is launched from the CD and WebSphere Business Integration Server Express or Express Plus is not yet installed on the machine.



Figure 18. First Steps Welcome screen

Quick Validate

Clicking this brings up the Quick Validate online help, which guides you through validating that the installation completed successfully.

Start Server or Stop Server

Clicking this either stops or starts the QWBIDFT44 instance of InterChange Server Express. If you are starting the server, you will be prompted for your OS/400 or i5/OS system login.

Administrative Tools

Clicking this opens the Administrative Tools screen.

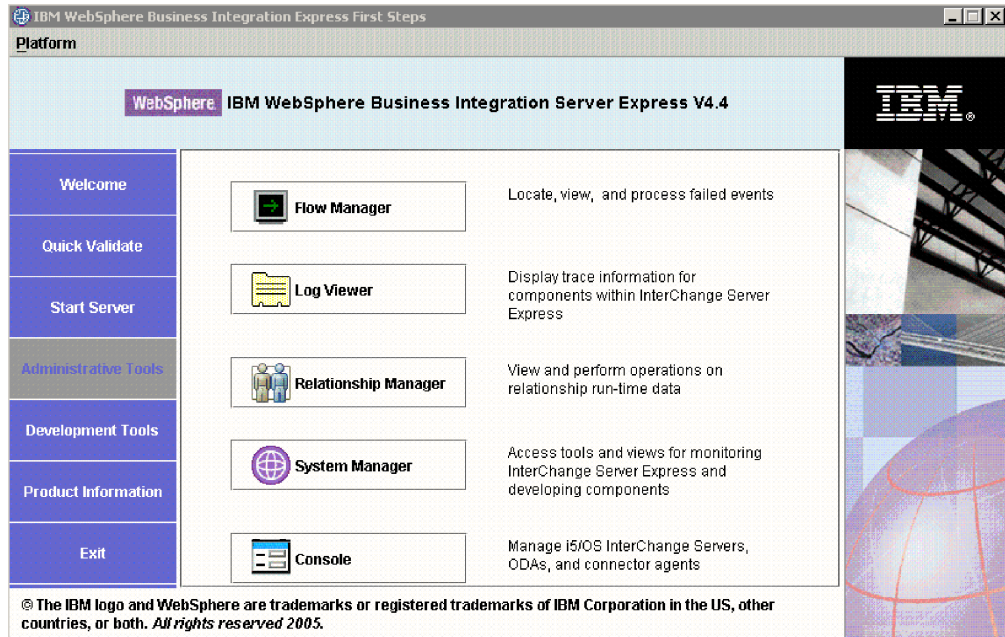


Figure 19. First Steps Administrative Tools screen

This screen provides a list of available administrative tools and a brief explanation of each tool.

If these tools are not installed, the panel will indicate that you have no administrative tools installed, and that you should use Launchpad to install them.

Development Tools

Clicking this opens the Development Tools screen. This screen provides a list of available development tools and a brief explanation of each tool.

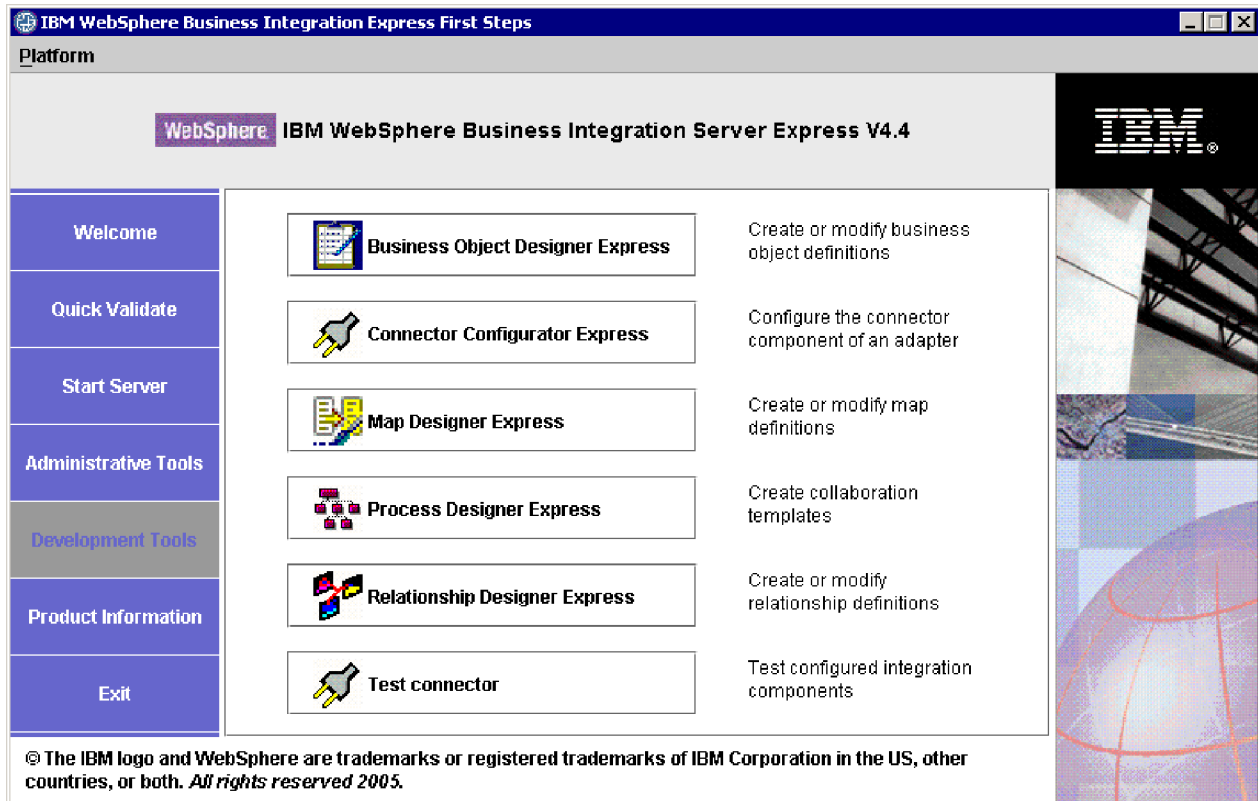


Figure 20. First Steps Development Tools screen

Product Information

Clicking this launches a web browser to a URL for the WebSphere Business Integration Information Center.

Exit

Clicking this exits First Steps.

Directory structure and files

The following sections describe the directories that get installed on the OS/400 or i5/OS system and on the Windows system.

OS/400 and i5/OS systems

On OS/400 or i5/OS systems, the following objects, directories, and files are created:

1. QWBISVR44 user profile
2. QWBISVR44 library, which includes objects for the product
3. QWBIDFT44 library, which is a Database repository for the Interchange Server Express
4. Directories and files in the Integrated File System in these directories:
 - /QIBM/ProdData/WBIServer44
 - /QIBM/UserData/WBIServer44

Windows systems

On the Windows system, the following directories are created by default under the C:\IBM\WebSphereServer directory, which is referred to as *ProductDir* throughout this document.

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

Table 2. Directory structure of WebSphere Business Integration Server Express and Express Plus components on Windows systems

Directory name	Contents
<ul style="list-style-type: none"> • _uninstWBIserverExp44 (in WebSphere Business Integration Server Express installations) • _uninstWBIserverExpPlus44 (in WebSphere Business Integration Server Express Plus installations) 	Contains the Java Virtual Machine (JVM) and the <code>uninstaller.exe</code> file that is used to remove WebSphere Business Integration Server Express or Express Plus.
_uninstZip	Contains a listing of all files unzipped during installation.
bin	Contains global environment scripts.
Console	Contains the files necessary for running and configuring the OS/400 or i5/OS Console tool.
DataHandlers	Contains the <code>.jar</code> file for the data handler that the system uses.
DevelopmentKits	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.
DLMs	Contains subdirectories that contain Dynamic Loadable Modules (DLMs) and other files for InterChange Server Express maps.
FirstSteps	Contains the First Steps and Quick Validate files.
jre	Contains the IBM JRE files.
legal	Contains the license files.
lib	Contains <code>.jar</code> files for the system.
log	Contains the log file, which contains all errors and warnings that occur during installation or uninstallation. The filename is <code>wbi_server_exp_install_log.txt</code> .
messages	Contains the generated message files.
ODA	Contains the Object Discovery Agent <code>.jar</code> and <code>.bat</code> files for each agent.
plugins	Contains Eclipse plug-in files, required for Toolset Express.
repository	Contains the definitions for the system components.
Samples	Contains component definitions for benchmarking samples and sample mail files for collaborations.
templates	Contains the <code>start_connName.bat</code> file.
Tools	Contains the Workbench files if selected during installation. <code>Tools\ies301</code> contains WebSphere Studio Workbench. <code>Tools\eclipse\plugins</code> contains System Manager plug-ins.

Table 2. Directory structure of WebSphere Business Integration Server Express and Express Plus components on Windows systems (continued)

Directory name	Contents
WBFEM	Contains the Failed Event Manager files.
wbiart	Contains the file pertaining to the adapter runtime.
WBSM	Contains the System Monitor files.
WBWD	Contains the Web Deployment 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 “Custom installation” on page 15. If you have already installed some components from a particular screen, the screen appears but the check boxes beside components that are already installed are disabled. An exception is the encryption screen on OS/400 systems, which is not shown if 5722AC3 is already installed.

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

Follow these instructions to remove WebSphere Business Integration Server Express or Express Plus. Some components must be removed by accessing the OS/400 or i5/OS system, and some must be removed from the Windows system. The uninstaller program does not uninstall the prerequisites. You have to do this manually, according to the instructions provided with the specific prerequisite.

These instructions present a manual uninstallation process. For a “silent” uninstallation process, refer to “Silent installation and uninstallation,” on page 61.

Note: Before you uninstall, make sure that none of the processes associated with InterChange Server Express are running on both the OS/400 or i5/OS system and on the Windows system (if applicable). If they are, stop them.

Deleting server instances

All of the InterChange Server instances must be deleted before you can uninstall the InterChange Server component.

To delete a server instance it is recommended that you first uninstall the adapter and collaboration capacity packs, if installed. Refer to “Uninstalling the Adapter Capacity Pack” on page 43 to uninstall the Adapter Capacity Pack and “Uninstalling the Collaboration Capacity Pack” on page 48 to uninstall the Collaboration Capacity Pack.

After you have uninstalled the capacity packs, run the following command from QShell: `/QIBM/ProdData/WBIServer44/bin/delete_instance.sh instanceName.`

Removing the MQ queue manager and listener

The queue manager and listener are not deleted when you delete the server instance. IBM recommends that you delete them if they are not in use by other applications. To delete them, follow these steps from the OS/400 or i5/OS system. These are CL commands.

1. Type WRKMQM and press Enter.
2. Enter **15** next to your queue manager to end it.
3. Press F5 to refresh the status. When the status is "INACTIVE", continue.
4. Enter WRKMQMLSR
5. Enter a **4** next to the listener associated with your queue manager.
6. Enter WRKMQM.
7. Enter a **4** next to your queue manager to delete it.

Removing components from the OS/400 or i5/OS system

IBM provides a console mode program on your OS/400 and i5/OS to remove your entire WebSphere Business Integration Server Express or Express Plus installation, or to select specific components for removal. To run the uninstallation program, log on to your OS/400 or i5/OS system and do the following:

1. Type QSH at the command line to enter QShell.
2. Change to the uninstall directory.
For Server Express, cd
/QIBM/ProdData/WBIServer44/product/_uninstWBIServerExp
For Server Express Plus, cd
/QIBM/ProdData/WBIServer44/product/_uninstWBIServerExpPlus
3. Enter the command to start the uninstallation program: java -jar uninstall.jar. The Uninstallation Welcome text appears.
4. Enter **1** for next, or press **Enter** to select the default navigation. The Uninstallation Feature text appears. Each installed component appears with an x next to it, selected for uninstallation.
5. Leave any components selected that you want removed and press **Enter** for Next. The Pre-uninstallation Summary text appears.
6. Press **Enter** to confirm your selections. The Uninstaller removes the selected components. The Post-uninstallation Finish text appears.
7. Press **Finish** to exit the uninstallation program.

Removing tools from the Windows system

To uninstall the tools from the Windows system, run the uninstallation GUI, as follows:

1. Select **Start > Settings > Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Scroll down and select **IBM WebSphere Business Integration Server Express v4.4** or **IBM WebSphere Business Integration Server Express Plus v4.4** (depending on which product is installed), and select the **Change/Remove** button.

Note: The estimate of disk space that will become free after uninstallation, which is shown in the **Add/Remove Programs** tool, can be incorrect if multiple products are installed in the same folder.

The uninstallation welcome screen appears.

4. On the uninstallation welcome screen, select **Next**.

The uninstallation features screen appears. The installed components appear with checks next to them.

5. On the uninstallation features screen, leave any components selected that you want to be removed and select **Next**.

The pre-uninstallation summary screen appears.

6. On the pre-uninstallation summary screen, select **Next** to confirm your selections. The uninstaller removes the selected components.

The post-uninstallation finish screen appears.

7. On the post-uninstallation finish screen, select **Finish** to exit the uninstallation GUI.

Note: You might need to manually delete the C:\IBM\WebSphereServer directory.

A silent uninstallation is also available. See “Silent installation and uninstallation,” on page 61 for instructions on performing a silent uninstallation.

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 the WebSphere Business Integration Server Express or Express Plus system for the first time,” on page 35.

By first following the instructions in Chapter 4 and then Chapter 5, “Verifying the installation,” on page 39, 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 the WebSphere Business Integration Server Express or Express Plus system for the first time

The WebSphere Business Integration Server Express and Express Plus installers perform most product installation and configuration tasks for you. Thus, if you have installed the products using their installers, the following tasks have already occurred:

- Scripts and configuration files have been properly configured.
- Components have been set up to run in a subsystem on OS/400 and i5/OS and automatically start with the TCP/IP servers on OS/400 and i5/OS.
- Contents have been deployed to the repository.

To start your system, you must launch the InterChange Server Express and System Manager components of WebSphere Business Integration Server Express or Express Plus, and register the InterChange Server Express with the System Manager.

Note: You can perform the tasks described in this chapter from either the First Steps application or the Windows Start menu. This chapter describes how to start various components from the Windows Start menu. Starting them from First Steps is also acceptable. From the First Steps screen, select **Platform > OS/400**. This will cause the correct menu items and screens to display for an OS/400 or i5/OS installation.

In addition, this chapter assumes you have the Console installed. Alternative instructions are provided if you do not.

This chapter contains the following sections:

- “Starting WebSphere Business Integration Server Express or Express Plus”
- “Setting up InterChange Server Express” on page 36
- “Taking the next step” on page 37

Starting WebSphere Business Integration Server Express or Express Plus

To start WebSphere Business Integration Server Express or Express Plus, follow these steps:

1. Select **Start >Programs >IBM WebSphere Business Integration Express > Toolset Express > Administrative Tools > Console** to start the Console.
2. On the OS/400 or i5/OS Sign-in screen, **enter the OS/400 or i5/OS system name or IP address and the user profile and password**. The user profile must have *JOBCTL special authority. From the Console screen, start the server.

If Console is not installed, from the OS/400 and i5/OS command entry, run the CL command STRSBS QWBISVR44/QWBISVR44.

If you receive a message that the subsystem is already active, then do the following:

- a. run the CL command QSH
- b. from QShell, run the following script:
`/QIBM/ProdData/WBIServer44/bin/submit_ics_server.sh QWBIDFT44`

Setting up InterChange Server Express

To use 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”
- “Registering InterChange Server Express with System Manager”
- “Connecting to InterChange Server Express”
- “Changing the InterChange Server Express password”

Starting System Manager

System Manager is the GUI to InterChange Server Express and the repository.

To start System Manager, select **Start > Programs > IBM WebSphere Business Integration Express > Toolset Express > Administrative Tools > System Manager**.

Registering InterChange Server Express with System Manager

System Manager can manage an instance of InterChange Server Express. The instance in your environment must be registered with System Manager. After you register the server, its name always appears in System Manager, unless you remove it. The default installed server name is QWBIDFT44.

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

1. In System Manager, right-click **InterChange Server Instances** in the left pane, then select **Register Server**.
2. 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 test servers.

3. Type the User Name and password and select the **Save User ID and Password** check box. This is the same password that was configured on the RBAC (Role-Based Access Control) that you configured during installation.
4. 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 an InterChange Server Express using System Manager, follow these steps:

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

Changing the InterChange Server Express password

InterChange Server Express is protected by the password that was configured on the RBAC (Role-Based Access Control) screen that you configured during installation. However, if you want to change the password later 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. Type the old password, the new password, reenter the new password to confirm it, and then select **OK**.
3. For password changes to take effect, you must shut down InterChange Server Express, then restart it by doing the following:
 - a. From System Manager, right-click the running InterChange Server Express and select **Shut Down**.
 - b. 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**.
Select **Immediately** only when you must shut down the server without waiting.
 - c. Restart InterChange Server Express by starting the Console and then starting the server using the Console. Refer to “Starting WebSphere Business Integration Server Express or Express Plus” on page 35 for instructions.
 - d. Connect to InterChange Server Express by right-clicking the InterChange Server Express name in System Manager and then entering its password.

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 39.
- If you did not install the Samples component during installation of WebSphere Business Integration Server Express or Express Plus and 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 did not install the Samples component during installation of WebSphere Business Integration Server Express Plus and 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 41.
- If you did not install the Samples component during installation of WebSphere Business Integration Server Express Plus and 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 45.
- If you installed WebSphere Business Integration Server Express v4.4 and are upgrading to Express Plus v4.4, refer to the information in Chapter 8, “Upgrading WebSphere Business Integration Server Express and Express Plus,” on page 49.

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:

- “Quick Validate”
- “Taking the next step”

Quick Validate

To verify that your system is installed and operating properly, run the System Test sample. Instructions on running the sample are available from the Quick Validate online help, available by selecting the **Quick Validate** button from First Steps.

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 41.
- 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 45.
- If you installed WebSphere Business Integration Server Express V4.4 and are upgrading to Express Plus V4.4, refer to the information in Chapter 8, “Upgrading WebSphere Business Integration Server Express and Express Plus,” on page 49.

Chapter 6. Installing the Adapter Capacity Pack for 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. Silent installation and uninstallation are also possible.

This chapter contains the following sections:

- “Installing an Adapter Capacity Pack”
- “Uninstalling the Adapter Capacity Pack” on page 43
- “Taking the next step” on page 43

See “Silent installation and uninstallation,” on page 61 for instructions on performing silent installation and uninstallation.

Installing an Adapter Capacity Pack

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

- For OS/400 or i5/OS, the user profile needs to have *ALLOBJ or *SECADM special authority.
- 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 OS/400 or i5/OS system as InterChange Server Express, an installation of WebSphere MQ 5.3.0.2 CSD09 must exist on the same machine on which the adapter will be installed.

The installation GUI supplied with the Adapter Capacity Pack installs up to three adapters, which can be selected from the list in the section “Adapter choices and components” on page 42. The installer installs only one adapter at a time. (Therefore, you must run the Adapter Capacity Pack installer separately for each adapter you want to install to a particular server instance.) The installation GUI also configures the adapter as a service.

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** to launch the GUI to install the Adapter Capacity Pack.
The Welcome screen appears.
3. At the Welcome screen, select **Next**.
The Software License Agreement screen appears.
4. 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 installer checks that the prerequisites listed at the beginning of this section have been met. If any have not been met, it gives you the option of cancelling the installation by selecting the **Cancel** button. If all prerequisites have been met, installation proceeds, as follows:

- The InterChange Server Name panel appears. The InterChange Server name defaults to QWBIDFT44. Click **Next** to install an Adapter Capacity Pack to the default instance, or change the server name, if desired, before clicking **Next**.
 - If the installer does not find an installation of WebSphere Business Integration Server Express Plus on the local OS/400 or i5/OS system, and if this is the first adapter installation, the InterChange Server Express Information screen appears. It contains fields for the system name where the InterChange Server is running and the ORB Port Number. Enter the correct data for the fields in this screen, then click **Next**. (The default ORB port number, if used, is 14500, and 14501 if an installation of WebSphere Integration Server Express 4.3.1 was detected on the system.)
5. The feature screen appears. 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 “Adapter choices and components.”
 6. A pre-installation summary screen appears. 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 free some space on the specified drive.
 - If enough space does exist, installation and configuration begin. A post-installation summary screen appears, which indicates if the process was successful or if problems were encountered.
 7. On the post-installation summary screen, select **Finish** to exit the installation GUI.

During the installation process, the Adapter Capacity Pack installer creates an installation log file called
/QIBM/ProdData/WBIServer44/AdapterCapacityPack/install.log.

Adapter choices and components

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

- Adapter for JD Edwards OneWorld
- Adapter for mySAP.com
- Adapter for Oracle Applications

Note: 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:

- Data Handler for EDI
- Data Handler for XML
- Adapter Framework

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

Uninstalling the Adapter Capacity Pack

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

To run the uninstallation console interface, do the following:

1. From the OS/400 or i5/OS system command line, enter QSH to start an interactive QShell session.
2. Type the following command and press enter:

```
java -jar
/QIBM/ProdData/WBIServer44/AdapterCapacityPack/_uninstAdapterCP/
uninstall.jar
```

After a few moments, the uninstallation welcome text appears.

3. Enter **1** for **Next**, or simply press **Enter** to accept the default navigation option in the brackets, [1]. The Uninstallation Feature text appears. The installed components appear with an [x] next to them.
4. Leave any components selected that you want to be removed. To clear a feature or view its children, type its number. Press **Enter** (or enter **0**) and continue uninstalling. Then press **Enter** again to move to the next step. The pre-uninstallation summary text appears.
5. Press **Enter** to confirm your selection. You are prompted for the InterChange Server Express instance name if there is at least one instance with Adapter Capacity Pack installed.
6. Enter the InterChange Server name, or press **Enter** to accept the default server instance, QWBIDFT44.
7. Press **Enter** to continue the uninstallation. The uninstaller removes the selected components. The post-uninstallation summary text appears.
8. Press **Enter** to exit the uninstallation program.

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 45.
- 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.

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 server. (Collaboration Capacity Packs cannot be used with WebSphere Business Integration Server Express installations.) Only one Collaboration Capacity Pack can be installed for use with each WebSphere Business Integration Server Express Plus server.

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

This chapter contains the following sections:

- “Installing the Collaboration Capacity Pack”
- “Uninstalling the Collaboration Capacity Pack” on page 48
- “Taking the next step” on page 48

See “Silent installation and uninstallation,” on page 61 for instructions on performing silent installation and uninstallation.

Installing the Collaboration Capacity Pack

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

- For OS/400 the user profile needs to have *ALLOBJ and *SECADM special authority.
- 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 same server instance as the server instance you plan to specify during installation.
- The QWBISVR44 subsystem must be running, but the InterChange Server Express instance must be stopped.

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** to launch the GUI 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 InterChange Server Express is installed on the local machine, the Welcome screen appears.
3. At the Welcome screen, select **Next**.
The Software License Agreement screen appears.
 4. 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 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 RBAC information screen appears.
 5. On the RBAC information screen, you are asked for the InterChange Server instance name and to indicate whether you have Role-Based Access Control (RBAC) enabled for that instance. Perform one of the following:
 - If RBAC is enabled, select the radio button next to **Yes**, and fill out the User Name and password information that you created during the installation process. Then select **Next**. The installer will verify your information.
 - If RBAC is not enabled, select the radio button next to **No** and select **Next**. The installer will verify that RBAC is not enabled. If it is determined that RBAC is enabled, you will be prompted to provide the User Name and password. If RBAC is not enabled, the installation process will continue.
 The feature screen appears.
 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 “Collaboration choices and components.”
A 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 drive.
 - If enough space does exist, installation and configuration begin. When installation and configuration are complete, a 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.

During the installation process, the Collaboration Capacity Pack installer creates an installation log file is called `/QIBM/ProdData/WBIServer44/CollabCP/install.log`.

Collaboration choices and components

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

To uninstall the Collaboration Capacity Pack, do the following:

1. From the OS/400 or i5/OS system command line, enter QSH to start an interactive QShell session.
2. Type the following command and press enter:

```
java -jar  
/QIBM/ProdData/WBIServer44/CollabCP/_uninstCollabCP/uninstall.jar
```

After a few moments, the Uninstallation Welcome text appears.

3. Enter **1** for **Next**, or press **Enter** to accept the default navigation option in brackets, [1]. The Uninstallation Feature text appears. The installed components appear with an [x] next to them.
4. Leave any components selected that you want to be removed. To clear a feature or view its children, type its number. Press **Enter** (or enter 0) to continue uninstalling. Then press **Enter** again to move to the next step.
5. If there is a server instance with the Collaboration Capacity Pack installed, then you will be prompted for the instance name. Enter the InterChange Server name where the collaboration is installed, or press **Enter** to accept the default server instance, QWBIDFT44.
6. Press **Enter** to continue uninstallation. The Pre-uninstallation summary text appears.
7. Press **Enter** to confirm your selection. The uninstallation program removes the selected components. The post-uninstallation summary text appears.
8. Press **Enter** to exit the uninstallation program.

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. Upgrading WebSphere Business Integration Server Express and Express Plus

This chapter describes general procedures for upgrading to WebSphere Business Integration Server Express v4.4 and Express Plus v4.4. It contains the following sections:

- “Supported upgrade scenarios and assumptions”
- “Preparing the existing system” on page 52
- “Starting the upgrade process” on page 55
- “Upgrading from WebSphere Business Integration Server Express V4.4 to Express Plus V4.4” on page 55
- “Installing WebSphere Business Integration Server Express V4.4 to OS/400 or i5/OS with an existing installation of WebSphere Business Integration Server Express V4.3.1” on page 58
- “Installing WebSphere Business Integration Server Express Plus V4.4 to OS/400 or i5/OS with an existing installation of WebSphere Business Integration Server Express Plus V4.3.1” on page 59
- “Starting the new upgraded version” on page 59
- “Validating the upgrade” on page 59
- “Testing the upgraded version” on page 60
- “Backing up your upgraded version” on page 60
- “Taking the next step” on page 60

Supported upgrade scenarios and assumptions

The following upgrade scenarios are supported:

- Upgrading an installation of WebSphere Business Integration Server Express version 4.4 to Express Plus version 4.4.
- Installing WebSphere Business Integration Server Express version 4.4 to i5/OS with an existing installation of Express version 4.3.1.
- Installing WebSphere Business Integration Server Express Plus version 4.4 to i5/OS with an existing installation of Express Plus version 4.3.1.

The following upgrade scenarios are *not* supported:

- Upgrading an installation of WebSphere Business Integration Server Express version 4.3.1 to Express Plus version 4.4.
- Upgrading an installation of WebSphere Business Integration Server Express Plus version 4.3.1 to Express version 4.4.

During any upgrade procedure, components you have already installed are preselected for upgrade and cannot be deselected. Additional components not already installed can be selected for installation during the upgrade process. All upgrade procedures assume the following:

- 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 “Software prerequisites” on page 23.

- 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, by running the installer on the various machines.

Note: All references in this chapter that refer to upgrading WebSphere Business Integration Server Express version 4.3.1 also apply to upgrading WebSphere Business Integration Server Express version 4.3.1.1.

Preserving existing user projects

Any user projects defined in your existing WebSphere Business Integration Server Express or Express Plus system are stored locally with the tools. When you run the installer to upgrade to another version of tools, installer will not automatically recognize the path to the System Manager workspace in which your existing user projects reside.

To make all system manager projects (user projects and integration component libraries) available, you can do either of the following:

- Migrate existing user projects by exporting them as solutions to a temporary location before the upgrade, and then importing them into your new installation after the upgrade. This is the recommended approach.
- After the upgrade, revise your System Manager workspace path to point to the location of your original workspace, where your original user projects reside.

Migrating existing projects

To migrate existing projects, first export them as a solution to a temporary location, then import them back into your newly upgraded System Manager.

Exporting user project solutions

To export a user project and the integration components it references as a solution, perform the following steps:

Note: Exporting a solution migrates only the integration components and shortcuts that are included in the user projects that you select for that solution. If you want to also migrate additional integration components that have not been included as shortcuts in any user project, then also follow the procedures for Exporting components to a package using System Manager in the *System Implementation Guide*.

1. In the WebSphere Business Integration System Manager view, expand the **User Projects** folder, then right-click the **InterChange Server Projects** folder and choose **Export Solution** from the context menu. System Manager displays the Export Solution wizard.
2. To select the components you want to export, perform one of these options:
 - Enable the check box next to user projects to select all of the components in the projects.
 - Enable the check box next to a component group to select all of the components in the group.
 - Highlight a component group and then enable check boxes next to individual components in the right-hand pane to select those components.
3. Either type the full path and name of the directory into which the solution should be exported in the text field at the bottom of the wizard screen, or click **Browse** to navigate to the desired directory.

4. Click **Finish**. The System Manager does the following to export the solution in the directory specified in Step 3:
 - a. Creates a User directory that contains the shortcuts in the user projects selected during the export of the solution.
 - b. Creates a System directory that contains the directories of the integration component library referenced by the shortcuts in the user projects selected during the export of the solution.
5. When prompted that the export operation completed successfully, click **OK**.

Importing user project solutions

In the newly upgraded System Manager, perform the following steps:

1. Expand the User Projects folder, right-click **InterChange Server Projects**, and select **Import Solution**.
2. Either type the full path and name of the directory in which the exported solution exists into the Solution directory name field, or click **Browse** to navigate to the desired directory.
3. Click **Finish**. The System Manager creates the integration component libraries and user projects defined in the exported solution in your environment.

Upgrading software prerequisites

The Launchpad installation interface will automatically upgrade some software prerequisites. However, if you have a version of the prerequisite that is prior to one supported for upgrade by the current version of WebSphere Business Integration Server Express or Express Plus, you will have to manually upgrade the prerequisite before upgrading WebSphere Business Integration Server Express or Express Plus. (Refer to <http://www.ibm.com/software/integration/wbiserverexpress/> for information about the supported versions of prerequisite software.) You can also choose to manually upgrade the prerequisite for any other reason. If you manually upgrade a prerequisite to a version that is supported by the current release (WebSphere Business Integration Server Express 4.4), the Launchpad will detect that you have a current version of that prerequisite when you perform the rest of the upgrade. Follow the upgrade instructions provided with a particular prerequisite if you manually upgrade it.

The following sections describe steps that must be done for any database and the upgrade scenarios for several software prerequisites. Make sure to follow the steps in "Backing up the system" on page 53 before uninstalling or upgrading any software.

IBM DB2 Universal Database

WebSphere Business Integration Server Express and Express Plus 4.4 for OS/400 and i5/OS are certified for use with IBM DB2 Universal Database (UDB) for iSeries that is provided with your OS/400 v5R2 or i5/OS v5R3 operating system.

IBM WebSphere Application Server

WebSphere Business Integration Server Express or Express Plus version 4.4 supports WebSphere Application Server Express versions 6.0 and 5.1.1, and WebSphere Application Server versions 6.0 and 5.1.1. WebSphere Application Server Express version 6.0 is the version that the Launchpad installs.

Note: WebSphere Business Integration Server Express version 4.3.1 and WebSphere Business Integration Server Express version 4.4 web-based tools can coexist on OS/400 and i5/OS.

IBM WebSphere MQ Server and Client

If you have an older version of IBM WebSphere MQ installed on the OS/400 or i5/OS system that was supported by a previous version of WebSphere Business Integration Express, you will have to upgrade it manually to the supported version (MQ 5.3.0.2 CSD09). If an unsupported version of MQ is already installed but is not being used by any application, you can uninstall it and the Launchpad will install the supported version.

If Toolset Express is being installed, the Launchpad will detect whether or not you have a supported version of IBM WebSphere MQ installed on the Windows system and if one is not detected, it will automatically install IBM WebSphere MQ 5.3.0.2 CSD07.

IBM Java Development Kit

IBM Java Development Kit (JDK) 1.4.2 must be installed on the OS/400 or i5/OS system and on the Windows system. For the OS/400 or i5/OS system, you should have Licensed Program 5722JV1 with Option 6 - Java Development Kit 1.4 and the latest PTF group for Java installed. Refer to the i5/OS support web site for more information. On the Windows system, the Launchpad installs the appropriate JDK version (required for Toolset Express). It is not necessary to remove the previous version. However, on the OS/400 or i5/OS system, the Launchpad will not install the correct JDK. You must install it manually.

Preparing the existing system

The system upgrade involves the following steps:

- “Putting the system in a quiescent state”
- “Backing up the system” on page 53
- “Shutting down the system” on page 54

Putting the system in a quiescent state

Before you upgrade your system from WebSphere Business Integration Server Express 4.4 to Express Plus 4.4 on OS/400 and i5/OS, 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 `Pol1Frequency` 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

If you are upgrading from WebSphere Business Integration Server Express v4.4 to Express Plus v4.4 on OS/400 and i5/OS, 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 3..

To back up the system, do the following:

- Back up your current InterChange Server Express repository using the `repos_copy` utility. For example, suppose your InterChange Server Express instance is named `QWBIDFT44` and it has security enabled using login "admin" and password "null". The following `repos_copy` command creates a backup of the repository objects in a file called `RepositoryExpress.txt`:

```
repos_copy -sQWBIDFT44 -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, where the *servername* is the name of the InterChange Server Express, with the default on OS/400 or i5/OS as `QWBIDFT44` and that resides in the following directory:

```
/QIBM/UserData/WBIServer44/servername/mqseries/crossworlds_mq.tst
```
- IBM recommends taking a system backup of the *entire* InterChange Server Express product directory. On OS/400 and i5/OS, this consists of the `/QIBM/UserData/WBIServer44` 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 InterChange Server 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 3 summarizes how to back up the different components.

Table 3. Backup methods for data

Type of data	Backup method
Static data	
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> .

Table 3. Backup methods for data (continued)

Type of data	Backup method
Custom map Java class files (.class)	To include these files in your system backup, make sure the following directory is in your system backup: <i>ProductDir</i> \DLMs
Custom connectors	Include the following directory in your system backup: <i>ProductDir</i> \connectors\ <i>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.
InterChange Server Express configuration file (InterchangeSystem.cfg)	Include in your system backup the InterChange Server Express configuration file that resides in the <i>/QIBM/UserData/WBIServer44/servername</i> directory, where <i>servername</i> is the InterChange Server Express name. QWBIDFT44 is the default on OS/400 and i5/OS.
Dynamic data	
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: <i>/QIBM/UserData/WBIServer44/servername/DLMs</i> , where <i>servername</i> is the InterChange Server Express name. QWBIDFT44 is the default on OS/400 and i5/OS.

Shutting down the system

After backups are complete and you are upgrading from WebSphere Business Integration Server Express v4.4 to Express Plus v4.4, you will need to shut down the system as follows:

1. Shut down InterChange Server Express and its related components.
2. End the QWBISVR44 subsystem using the following CL Command, ENDSBS SBS(QWBISVR44) OPTION(*CNTRLD).

Note: Alternatively, issue this command from a QSH shell or through CL to gracefully end the WebSphere Business Integration express server instance(s) in preparation for shutdown.

```
/QIBM/ProdData/WBIServer44/bin/stop_server_gracefully.sh  
serverName. The serverName matches the name of the server instance.
```

3. End the MQ Queue Manager using the following CL command, WRKMQM. Find the queue name and then select the option to end the queue manager. The queueName is *serverName*.QUEUE.MANAGER where *serverName* is the Interchange Server Express instance name. The default server is named QWBIDFT44 and therefore, the queueName is QWBIDFT44.QUEUE.MANAGER. The *serverName* is provided entirely in uppercase in the queueName along with the rest of the name. This is mandatory.

Note: It is not mandatory for the queue manager name to be *serverName*.QUEUE.MANAGER. It can be a custom queue name that you specify.

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

Starting the upgrade process

After the system is in a quiescent state and backed up, you can safely start the upgrade procedure. Upgrading the system involves the following tasks:

- “Upgrading from WebSphere Business Integration Server Express V4.4 to Express Plus V4.4”
- “Starting the new upgraded version” on page 59

Upgrading from WebSphere Business Integration Server Express V4.4 to Express Plus V4.4

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 V4.4 to Express Plus V4.4. The GUI does the following:

- Installs WebSphere Business Integration Server Express Plus product components and configures them as services.
- Installs any new adapters you select and configures them as services.
- Does not drop your existing database.
- Retains your existing repository and does not redeploy it.

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 Install Server screen appears.
3. On the Install Server screen, do one of the following:
 - If you have the version 4.4 InterChange Server Express component installed, the check box beside the entry **InterChange Server Express** is selected and disabled. Select **Next**.
 - If you do *not* have the version 4.4 InterChange Server Express component installed, the check box beside the entry **InterChange Server Express** is selected and enabled. You can proceed in one of two ways:
 - Leave the entry selected to install the version 4.4 InterChange Server Express component during the upgrade of other installed components.
 - Unselect the check box to keep the version 4.4 InterChange Server Express component from being installed.

Select **Next**.

The Install Tools screen appears. Installing the Administrative tools will also install the WebSphere Business Integration Console for OS/400 and i5/OS.

4. On the Install Tools screen, do one of the following:
 - If you have the version 4.4 Toolset Express Administrative and Development tools installed, the check boxes beside the entries **Administrative Tools** and **Development Tools** are selected and disabled. Select **Next**.
 - If you have the version 4.4 Toolset Express Administrative tools alone installed, the check box beside the entry **Administrative Tools** is selected and disabled and the check box beside the entry **Development Tools** is selected and enabled. You can proceed in one of two ways:
 - Leave the entry beside **Development Tools** selected to install the version 4.4 Development tools during the upgrade of other installed components.

- Unselect the check box to keep the version 4.4 Development tools from being installed.

Select **Next**.

Note: You cannot install only the Development tools. They require that Administrative tools also be installed.

- If you do *not* have the version 4.4 Toolset Express Administrative and Development tools installed, the check boxes beside the entries **Administrative Tools** and **Development Tools** are selected and enabled. You can proceed in one of three ways:
 - Leave both check boxes selected to install the version 4.4 Administrative and Development tools during the upgrade of other installed components.
 - Leave the check box beside the entry **Administrative Tools** selected and unselect the check box beside the entry **Development Tools** to install the version 4.4 Administrative tools only.

Note: You cannot install only the Development tools. They require that Administrative tools also be installed.

- Unselect both check boxes to keep the version 4.4 Administrative and Development tools from being installed.

Tip: Unselect the check box beside **Development Tools** first. This action enables the check box beside **Administrative Tools**, so you can then unselect it.

Select **Next**.

The Install Web-based Tools screen appears.

5. The web-based tools include System Monitor, Failed Event Manager, and Web Deployment. Refer to the *System Implementation Guide* for more information about these tools.

A supported version of WebSphere Application Server or WebSphere Application Server Express and the IBM HTTP Server are required to be on the OS/400 or i5/OS system for web-based tools to operate. If web-based tools is selected, then later in the installation process the Launchpad will inform you whether these prerequisites are already installed and will prompt you to install them if they are not. (WebSphere Application Server Express 6.0 can be installed from the Launchpad; the IBM HTTP Server is supplied with your OS/400 or i5/OS system and must be installed separately.)

- Leave the check box selected to install Web-based Tools.
- Unselect the check box if you do not want to install Web-based Tools.

Select **Next**.

The Install Adapters screen appears.

6. On the Install Adapters screen, if you have version 4.4 adapters installed, the check box 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 on page 57.) Do one of the following:
 - If you do not want to install any other adapters than the ones you have already installed, unselect the check box 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 check box 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 check box beside the Adapter for JText selected, select the check boxes beside the other adapters you want to add, and then select **Next**.

The Install Samples screen appears.

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

- If you have the version 4.4 Samples component installed, the check box beside the entry **Samples** is selected and disabled. Select **Next**.
- If you do *not* have the version 4.4 Samples component installed, the check box beside the entry **Samples** is checked and enabled. You can proceed in one of two ways:
 - Leave the entry selected to install the version 4.4 Samples component during the upgrade of other installed components.
 - Unselect the check box to keep the version 4.4 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 Step 3 on page 11 for instructions on how to install the prerequisites, and the section “Software prerequisites” on page 23 for additional prerequisite information.

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**.

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.
 - 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 11 on page 58.

11. 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 drive.
 - 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.

Installation Summary

The installation process has completed the following tasks, depending on the features you chose in the Launchpad:

- Installed WebSphere Business Integration Server Express Plus product components.
- Configured the `Cwtools.cfg` file used by the Toolset Express.
- Configured the `InterchangeSystem.cfg` file used by the InterChange Server Express for OS/400 and i5/OS.
- Configured a queue manager for WebSphere MQ.
- InterChange Server Express is configured to automatically start with the TCP/IP auto servers.
- 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 “Directory structure and files” on page 29.

There is one log file containing information about the install process for the OS/400 and i5/OS installation: the `install.log` file is located in the directory `/QIBM/ProdData/WBIServer44/`.

Installing WebSphere Business Integration Server Express V4.4 to OS/400 or i5/OS with an existing installation of WebSphere Business Integration Server Express V4.3.1

If you currently have WebSphere Business Integration Server Express v4.3.1 installed on OS/400 or i5/OS, you can install WebSphere Business Integration Server Express v4.4 alongside the previous version. The two versions can coexist on OS/400 and i5/OS and can run concurrently. The installation of WebSphere Business Integration Server Express v4.4 will not modify the WebSphere Business Integration Server Express v4.3.1 installation.

During the installation of WebSphere Business Integration Server Express v4.4, the Launchpad will detect the WebSphere Business Integration Server Express v4.3.1 installation. In this case, the InterChange Server Express default ports for WebSphere Business Integration Server Express V4.4 will change to 14501, 1417, and 4443.

For specific information on installing WebSphere Business Integration Server Express v4.4, refer to Chapters 1 through 7 of this guide.

Installing WebSphere Business Integration Server Express Plus V4.4 to OS/400 or i5/OS with an existing installation of WebSphere Business Integration Server Express Plus V4.3.1

If you currently have WebSphere Business Integration Server Express Plus v4.3.1 installed on OS/400 or i5/OS, you can install WebSphere Business Integration Server Express Plus v4.4 along side the previous version. The two versions can coexist on OS/400 and i5/OS and can run concurrently. The installation of WebSphere Business Integration Server Express Plus v4.4 will not modify WebSphere Business Integration Server Express Plus v4.3.1 installation.

During the installation of WebSphere Business Integration Server Express Plus v4.4, the Launchpad will detect the WebSphere Business Integration Server Express Plus v4.3.1 installation. In this case, the InterChange Server Express default ports for WebSphere Business Integration Server Express Plus v4.4 will change to 14501, 1417, and 4443.

For specific information on installing WebSphere Business Integration Server Express Plus v4.4, refer to Chapters 1 through 7 of this guide.

Starting the new upgraded version

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

1. Verify that all required supporting software is running. Supporting software includes WebSphere MQ (make sure that Queue manager and the Listener are both up and running).
2. Start InterChange Server Express. For instructions on how to start InterChange Server Express, refer to “Starting WebSphere Business Integration Server Express or Express Plus” on page 35.

You can check the `InterchangeSystem.log` file in the `/QIBM/UserData/WBIServer44/QWBIDFT44/log` directory for the default instance.

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 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 lights 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.

You can also check whether the upgrade was performed successfully by performing the "Quick Validate" procedure. Instructions for this procedure can be launched by clicking the "Quick Validate" button from the First Steps interface. For more information, refer to Chapter 5, "Verifying the installation," on page 39.

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 your 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 53.

Taking the next step

Your upgrade to WebSphere Business Integration Server Express Plus is complete. Do one of the following if you need to install an optional Adapter or Collaboration Capacity Pack:

- 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 41.
- 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 45.

Appendix. Silent installation and uninstallation

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. See the response file for instructions.

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”
- “Uninstalling WebSphere Business Integration Server Express and Express Plus” on page 62
- “Silently installing the Adapter Capacity Pack” on page 62
- “Silently uninstalling the Adapter Capacity Pack” on page 62
- “Silently installing the Collaboration Capacity Pack” on page 63
- “Silently uninstalling the Collaboration Capacity Pack” on page 63

For information about silently installing or uninstalling the WebSphere Business Integration Server Express or Express Plus components that are installed on the Windows client, refer to the *WebSphere Business Integration Server Express Installation Guide for Windows*.

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_iSeries.txt`
- For WebSphere Business Integration Server Express Plus silent installation:
 - `WBIServerExpressPlusResponseFile_iSeries.txt`

To perform a silent installation, do the following:

1. Copy the response file from the CD media to a directory of your choice and modify it with the settings needed for your installation.

Note: Setting `-P expressAdaptersFeature.active=true` in the response file will cause all of the adapters to be installed. To install individual adapters, set each desired adapter feature to true and set `-P expressAdaptersFeature.active=false`

2. Move to the directory containing the modified response file.
3. From a command line, issue the following command:

```
CD_drive_letter\Launchpad\iSeriesInstaller.exe -silent -options \  
response_file_name
```

Optionally, you can provide the OS/400 or i5/OS login information on the command line to avoid being prompted for that information:

```
CD_drive_letter\Launchpad\iSeriesInstaller.exe system userID password \  
-silent -options response_file_name
```

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 following directory:
 - in a WebSphere Business Integration Server Express installation move to /QIBM/ProdData/WBIServer44/product/_uninstWBIServerExp
 - in a WebSphere Business Integration Server Express Plus installation move to /QIBM/ProdData/WBIServer44/product/_uninstWBIServerExpPlus
2. From QShell, issue the following command:

```
java -jar uninstall.jar -silent
```

Silently installing the Adapter Capacity Pack

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

To perform a silent installation, do the following:

1. Copy the response file from the CD media to a directory of your choice and modify it with the settings needed for your installation.
2. Move to the directory containing the modified response file.
3. From a command line, issue the following command:

```
CD_drive_letter\AdapterCapacityPack\iSeriesInstaller.exe -silent \  
-options adaptercp_silent_ieseries.txt
```

Optionally, you can provide the OS/400 or i5/OS login information on the command line to avoid being prompted for this information:

```
CD_drive_letter\AdapterCapacityPack\iSeriesInstaller.exe system \  
userID password -silent -options adaptercp_silent_ieseries.txt
```

Silently uninstalling the Adapter Capacity Pack

The name of the response file used to silently uninstall the Adapter Capacity Pack is adaptercp_silent_uninst.txt and it is located in the following directory on the OS/400 or i5/OS system:

```
/QIBM/ProdData/WBIServer44/AdapterCapacityPack
```

To perform a silent uninstallation, do the following:

1. Copy the adaptercp_silent_uninst.txt response file from /QIBM/ProdData/WBIServer44/AdapterCapacityPack to the directory /QIBM/ProdData/WBIServer44/AdapterCapacityPack/_uninstAdapterCP.
2. Modify the response file with the settings needed for your uninstallation.

3. Enter QShell by typing QSH at the OS/400 or i5/OS command line and change directory to /QIBM/ProdData/WBIServer44/AdapterCapacityPack/_uninstAdapterCP.
4. From a command line, issue the following command:

```
java -jar uninstall.jar -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_iseries.txt and it is located on the CD in the directory CollabCapacityPack.

To perform a silent installation, do the following:

1. Copy the response file from the CD media and modify it with the settings needed for your installation.
2. Move to the directory containing the modified response file.
3. From a command line, issue the following command:

```
CD_drive_letter\CollabCapacityPack\iSeriesInstaller.exe -silent \
-options collabcp_silent_iseries.txt
```

Optionally, you can provide the OS/400 or i5/OS login information on the command line to avoid being prompted for that information:

```
CD_drive_letter\CollabCapacityPack\iSeriesInstaller.exe system \
userID password -silent -options collabcp_silent_iseries.txt
```

Silently uninstalling the Collaboration Capacity Pack

The name of the response file used to silently uninstall the Collaboration Capacity Pack is collabcp_silent_uninst.txt located in the following directory on the OS/400 and i5/OS: /QIBM/ProdData/WBIServer44/CollabCP

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

1. Copy the collabcp_silent_uninst.txt response file from /QIBM/ProdData/WBIServer44/CollabCP to /QIBM/ProdData/WBIServer44/CollabCP/_uninstCollabCP.
2. Enter QShell by typing QSH at the OS/400 and i5/OS command line and change directory to /QIBM/ProdData/WBIServer44/CollabCP/_uninstCollabCP
3. From the QShell command line, issue the following:

```
java -jar uninstall.jar -silent -options collabcp_silent_uninst.txt
```

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WebSphere Business Integration Server Express and Express Plus include software developed by the Eclipse Project (<http://www.eclipse.org/>).



WebSphere Business Integration Server Express, Version 4.4, and WebSphere Business Integration Server Express Plus, Version 4.4.

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