IBM WebSphere Business Connection

IBM

Installation and Configuration Guide for Windows

Version 1.1.0

Contents

Installation and Configuration

This guide contains information and instructions for installing and testing IBM[R] WebSphere[R] Business Connection on a Windows[R] 2000 server. The Business Connection family of offerings includes:

- IBM WebSphere Business Connection Enterprise Edition
- IBM WebSphere Business Connection
- IBM WebSphere Business Connection Express Edition

Use this book no matter which edition you are installing. Note, however, that the Express Edition, which includes a subset of the components installed with the other editions, differs in its installation instructions. The guide will indicate whether an instruction applies only to a specific edition.

About Business Connection

All three of the Business Connection editions are installed on the standard IBM e-business platform, which consists of DB2[R] and WebSphere Application Server. The Business Connection Express Edition adds security and the Web Services Gateway to that standard platform. The Business Connection and Business Connection Enterprise Edition add the Business Connection Technology components, such as Solution Management and Document Exchange, as shown in the following illustration. They also include CrossWorlds[R] technology.

Figure: The three Business Connection editions and contents of each

How this document is organized

The remainder of this document is divided into five parts.

- In the "Part I - Before you begin" on page 3, you'll find the hardware and software requirements for each of the Business Connection editions.
- In "Part II - Installing and configuring prerequisite software" on page 5, you'll install the prerequisite programs (such as DB2). You will use this book in conjunction with the installation instructions that come with those programs.
- "Part III - Installing and configuring Business Connection" on page 15 describes how to install and configure the Business Connection Technology components. Installation and configuration are largely automated, although you will perform some manual configuration steps.
- "Part IV - Business Connection Security" on page 51 shows you how to set up security on your Business Connection system.
- "Part V - After installation" on page 59 describes how to remove an installation and how to start the system.

Part I - Before you begin

To install Business Connection and its prerequisite software, you should have experience with installing the Microsoft Windows 2000 operating system, DB2, WebSphere Application Server, and the SecureWay(R) product family. If you are installing Business Connection or Business Connection Enterprise Edition, you should also have experience with the MQSeries(R) product family and IBM CrossWorlds.

Also note that WebSphere Business Connection is intended to be run on a dedicated platform. Be aware that the security procedures described in this document affect *all* Web (and application) server content on the Business Connection platform.

Hardware requirements

To install and configure an edition of the Business Connection product, you will need one of the following minimum computer configurations:

For **WebSphere Business Connection Express Edition**, the following minimum hardware is recommended:
- 10 GB of disk space
- 512 MB RAM
- 633 MHz Pentium III CPU

For **WebSphere Business Connection**, the following minimum hardware is recommended:
- 20 GB of disk space
- 1 GB of RAM
- 633 MHz Pentium III CPU

For **WebSphere Business Connection Enterprise Edition**, the following minimum hardware is recommended:
- 40 GB of disk space
- 2 GB of RAM
- 1.26 GHz Pentium III CPU

Software requirements

The following table shows which software packages should be installed for each Business Connection edition. Before you begin the installation process, make sure you have the right level of software installed or available for installation.

Software Package	Business Connection Express	Business Connection	Business Connection Enterprise
Microsoft(R) Windows 2000 Server (SP2)	X	X	X
Microsoft Internet Explorer Version 5.5	X	X	X

Software Package	Business Connection Express	Business Connection	Business Connection Enterprise
IBM DB2 V7.2 with FixPack 6 with XML Extensions (Business Connection can use the limited-use license included with the WebSphere Application Server)	X	X	X
IBM WebSphere Application Server 4.02 Advanced Edition	X	X	X
IBM HTTP Server 1.3.19.2 **Important:** This is an upgrade to the version of the HTTP Server that comes with WebSphere Application Server. Obtain a copy of the upgrade. You will install it in the section "Upgrading the HTTP Server" on page 18.	X	X	X
IBM MQSeries 5.2 Server		X	X
IBM MQSeries 5.2 Client		X	X
IBM CrossWorlds InterChange Server 4.1.1 + Administration Tools with TPI Connector 2.1.1 FixPack (Business Connection includes a limited-use license)		X	X
IBM SecureWay Directory Version 3.2.2 for Windows NT	X	X	X
IBM CrossWorlds TPI Solo (1 partner)		X	X
IBM WebSphere Enterprise Extensions 4.0 (JMS Connectors)	X	X	X
Sun JDK 1.3.1_03		X	X
CrossWorlds Visibroker		X	X
IBM WebSphere Business Connection (Business Connection Technology components)	X (Web Services Gateway only)	X	X

Note that the procedures in this guide assume you are performing an initial installation. The sections in this document are arranged in the order you must install the Business Connection components.

Installation Assistance

If you find that some element of the installation process does not work correctly or you have trouble configuring the systems for IBM WebSphere Business Connection, call 1-888-IBM-HELP (888-426-4357).

Part II - Installing and configuring prerequisite software

This section describes the software you need to install before you install the Business Connection edition.

Installing and configuring DB2

Here and throughout much of this document, the following table is used to indicate the editions of WebSphere Business Connection to which the section applies.

Applies to	Edition
Yes	**Business Connection Express Edition**
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

The first step is to define and configure a db2admin user.

Defining a db2admin user

Define a db2admin user in the Administrator group as follows:

1. From Windows, click **Start > Settings > Control Panel > Administrative Tools > Computer Management** > **Local Users and Groups** > **Users**.
2. Click **Action** > **New User**.
3. In the **User name** field, type

   db2admin
4. Fill in the **Password** and **Confirm Password** fields.
5. Uncheck **User must change password at next logon**.
6. Check both **User cannot change password** and **Password never expires**.
7. Click **Create** and then **Close**.

Adding db2admin to the Administrator group

To add the db2admin user to the Administrator group:

1. Click on the **db2admin** user that was just created, and then right-click to get to the db2admin properties.
2. Go to **Member Of**.
3. Click **Add**.
4. Highlight **Administrators**.
5. Click **Add**.
6. Click **OK**.

Installing DB2

Install DB2 V7.2 with FixPack 6, using the following steps in conjunction with the DB2 installation document:

1. Select a **Typical** install.
2. Add a DB2 administrator and password. For example, set the user as **db2admin** and set the password of choice (as previously defined). It is

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extremely important that the password for the db2admin user be the same for the operating system definition and the DB2 installation.

3. When you are asked whether to install the OLAP Starter Kit, answer **No**.

Installing JDBC support

The next step is to install the JDBC 2.0 support needed by IBM WebSphere Application Server and CrossWorlds InterChange Server. Do the following:

1. From a command prompt, stop the **DB2 JDBC Applet Server** Windows service as follows:

   ```
   net stop "DB2 JDBC Applet Server"
   ```

2. In a command window, change to the *db2_install_path*\java12 directory (the directory in which you installed DB2), and type the following command:

   ```
   usejdbc2.bat
   ```

3. Check to see that two files were copied.

   Note: If the output of USEJDBC2 indicates that any of the files failed to copy successfully, the JDBC2 update failed. If this occurs, stop all DB2 services and then repeat the above steps. If you see any **access denied** or **process cannot access...** errors and the JDBC Applet Server is indeed not running, some other (non-DB2) process has locked the db2java.zip file for some reason.

4. From a command prompt, start the DB2 JDBC Applet server Windows service as follows:

   ```
   net start "db2 JDBC Applet Server"
   ```

5. Check the contents of the *db2_install_path*\java12\inuse file. If JDBC 2.0 is being used, the file will contain:

   ```
   JDBC 2.0
   ```

Creating databases

Before you install IBM WebSphere Application Server and CrossWorlds InterChange Server (ICS), you will create databases for the products. Note that if you are installing Business Connection Express Edition, you should skip the steps to install or configure a database for CrossWorlds ICS.

The following table shows information about these databases:

Prerequisite	Database Name	DB2 Parameters
WebSphere Application Server	WAS40	Db2_rr_to_rs = yes Maxagents = 50
CrossWorlds ICS	Cwrepos	Applheapsz = 2048 Maxappls = 50

To create and configure the databases, you will enter a series of commands. All of these commands are entered from a DB2 command window.

1. Create a database for WebSphere Application Server and, for Business Connection and Business Connection Enterprise Editions, CrossWorlds ICS.

   Enter the following commands:

   ```
   db2cmd
   db2 create db was40 alias was40
   db2 create db cwrepos alias cwrepos
   ```

> **Note**: If you are installing Business Connection Express Edition, do *not* enter the third command, which creates the CrossWorlds ICS database.

2. Configure the instance by entering the following two commands:

   ```
   db2 update db manager config using maxagents 50
   db2set db2_rr_to_rs=yes
   ```

3. If you are installing on Business Connection or Business Connection Enterprise Editions, enter the following commands to configure the database for Crosworlds ICS:

   ```
   db2 update db config for cwrepos using applheapsz 2048
   db2 update db config for cwrepos using maxappls 50
   ```

4. Stop and start the database manager by entering the following three commands:

   ```
   db2 force applications all
   db2stop
   db2start
   ```

Configuring DB2 for JTA

Next, you specify Java$^{(TM)}$ Transaction Service (JTS) as the distributed transaction manager to use with DB2. The JTS transaction manager supports the Java Transaction API (JTA).

To configure DB2 for JTA:

1. Open the DB2 Control Center.
2. Expand the **Instances** tree and highlight **DB2**.
3. Right-click **DB2,** click **Multisite Update**, and then click **Configure**.
4. In the **Configure Wizard**, select **Use TP Monitor Named below** and click **JTS**.
5. Click **Finish**.

Setting the maximum concurrent databases

The default for the Maximum number of concurrently active databases in DB2 is 8. To use DB2 with the Business Connection components, you must change this value to 16. Do the following:

1. Open the DB2 Control Center.
2. Expand the **Instances** tree and highlight **DB2**.
3. Right-click **DB2,** and then click **Configure**.
4. From the Environment tab, change the number under Maximum number of concurrently active databases from 8 to **16**.
5. Click **OK**.

Verifying DB2 installation and configuration

You can verify that DB2 was installed and configured correctly by doing one of the following:

- Use First Steps to create the sample database that comes with DB2
- Let the WebSphere Application Server "verify the install" when it creates its tables in the WebSphere Application Server database

__ DB2 is installed and verified.

Installing and configuring WebSphere Application Server

Applies to	Edition
Yes	**Business Connection Express Edition**
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

Installing WebSphere Application Server 4.0.2 involves installing FixPack2 to a WebSphere Application Server 4.0.1 installation and then applying an eFix.

For those installations using two computers to divide the tasks, both computers need to install WebSphere Application Server.

For Business Connection and Business Connection Enterprise Editions, note the following: When installing WebSphere Application Server on the CrossWorlds computer, use the WebSphere Application Server database created by the previous WebSphere Application Server installation on the WebSphere Application Server computer, and select remote database during installation.

1. Set DB2's JDBC drivers to JDBC 2.0 if you have not already done so. (See "Installing JDBC support" on page 6.)
2. Create a database for WebSphere Application Server if it has not already been done. (See "Creating databases" on page 6.)
3. To start the setup program, enter:

   ```
   setup.exe
   ```
4. Select a **Typical** install.
5. Type a user name and password, and click **Next**.
6. Enter the directory for WebSphere Application Server.
7. If the IBM HTTP Server is not already installed on your computer, enter the location where the IBM HTTP server is to be installed.
8. Select **DB2** for the database and fill in any DB2 options.
9. Let the installation program reboot the system.
10. Install FixPack2. Copy the files to your local drive and then run install.bat.
    a. Make sure IBM WebSphere Administrative Services and IBM HTTP Services are NOT running.
    b. Enter

       ```
       install.bat
       ```
    c. Enter the directory where WebSphere Application Server is installed.
    d. Select **Yes** to upgrade the HTTP Server, and enter the directory where the HTTP Server is installed.
    e. At the **Install Connector Architecture** field, select **Yes**.

Configuring WebSphere Application Server

To configure WebSphere Application Server:

1. Verify that the admin.config file contains:
   a. The correct DB2 settings (the dbName, dbUser, and encrypted dbPassword that were created earlier)
   b. DB JDBC classes in the classpath line

2. Start WebSphere Application Server. When the server starts the first time, it creates and loads the tables in the DB2 database.
3. For Business Connection and Business Connection Enterprise Editions, make sure WebSphere Application Server is working with the samples before installing WebSphere Application Server on the CrossWorlds computer.

Verifying the WebSphere Application Server configuration

To verify that the WebSphere Application Server configuration is correct:
1. Check the installation log for any errors.
2. Start the default application server. Click **Start** > **Programs** > **WebSphere** > **Application server V4.0 AE** > **Start Admin Server**.
3. Enter a password for starting WebSphere Application Server services.

__ WebSphere Application Server is installed and verified.

Installing and configuring MQSeries Server and MQSeries Client

Applies to	Edition
	Business Connection Express Edition
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

Note: If you are installing Business Connection Express Edition, skip the following sections and go to "Installing IBM SecureWay Directory Version 3.2.2 for Windows" on page 13.

This section describes how to install and configure MQSeries. Perform the following steps:

Installing MQSeries

To install both the MQSeries Server and Client, follow the installation instructions and:
1. Select a **Custom** install.
2. Select the **Server**.
3. Select the **Client.**

Note about configuring MQSeries: Do not configure MQSeries at this time. CrossWorlds ICS will install a batch file to configure the Queue Manager and its queues for you.

Installing the MQSeries JMS support

MQSeries JMS support is supplied as a supportPac (ma88) and is available as a Web download. The installation instructions for the supportPac are contained in the MQSeries Using Java guide, which is also available from the MQSeries Web site:
1. From a browser, enter:
   ```
   http://www.ibm.com/software/ts/mqseries/txppacs/ma88.html
   ```
2. Download the supportPac and the guide.
3. Follow the instructions in the guide to install the ma88 supportPac.

Note: The supportPac needs to be installed on all offerings **except** WebSphere Business Connection Express Edition.

__ MQSeries (including the ma88 supportPac) is installed and verified.

Installing the Sun JDK

Applies to	Edition
	Business Connection Express Edition
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

To install the JDK, follow the installation instructions and:
1. Uncheck **Java Sources** and **Demos**.
2. Take all the defaults and click **Finish**.

__ The JDK is installed and verified.

Installing CrossWorlds VisiBroker

Applies to	Edition
	Business Connection Express Edition
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

VisiBroker is on the CrossWorlds InterChange Server CD. Make sure you are using CrossWorlds InterChange Server 4.1.1.

When you install VisiBroker, take all the defaults.

After you install CrossWorlds VisiBroker, set the service to start automatically, as follows:
1. From Windows, click **Start > Settings > Control Panel > Administrative Tools > Services**.
2. Select **CW VisiBroker Smart Agent**, and then right-click and select **Properties**.
3. On the **General** tab, change the **Start type** field to **Automatic**.
4. Click **OK**.

__ CrossWorlds VisiBroker is installed and verified.

Installing and configuring CrossWorlds InterChange Server

Applies to	Edition
	Business Connection Express Edition
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

Before you install CrossWorlds InterChange Server 4.1.1, make sure you have installed DB2, MQSeries, and CrossWorlds VisiBroker.

Installing the InterChange Server

1. Set the DB2 JDBC drivers to JDBC 2.0 if you haven't already done so. (See "Installing JDBC support" on page 6.)
2. Create the database for ICS if it hasn't already been done. (See "Creating databases" on page 6.)
3. Run the setup.
   a. Select only the following Connectors:
      - JDBC
      - JMS
      - TPI
      - Web Services (SOAP)
   b. In the **ICS Name** field, put the name you want to give the Server. The convention is cw_*hostname*.
   c. Change the values in the InterChange Server Configuration panel, as follows:
      - In the **Database Driver** field, select: **DB2**
      - In the **Database** fields, enter:

        cwrepos
      - In the **Login** fields, enter:

        db2admin
      - In the **Password** fields, enter: **<your_password>**
   d. For Serverless Trading Agent, select **No**.
4. The final step is to replace the CrossWorlds db2java.zip file with your DB2 version of db2java.zip. Copy **\sqllib\java\db2java.zip** to **\crossworlds\lib**.

Configuring InterChange Server

1. Define and configure an MQSeries Services Queue Manager.
   From Windows, click **Start** > **Programs** > **IBM CrossWorlds** > **MQSeries > Configure Queue Manager**. The configuration then starts.
2. Add an MQ Listener:
   a. Click **Start** > **Programs** > **IBM MQSeries V5.2.1** > **MQSeries Services.**
   b. Expand services until you see the new queue (cw*.queue.manager). If it is not started, start it now. Select it, then right-click **New** > **Listener**.
   c. Under the **Parameter** tab, type **1414** for the port, and select **OK**.
   d. Start ICS. Click **Start** > **Programs** > **IBM Crossworlds > Server and Tools** > **InterChange Server**.
3. Register the new server in the CrossWorlds System Manager:
   Note: Before continuing, ensure you have the MSVCP60.DLL in the system path. This Microsoft file is available with Adobe Acrobat Reader and other programs.
   a. Start CrossWorlds System Manager. Click **Start** > **Programs** > **IBM CrossWorlds** > **Server and Tools** > **CrossWorlds System Manager**.
   b. Right-click on **CrossWorlds System** > **Register New Server**.
   c. Enter the name used at installation (cw_*hostname*), and then click **OK**.
   d. Double-click on the new server name.

e. Enter the default **User Name** as **admin** and the **Password** to **null**, and click **Connect**.

4. Verify that log and trace messages are sent to files:

   a. From the CrossWorlds System Manager with the server connected, click **Server** > **Configuration**.

   b. Click the **Trace/Log Files** tab.

   c. Check **To File** for both Logging and Tracing.

   d. If needed, change the file name for both Logging and Tracing.

   e. Click **OK** to save the changes.

5. Load the ICS Repository (the cwrepos database) by clicking **Start** > **Programs** > **IBM CrossWorlds** > **Server and Tools** > **Load Repository**.

   Enter the default user ID as **admin** and the default password as **null.**

Verifying the installation

If the installation finished without any errors, the installation is valid.

Installing the FixPacks

The final step is to download and apply two FixPacks, as follows:

1. Stop any CrossWorlds programs that are running.

2. From your browser, go to **http://www.ibm.com/support/us/**

3. In the **Search the technical support database** field, enter

   `CrossWorlds Web Services Connector 1.0.1`

   to locate the FixPack for CrossWorlds Web services.

4. Download the FixPack and apply it according to its ReadMe instructions.

5. From your browser, go to **http://www.ibm.com/support/us/** again.

6. In the **Search the technical support database** field, enter

   `CrossWorlds 4.1.1.1`

   to locate the FixPack for the CrossWorlds ICS.

7. Download the CrossWorlds ICS 4.1.1.1 FixPack and apply it according to its ReadMe instructions.

__   CrossWorlds (including the FixPacks) is installed and verified.

Installing CrossWorlds TPI

Applies to	Edition
	Business Connection Express Edition
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

Installing TPI

- If you are installing TPI from a zip file:

  1. Extract the zip file. It should create the directory :\crossworlds_upgrade_files

  2. Create a virtual drive. At the command prompt, type:

      `Subst t: c:\crossworlds_upgrade_files`

3. Copy the License number from the registration_numbers_solo text file in the C:\crossworlds_upgrade_files directory. You will need this later.
4. From the t: drive, change the directory to \autorun\.
5. Run **autoptn.exe**, and then select **Install**.
6. Accept the defaults.
7. Paste the License number when requested.
8. After completing the installation, reboot your computer.

- If you are installing TPI from a CD, simply insert your CD and it should start automatically.

Verifying the installation

You verify the installation by starting the TPI server. Click **Start** > **Programs** > **CrossWorlds TPI** > **Start Server**.

If the Server Display window is displayed, the TPI application is installed.

__ The CrossWorlds TPI Server is installed and verified.

Installing IBM SecureWay Directory Version 3.2.2 for Windows

Applies to	Edition
Yes	**Business Connection Express Edition**
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

1. From the CD, run **Setup.exe**.
2. Verify installed applications. Make sure the install process finds DB2, Gskit, and IBM HTTP Server. Click **Next**.
3. Choose **Express** install and select **Client and Server** to be installed.
4. On the Administration Configuration panel, select the administrator name.
   a. For Administrator distinguished Name, use **cn=root** (the default).
   b. For Administrator Password, type a password.
5. For the Web Server to be Configured, select **IBM HTTP Server**
6. Select the location of the configuration file: httpd.conf (If you installed IBM HTTP Server anywhere other than the default, use **Browse** to change it.)
7. Reboot the system when prompted.
   After you log in to Windows, the directory will be configured.
8. From the Windows services panel, change the startup type to **Automatic** for the IBM SecureWay Directory Server V3.2.2.
9. Start the Directory Server from the Services panel.

__ The SecureWay Directory Server is installed and verified.

Part III - Installing and configuring Business Connection

This section shows you how to install and configure the Business Connection components. Make sure you have installed all prerequisite programs for the edition of Business Connection you are installing.

For Business Connection Express, make sure you've installed:

__ DB2
__ WebSphere Application Server
__ SecureWay Directory Server

For Business Connection and Business Connection Enterprise Edition, make sure you've installed:

__ DB2
__ WebSphere Application Server
__ MQSeries (including the ma88 supportPac)
__ The Sun JDK
__ CrossWorlds VisiBroker
__ CrossWorlds (including the FixPack)
__ The CrossWorlds TPI Server (if your configuration includes TPI)
__ SecureWay Directory Server

If you are installing on Business Connection Express Edition, you will install and configure only the Web Services Gateway.

If you are installing on Business Connection or Business Connection Enterprise Edition, you will install and configure the following components:

- Web Services Gateway
- Solution Management
- Security
- System Resource Administration
- Document Exchange
- Registration and Provisioning

In addition to the components listed above, the following files are installed during WebSphere Business Connection installation. Except as noted for Message Warehouse, these components do not require any configuration.

- Business Connection common code, which is in a JAR file named **bctcocommon.jar.** This JAR file contains common classes that can be used by other Business Connection services, such as the exception class that all Business Connection components use.
- Business Connection WebSphere support code, which is in a JAR file named **bctwswas.jar.** This JAR file contains the tracing support code used by some of the Business Connection modules that run in WebSphere Application Server (for example, the Routing Filter, Authentication Filter, MessageWarehouse, and ExceptionHandler components).
- Business Connection Web Services Gateway support code, which is contained in an EAR file named **bctwswsgwsupport.ear**. This EAR file contains the Message Warehouse and Exception Handler components.

- The Message Warehouse is a wrapper for the Solution Manager client and is used for audit logging.
- The Exception Handling is called by the Web Services Gateway when an internal exception occurs.

  The Message Warehouse component requires configuration of the Solution Manager Logging Client before it can be used.

- Business Connection Web Services Gateway filter code, which includes the following files:
  - The SOAP Routing Filter provides for a selection from several potential target destinations for the same Web services when using a SOAP channel. This filter is in the **bctwswsgwroutingfiltersoap.ear** file.
  - The SOAP/LFT Routing Filter provides for a selection from several potential target destinations for the same Web service when using a SOAP channel and LFT channel for the same service. This filter is in the **bctwswsgwroutingfilterlft.ear** file.
  - The Authentication Filter is used in the Web Services Gateway and provides for obtaining security credentials. This filter is in the **bctwswsgwauthenticationfiltersoap.ear** file.

Starting the Business Connection installation program

To begin the installation of the Business Connection components, do one of the following:

- If you are installing WebSphere Business Connection Express Edition:

Applies to	Edition
Yes	**Business Connection Express Edition**
	Business Connection
	Business Connection Enterprise Edition

1. If you are installing from a CD, insert the CD into your CD drive.
2. From the WBC Express directory, run **setupwin32.exe**.
3. When prompted, provide the path where you want to install WebSphere Business Connection Express Edition.
4. After the setup program has completed, go to "Applying updates to WebSphere Application Server" on page 17.

- If you are installing WebSphere Business Connection or Business Connection Enterprise Edition:

Applies to	Edition
	Business Connection Express Edition
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

1. If you are installing from a CD, insert the CD into your CD drive.
2. From the WBC directory, run **setupwin32.exe**
3. After the setup program has completed, continue with "Applying updates to WebSphere Application Server" on page 17.

Applying updates to WebSphere Application Server

In this section, you will apply an eFix and an enhancement to WebSphere Application Server to enable it to run with all editions of the Business Connection (including the Express Edition). The eFix and enhancement were installed by the setupwin32.exe program; you simply apply them in the correct directory.

Applies to	Edition
Yes	**Business Connection Express Edition**
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

To apply the eFix:
1. Update the PATH System environment variable as follows:
   - If you are installing Business Connection Express Edition, update the PATH variable to include **<JAVA_HOME>\bin**, if it is not already there (for example, c:\jdk1.3.1_03\bin;).
   - If you are installing Business Connection or Business Connection Enterprise Edition, update the PATH variable to include **<BCT_HOME>\bin;<JAVA_HOME>\bin,**if it is not already there (for example, **c:\WBC\bin;c:\jdk1.3.1_03\bin;)**.
2. Stop any web servers (such as the IBM HTTP Server and the WebSphere Administrative Server) that are running.
3. From a command window, do one of the following:
   - If you are installing Business Connection Express Edition, go to **<WSGW_HOME>\WAS_eFix_PQ61654**
   - If you are installing Business Connection or Business Connection Enterprise Edition, go to **<BCT_HOME>\WAS_eFix_PQ61654**
4. Enter:

   `java -jar PQ61654_eFix_AEServer_AEsServer.jar -target <WAS_HOME>`
5. Restart the web servers.

To install the enhancement:
1. Locate the EE41.zip file as follows:
   - If you are installing Business Connection Express Edition, the file is located in the **<WSGW_HOME>\WAS_JMS_Support** directory.
   - If you are installing Business Connection or Business Connection Enterprise Edition, the file is located in the **<BCT_HOME>\WAS_JMS_Support**directory.
2. Unzip EE41.zip into any directory (for example, c:\jms)
3. From a command window, change the directory to c:\jms
4. Enter:

   `setup setup.iss -s`
5. Verify that the **ResultCode** value in the setup.log file equals 0. This file is located in the directory in which you unzipped the EE41.zip file (in step 2). If you have any problems, you can add the -d option for debug.
6. To verify that you have the correct level of WebSphere Application Server, do the following:
   a. Display the WebSphere Administrative Console.

b. Click **Help > About**.
  c. Make sure that the version listed is **Advanced Edition for Multiplatforms with Enterprise Edition Services**, as shown in the following illustration:

  Figure: Screen showing correct edition

  If your screen shows only "Advanced Edition for Multiplatforms" (without **with Enterprise Edition Services**), the correct level is not installed. To reinstall, stop the WebSphere Application Server and rerun the procedure.

  __ The updates to WebSphere are installed and verified.

Upgrading the HTTP Server

Perform the following instructions to upgrade to a later version of the IBM HTTP Server:

1. Stop the IBM WebSphere Administrative Server Service if it is already running, and set the **Startup** mode to **Manual**.
2. Stop the IBM HTTP Administration Service.
3. Stop the IBM HTTP Server Service.
4. Uninstall the IBM HTTP Server using the Windows **Add/Remove Programs** utility.

   Note: Do not manually remove any remaining files or directories after the uninstall program is completed. They contain configuration information that must be preserved.
5. Reboot the system
6. The next step is to download IBM HTTP Server 1.3.19.2 from an FTP site. You can use any of the following FTP clients to access the site:
   - eftp version 2.0.6.329
   - LeechFTP version 1.3
   - CuteFTP version 4.2.3
   - WS_FTP32 version 3.00

   Complete the following steps to download the IBM HTTP Server 1.3.19.2:
   a. Connect to the MQSFSE4 FTP site:
      1) Open a command window.
      2) Change the directory to the location where you would like the e-fix files to be downloaded.
      3) At the prompt type the following and press Enter:

         `ftp service2.boulder.ibm.com`
      4) When connected, you will be prompted for a user ID. Type the following and press Enter:

         `mqsfse4`
      5) You will be prompted for a user password. Type the following and press Enter:

         `calm4gum`

         You will see when **mqsfse4** is connected.
   b. Download the files:
      1) Type **dir** and press Enter to see a listing of the directory.
      2) Set the transfer mode to ASCII. Type the following and press Enter:

```
                    binary
```
3) Download the file:
```
                    get IHS1.3.19.2_fullimage_uslicense.zip
```
c. Once the file has been downloaded, quit the FTP program. Type the following and press Enter:
```
                    quit
```
7. Install IBM HTTP Server 1.3.19.2 by executing the self-extracting file that you downloaded.

8. Click **OK** if prompted about overwriting or preserving existing files.

9. If there are any installation error messages, you must uninstall IBM HTTP Server, reboot the system, and install IBM HTTP Server again.

10. If in step 1 you set the WebSphere Administrative Server Startup to **Manual**, you may now restore it to its original value.

11. Start the IBM HTTP Administration Server Service.

12. Start the IBM HTTP Server Service.

13. Start the Web Sphere Administrative Server Service.

Configuring the Web Services Gateway

Applies to	Edition
Yes	**Business Connection Express Edition**
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

After the setup program has completed and you have applied the updates to WebSphere Application Server, the next step is to configure the Web Services Gateway. For all editions of Business Connection (including the Business Connection Express Edition), follow these steps for each computer in your configuration.

In order to secure the Web Services Gateway administration pages, you must modify the wsgw.ear file using the WebSphere Application Assembly Tool, as follows:

1. Launch the Application Assembly Tool from the WebSphere Administrative Console **Tools** menu.

2. Cancel the **Welcome to Application Assembly Tool**.

3. Click **File** > **Open** and use the **Browse** button to select the *<BCT_HOME>*/wsgw/bin/wsgw.ear file.

4. Highlight **Security Roles** and right-click to select **New** to define a security role. Enter **AuthenticatedUsers** for the role name. Click **OK** to save the change.

5. Expand **Web Modules > IBM Web Services Gateway, right-clickSecurity Constraint**, and select **New** to define a new security constraint. Enter a name (for example, *<hostname>*SecurityConstraint) , click **Add**, and select the **AuthenticatedUsers** security role created above. Click **OK** to save.

6. After creating the security constraint, you next create a web resource collection. Expand the new security constraint, right-click **Web resource collection**, and select **New.**

7. For Web Resource Name, enter:

```
WSGW Administration
```

8. On the HTTP methods, click **Add** and select **Apply** to add the **GET** method. Then select **POST** from the pulldown and click **OK**.

9. On the URL pattern, click **Add** and then do the following:

   a. Type the following and then click **Apply**:
   ```
   /admin/*
   ```

   b. Type the following and then click **Apply**:
   ```
   /index.html
   ```

   c. Type the following and then click **OK**:
   ```
   /
   ```

10. Click **OK** to save the Web resource collection.

11. Click **File > Save** to save a modified copy of the wsgw.ear file.

12. Close the Application Assembly Tool.

Now that the wsgw.ear file has been modified, the next step is to configure the Web Services Gateway application server and enterprise applications. Perform the following steps:

1. Close the WebSphere Administrative Console if it is open.

2. Open a command window.

3. Make sure that *<BCT_HOME>* was set during installation by entering the following at a command prompt:
   ```
   set bct
   ```

4. Change to the following directory:
   <BCT_HOME>\<Web_Services_Gateway_directory_name>\install

5. Enter the following command:
   ```
   configure.bat
   ```

6. When prompted for the DB2 path, specify where you installed DB2.

   Note: If your DB2 path name contains a space, do *not* include the space in the path name. For example, if the DB2 path on your system is d:\program files\sqllib, enter the shortened form, as follows:
   ```
   d:\progra~1\sqllib
   ```

   You will also be asked for the **db2userid** and the **db2password** that you defined in "Installing DB2" on page 5.

7. If you are installing Business Connection or Business Connection Enterprise Edition, you are prompted for the MQSeries Java path. Enter the path (for example, c:\MQSeries\Java).

8. At this point, two command windows are open—the original window (from which you started configure.bat) and a DB2 window, in which DB2 commands run. Wait until the DB2 window closes. Then, when you are prompted to do so (from the original window), press any key to continue.

9. Check your *<WAS_HOME>*\lib directory to make sure that the following files are *not* installed in the directory.

   - uddi4j.jar
   - wsif.jar
   - wsdl4j.jar

   These files should have been removed automatically by the installation program.

- If none of the files is in the *WAS_HOME*\lib directory, skip ahead to step 10.
- If one or more of these files *are* in the *<WAS_HOME>*\lib directory, move them as follows:
  a. Stop the HTTP server.
  b. If it is open, close the WebSphere Administrative Console.
  c. Stop the WebSphere Admin Server.
  d. Move the files from the *<WAS_HOME>*\lib to the *<WAS_HOME>*\WSGW_BACKUP\lib directory.
  e. Start the HTTP server.
  f. Start the WebSphere Admin Server.

10. Go to **Start** > **Programs** > **WebSphere** > **Application Server V 4.0 AE** > **Start Administrator's Console**.
11. From the **General** tab, make sure the Web Services Gateway Application Server has the Working Directory set to **<WAS_HOME>\bin**and the Module Visibility set to **Application**. From the **File** tab, make sure the logs are directed to an existing directory.
12. If it is not started, start the Web Services Gateway Application Server.

Web Services Gateway channels

Applies to	Edition
Yes	**Business Connection Express Edition**
Yes	**Business Connection**
Yes	**Business Connection Enterprise Edition**

Channels are entry points to the Web Services Gateway and carry requests and responses between Web services and the Web Services Gateway. A request to the Web Services Gateway arrives through a channel, is translated into a WSIF message, is passed through any filters that are registered for the requested service, and finally is sent on to the service implementation. Responses follow the same path in reverse.

The channels that are part of WebSphere Business Connection are:
- SOAP Channel1
- SOAP Channel2
- Axis Channel1
- Axis Channel2
- LFT Channel1
- LFT Channel2

Two versions of each type of channel are supplied so that, for each channel type, you can set up separate channels for inbound and outbound requests. This provides a simple mechanism for giving different access rights to users from outside your organization from the rights you give to users within your organization:
- To ensure that users outside your organization can only access those internal services that you choose to publish externally, you deploy those services on the public channel.

- To give users inside your organization access to the full range of internal and external services, you deploy those services on the private channel.

Complete the following steps to deploy the channels, filters, and LFT sample. Document Exchange services, which apply only to Business Connection and Business Connection Enterprise Edition, are also installed.

1. Make sure that the Web Services Gateway application server is started.
2. From a command window, change to the directory **<BCT_HOME>\WSGW\install**
3. Enter the following command to deploy the channels and filters:

   ```
   runCWGenUtility_WSGWConfig.bat -director WSGWConfigInitial.xml
   HOSTNAME=<fully-qualified hostname>
   ```

   This command configures all the channels and filters that were installed by the setup program.
4. Next, enter:

   ```
   runCWGenUtility_WSGWConfig.bat -director WSGWConfigSampleService.xml
   BCT_HOME=<BCT_HOME>
   ```

   This command configures three services—the two LFT sample scenarios and a service used by the Document Exchange component. Document Exchange applies only to Business Connection and Business Connection Enterprise Edition.
5. To modify the WSDL URI for exported definitions, do the following:
   a. Display the Web Services Gateway administration console by opening a Web browser and entering:

      ```
      http://<hostname>/wsgw/admin
      ```
   b. Click on the **Configure Gateway** link.
   c. Verify that the **WSDL URI for exported definitions** field contains a fully qualified host name.
   d. Click on **Apply Changes**.

If you are going to use LFT (Large File Transfer support), refer to the **Using the Web Services Gateway** document, which contains sample procedures you can use to verify your LFT installation.

Note to Business Connection Express Edition users:

You have finished the installation and configuration of Business Connection Express Edition.

For information on administering the Web Services Gateway, see **Using the Web Services Gateway**.

Security

The WebSphere Business Connection uses various products to provide security services. These services include authentication, authorization, and encryption to protect the following:

- Access to the WebSphere Administration Console
- Access to the Web Services Gateway Administration pages
- Access to the Business Connection System Resources Administration pages
- Access to the Registration and Provisioning pages
- Access to the SOAP and AXIS channels

This section applies to configuration of the WebSphere Business Connection machine only. Specific instructions for the various artifacts are covered later in this document.

Configuring SecureWay Directory

The first step in securing your Business Connection system is to configure the LDAP directory. An ldif file is provided with Business Connection that contains a set of WebSphere and Business Connection administrators. This file is described later in this section.

1. First, create the necessary suffixes:
   a. To open the Web-based administration facility of SecureWay Directory, open a Web browser and go to **http://<*hostname*>/ldap**.

      If a pop-up windows appears stating that the Java Plug-in 1.3.1. 02 cannot be located because "a value in the registry key HKEY LOCAL MACHINE\SOFTWARE\JavaSoft\Java Plug-in\1.3.1 03 is not found or is no longer valid," perform the following steps:
      1) From the Internet Explorer browser, select **Tools > Internet Options**.
      2) Click the **Advanced** tab and scroll down until you see the Java (Sun) settings.
      3) Uncheck the box **Use Java 2 v1.3.1 03**, and then click **OK**.
      4) Reload the page, and the LDAP Administration page will appear.
   b. Log in as **cn=root**.
   c. On the **Settings > Suffixes** page, add the **o=Root Organization** suffix and then select **Update**.
   d. Add the suffix **dc=allegro**, and then select **Update**.
   e. Restart the SecureWay Directory service.
2. Start a command window and change the directory to <*BCT_HOME*>\properties
3. Run the following command to load the LDAP data:
   ```
   ldif2db -i wbc.ldif
   ```
4. Change the directory to <*WBCUI_HOME*>\ldapschema, where WBCUI_HOME is the directory where the user interface for WebSphere Business Connection was installed (for example, c:\allegro)
5. Run the following command to load the LDAP data:
   ```
   ldif2db -i ldapdata.ldif
   ```

6. To verify that the data is loaded, go to **Start** > **Programs** > **IBM SecureWay Directory** > **Directory Management Tool**.
7. Expand the **o=Root Organization tree** to verify that the data is displayed.
8. Expand the **dc=allegro** tree to verify that the data is displayed.

At this point, the data is stored in the SecureWay Directory. It contains the WebSphere Administrator user ID, which is used to start the WebSphere Administrative Console. It is defined as **uid=spadmin,dc=Users,dc=allegro**, and its password is **spadmin**

The password should be changed to prevent unauthorized access to this data. Use the Directory Management Tool to change the password.

Configuring WebSphere Security

The next step is to configure global security for the WebSphere Application Server.

1. From the **WebSphere Administrator's Console**, go to **Console** > **Security Center.**
2. The security center menu is displayed. From the **General** tab, check the box for **Enable Security**.
3. Click the **Authentication** tab, and select the **Lightweight Third Party Authentication** radio button.
4. Make sure **Enable Single Sign On** is checked, and then enter the domain in which the WebSphere Application Server is running (for example, bocaraton.ibm.com).

   Figure: LDAP settings screen; settings are listed in the following table

   This page shows the settings required for using LDAP as the authentication mechanism. Click **Help** if you need information about the fields on this tab.
5. On the LDAP Settings, enter the following:

Field Name	Value
Security Server ID	spadmin
Security Server Password	spadmin
Host	*<hostname of the Directory server>*
Port	389
Base Distinguished Name	dc=allegro
Bind Distinguished Name	cn=root
Bind Password	*<Directory password>*
Directory Type	SecureWay

6. Click **OK**.
7. When a prompt appears requesting the LTPA password, enter a password.
8. Close the WebSphere Admin Console.
9. Stop and start the WebSphere Admin Server so that the changes will take effect.

Securing the Web Services Gateway administration

This section describes the process to secure the Web Services Gateway administration Web pages using WebSphere security. Perform the following steps:

1. Start the WebSphere Admin Console.
2. When prompted for your WebSphere administrator user ID, enter:

    `spadmin`

    For the password, enter the password that you set in the previous section. If you did not reset the password, use **spadmin**.
3. Stop the Web Services Gateway (**WSGW**) application server, if it is running.
4. Expand the **Enterprise Application** folder and highlight the **Web Services Gateway Core** application.
5. Select the **User/Role Mappings** tab on the right pane of the window.
6. Select the **AuthenticatedUsers** role and click **Select**.
7. Check only the **Select user/groups** box , type an asterisk (*****) in the **Search** field, and click **Search**. Select the group **cn=SPAdmin,dc=SecurityRole,dc=allegro** and then click **Add.** Finally, click **OK**.
8. Click **Apply** to enable the changes.
9. Start the **WSGW** application server
10. Using Microsoft Internet Explorer Version 5.5 or above, enter the following URL to display the Web Services Gateway Admin page:

    `http://<hostname>/wsgw/admin`
11. When you are prompted to enter a user ID, enter:

    `spadmin`

    For the password, enter the password that you set in the previous section. If you did not reset the password, use **spadmin**.

The IBM Web Services Gateway Admin page is displayed.

Configuring Business Connection components

Special Note:
The remaining sections of this document apply only to Business Connection and Business Connection Enterprise Edition. Stop here if you are installing and configuring Business Connection Express Edition.

This section describes the steps you take to configure the following Business Connection components:

- Solution Manager
- System Resource Administration
- Document Exchange
- Registration and Provisioning

To configure these components, you will run a series of batch files that take as a parameter the name of an XML file containing configuration settings. The batch file is named BCTConfigure.bat.

Note: The system will aid in the completion of the entries, but they should be verified by the installer for accuracy and completeness.

When you run the batch file, you will see the Configuration Wizard screens, which already contain prefilled information. For example, the location of the MQSeries program might already be filled in, if the configuration program can determine this information.

If you have installed the prerequisite software, your BCTConfigure.bat file should already have some of the environment variables set up.

The information that appears on the Configuration Wizard screens is derived from the system environment variables, if they are set. If no value can be found, the configuration program leaves the field blank, and you can enter a value.

Running the Configuration Wizard

Important: Before you begin the configuration tasks, be aware that the following can occur while you are running one of the configuration programs (BCTConfigure.bat):

- The WebSphere Administrative Server fails to start while you are configuring it.
- The configuration stops when you start WebSphere Administrative Server.
- The configuration program fails. If the program fails, be sure to check the log files.

To recover from any of these occurrences, do the following:

1. Restart WebSphere Administrative Server from the Windows services panel.
2. Re-run the BCTConfigure.bat program that had the failure.

If these steps do not work, reboot the computer and rerun the BCTConfigure.bat program that had the failure.

Starting the Configuration Wizard

To begin running the Configuration Wizard, do the following:

1. Update the PATH System environment variable to include
   <BCT_HOME>\bin;<JAVA_HOME>\bin, if it is not already there. For
   example, **c:\WBC\bin;c:\jdk1.3.1_03\bin;**

2. Open a command prompt and change the directory to:

   `<BCT_HOME>\bin`

Setting up queues

First you will create MQSeries queues for the Business Connection components.
Make sure the Queue Manager is started, and do the following:

1. Start the batch file with the parameter shown to create the Solution Manager
   queues:

   `BCTConfigure.bat bct_install_MQ.XML`

   The BCT Install Wizard screen (with sample data) is what you will see:

   Figure: The Install Wizard Screen

2. The configuration program fills in the values that it can determine. If the fields
   are not filled in, or if the information is not correct, enter the appropriate
   values for the locations and names. Note that you should *not* enter a slash at
   the end of a path.

   Here are some examples of these values you might need to change as you go
   through the configuration. Change (or enter) information *only if* the prefilled
   information is incorrect or the field is blank. The sample values are intended to
   show you the format in which the information should be entered.

   In the samples, the host name is WBCSYSTEM1 and the connection-specific
   DNS Suffix is wbc.yourcompany.com. Substitute the actual values for your own
   system when you complete the screens.

   Given the values of WBCSYSTEM1 and wbc.your.company.com, the system
   installation would default to the values shown in the table. Remember: use the
   values for *your* system.

Field	Sample value (Substitute the actual values for your system)	Description
WAS_HOME	c:\WebSphere\appserver	The drive and folder where WebSphere Application Server is installed.
MQ_HOME	c:\MQSeries	The drive and folder where MQSeries is installed.
BCT_HOME	c:\wbc	The name of the directory where WebSphere Business Connection is installed. This information was entered when you started the installation ("Starting the Business Connection installation program" on page 16).

Field	Sample value (Substitute the actual values for your system)	Description
CW Queue Manager's Name	cw_WBCSYSTEM1.queue.manager (Use your actual value in place of WBCSYSTEM1.)	The name of the MQ Queue Manager where WebSphere Business Connection has all its queues. You can find this information by opening the MQSeries Explorer.
DB2_HOME	c:\SQLLIB	The drive and folder where DB2 is installed.
MQ_JAVA_ INSTALL_PATH	c:\MQSeries\Java	The drive and folder where the Java classes for MQSeries (MA88) are installed.

Click **OK**.

3. Next, you configure the System Resource Administration component. Click **System Resource Admin** and fill in (or accept the prefilled) values for the fields.

Field	Sample value (Substitute the actual values for your system)	Description
CW Server Domain	WBCSYSTEM1.wbc.yourcompany.com	The fully qualified host name of your system.
ICS Server	cw_ WBCSYSTEM1	The ICS Server name. You can find this information by using the CrossWorlds System Management console.
ICS Username	admin	The ICS user name.
ICS Password	null	The ICS user's password.
WSGW Node name	WBCSYSTEM1	The WebSphere Application Server node where Web Services Gateway is installed. This information is available from the WebSphere Advanced Administrative Console.

Click **OK**.

4. To configure the Document Exchange component, click **Document Exchange** and fill in (or accept the prefilled) values for the fields.

Field	Sample value (Substitute the actual values for your system)	Description
DB2 Username	db2admin	The DB2 user with sufficient authority to create databases and tables.
DB2 Password	db2admin	The password for the DB2 user.

Field	Sample value (Substitute the actual values for your system)	Description
ICS Server	cw_ WBCSYSTEM1	The ICS Server name. You can find this information by using the CrossWorlds System Management console.
ICS Username	admin	The ICS user name.
ICS Password	null	The ICS user's password.
CW_HOME	c:\crossworlds	The drive and folder where CrossWorlds is installed.
WSGW Node Name	WBCSYSTEM1	The WebSphere Application Server node where Web Services Gateway is installed. This information is available in the WebSphere Advanced Administrative Console.

Click **OK**.

5. Finally, to configure the Registration and Provisioning component, click **Registration and Provisioning** and fill in (or accept the prefilled) values for the fields.

Field	Sample value (Substitute the actual values for your system)	Description
BCT Node	WBCSYSTEM1	The WebSphere Application Server node where Business Connection is installed. This information is available from the WebSphere Advanced Administrative Console.
BCT Domain	wbc.yourcompany.com	The connection-specific DNS Suffix. You can find this information on Windows 2000 by running the ipconfig command from a command window.
BCT_TCPIP	9.99.99.99	Your IP address. You can find this information on Windows 2000 by running the ipconfig command from a command window.
LDAP Home	c:\ldap	The drive and folder where SecureWay Directory (LDAP) is installed.
LDAP Admin Name	cn=root	The LDAP administrator's user name.
LDAP HOST	WBCSYSTEM1	The name of the system where LDAP is installed.
WBCUI Install Drive	c	The drive letter where the WebSphere Business Connection user infrastructure is installed.
CWTPI Home	c:\crossworldsTPI	The drive and folder where CrossWorlds TPI is installed.

Click **OK**.

6. Click **Submit**.

   Note that if you click Submit before completing the fields for all the components, the configuration program will prompt you. For example, if you clicked Submit before completing the information for System Resource Administration, you would see the following screen:

   Figure: The System Resource Administration screen

   You would then have to fill out the fields (or accept the prefilled values), click OK, and then click Submit on the BCT Install Wizard page.

Setting log tables

Next, you will create DB2 log tables and a log view for the Business Connection components, starting with the Solution Manager.

Four tables and one view are created for each component, as follows:
- BCMAudit
- BCMBusLog
- BCMException
- BCSMConfiguration
- BCM_LOG_View

To create the tables:

1. Start the batch file with the parameter shown to create the tables for Solution Manager:

   ```
   BCTConfigure.bat bct_install_DB2.XML
   ```

2. Click **Continue**.

3. Check the logs for any exceptions or error conditions.

   If you receive the following errors:

   ```
   SQL1224N A database agent could not be started to service a request, or
   was terminated as a result of a database system shutdown or a force command.
   SQLSTATE=55032
   ```

   ```
   DB21034E The command was processed as an SQL statement because it was not a
   valid Command Line Processor command. During SQL processing it returned:
   SQL0900N The application state is in error. A database connection does not
   exist. SQLSTATE=08003
   ```

   but the program continues with the output shown below, then the above errors should be ignored:

   ```
   Database Connection Information
   Database server = DB2/NT 7.2.4
   SQL authorization ID = ADMINIST...
   Local database alias = BCMLOG
   ```

4. Next, open a DB2 command window by clicking **Start > Programs > IBM DB2 > Command Window**.

5. Connect to the BCMLOG database by entering the following command:

   ```
   DB2 connect to bcmlog
   ```

6. Change to the bnd subdirectory by entering:

   ```
   cd ..\bnd
   ```

7. Bind the database by entering the following commands from the bnd directory while connected to the database:

   ```
   DB2 bind @db2ubind.lst blocking all grant public
   ```

   ```
   DB2 bind @db2cli.lst blocking all grant public
   ```

Setting up the JMS configuration

Next, you create the JMS configuration. Make sure the WebSphere Application Server is started, and do the following:

1. Start the batch file with the parameter shown:

   `BCTConfigure.bat bct_install_JMS.XML`

2. Click **Continue**.

Configuring for WebSphere Application Server

Next, you will configure for WebSphere Application Server, starting with the Solution Manager. Make sure the WebSphere Application Server is started, and do the following:

1. Start the batch file with the parameter shown:

   `BCTConfigure.bat bct_install_SMWAS.XML`

2. Click **Continue**.

3. When you see the **Enter login information for <*hostname*>:389 prompt**, enter the user ID (**spadmin**) and password (**spadmin** or, if you reset the password, your password.).

___ The configuration of Solution Manager is completed.

Configuring Document Exchange

This section describes the steps you take to deploy the artifacts and files used by Document Exchange. These steps are:

- Deploying WebSphere application-server artifacts
- Deploying CrossWorlds artifacts
- Deploying the WSDL file in Web Services Gateway

Deploying WebSphere Application Server artifacts

To deploy the DE_EAR.EAR file in WebSphere Application Server, perform the following:

1. Start the **WebSphere Administrative Server**, if it is not already started.
2. Open a command prompt and change the directory to
   ***<BCT_HOME>*\bin**
3. Start the batch file with the parameter shown:

   ```
   BCTConfigure.bat BCT_DE_WAS_INSTALL.XML
   ```

   The batch file creates:

   - The database
   - Document-Exchange-related tables
   - The data source
   - The enterprise application server
   - The enterprise application in WebSphere

   Check the *<BCT_HOME>*\logs\bctde_dbinsert.log. You might see errors in the log file while trying to drop the tables/triggers, because it may not exist the very first time. You can ignore these errors.Check *<BCT_HOME>*\logs\bctde_configureWAS.log for any other errors.

4. When you see the following prompt:

   ```
   Enter login information for <hostname>:389
   ```

   enter the following for user ID:

   ```
   spadmin
   ```

   For the password, enter the password that you set in the "Configuring WebSphere Security" on page 24. If you did not reset the password, use **spadmin**.

5. Right-click the node name in the WebSphere Administrative Console and click **Regen Webserver plugin**.

Securing Document Exchange Pages

Perform the following steps to protect access to the Document Exchange pages:

1. Go to the **Websphere Advanced Administrative Console**.
2. Select **DE_EAR** under **Enterprise Applications**.
3. In the right panel, select the **User/Role Mappings** tab.
4. Highlight **AuthenticatedUsers** role and click **Select**.

5. Check *only* **Select users/groups**, enter * in the **Search**field, and click **Search**.

6. Select the **cn=SPAdmin,dc=SecurityRole,dc=allegro** group from the **Available Users/Groups,** and click **Add** to add the group.

7. Click **OK**

8. Click **Apply**.

Starting the application server

To start the application Server, perform the following steps:

1. Restart the **WebSphere Administrative Server** and the **WebSphere Administrative Console**.

2. To start the Document Exchange application server, right-click on the server (**BCT_DE**) and click **Start**. If the server starts with no errors, the deployment was successful.

Deploying CrossWorlds artifacts

1. Open a command prompt and type:

```
javac
```

If you receive a message stating that javac is not a recognized name, you might not have javac in the system path. If it is not in the system path, add either *<WAS_HOME>*\java\bin or *<jdk install dir>*\bin in your PATH variable.

2. Run the batch files as follows:

   a. From a command prompt, change to the **<BCT_HOME>\bin** directory.

   b. Type the following command:

   ```
   BCTConfigure.bat BCT_DE_CW_INSTALL.XML
   ```

   This batch file creates the MQSeries queues and the connector agents. Check the *<BCT_HOME>*\logs\bctde_configureMQ.log and *<BCT_HOME>*\logs\bctde_createConnAgent.log for any errors.

   Be aware that one of the actions of the BCTConfigure.bat program is to update a file called start_server.bat, which is in the *<CrossWorlds_Home>*\bin directory. One of the changes it makes is to include two virtual drives (**x:**and **y:**) in the file. If drives x and y are already being used on your system, you will need to open the start_server.bat file for edit, locate the **x** and **y** drive names and replace them with drive names that are not being used on your system.

   c. Start the CrossWorlds InterChange Server.

   d. If this is the first time installation of Document Exchange on this computer, skip to step e.

   It this is *not* the first time installation of Document Exchange on this computer, bring up the Crossworlds System Manager. After logging in, expand the collaboration objects node under the integration components in the tree. If the following objects are already running, right-click on each one and stop the collaboration object. Once the objects are stopped, right-click and delete each object.

   ```
   SAI_to_BCTDEReceiveConnector_BCT_DocumentTransferInbound
   ```

   ```
   BCTDESendConnector_to_BCTDESOAPConnector_BCT_DocumentTransferOutbound
   ```

   e. From a command prompt, run the batch file bctde_loadRepository.bat, which exists in the *<BCT_HOME>*\bin directory, as follows:

```
bctde_loadRepository <BCT_HOME> <ICS_Server> <CW_HOME>
<ICS_Username> <ICS_password>
```

If you are prompted to replace the CrossWorlds repository, type **Y** for yes.

You might see a message that states:
```
Failed to load NativeMap class: xxxxxx
```

where *xxxxxx* is a map name. If you see the message, ignore it and continue.

3. Restart the CrossWorlds Interchange Server.
4. Start the CrossWorlds System Manager, if it is not already started.
5. The connector properties are supplied with preset values. You need to alter the ApplicationUserName and ApplicationPassword attributes to point to your computer settings. For each connector (BCTDocTransferSend and BCTDocTransferReceive), do the following:
   a. Right-click the connector name and select **Edit Definitions**.
   b. When the Connector Designer is displayed, click the **Application Config Properties** tab.
   c. Enter the information for **ApplicationUserName** and **ApplicationPassword**, and save the changes. For example, if your DB2 User ID is **db2admin** and your DB2 password is **db2,** these are the values you enter**.**
   d. Click **File > Save to Server** to save and exit.
6. Under the crossworlds\connectors\BCTDocTransferSend directory, edit the batch file start_BCTDocTransferSend.bat.
   a. Search for the string JDBCDRIVERPATH and replace the following:
      ```
      REM SET JDBCDRIVERPATH=
      ```
      with
      ```
      SET JDBCDRIVERPATH="%CROSSWORLDS%"\lib\db2java.zip
      ```
   b. Search for the string -Djava.library.path. Append the -Djava.library.path with *<db2 install directory>*\bin, for example:
      ```
      -Djava.library.path="%CROSSWORLDS%"\bin;%CONNDIR%;d:\sqllib\bin
      ```
      Note: If the path contains a name with a space (for example, **program files**), the entire entry must be in quotation marks. For example, if the path is d:\program files\sqllib\bin, the entire path has to be in quotation marks ("d:\program files\sqllib\bin").
7. In the crossworlds\connectors\BCTDocTransferReceive directory, edit the batch file start_BCTDocTransferReceive.bat.
   a. Search for the string JDBCDRIVERPATH and replace the following:
      ```
      REM SET JDBCDRIVERPATH=
      ```
      with
      ```
      SET JDBCDRIVERPATH="%CROSSWORLDS%"\lib\db2java.zip
      ```
   b. Search for the string -Djava.library.path. Append the -Djava.library.path with *<db2 install directory>*\bin. For example,
      ```
      -Djava.library.path="%CROSSWORLDS%"\bin;%CONNDIR%;d:\sqllib\bin
      ```

Note: If the path contains a name with a space (for example, **program files**), the entire entry must be in quotation marks. For example, if the path is d:\program files\sqllib\bin, the entire path has to be in quotation marks ("d:\program files\sqllib\bin").

Starting the WebSphere Application Server artifacts

1. Make sure the WebSphere Application Server service and Web Services Gateway prerequisite programs are running.
2. From the WebSphere Application Server Console, start the BCT_DE App Server where the Document Exchange was deployed.

Note: You will finish the Document Exchange configuration after you configure the Registration and Provisioning component.

Configuring the Registration and Provisioning Component

This section describes how to configure the Registration and Provisioning component of the IBM WebSphere Business Connection.

Wherever you see variable statements, such as *<BCT_HOME>*, replace that string with your actual value. You might want to make a note of the settings you use for:

- *<WAS_HOME>* - the directory where IBM WebSphere has been installed (for example, c:\websphere\appserver)
- *<BCT_HOME>*- the directory where IBM WebSphere Business Connection has been installed (for example, c:\wbc)
- *<WBCUI_HOME>* - the directory where IBM WebSphere Business Connection User Interface has been installed (for example, c:\allegro)
- *<CW_HOME>* - the directory where CrossWorlds has been installed (for example, c:\crossworlds)
- *<CWTPI_HOME>*- the directory where CrossWorlds TPI Server has been installed (for example, c:\crossworldsTPI)
- *<LDAP_HOME>* - the directory where IBM SecureWay resides (for example, c:\program files\ibm\ldap)
- *<MQ_JAVA_INSTALL_PATH>* - the directory where IBM MQSeries classes for Java and Java Message Service have been installed (for example, c:\mqseries\java)
- *<yournode>* - the actual name of your system (for example, wbc4you)
- *<hostname>* - the actual address of your system (for example, wbc4you.bocaraton.ibm.com). Note: a fully qualified name is required.
- *<DB2_HOME>* - the directory where IBM DB2 has been installed (for example, c:\sqllib)

Starting the configuration program

The first step in configuring Registration and Provisioning is to run the configure.bat program.

1. Add *<MQ_JAVA_INSTALL_PATH>*\lib to the system PATH variable.
2. Reboot the system.
3. Start or restart the WebSphere Application Server.
4. Open a Windows command prompt.
5. Change to the following directory: *<BCT_HOME>*\bin
6. Enter the following:

   ```
   BCTConfigure.bat BCT_RP_INSTALL_ALL.XML
   ```

7. Stop and then restart the WebSphere Administrative Server. Then start the WebSphere Administrative Console.
8. Deploy HostingEAR.ear and HostingUIEAR.ear

   Note: When installing the HostingEAR.ear file, a window will appear asking you to deny access to all unprotected methods. Click **No**.

   a. Click on **Console**, select **Wizards**, click **Install Enterprise Application**.
   b. Browse to each .ear file in *<BCT_HOME>*\lib, select **HostingEAR.ear**, and click **Next**.

    c. Click **Next** until you arrive at the **Selecting Virtual Hosts for Web Modules**.

    d. Highlight all the Web Modules, click **Select Virtual Host**, choose **allegro_host**, click **Next**.

    e. Highlight all the modules, click on **Select Server** and select the Default Server. Then click **OK**.

    f. Click **Next**.

    g. Click **Finish** to deploy the EAR file.

    h. Select **No** on the pop-up window.

    i. Repeat steps a through h, but specify *<BCT_HOME>*\lib\HostingUIEAR.ear in Step b.

9. Configure WebSphere Application Server Default Server:

    a. Expand **WebSphere Administrative Domain**, **Nodes**, *<yournode>*, **Application Servers**, **Default Server**.

    b. In the right panel, click **General**.

    c. In the **Module Visibility Field**, select **Application**.

    d. Click on **File**, change stdout.txt and stderr.out to: *<BCT_HOME>*\logs\wbcuiout.txt and *<BCT_HOME>*\logs\wbcuierr.txt respectively.

    e. Click the **JVM Settings** tab.

    f. In the **Classpaths** field, click **Add**, and type:

```
<WBCUI_HOME>;<WBCUI_HOME>\config;<BCT_HOME>\properties;<DB2_HOME>\cc\xml4j.jar
```

    g. If you are not using the Secure Socket Layer (SSL), do the following:

       1) Click the **Services** tab, select **Web Container Service**, and click **Edit Properties**.

       2) Select **Transport** in the **Web Container Service** window, change the port number of HTTP transports from 9080 to **8080**, and click **OK**.

    h. Click **Apply**.

    i. Select *<yournode>*, right-click and click **Regen Webserver plugin**

10. Open a Windows command prompt and do the following:

    a. Change to the following directory: *<BCT_HOME>*\bin

    b. Enter:

```
BCT_RP_INSTALL_ALL_2
```

11. Encrypt passwords.

    a. Start a Windows command prompt.

    b. Change to the *<BCT_HOME>*\wms\bin directory

    c. Enter:

```
wms_encrypt password
```

    where *password* is your DB2 password.

    d. The **ASCII encrypted string value** is the one needed. Make a note of it.

    e. Enter

```
wms_encrypt password
```

    where *password* is your LDAP password.

    f. The **ASCII encrypted string value** is the one needed. Make a note of it.

12. Change *<WAS_HOME>*\installedApps\WebSphere_Member_Services.ear \classes\xml\wms.xml as follows:

a. Change: @PASSWORD@ to the encrypted DB2 password. Use the value from step11.

b. Change: @ADMIN_PW@ to the LDAP admin encrypted password. Use the value from step 11.

Securing Registration pages

Perform the following steps to protect access to the registration pages:

1. Go to the **WebSphere Advanced Administrative Console**.
2. Select **HostingUIEAR** under **Enterprise Applications**.
3. In the right panel, select the **User/Role Mappings** tab.
4. Highlight the **Company Users** role and click **Select**.
5. Check *only* **Select users/groups** and then enter * in the **Search** field and click **Search**.
6. Select the **cn=OrgOwner,dc=SecurityRole,dc=allegro** group from the **Available Users/Groups,** and click **Add** to add the group.
7. Click **OK**.
8. Highlight the **CSR** role and click **Select**.
9. Check *only* **Select users/groups** and then enter * in the **Search** field and click **Search**.
10. Select the **cn=CSR,dc=SecurityRole,dc=allegro** group from the **Available Users/Groups,** and click **Add** to add the group.
11. Click **OK**.
12. Highlight the **AllUsers** role and click **Select**.
13. Check only the box labeled **Everyone (no authentication)**.
14. Click **OK**.
15. Click **Apply**.
16. Select **HostingEAR** under **Enterprise Applications**.
17. For each of the roles in the list:
    a. Click on the role to select it.
    b. Click **Select**.
    c. Check the box labeled **Everyone (no authentication)**.
    d. Click **OK**.
18. Click **Apply**.

Changing the system font

In this section, you will change the system fonts to use small fonts. To change the system fonts, do the following:

1. Position the mouse cursor on the screen and right-click.
2. Click **Properties**.
3. In the Display Properties screen, click **Settings** and then click **Advanced**.
4. In the Display box, click **Small Fonts**.
5. Click **OK**.
6. Click **OK**.

Deploying the Registration and Provisioning collaboration

Registration and Provisioning includes a collaboration that is used to federate the partner profiles to the appropriate gateways. To deploy the collaboration:

1. From a command prompt, change to the **<BCT_HOME>\bin** directory.
2. Type the following command:

   ```
   BCTConfigure BCT_RP_CW_INSTALL.xml
   ```
3. Start the CrossWorlds ICS.
4. Start Crossworlds Systems Manager (CSM).
5. From the command prompt, do the following:
   a. Change to the **<BCT_HOME>\bin** directory.
   b. Enter the following:

      ```
      bctrp_loadRepository <BCT_HOME> <ICS_Server> <CW_HOME>
      <ICS_Username> <ICS_password>
      ```

      ```
      bcttl_loadRepository <BCT_HOME> <ICS_Server> <CW_HOME>
      <ICS_Username> <ICS_password>
      ```

      If you are prompted to replace the CrossWorlds repository, type **Y** for yes.

      You might see a message that states:

      ```
       Failed to load NativeMap class: xxxxxx
      ```

      where *xxxxxx* is a map name. If you see the message, ignore it and continue.
6. Copy the SOAP directory contents to BCTFedSOAP and create a shortcut:
   a. Copy the *<CW_HOME>*\connectors\SOAP directory and its contents to a new directory called *<CW_HOME>*\connectors\BCTFedSOAP.
   b. Create a shortcut to start the start_SOAP.bat script in the BCTFedSOAP directory, as follows:
      1) Click **Start -> Programs -> IBM CrossWorlds -> Connectors**
      2) While holding down the right button, drag the SOAP Connector icon to the desktop.
      3) Select **Copy Here**.
      4) Rename the new icon **BCTFedSoap Connector**
      5) Right-click the new icon and select **Properties**.
      6) On the **Shortcut** tab, change the **Target** field to replace references to the SOAP connector to **BCTFedSOAP.** The following example shows how the new field should look. The replaced references are highlighted.

         ```
         <CW_HOME>\connectors\BCTFedSOAP\start_SOAP.bat BCTFedSOAP <ICS name>
         -c<CW_HOME>\connectors\BCTFedSOAP\SOAPAgentConfig.cfg
         ```
      7) Click **OK**.

      This shortcut has to be run every time you start the InterChange Server.
7. Copy the SOAP directory contents to BCTCMSSOAP and create a shortcut:
   a. Copy the *<CW_HOME>*\connectors\SOAP directory and its contents to a new directory called *<CW_HOME>*\connectors\BCTCMSSOAP.
   b. Create a shortcut to start the start_SOAP.bat script in the BCTCMSSOAP directory, as follows:
      1) Click on **Start -> Programs -> IBM CrossWorlds -> Connectors**

2) While holding down the right button, drag the SOAP Connector icon to the desktop.

3) Select **Copy Here**.

4) Rename the new icon **BCTCMSSoap Connector**

5) Right-click the new icon and select **Properties**.

6) On the **Shortcut** tab, change the **Target** field to replace references to the SOAP connector to **BCTCMSSOAP**. The following example shows how the new field should look. The replaced references are highlighted.

```
<CW_HOME>\connectors\BCTCMSSOAP\start_SOAP.bat BCTCMSSOAP <ICS name>
-c<CW_HOME>\connectors\BCTCMSSOAP\SOAPAgentConfig.cfg
```

7) Click **OK.**

This shortcut has to be run every time you start the InterChange Server.

8. Restart the Interchange Server and then start the CrossWorlds System Manager.

9. Configure the Email Connector:

a. Right-click on the connector **EmailConnector** and select **Edit Definitions**.

b. Select the **Application Config Properties** tab

c. In the Value column for SMTP_MailHost, enter your SMTP Server.

d. Ensure DebugMode is set to **false**

e. Ensure DataHandlerConfigMO is blank.

f. Click **File > Save to server** to save and exit.

g. If these settings do not work, refer to the IBM Crossworlds Email Connector Manual.

10. Start the Email Connector:

a. From Windows, click **Start > Programs > CrossWorlds > Connectors**.

b. Click **EMail Connector** to start the connector.

You will probably want to leave the EMail Connector running so that you can receive e-mail about your trading partners.

Configuring the CrossWorlds TPI Server

Set the HTTP port of the CrossWorlds TPI Server to 5081. This can be accomplished by doing the following:

1. Start the TPI CrossWorlds Server Administrator Console.

a. Select **Start** > **Programs** > **CrossWorldsTPI** > **Administrator**.

b. At the Login pop-up, click on **OK**.

2. Select **Tools**, and then select **Preferences**.

3. In the **Preference** window, select **Ports**.

4. Under the API heading, in the **HTTP port** field, enter

5081

5. Click **OK**.

Configuring the CrossWorlds TPI Connector

1. Start or restart the CrossWorlds InterChange Server.

2. Start the CrossWorlds System Manager.

3. Select your CrossWorlds Interchange Server.

4. Right-click **Connect**.

5. In the Connect to InterChange Server popup, click **Connect**.

6. Expand **Integration Components** and then **Connectors**
7. Double-click **TPIConnector**.
8. In the Connector Designer-TPIConnector screen, select the **Application Config Properties** tab.
9. Select the TradingPartnerConfigurationFile property and in the **Value** field, enter

   ```
   <BCT_HOME>\bin\tpicfg.in
   ```

   where *<BCT_HOME>* is the actual directory of the WebSphere Business Connection.
10. Select the **File** tab
11. Click **Save to Server Cntrl+S**
12. When a pop-up screen with the following message appears:

    ```
    Property TradingPartnerConfigurationFile will not be dynamically applied.
    Reboot the TPIConnector Connector Agent for the update to take effect.
    ```

    Click **OK** .
13. Select the **File** tab and then **Exit**.
14. Right-click the TPIConnector
15. Click **Stop TPIConnector**.
16. Right-click the TPIConnector.
17. Click **Start TPI Connector.**

Starting the Registration and Provisioning servers and dependent applications

1. Do the following using the WebSphere Administrator Console:
   a. Expand **WebSphere Administrative Domain, Nodes,** *<yournode>*, **Application Servers**
   b. Start **WebSphere Member Services**
   c. Start the **BCT_RP_Web** server.
   d. Start the **BCT_RP_TC** server.
   e. Start the **Default** Server.
   f. Start the **BCT_RP** server.
2. If you will be using the CrossWorlds TPI Server, start the CrossWorlds TPI Server by clicking **Start > Programs > CrossWorldsTPI > Start Server. Note:** If the Start Server command is successful, you will see a window labeled **Server Display**. If the server fails to start, stop all applications, including the WebSphere Application Server and restart it.

Finishing the Document Exchange configuration

A final step in configuring Document Exchange is to start the CrossWorlds artifacts.

Starting the CrossWorlds artifacts

1. Make sure the ICS prerequisites (DB2, MQSeries, and CrossWorlds VisiBroker) are running and that the MQSeries Listener is started.
2. Update the collaboration object properties, as follows:

a. From the CrossWorlds System Manager, right-click on the collaboration object **SAI_to_BCTDEReceiveConnector_BCT_DocumentTransferInbound**, select **Properties**, and on the right side of the window, select the **Properties** tab.

   1) Set the BCT_LOG value to **Yes** for logging in to the Solution Manager.
   2) Set the BCT_FILE_DOWNLOAD_DIR to the directory where the Web Services Gateway downloads the file. For reference, check the attribute lft-directory on the application server on WebSphere Application Server where the LFT channel is deployed.
   3) Click **OK** to save.

b. Right-click on the collaboration object **BCTDESendConnector_to_BCTDESOAPConnector_BCT _DocumentTransferOutbound**, select **Properties**, and on the right side of the window, select the **Properties** tab.

   1) Set the BCT_LOG value to **Yes** for logging in to the Solution Manager.
   2) Set the BCT_SOAP_SERVER_URL to the outbound Web Services Gateway SOAP server URL.
   3) Click **OK** to save.

3. From the CrossWorlds System Manager, start the following collaboration objects if they are not running already:

   ```
   SAI_to_BCTDEReceiveConnector_BCT_DocumentTransferInbound

   BCTDESendConnector_to_BCTDESOAPConnector_BCT_DocumentTransferOutbound
   ```

4. From the CrossWorlds System Manager, start the following connectors if they are not running already:

   ```
   BCTDocTransferSendConnector

   BCTDocTransferReceiveConnector

   BCTDocTransferSOAPConnector
   ```

5. Open a command prompt and enter the following:

   ```
   cd <CROSSWORLDS>\connectors\BCTDocTransferSend
   ```

6. Run the following batch file:

   ```
   bctde_conn_run_send.bat
   ```

7. Open another command prompt and enter the following:

   ```
   cd <CROSSWORLDS>\connectors\BCTDocTransferReceive
   ```

8. Run the following batch file:

   ```
   bctde_conn_run_receive.bat
   ```

9. Open another command prompt and do the following:

   ```
   cd <CROSSWORLDS>\connectors\BCTDocTransferSOAP
   ```

10. Run the following batch file:

    ```
    bctde_conn_run_SOAP.bat
    ```

The tasks you perform using Document Exchange (for example, deleting a document) are described in the document Administering the System. Document Exchange provides a user interface through which you send documents, delete documents, and forward documents. Make sure you use the user interface on your *local* computer (where Document Exchange is deployed) to perform these tasks.

__ The configuration of Document Exchange is completed.

Before using the Registration and Provisioning component

Before you can begin using the Registration and Provisioning component to register with partners, complete the sections that apply to you.

Follow these steps if you will be using a CrossWorlds TPI Server:

1. Create the directory **<BCT_HOME>\partners\<*your company name*>\serv\tpiserver**, if one does not already exist.
2. Create a company profile in CrossWorlds TPI Server. (Refer to the CrossWorlds TPI Server Admin doc).
3. Export the company profile (as a partner profile using XML format) to the *<BCT_HOME>*\partners\<*your company name*>\serv\tpiserver directory.

   Note: The name of the file must be: *your company name*.xml. This same name (*your company name*) must be used when using the WebSphere Business Connection to register your company with your partners.

Follow these steps to use Document Exchange:

When you configured Document Exchange earlier in this installation procedure, you deployed a WSDL file named BCT_DocumentTransfer_Create.wsdl in Web Services Gateway. Before you begin the process of registering with a trading partner and actually exchanging documents, you will be providing your WSDL to your trading partner.

1. From the command window, go to the following directory: *<BCT_HOME>*\wsdl.
2. Open the BCTDE_ServiceDefinition.xml file for edit.
3. In the lft:address location line, replace **localhost** with the host name.
4. Save the changes.
5. Create the directory *<BCT_HOME>*\partners\<*your company name*>\serv\de.

   Note that <*your company name*> must be the same name you will use to register your company.
6. Copy the BCTDE_ServiceDefinition.xml file and the BCTDE_ServiceInterface.xml file to the directory *<BCT_HOME>*\partners\<*your_company_name*>\serv\de.

When you register with a trading partner, these XML files will be copied to the partner's computer, just as the partner's XML files will be transferred to your computer. This process is described in Administering the System.

Verifying Registration and Provisioning Configuration

1. Verify the configuration of Web Services Gateway:
   a. Start the Web Services Gateway admin client:

      `http://localhost/wsgw/admin/index.html`

   b. Select **Channels** and make sure you have definitions correctly created for ApacheSOAPChannel1 and ApacheSOAPChannel2.
2. Verify that the LDAP service is running and was configured correctly:
   a. Go to **Services** and make sure that the IBM SecureWay Directory service is started.
   b. Start the Directory Management Tool and make sure you see:

> **o=Root Organization**
> **dc=allegro**

3. Verify that MQSeries manager is running:

   a. Go to **Services** and make sure that the IBM MQSeries service is started.

   b. Ensure that the IBM MQSeries Queue manager is running.

4. Verify that all the WebSphere Application Servers and dependent applications are running (see "Starting the Registration and Provisioning servers and dependent applications" on page 42).

5. Confirm the CrossWorlds configuration:

   a. Start or restart the CrossWorlds ICS Server.

   b. Bring up the CrossWorlds System Manager.

   c. Connect to the ICS Server.

   d. Click **Integration Components**.

   e. Under Collaboration Objects, confirm that the **RegSync** and **RegSyncEmail** collaborations are started. A green icon next to the object signifies that it has started. If the collaborations are not running, click **Start**.

   f. Under Connectors, confirm that the **BCTCMSSOAPConnector**, **BCTFedSOAPConnector**, and **EMailConnector** are started. A green icon next to the connector signifies that it has started. If a connector is not running, click **Start**. The item should start.

   g. Under Maps, confirm that the following maps are started:

      - BCT_SOAP_CMS_upgrade_to_BCTPartnerProfileGBO
      - BCT_SOAP_FederationService_add_to_BCTPartnerProfileGBO
      - BCTPartnerProfileGBO_to_BCT_SOAP_CMS_upgrade
      - BCTPartnerProfileGBO_to_BCT_SOAP_FederationService_add
      - XML_BCTPartnerProfileInput_to_BCTPartnerProfileGBO

      A green icon next to the map signifies that it has started. If a map is not running, click **Start**.

You have successfully configured the Registration and Provisioning Component.

Installing and configuring System Resources

This section describes additional configuration needed for the System Resource Administration component.

1. **Set up Remote Method Invocation (RMI)**

   RMI, which is a part of the Java Development Kit (JDK), is set up on both the Web Services Gateway computer and the CrossWorlds computer. If Web Services Gateway and CrossWorlds are both on the same computer, do the substeps in 1a and then continue the rest of the setup starting with substep iii under **1b.**

   a. **To set up RMI on the Web Services Gateway computer:**

      1) From a command window, change the directory to **<BCT_HOME>\lib**

      2) Enter the following command to generate the stub for RMI:

         ```
         rmic com.ibm.bct.sm.sra.rmi.CWRMIServer
         ```

   b. **To set up RMI on the CrossWorlds computer:**

      1) Update the PATH System environment variable to include

         ```
         <BCT_HOME>\bin;<JAVA_HOME>\bin
         ```

         For example: c:\WBC\bin;c:\jdk1.3.1_03\bin;

      2) Copy the *<BCT_HOME>*\lib\com folder from the Web Services Gateway computer to *<BCT_HOME>*\lib.

         <BCT_HOME>\lib\com\ibm\bct\sm\sra\rmi should contain the following files:

         ```
         CWRMIClient$Client.class
         CWRMIClient$RemoteCW.class
         CWRMIClient.class
         CWRMIServer.class
         CWRMIServer_Skel.class
         CWRMIServer_Stub.class
         ```

      3) Open a window, go to *<BCT_HOME>*\lib, and enter the following command:

         ```
         rmiregistry port#
         ```

         where **port#** is any available port *except* 1099. Port 1099 is reserved for the CrossWorlds TPI Server.

         To find an available port, refer to your operating system guide. For the Windows operating systems, browse the \winnt\system32\drivers\etc\services and choose any number (other than 1099) not listed. For example, if the number 5000 is not in the services file, the port is available for use, and you could enter:

         ```
         rmiregistry 5000
         ```

      4) If a port *other* than 5000 is being used, go to the Web Services Gateway computer and update the CWhome property in the BCT_SRAConsole.properties file to change the port number:

         ```
         CWhome=rmi://<CrossWorlds_fully_qualified_hostname>:port#/FirstCWRemote
         ```

         For example:

         ```
         CWhome=rmi://BCM2.bocaraton.ibm.com:5001/FirstCWRemote
         ```

If a BCT_SRA application server is already started on the Web Services Gateway computer, restart it.

     5) Open another window, go to **<BCT_HOME>\lib**. Enter the following command:

```
bct_sra_RMICW_Server.bat <CrossWorlds_fully_qualified_hostname>:port#
```

For example:

```
bct_sra_RMICW_Server.bat BCM2.bocaraton.ibm.com:5000
```

    Note: The above programs are running, so do **not** close the window.

2. **Create the application server for System Resource Administration and deploy SRA_EAR.ear:**
   a. Start the WebSphere Administrative Server, if it is not already started.
   b. Open a command window.
   c. Change the directory to *<BCT_HOME>*\bin and enter:
   ```
   BCTConfigure.bat BCT_INSTALL_SRAWAS.xml
   ```
   d. When you see the following prompt:
   ```
   Enter login information for <hostname>:389
   ```

   Enter the following information to start the WebSphere Administrative Console.

   For User ID, enter:
   ```
   spadmin
   ```

   For the password, enter the password that you set in "Configuring WebSphere Security" on page 24. If you did not reset the password, use **spadmin**.

3. **Secure System Resource Administration:**
   If you installed security, complete the following steps. Otherwise, skip to step 5.
   a. Go to the **WebSphere Advanced Administrative Console**.
   b. Select **SRA** under **Enterprise Applications**.
   c. In the right panel, select the **User/Role Mappings** tab.
   d. Highlight **Administrator** and click **Select**.
   e. Check *only* **Select users/groups** and then enter * in the **Search** field and click **Search**.
   f. Select the **cn=SPAdmin,dc=SecurityRole,dc=allegro** group from the **Available Users/Groups,** and click **Add** to add the group to the **Selected Users/Groups**.
   g. Click **OK**.
   h. Click **Apply**

4. Set up security for the WebSphere Control Program:
   a. Open a command window and change to the directory *<BCT_HOME>*\bin.
   b. Enter the following command:
   ```
   BCTConfigure.bat BCT_SRA_WSCP_SETUP.xml
   ```
   c. If your user ID or password for WebSphere is anything other than **spadmin**, edit the **sas.wscp.props** file (located in the *<WAS_HOME>*\properties directory), and update the following properties:
   com.ibm.CORBA.loginUserid=*Websphere login ID*
   com.ibm.CORBA.loginPassword=*Websphere login password*

Then save the file and exit.

    d. Open a command window and change to directory *<WAS_HOME>*\properties.

    e. Enter the following command:

       <WAS_HOME>\bin\PropFilePasswordEncoder.bat sas.wscp.props -SAS

    f. Delete the backup file **sas.wscp.props.bak** from the directory**.**

    g. Stop and then start the WebSphere Admin Server to activate these changes.

5. Start the application server:

    a. Right-click on the node and regenerate the Web server plug in.

    b. Restart the WebSphere Administrative Console to display the **BCT_SRA**Application Server.

    c. Right-click on the **BCT_SRA** Application Servers and select **Start**.

    d. Using Microsoft Internet Explorer version 5.5 or above, enter the following URL to bring up the Business Connection Administrative console:

       `http://<fully qualified hostname>/WBC/index.jsp`

    e. When you are prompted to enter a user ID, enter:

       `spadmin`

       For the password, enter the password that you set in "Configuring WebSphere Security" on page 24. If you did not reset the password, use **spadmin**.

    f. If the Welcome screen is displayed, the System Resource Administration configuration on WebSphere was successful.

       Figure: The top of the Admin Console

    g. If you see any errors when you select **Log/Trace Setup**, you might have misconfigured RMI. Return to step 1 of this procedure and double-check to see that you have entered the information correctly.

6. Reboot your system.

__ The configuration of System Resource Administration is completed.

Part IV - Business Connection Security

This section describes the steps you can take to install security at various points in your Business Connection system.

Important:
The WebSphere Business Connection offerings are intended to be run on a dedicated platform. Be aware that the security procedures described in this section affect *all* Web- and application-server content on the WebSphere Business Connection platform.

If your configuration includes a TPI server, refer to the TPI documentation for information on setting up security for the server.

Configuring SSL connections for CrossWorlds and Web Services Gateway

This part of the document describes how SSL connections will be established to provide data encryption between the CrossWorlds SOAP connector and the Web Services Gateway and between Web Services Gateways.

SSL configuration of the IBM HTTP Server

The Web Service Gateway machines use the IBM HTTP Server to receive HTTPS requests. To set up SSL configuration, perform these steps on both Web Service Gateway machines.

1. Create the HTTP Administrator ID:

   a. From a command window, change the directory to *<IBM_HTTP_Server_HOME>*.

   b. Run **htpasswd.exe conf\admin.passwd Administrator.** When prompted,enter the password.

2. Create the key database and a Web-server certificate. The program ikeyman is used to create these objects.

   a. Start ikeyman by clicking **Start > Programs > IBM HTTP Server > Start Key Management Utility**.

   b. To create the key database, click **Key Database File -> New.** Enter the file name and desired location (for example, *<BCT_HOME>*\properties\key.kdb). Accept the default of **CMS Key database file** for **Key database type**. Click **OK.** You are then prompted to enter the key database password. Make sure to check the **Stash the password to a file.**

   c. To create a certificate, you have two choices—create a self-signed certificate, or request a certification from a certification agency (for example, Verisign).

      1) To create a self-signed certificate, click **Create -> New Self-Signed Certificate**. Enter the host name of your machine (without the domain) as the key label and your company as the organization, and then click **OK** to create the certificate.

      2) To request a new certificate, click **Create -> New Certificate Request**. Fill out the key label and common name with the computer name, and

click **OK**. When the certificate from Verisign is received, save it to an .arm file and import it into **ikeyman**.

3. Start the HTTP Admin Console by entering **http://<*hostname*>**, and then click on **Configure Server**. You will then be prompted to enter a user ID and password. Enter this as **Administrator** and the password you created in the previous step.

   a. Set up the security module.

      1) Click **Basic Settings**.
      2) Click **Module Sequence** (Scope: GLOBAL).
      3) Click **Add**.
      4) Select **Select a module to add** and open the drop down list. Go to the bottom of the list and select **ibm_ssl** from the list. The Module DLL will be placed to the right.
      5) Click the **Apply** button.
      6) Click the **Close** button.
      7) Click the **Submit** button.

   b. Set up a secure host IP and an additional port for the secure server.

      1) Click **Basic Settings**.
      2) Click **Advanced Properties** (Scope: GLOBAL).
      3) Click the **Add** button for the **Specify additional ports and IP addresses** field. Leave the IP address fields empty and enter **443** in the Port field.
      4) Click the **Apply** button.
      5) Click the **Close** button.
      6) Click the **Submit** button.

   c. Set the keyfile and SSL timeout values for the secure server.

      1) Click **Security**.
      2) Click **Server Security** (Scope: GLOBAL).
      3) Click the **Enable SSL No** radio button. This disables SSL for Global scope.
      4) Enter the path and file name of the key database. This is the file created using ikeyman in step 2.
      5) For SSL Version 2 session IDs, enter a Timeout value of **100** secs.
      6) For SSL Version 3 session IDs, enter a Timeout value of **1000** secs.
      7) Click the **Submit** button.

   d. Set up the virtual host structure for the secure server.

      1) Click **Configuration Structure**.
      2) Click **Create Scope** (Scope: GLOBAL).
      3) Select **VirtualHost** in the **Select a valid scope to insert within the scope selected in the right panel** field.
      4) Enter the fully qualified domain name.
      5) Enter the virtual host port (**443**).
      6) Leave the server name blank.
      7) Leave Alternate name(s) for host blank.
      8) Click the **Submit** button.

   e. Set up the virtual host document root for the secure server.

      1) Click **Basic Settings**.

2) Click **Core Settings** and then select the **Scope** button and select the *<virtualhost>* you created in the previous step.

3) Enter the server name as a fully qualified domain name.

4) Enter the document root directory name (**<IBM HTTP Server install path>\htdocs**).

5) Click the **Submit** button.

f. Enable SSL and select the mode of Client Authorization.

1) Click **Security**.

2) Select **Host Authorization**

3) Select the **Scope** button and select the *<virtualhost>* you created in step d. (This forces a refresh of the newly created scope.)

4) Click the **Enable SSL Yes** radio button. (This enables SSL for Virtual Secure Host.)

5) Click the **Mode of client authorization to be used None** radio button

6) Click the **Submit** button.

4. WebSphere needs to be modified so it recognizes the requests coming from the HTTP Server to the secured port 443. From the WebSphere console, select **Virtual Hosts** and then add to the host Aliases of default_host: ***:443**

5. Next, you will complete the same sequence of steps to secure port 8080.

a. Set up a secure host IP and an additional port for the secure server.

1) Click **Basic Settings**.

2) Click **Advanced Properties** (Scope: GLOBAL).

3) Click the **Add** button for the **Specify additional ports and IP addresses** field. Leave the IP address fields empty and enter **8080** in the Port field.

4) Click the **Apply** button.

5) Click the **Close** button.

6) Click the **Submit** button.

b. Set up the virtual host structure for the secure server.

1) Click **Configuration Structure**.

2) Click **Create Scope** (Scope: GLOBAL).

3) Select **VirtualHost** in the **Select a valid scope to insert within the scope selected in the right panel** field.

4) Enter the fully qualified domain name.

5) Enter the virtual host port (**8080**).

6) Leave the server name blank.

7) Leave Alternate name(s) for host blank.

8) Click the **Submit** button.

c. Set up the virtual host document root for the secure server.

1) Click **Basic Settings**.

2) Click **Core Settings** and then select the **Scope** button and select the *<virtualhost>* you created in the previous step.

3) Enter the server name as a fully qualified domain name.

4) Enter the document root directory name (**<IBM HTTP Server install path>\htdocs**).

5) Click the **Submit** button.

d. Enable SSL and select the mode of Client Authorization.

1) Click **Security**.

2) Select **Host Authorization** (Scope: VirtualHost) *<host ip addr***:8080>**.

3) Select the **Scope** button and select the *<virtualhost>* you created in step b. (This forces a refresh of the newly created scope.)

4) Click the **Enable SSL Yes** radio button. (This enables SSL for Virtual Secure Host.)

5) Click the **Mode of client authorization to be used None** radio button

6) Click the **Submit** button.

6. Restart the HTTP Server.

7. Next the Web Server Plugin must be regenerated. Select the node for the computer, right-click and select **Regen Webserver Plugin**.

8. Restart the WebSphere Application Server.

9. Verify that an SSL connection on port 443 can be established to the HTTP Server and WebSphere by accessing the Business Connection Admin Console. From a browser, enter:

   ```
   https://<fully qualified hostname>/WBC/index.jsp
   ```

   The HTTP Server certificate will be presented to the browser. Accept this and the Admin Console will be displayed (assuming the System Resource Administration application server is running).

10. Verify that an SSL connection on port 8080 can be established to the HTTP Server and WebSphere by accessing the Business Connection Admin Console. From a browser, enter:

    ```
    https://<fully qualified hostname>:8080/hostingUI/UIServlet/BCTEnrollmentView
    ```

    The HTTP Server certificate will be presented to the browser. Accept this and the registration page will be displayed.

HTTPS Configuration from Document Exchange SOAP Connector to HTTP Server

The following steps are used to configure HTTPS from the Document Exchange SOAP connector to the IBM HTTP Server. It is assumed that CrossWorlds and the IBM HTTP Server are installed on the same machine.

1. Extract the certificate from the IBM HTTP Server into a file using these steps:

   a. Run ikeyman by clicking **Start > Programs > IBM HTTP Server > Start Key Management Utility**.

   b. Click on **Key Database File** > **Open** to open the certificate database on the HTTP server.

   c. Select the file that was created from the previous section (for example, *<BCT_HOME>*\properties\key.kdb).

   d. Click **Extract Certificate**. In the **Location** field, enter:

      ```
      <CROSSWORLDS>\lib\security\<Exported_Cert>.arm
      ```

   e. Close the ikeyman program

2. Create a trusted certificate database (truststore) with the HTTP server certificate. To create the truststore:

   a. Change to the following directory: **<CROSSWORLDS>\lib\security**

   b. Create the truststore by executing the following command from a command window:

      ```
      keytool -import -alias <HTTP_Server_Hostname>
      -file <Exported_Cert>.arm  -keystore truststore
      ```

c. Enter <password> (This must be at least six characters long.)

d. At the **Trust this certificate prompt**, type yes.

3. Create the certificate database (keystore) with the HTTP server certificate:

a. To create the keystore, execute the following command from the command window, as shown below:

```
keytool -import -alias <HTTP_Server_Hostname>
-file <Exported_Cert>.arm -keystore keystore
```

b. Enter *<password>*

c. At the Trust this certificate prompt, type yes.

4. Modify the CrossWorlds SOAP Connector batch file so that it uses the certificate databases shown below. There might be several variants, so the proper file must be modified per the Web service being utilized.

For example, for Document Exchange, edit the "%CROSSWORLDS%"\connectors\BCTDocTransferSOAP\start_ BCTDocTransferSOAP.bat file to include the following parameters on the java command statement.

Note: These changes should be made immediately following the "%CROSSWORLDS%">\bin\java -mx128m statement and are to be included on the same line as the java command. The commands are case-sensitive and must be typed exactly as shown.

```
-Djavax.net.ssl.keyStore="%CROSSWORLDS%"\lib\security\keystore
-Djavax.net.ssl.keyStorePassword=password
-Djavax.net.ssl.trustStore="%CROSSWORLDS%"\lib\security\truststore
-Djavax.net.ssl.trustStorePassword=password
```

5. Modify the URL that contains the HTTP statement.

For example, the Document Exchange collaboration object BCTDESendConnector_to_BCTDESOAPConnector_BCT_ DocumentTransferOutbound contains a parameter named BCT_SOAP_SERVER_URL. You can modify this object using the CrossWorlds System Manager as follows:

a. Expand the collaboration object.

b. Right-click on the object and select **Properties**.

c. Click the **Properties** tab and change the BCT_SOAP_SERVER_URL paramater from **http** to **https**

d. Change **localhost** to the host name.

e. Click **OK**.

f. Restart the collaboration object.

Providing security for the Document Exchange Web service

This section describes how to apply security to the Document Exchange Web service. For more information on Web-service security, refer to the Administering the System document.

Creating a <webservice>.ear file

The first step is to generate the facade EJB using the WSGWAuthGen.bat script. The script is located in the <WSGW_HOME>\scripts\auth folder. The script takes two arguments.

• The URL defining the location of the gateway installation

• The name of the Web service deployed in the gateway

To run the script:

1. Go to a command prompt and switch the directory to
   <WSGW_HOME>\scripts\auth.

2. Enter the WSGWAuthGen command as shown below:

   ```
   WSGWAuthGen http://<WSGW_Hostname>/wsgw BCT_DocumentTransfer_Create
   ```

   Note that the URL should include the root context and that the deployed
   service is case-sensitive.

Upon successful execution of this script, a *<webservice>*.ear file named
BCT_DocumentTransfer_Create.ear is created in the *<WSGW_HOME>*\scripts\auth
folder and also a subfolder called <ejb>. This directory is temporary and may be
deleted. The EAR file will be used to implement security on the Web Services
Gateway for Document Exchange.

Assigning roles and protecting methods

To complete the steps of assigning roles and protecting methods, use the
Application Assembly Tool (AAT) that comes with WebSphere. The following
instructions are specific to AAT. The process discussed involves making changes to
the file wsgwauth.ear, which can be found in the *<WSGW_HOME>*\bin directory.
In order to protect the installation copy of this file, make a copy of it.

1. Launch the Application Assembly Tool from the WebSphere task menu.

2. Cancel the **Welcome to Application Assembly Tool**.

3. Select **File** > **Open** and use the **Browse** button to select the
   <BCT_HOME>\wsgw\bin\wsgwauth.ear file.

4. Import the BCT_DocumentTransfer_Create.ear file into the wsgwauth.ear
   using the following instructions:

   a. Click on the **EJB Modules** folder in the left-hand pane.

   b. Right-click and select **Import**. Use the file dialog to select the generated ear
      file
      <WSGW_HOME>\scripts\auth\<BCT_DocumentTransfer_Create.ear>.

   c. A dialog box is presented offering a choice of **Select Modules to Import**.
      Select the Document Exchange Web service and click **OK**.

   d. When the **Confirm Values** dialog box is presented, click **OK**.

5. Expand the EJB Modules folder in the left-hand pane to see the name of the
   Web service (Document Exchange) just imported. The name is displayed in
   the **File Name** and **Display** fields.

6. Now that you have imported the EAR file, you can begin to define roles and
   assign roles to methods.

   a. Expand the Document Exchange EJB module and highlight the **Security
      Roles** option.

   b. Right-click and select **New** to define a security role. Enter
      AuthenticatedUsers for the role name. Click **OK** to save.

   c. To assign defined roles to Web-service methods, select **Method
      Permissions** in the left-hand pane under the Document Exchange EJB.
      Right-click and select **New**.

   d. Enter **ProtectedMethods** as the method permission name.

   e. In the **Methods** pane, click **Add** for methods.

   f. Expand the tree down to the Remote branch and select the method
      m_BCT_DocumentTransfer().

   g. Click **OK** to save the changes.

      h. In the **Roles** pane, click **Add**.

      i. Select a previously defined role from the list. For example, **AuthenticatedUsers**. Click **OK** to save.

      j. Click **OK**.

7. The next stage is to ensure the Authorization EJB is able to reference the new EJB just imported. To do this:

      a. Expand **EJB Module > BCT_DocumentTransfer_Create**, and then expand **Session Beans**. Select the **BCT_DocumentTransfer_Create** service. Next, select the **Bindings** tab on the right side pane, and copy the JNDI name into the clipboard. You will use this name in step d below.

      b. Expand the **WSGW Authorization** EJB module, and then expand **Session Beans** > **Authorization** and click on **EJB References**. Right-click and select **New**.

      c. Enter **WSGWReference** as the name for the reference and use the **Link** pulldown field to select the newly imported Document Exchange service. All the other fields in the pane will be populated automatically.

      d. Click on the **Bindings** tab and enter the JNDI name that was copied in step a. This should be in the form of **websphere/WSGW/Security/BCT_DocumentTransfer_Create.** Click **OK** to save.

      e. Select **File** > **Save** to save a modified copy of the wsgwauth.ear file.

      f. Close the Application Assembly Tool.

8. Deploy the wsgwauth.ear file by highlighting **Enterprise Applications** on the WebSphere Administrative Console. Right-click and select **Install Enterprise Application**.

9. Select **Browse** and find the wsgwauth.ear file in the *<WSGW_HOME>*\bin folder. Click **Next** to continue.

    Next you will see the following message:

```
The application contains method permissions. Do you wish to deny
access to unprotected methods?
```

    Select **No**.

10. On the **Mapping Users to Roles** page, highlight **AuthenticatedUsers** and click **Select**.

    Check only the **Select users/groups** and then enter * in the **Search** field and click **Search**. A list of users and groups is displayed.

    Search the **cn=OrgOwner,dc=SecurityRole,dc=allegro** group from the **Available Users/Groups**, and click **Add** to add the group to the **Select Users/Groups**. Finally, click **OK**.

11. Click **Next** until you reach the Binding Enterprise Beans to JNDI Names screen. Click **Next** and the following message appears:

```
Duplicate EJB JNDI Name message will appear.
```

    Click **No** to proceed.

12. Click **Next** until you reach the Selecting Application Servers screen. Highlight both modules and then click **Select Server**. Select the **WSGW** application server, and click **OK**.

13. Click **Next**, and then click **Finish**.

    At the completion of the installation wizard, you will be requested to generate application code. Select **Yes** when this option appears, and then click **OK** to deploy the code. Do not change any of the default values.

14. Display the Web Services Gateway Administrative console by opening a browser and entering the following:

    `<hostname>/wsgw`

15. Under **Services**, select **List** and then select the Web service to protect (**BCT_DocumentTransfer_Create**). Make sure **Authorization Policy - Control access to this service** is checked.

16. Click Apply.

17. Restart the **WSGW** application server from the WebSphere Administrative Console.

Part V - After installation

This section describes tasks that you perform after installation. It describes a batch file you should run after installation as well as how to remove a Business Connection installation and how to start and stop a Business Connection system. It also points you to information about using the system.

Running the BCTVPDCreate program

After you finish installing Business Connection, run the BCTVPDCreate.bat program as follows:

1. From a command prompt, change to the directory *<BCT_HOME>*\bin.
2. Enter:

   ```
   BCTVPDCreate.bat
   ```

This program prepares your system for reinstalling another version of Business Connection in the future.

If you receive an update to Business Connection, you will receive installation instructions along with the update. When you apply an update (as opposed to installing another version), you enter the following after installation:

```
BCTVPDUpdate.bat
```

To view the current installation information, you can run the following command at any time:

```
BCTVPDVersion.bat
```

Note that the BCTVPDVersion program applies only to Business Connection and Business Connection Enterprise Edition. To determine your current installation information for Business Connection Express Edition, do the following:

1. Open a command window.
2. Go to the following directory:

   ```
   <BCT_HOME>\wsgw
   ```
3. Open the Readme file to view the product information.

Starting up and shutting down

To start and stop the applications or their individual components, you can use the WebSphere Administrator's Console. Alternatively, entire Application Servers (not components) may be controlled via the WebSphere Business Connection System Management console.

Note that if you have security enabled, stop all servers before stopping the WebSphere Application Server. Otherwise, problems will occur the next time you try to start it.

Removing WebSphere Business Connection

To uninstall any version of Business Connection, select **Start**> **Settings** > **Control Panel** > **Add/Remove Programs**.

Some files might not be removed. If this is the case, manually remove files related to Business Connection.

Where to next?

After you install and configure your Business Connection edition, you can register with trading partners, set up document exchange, and run logging and tracing operations. These tasks are described in the Administering the System document.

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