

IBM Branch Transformation Toolkit
for WebSphere Studio



Installation guide

Version 5.1

Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 27.

Ninth Edition (October 2005)

This edition applies to Version 5, Release 1, Modification 0, of *IBM Branch Transformation Toolkit for WebSphere Studio* (5648-D89) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Branch Transformation Toolkit installation guide

This installation guide describes the hardware and software requirements of version 5.1 of IBM® Branch Transformation Toolkit for WebSphere® Studio and how to install it into WebSphere Studio Application Developer or WebSphere Studio Application Developer Integration Edition so that you can develop applications. For information on installing the sample applications provided in the Branch Transformation Toolkit, see the deployment procedures of the HTML Sample and Java™ Sample.

This document is for anyone who is installing version 5.1 of IBM Branch Transformation Toolkit for WebSphere Studio and describes how to install it into WebSphere Studio Application Developer or WebSphere Studio Application Developer Integration Edition.

Typographic conventions

The installation guide uses the following typographic conventions:

Convention	Description of convention
Bold	Used to indicate something you select or click in the GUI
<i>Italics</i>	Used for emphasis or to refer to another document
Monospace font	Used to indicate text that you type yourself or screen messages
< >	Used to enclose descriptions of variables that you must type yourself or names of tags within XML files as shown in the following examples: <ul style="list-style-type: none">• <code><variable name></code>• <code><tag name></code>

Keys are identified in this guide just as they appear on the keyboard (for example, **Enter**, **Tab**, **Ctrl**).

Hardware and software requirements

This section lists the hardware and software requirements for the runtime and development environments of IBM Branch Transformation Toolkit for WebSphere Studio (Branch Transformation Toolkit) 5.1.

The Branch Transformation Toolkit 5.1 supports the following platforms:

- Microsoft® Windows® 2000
 - Microsoft Windows 2000 Professional with Service Pack 4
 - Microsoft Windows 2000 Server with Service Pack 4
 - Microsoft Windows 2000 Advanced Server with Service Pack 4

- Microsoft Windows XP
 - Microsoft Windows XP Professional with Service Pack 1a
- Microsoft Windows Server 2003
 - Microsoft Windows Server 2003, Standard
 - Microsoft Windows Server 2003, Enterprise
- Sun Solaris
 - Sun Solaris 8 with the Recommended Patch Cluster of November 2003
 - Sun Solaris 9 with the Recommended Patch Cluster of November 2003
- Red Hat Linux[®] on Intel[®]
 - RedHat Linux v7.2
 - RedHat Linux v8.0
 - RedHat Linux v9.0
 - Red Hat Enterprise Linux WS 3.0 Update 1 or 3
 - Red Hat Enterprise Linux AS 3.0 Update 1 or 3
 - Red Hat Enterprise Linux ES 3.0 Update 1 or 3
- IBM AIX[®]
 - AIX Version 5.1 with the 5100-05
 - AIX Version 5.2 with the 5200-01 recommended maintenance package and APAR iY44183, and PTF U484272
 - AIX Version 5.2 with 5200-03 recommended maintenance package
 - AIX 5L[™] version 5.3 with Websphere Application Server APAR PK01428
- IBM z/OS
 - IBM z/OS[®] 1.2 or later

Microsoft Windows 2000 requirements

The following tables list the requirements for Windows 2000.

Table 1. Client

Windows 2000 client	Requirement
Processor	PII 266 MHz or higher
Memory	48 MB minimum / 64 MB recommended
Hard drive	50 MB
Display	800 x 600 minimum / 1024 x 768 recommended
Intranet test LAN base	16 MB token ring / 100 MB BaseTx Ethernet recommended
Operating system	Microsoft Windows 2000 Professional with Service Pack 4
Browser	Any of the following: <ul style="list-style-type: none"> • Netscape Communicator 7.02 or later with Java Plug-in 1.3.1 or later • Internet Explorer 6.0 SP1
Communication protocol	TCP/IP
JDK	Java 2 SDK supplied by WebSphere Application Server

Table 2. Server

Windows 2000 server	Requirement
Processor	PII 500 MHz or higher
Hard drive	100 MB minimum
Memory	512 MB minimum / 768 MB recommended
Operating system	One of the following: <ul style="list-style-type: none"> • Microsoft Windows 2000 Advanced Server with Service Pack 4 • Microsoft Windows 2000 Server with Service Pack 4
Application server	One of the following required: <ul style="list-style-type: none"> • IBM WebSphere Application Server V5.1.1 • IBM WebSphere Application Server Network Deployment V5.1.1 • IBM WebSphere Business Integration Server Foundation V5.1.1
Communication protocol	TCP/IP
Communication services (LU0, LU6.2)	IBM Communications Server V6.1.2
Database manager	One of the following: <ul style="list-style-type: none"> • DB2[®] UDB Enterprise Server Edition v8.1 FP5 or FP7 • DB2 UDB Enterprise Server Edition v8.2 • Oracle 8i Standard/Enterprise Release 3 V8.1.7.4 • Oracle 9i Standard/Enterprise Release 2 V9.2.0.5 • Microsoft SQL Server 2000 Enterprise SP3 • Microsoft SQL Server 2000 Standard Edition
Portal Connector	IBM WebSphere Portal for Multiplatforms V5.1

Table 3. Development

Windows 2000 development	Requirement
Processor	PII processor 500 MHz. PIII 500 MHz or higher recommended
Memory	1024 MB
Hard drive	2 GB minimum for WebSphere Studio Application Developer; 4.5 GB minimum for WebSphere Studio Application Developer Integration Edition
Display	1024 x 768 minimum at a color setting of High Color (16 bit)
Operating system	Microsoft Windows 2000 Professional with Service Pack 4

Table 3. Development (continued)

Windows 2000 development	Requirement
Integrated development environment	One of the following: <ul style="list-style-type: none"> • IBM WebSphere Studio Application Developer V5.1.1 • IBM WebSphere Studio Application Developer V5.1.1 Integration Edition
Browser	<ul style="list-style-type: none"> • Netscape Communicator 7.02 or later with Java Plug-in 1.3.1 or later • Internet Explorer 6.0 SP1

Microsoft Windows XP requirements

The following tables list the requirements for Windows XP.

Table 4. Client

Windows XP client	Requirement
Processor	PII 266 MHz or higher
Memory	48 MB minimum / 64 MB recommended
Hard drive	50 MB
Display	800 x 600 minimum / 1024 x 768 recommended
Intranet test LAN base	16 MB token ring / 100 MB BaseTx Ethernet recommended
Operating system	Windows XP Professional with SP1a
Browser	Any of the following: <ul style="list-style-type: none"> • Netscape Communicator 7.02 or later with Java Plug-in 1.3.1 or later • Internet Explorer 6.0 SP1
Communication protocol	TCP/IP
JDK	Java 2 SDK supplied by WebSphere Application Server

Table 5. Development

Windows XP development	Requirement
Processor	PII processor. PIII 500 MHz or higher recommended
Memory	1024 MB recommended
Hard drive	2 GB minimum for WebSphere Studio Application Developer; 4.5 GB minimum for WebSphere Studio Application Developer Integration Edition
Display	1024 x 768 minimum at a color setting of High Color (16 bit)
Operating system	Windows XP Professional with SP1a

Table 5. Development (continued)

Windows XP development	Requirement
Integrated development environment	One of the following: <ul style="list-style-type: none"> • IBM WebSphere Studio Application Developer V5.1.1 • IBM WebSphere Studio Application Developer V5.1.1 Integration Edition
Browser	<ul style="list-style-type: none"> • Netscape Communicator 7.02 or later with Java Plug-in 1.3.1 or later • Internet Explorer 6.0 SP1

Microsoft Windows Server 2003 requirements

The following tables list the requirements for Windows Server 2003.

Table 6. Server

Windows server 2003	Requirement
Processor	PII 500 MHz or higher
Hard drive	100 MB minimum
Memory	512 MB minimum / 768 MB recommended
Operating system	On the following: <ul style="list-style-type: none"> • Windows Server 2003 Standard • Windows Server 2003 Enterprise
Application server	One of the following required: <ul style="list-style-type: none"> • IBM WebSphere Application Server V5.1.1 • IBM WebSphere Application Server Network Deployment V5.1.1 • IBM WebSphere Business Integration Server Foundation V5.1.1
Communication protocol	TCP/IP
Communication services (LU0, LU6.2)	IBM Communications Server V6.1.2
Database manager	Any of the following: <ul style="list-style-type: none"> • DB2 UDB Enterprise Server Edition v8.1 FP5 or FP7 • DB2 UDB Enterprise Server Edition v8.2 • Oracle 8i Standard/Enterprise Release 3 V8.1.7.4 • Oracle 9i Standard/Enterprise Release 2 V9.2.0.5 • Microsoft SQL Server 2000 Enterprise SP3 • Microsoft SQL Server 2000 Standard Edition
Portal Connector	IBM WebSphere Portal for Multiplatforms V5.1

Sun Solaris requirements

The following tables list the requirements for Solaris.

Table 7. Server

Solaris server	Requirement
Processor	Sparc workstation at 440 MHz, or faster
Hard drive	100 MB minimum
Memory	768 MB minimum / 1024 MB recommended
Operating system	On the following: <ul style="list-style-type: none"> • Solaris 8 with the Recommended Patch Cluster of November 2003 • Solaris 9 with the Recommended Patch Cluster of November 2003
Application server	One of the following required: <ul style="list-style-type: none"> • IBM WebSphere Application Server V5.1.1 • IBM WebSphere Application Server Network Deployment V5.1.1 • IBM WebSphere Business Integration Server Foundation V5.1.1
Communication protocol	TCP/IP
Database manager	Any of the following: <ul style="list-style-type: none"> • DB2 UDB Enterprise Server Edition v8.1 FP5 or FP7 • DB2 UDB Enterprise Server Edition v8.2 • Oracle 8i Standard/Enterprise Release 3 V8.1.7.4 • Oracle 9i Standard/Enterprise Release 2 V9.2.0.5
Portal Connector	IBM WebSphere Portal for Multiplatforms V5.1

Linux on Intel requirements

The following tables list the requirements for Linux on Intel platforms.

Table 8. Client

Linux client	Requirement
Processor	PII 233 MHz or higher
Memory	48 MB minimum / 64 MB recommended
Hard drive	50 MB
Display	800 x 600 minimum / 1024 x 768 recommended
Intranet test LAN base	16 MB token ring / 100 MB BaseTx Ethernet recommended

Table 8. Client (continued)

Linux client	Requirement
Operating system	On the following: <ul style="list-style-type: none"> • Red Hat 8.0 • Red Hat 9.0 • Red Hat Enterprise Linux WS 3.0 Update 1 or 3
Browser	Netscape Communicator 7.02 or later with Java Plug-in 1.3.1 or later
Communication protocol	TCP/IP
JDK	Java 2 SDK supplied by WebSphere Application Server

Table 9. Server

Linux server	Requirement
Processor	PII 500 MHz or higher
Hard drive	100 MB minimum
Memory	512 MB minimum / 768 MB recommended
Operating system	On the following: <ul style="list-style-type: none"> • Red Hat Enterprise Linux AS 3.0 Update 1 or 3 • Red Hat Enterprise Linux ES 3.0 Update 1 or 3
Application server	One of the following required: <ul style="list-style-type: none"> • IBM WebSphere Application Server V5.1.1 • IBM WebSphere Application Server Network Deployment V5.1.1 • IBM WebSphere Business Integration Server Foundation V5.1.1
Communication protocol	TCP/IP
Communication services (LU0, LU6.2)	Communications Server for Linux V6.1.2
Database manager	Any of the following: <ul style="list-style-type: none"> • DB2 UDB Enterprise Server Edition v8.1 FP5 or FP7 • DB2 UDB Enterprise Server Edition v8.2 • Oracle 8i Standard/Enterprise Release 3 V8.1.7.4 • Oracle 9i Standard/Enterprise Release 2 V9.2.0.5
Portal Connector	IBM WebSphere Portal for Multiplatforms V5.1

Table 10. Development

Linux development	Requirement
Processor	PII processor 500 MHz. PIII 500 MHz or higher recommended
Memory	1024 MB

Table 10. Development (continued)

Linux development	Requirement
Hard drive	2 GB minimum for WebSphere Studio Application Developer; 4.5 GB minimum for WebSphere Studio Application Developer Integration Edition
Display	1024 x 768 minimum at a color setting of 16 bit for workstation
Operating system	Red Hat Linux v7.2 or later
Integrated development environment	Required for development workstations: One of the following: <ul style="list-style-type: none"> • IBM WebSphere Studio Application Developer V5.1.1 • IBM WebSphere Studio Application Developer V5.1.1 Integration Edition
Browser	Netscape Communicator 7.02 or later with Java Plug-in 1.3.1 or later

IBM AIX requirements

The following tables list the requirements for AIX.

Table 11. Server

AIX server	Requirement
Processor	IBM eServer™ pSeries® at 375 MHz or higher frequency
Hard drive	100 MB minimum
Memory	512 MB minimum / 768 MB recommended
Operating system	One of the following: <ul style="list-style-type: none"> • AIX Version 5.1 with the 5100-05 recommended maintenance package • AIX Version 5.2 with the 5200-01 recommended maintenance package, APAR iY44183, and PTF U484272 • AIX Version 5.2 with the 5200-03 recommended maintenance package • AIX 5L version 5.3 with WebSphere Application Server APAR PK01428
Application server	One of the following required: <ul style="list-style-type: none"> • IBM WebSphere Application Server V5.1.1 • IBM WebSphere Application Server Network Deployment V5.1.1 • IBM WebSphere Business Integration Server Foundation V5.1.1
Communication protocol	TCP/IP
Communication services (LU0, LU6.2)	IBM Communications Server V6.1.2

Table 11. Server (continued)

AIX server	Requirement
Database manager	One of the following: <ul style="list-style-type: none"> • DB2 UDB Enterprise Server Edition v8.1 FP5 or FP7 • DB2 UDB Enterprise Server Edition v8.2 • Oracle 8i Standard/Enterprise Release 3 V8.1.7.4 • Oracle 9i Standard/Enterprise Release 2 V9.2.0.5
Portal Connector	IBM WebSphere Portal for Multiplatforms V5.1

IBM z/OS requirements

The following tables list the requirements for z/OS.

Table 12. Server

zSeries® server	Requirement
Processor	Any hardware that supports z/OS 1.2 or z/OSe 1.3, or even later versions. S/390 Parallel Enterprise Server™ Generation 5 or 6, or ever later systems is recommended
Hard drive	100 MB minimum
Memory	512 MB minimum /768 MB recommended
Operating system	z/OS (5694-A01) 1.2 or later
Application server	One of the following required: <ul style="list-style-type: none"> • IBM WebSphere Application Server for z/OS V5.1 • IBM WebSphere Business Integration Server Foundation for z/OS V5.1
Communication protocol	TCP/IP
Communication services (LU0, LU6.2)	IBM Communications Server V6.1.2
Database manager	One of the following: <ul style="list-style-type: none"> • IBM DB2 Universal Database™ V7.0 for z/OS • IBM DB2 Universal Database V8.0 for z/OS
Portal Connector	IBM WebSphere Portal for Multiplatforms V5.1

Additional requirements

Depending on the framework services you use, you may require other hardware and software to support financial devices. The following additional requirements apply to the type of workstation (client, server, or development) that accesses the financial device.

Table 13. Additional financial devices requirements

Framework component	Additional requirements
J/eXtensions for Financial Services	Any financial printer, magnetic stripe reader/encoder, or check reader with a device service that is compliant with the J/XFS specification
eXtensions for Financial Services	Any financial printer, magnetic stripe reader/encoder, or check reader with a device service that is compliant with the J/XFS specification
LANDP [®] MSR/E Device Service	Any magnetic stripe reader/encoder supported by the LANDP MSRE47## server

Setting up a Branch Transformation Toolkit development environment

In this procedure, you set up a development workstation so that you can develop applications based on IBM Branch Transformation Toolkit for WebSphere Studio 5.1. Note that the physical machine must comply to the requirements listed in the Hardware and software requirements section, including having WebSphere Studio Application Developer Integration Edition.

Note: The following procedure describes how to install the Branch Transformation Toolkit on top of WebSphere Studio Application Developer or WebSphere Studio Application Developer Integration Edition. Each functional unit is contained in its own JAR file to provide greater flexibility both in the development environment and in runtime. Consider reviewing Functional units, packages, and dependencies to decide which functional units you need to develop your application. Note, however, that you can add or remove functional units at any time provided you account for their corequisite functional units (functional units that must also exist on the system at the same time).

Installation package structure

The Branch Transformation Toolkit installation package mainly contains two groups of components - components for the development environment and components for the runtime environment.

Development environment

For the development environment, Branch Transformation Toolkit 5.1 supports WebSphere Studio Application Developer 5.1.1 and WebSphere Studio Application Developer Integration Edition 5.1.1.

For the development environment, there are two sets of plug-ins including different files:

- **Plug-ins for WebSphere Studio Application Developer 5.1.1**
These plug-ins do not include any component that do not have dependencies on features provided by WebSphere Studio Application Developer Integration Edition 5.1.1.
- **Plug-ins for WebSphere Studio Application Developer Integration Edition 5.1.1**

These plug-ins include components that have dependencies on features provided by WebSphere Studio Application Developer Integration Edition 5.1.1, such as plug-ins for the Business Process BTT Wizard.

If you have WebSphere Studio Application Developer Integration Edition 5.1.1 installed on your system, the toolkit installation wizard will take WebSphere Studio Application Developer Integration Edition as your development environment, regardless if you have WebSphere Studio Application Developer installed as well. After the installation wizard decides that WebSphere Studio Application Developer Integration Edition is your development environment, it copies the plug-ins for WebSphere Studio Application Developer Integration Edition 5.1.1 to the `wstools/eclipse/plugins` directory of your WebSphere Studio Application Developer Integration Edition 5.1.1 automatically during the installation.

If you have WebSphere Studio Application Developer 5.1.1 installed on your system, the toolkit installation wizard will take WebSphere Studio Application Developer as your development environment. After the installation wizard decides that WebSphere Studio Application Developer is your development environment, it copies the plug-ins for WebSphere Studio Application Developer 5.1.1 to the `wstools/eclipse/plugins` directory of your WebSphere Studio Application Developer 5.1.1 automatically during the installation.

If neither WebSphere Studio Application Developer 5.1.1 nor WebSphere Studio Application Developer Integration Edition 5.1.1 is installed on your system, you will need to copy the plug-ins to the `wstools/eclipse/plugins` directory by yourself after you have WebSphere Studio Application Developer or WebSphere Studio Application Developer Integration Edition installed later. Plug-ins for WebSphere Studio Application Developer can be found in the `<toolkit_root>/plugins/wsad51` directory, and plug-ins for the WebSphere Studio Application Developer Integration Edition can be found in the `<toolkit_root>/plugins/wsadie51` directory.

Runtime environment

For the runtime environment, Branch Transformation Toolkit 5.1 supports WebSphere Application Server 5.1.1 and WebSphere Business Integration Server Foundation 5.1.1.

For the runtime environment, there are two sets of runtime data including different files:

- **Runtime data for WebSphere Application Server 5.1.1**

These runtime data do not include components that have dependencies on features provided by WebSphere Business Integration Server Foundation.

- **Runtime data for WebSphere Business Integration Server Foundation 5.1.1**

These runtime include components that have dependencies on features provided by WebSphere Business Integration Server Foundation, such as the Business Process Component, startup beans, work area, and components using activity sessions.

Depending on the development environment you have on your workstation, the Branch Transformation toolkit installation wizard decides the runtime environment to install for you.

If you have WebSphere Studio Application Developer Integration Edition installed on your workstation, or you have neither edition of the application developer

installed, the installation wizard will prompt if you want to install the runtime environment for WebSphere Business Integration Foundation, or the runtime environment for WebSphere Application Server.

If you have WebSphere Studio Application Developer installed on your workstation, the installation wizard will automatically take WebSphere Application Server as your runtime environment, and install the runtime data accordingly for you.

Installing the Branch Transformation Toolkit on a development workstation

To set up the development workstation, do the following:

1. According to your business need, install WebSphere Studio Application Developer or WebSphere Studio Application Developer Integration Edition.
2. Insert the Branch Transformation Toolkit CD into the workstation and browse the CD. If you want to install Branch Transformation Toolkit 5.1 for windows, run C55HDML.exe in the Windows platform. If you want to install Branch Transformation Toolkit 5.1 for Linux, run C55HEML.bin in the Linux platform. This starts the Installation Wizard for Branch Transformation Toolkit.
3. During the installation, the Installation Wizard detects if any version of Branch Transformation Toolkit is installed on your system. Branch Transformation Toolkit version 5.1 can coexist with that of version 4.3. If you already have version 5.1 installed, the Installation Wizard will display a warning that you already have version 5.1 installed. If you continue with the installation, your previous installation of version 5.1 will be overridden.
4. The Installation Wizard also checks the WebSphere Studio Application Developer you installed. If you installed WebSphere Studio Application Developer, the Install Wizard will install toolkit components designed for WebSphere Studio Application Developer and those for WebSphere Application Server. If you have WebSphere Studio Application Developer Integration Edition installed, the Install Wizard will install toolkit components designed for WebSphere Studio Application Developer Integration Edition, and it will prompt you which set of runtime components you want to install - components designed for the WebSphere Application Server, or components designed for WebSphere Business Integration Server Foundation.

The Branch Transformation Toolkit installation program creates the following set of directories on the target machine.

Table 14. Directories created by installation

Directory name	Description of contents
dbtools	Scripts to manage database tables for the CHA component
desktop	Desktop DTD file
doc	The Branch Transformation Toolkit documentation plug-ins to WebSphere Studio Application Developer Integration Edition

Table 14. Directories created by installation (continued)

Directory name	Description of contents
plugins	<ul style="list-style-type: none"> • Visual beans plug-in to WebSphere Studio Application Developer Integration Edition • Eclipse Modeling Framework (EMF) plug-in • Graphical Builder plug-in • Struts Tools BTT Extensions plug-in • CHA Editor plug-in • Format Editor plug-in • Business Process BTT Wizard plug-in • Migration Tool plug-in
ear	EAR files to provide the infrastructure for the CHA, CHA formatter service, and Service Infrastructure components of the toolkit. You can use the EARs to build applications on the Branch Transformation Toolkit
jars	The Branch Transformation Toolkit code separated into various JARs according to the functional unit to which the code belongs. A solution built on the Branch Transformation Toolkit can use the JARs for the functional units that it is using. See Functional units, packages, and dependencies for a listing of the JARs and their contents and corequisites
samples	EAR files to run the sample applications provided by the Branch Transformation Toolkit in the WebSphere Studio Application Developer workbench. This directory also contains the source code of the samples.
services	Runtime files that are needed by some of the services of the framework
source	Source code of selected Branch Transformation Toolkit components to provide a better understanding of the functional units. This helps in tasks such as extending the framework and reduces the development cycle. The source code must not be modified
javadoc	

5. Start WebSphere Studio Application Developer.
6. Set some preferences before you import Branch Transformation Toolkit Java source:
 - To work with complex projects, you should use the source folders as source containers instead of creating packages directly inside the project. To do this, you create source folders as children of the project and create your packages inside these source folders. To automate this, go to **Window** → **Preferences**. Expand the Java node and select the **New Project** node. Enable the **Folders** check box.

- To develop with the Branch Transformation Toolkit, add the framework functional units (the JAR files containing the classes) to the application classpath. You can use any approach to do this but you must account for the class loader policies.

A recommended approach is to add an overall classpath variable named **BTT** to point to the root directory of the Branch Transformation Toolkit installation. To do this:

- Go to **Window** → **Preferences**.
- Expand the **Java** node and select **Classpath Variables**.
- Click **New** and in the **Name** entry field, type the following:
BTT
- In the **Path** entry field, type the path to where the Branch Transformation Toolkit was installed.
- Click **OK**.

In the same way, add another classpath variable named, for example, **BTT_EXTERNAL** to point to the external dependencies. To make the external classpath variable work, all the required external JARs must be in the directory to which this variable points. The overall classpath variables make it easier for you to select the Branch Transformation Toolkit JAR files for your Java project.

Another approach is to define a classpath variable for each functional unit available in the product. Each classpath variable points to the concrete JAR associated with the functional unit (see the tables in Functional units, packages, and dependencies).

The remainder of this procedure and all the other procedures assume that you are using the recommended approach.

7. Create a Java project for application. To create the project:
 - Select **File** → **New** → **Project**.
 - Select **Java** in the left panel and then select **Java Project** in the right panel. Click **Next**.
 - Type the name of the project, such as HomeBanking, and click **Finish**.
8. When deploying an application, you must embed Branch Transformation Toolkit functional units, along with the required application resources, inside the J2EE EAR file. The Branch Transformation Toolkit uses functional units to provide a coherent structure of JAR files that you use to build an application. The JARs in the functional units contain the required set of classes for a given execution environment.

To make the functional units available to your project, you can either add the compiled JARs to the project's classpath or you can import the JARs into the workspace. You can choose the second option if you want to embed the JARs and resources into your application when, for example, it is self-contained and independently deployed.

For either option, you only add or import the JARs and their corequisites needed for the application to optimize the deployment and distribution of the application. Consult Functional units, packages, and dependencies to obtain these corequisites.

If you are unsure of the actual dependencies among the JARs, add the ones that you are not sure about. You can always remove unneeded jars later. For examples of the JARs that you should select, browse the list of jars used by the sample applications shipped in the *<Toolkit root>/samples* folder. If you open,

for example, the BTTHtmlSampleWeb.war file that is inside the BBTTHtmlSample.ear file, you can see that the following functional units have been used to build the application:

- BTTBase(bttbase.jar)
- BTTInvoker(bttinvoker.jar)
- BTTJavaClient(bttjavaclient.jar)
- BTTServerBean(bttsvrbean.jar)
- BTTSessionManagement(bttsm.jar)
- BTTStrutsExtension(bttstruts.jar)
- BTTHTMLSampleEJB(BTTHTMLSampleEJB.jar)

To add the required JARs to the project's classpath:

- a. Right-click the project and select **Properties**.
- b. Select **JavaBuildPath** and then select the **Libraries** tab.
- c. Select **Add Variable** and, in the New Variable Classpath Entry window, select the classpath variable (BTT) and click **Extend**.
- d. In the Variable Extension window, expand the jars directory and select the BTT JAR that you want to add to your project. Click **OK**.
- e. If the JAR you have just added to your project has source code shipped with the Branch Transformation Toolkit (see Functional units, packages, and dependencies), you may want to attach the source code to the JAR to enable source-level stepping and browsing of classes contained in the binary JAR file. To do this:
 - 1) Click **Attach Source**.
 - 2) In the Attachments For BTT/jars/<JAR name>.jar window, click the **Variable** button next to the Archive variable path text field.
 - 3) Select the classpath variable (BTT) and click **OK**.
 - 4) Click **Extension**.
 - 5) In the JAR/ZIP File Selection window, open the source directory and double click the ZIP file containing the source code corresponding to the JAR file you added to your project. Click **OK**.
- f. Repeat this procedure for each JAR file that you want to add. Keep in mind the dependencies that a JAR or functional unit may have. Consult Appendix A to obtain these dependencies.

Once you have installed the Branch Transformation Toolkit in WebSphere Studio Application Developer Integration Edition, you can start developing Branch Transformation Toolkit-based solutions. For a high level overview of the development process and where to get information, see the Creating an application documentation. For examples of Branch Transformation Toolkit-based applications, including how to install and run them on the various supported platforms, see the Java Sample Application and HTML Sample Application documentation.

Setting up the CHA Editor

The CHA Editor for the Branch Transformation Toolkit is a WebSphere Studio plug-in. CHA Editor configuration files (or CHA Editor files) help you create CHA elements with a graphical user interface.

Prerequisites to use the CHA Editor:

- If you had installed the toolkit before you installed the WebSphere Studio Application Developer Integration Edition, you need to copy the following plug-in files to the `wstools\ eclipse\ plugins\` folder of your WebSphere Studio installation folder:
 - `com.ibm.btt.tools.common_5.1.0`
 - `com.ibm.btt.tools.chaeditor.model.emf_5.1.0`
 - `com.ibm.btt.tools.chaeditor_5.1.0`

To create a CHA Editor file, follow these steps:

1. Start Application Developer Integration Edition.
2. Create a simple project to contain the CHA Editor files.
3. From the File menu, select **File** → **New** → **Other**.
4. In the dialog, select **IBM Branch Transformation Toolkit** in the left panel.
5. In the right panel, select **CHA Editor file**. This starts the CHA Editor Configuration Wizard.
6. Select the project to contain the CHA Editor's files. Usually this is the project file for the application you are creating.
7. In the file name field, type the name of the editor's configuration file. The file must have the `.chae` extension.
8. Click **Finish**.
9. From the menu bar, select **Window** → **Show view** → **Other**.
10. In the window that pops up, expand **IBM Branch Transformation Toolkit**, and select the CHA Editor views that you want to show.

The wizard then creates the configuration file and the `dsedata.xml`, `dsetype.xml`, and `dsectxt.xml` files in the project folder. It then launches the CHA Editor.

Setting up the Format Editor

The Format Editor for the Branch Transformation Toolkit is a WebSphere Studio plug-in. Format Editor configuration files (or Format Editor files) help you create formatters with a graphical user interface.

Prerequisites to use the Format Editor:

- If you had installed the toolkit before you installed the WebSphere Studio Application Developer Integration Edition, you need to copy the following plug-in files to the `wstools\ eclipse\ plugins\` folder of your WebSphere Studio installation folder:
 - `com.ibm.btt.tools.common_5.1.0`
 - `com.ibm.btt.tools.fmteditor_5.1.0`
 - `com.ibm.btt.tools.chaeditor_5.1.0`

To create a Format Editor file, follow these steps:

1. Start Application Developer Integration Edition.
2. Create a simple project to contain the Format Editor files.
3. From the File menu, select **File** → **New** → **Other**.
4. In the dialog, select **IBM Branch Transformation Toolkit** in the left panel.
5. In the right panel, select **Format Editor file**. This starts the Format Editor Configuration Wizard.

6. Select the project to contain the Format Editor's files. Usually this is the project file for the application you are creating.
7. In the file name field, type the name of the editor's configuration file. The file must have the .fmte extension.

Note: Each Format Editor file works with a CHA Editor file to provide the formatters for the CHA elements described in the CHA Editor file. You should define the CHA Editor file name in the configuration of the Format Editor file to ensure they can work together.

8. Click **Finish**.
9. From the menu bar, select **Window** → **Show view** → **Other**.
10. In the window that pops up, expand **IBM Branch Transformation Toolkit**, and select the Format Editor views that you want to show.

The wizard then creates the configuration file and the dsefmt.xml file in the project folder. It then launches the Format Editor.

Setting up the Business Process BTT Wizard

The Business Process BTT Wizard for the Branch Transformation Toolkit is a WebSphere Studio plug-in. Business Process configuration files (or Business Process files). The Business Process BTT Wizard provides a graphical user interface (GUI) to help you extend your business processes for taking advantage of the BTT Abstract Layer.

Prerequisites to use the Business Process BTT Wizard:

- If you had installed the toolkit before you installed the WebSphere Studio Application Developer Integration Edition, you need to copy the following plug-in files to the eclipse\wstools\plugins\ folder of your WebSphere Studio installation folder:
 - com.ibm.btt.tools.common_5.1.0
 - com.ibm.btt.tools.bp_5.1.0

Setting up the Struts Tools BTT Extensions

The Struts Tools BTT Extensions for the Branch Transformation Toolkit is a WebSphere Studio plug-in. Struts Tools BTT Extensions configuration files (or Struts Tools BTT Extensions files). The Struts Tools BTT Extensions provides a graphical and easier way to work with toolkit extended Struts configuration files.

Prerequisites to use the Struts Tools BTT Extensions:

- If you had installed the toolkit before you installed the WebSphere Studio Application Developer Integration Edition, you need to copy the following plug-in files to the wstools\eclipse\plugins\ folder of your WebSphere Studio installation folder:
 - com.ibm.btt.tools.common_5.1.0
 - com.ibm.btt.tools.struts_5.1.0
 - com.ibm.btt.tools.webdiagrameditor_5.1.0

Setting up the Graphical Builder

The Graphical Builder for the Branch Transformation Toolkit is a WebSphere Studio plug-in. The Graphical Builder configuration files (or the Graphical Builder files). The Graphical Builder integrates all developing tools and provides a new way of visualization, integrated development, and seamless deployment technique that applies to the full lifecycle of your application development.

Prerequisites to use the Graphical Builder:

- If you had installed the toolkit before you installed the WebSphere Studio Application Developer Integration Edition, you need to copy the following plug-in files to the `wstools\ eclipse\ plugins\` folder of your WebSphere Studio installation folder:
 - `com.ibm.btt.tools.common_5.1.0`
 - `com.ibm.btt.tools.chaeditor.model.emf_5.1.0`
 - `com.ibm.btt.tools.chaeditor_5.1.0`
 - `com.ibm.btt.tools.fmteditor_5.1.0`
 - `com.ibm.btt.tools.fmteditor.model.emf_5.1.0`
 - `com.ibm.btt.tools.struts_5.1.0`
 - `com.ibm.btt.tools.webdiagrameditor_5.1.0`
 - `com.ibm.btt.tools.bp_5.1.0`
 - `com.ibm.btt.tools.gw_5.1.0`
 - `com.ibm.btt.tools.gw.model.emf_5.1.0`
 - `com.ibm.btt.tools.migration_5.1.0`

Setting up the migration tool

The migration tool is a WebSphere Studio Application Developer plug-in that helps you migrate your version 4.3 toolkit applications to version 5.1 applications.

Prerequisites to use the migration tool:

- If you had installed the toolkit before you installed the WebSphere Studio Application Developer Integration Edition, you need to copy the following plug-in files to the `wstools\ eclipse\ plugins\` folder of your WebSphere Studio installation folder:
 - `com.ibm.btt.tools.common_5.1.0`
 - `com.ibm.btt.tools.chaeditor.model.emf_5.1.0`
 - `com.ibm.btt.tools.chaeditor_5.1.0`
 - `com.ibm.btt.tools.fmteditor_5.1.0`
 - `com.ibm.btt.tools.fmteditor.model.emf_5.1.0`
 - `com.ibm.btt.tools.struts_5.1.0`
 - `com.ibm.btt.tools.webdiagrameditor_5.1.0`
 - `com.ibm.btt.tools.bp_5.1.0`
 - `com.ibm.btt.tools.gw_5.1.0`
 - `com.ibm.btt.tools.gw.model.emf_5.1.0`
 - `com.ibm.btt.tools.migration_5.1.0`

Installing toolkit applications on a runtime platform

Installing Branch Transformation Toolkit applications on a runtime platform consists of deploying EAR files onto WebSphere Application Server. You develop a solution in WebSphere Studio Application Developer Integration Edition and package the code and resources for the solution in EAR files. You can do the packaging using WebSphere Studio Application Developer Integration Edition or using the Application Assembly Tool in WebSphere Application Server.

The Branch Transformation Toolkit provides four sample applications that you can immediately deploy on WebSphere Application Server after you make a few customizations to adapt the sample applications to your particular requirements. See the deployment section of Java Sample Application and HTML Sample Application documentation for this information. The sample application documentation will also provide you with guidance on deploying your own applications.

Functional units, packages, and dependencies

This section identifies the external dependencies and framework corequisites for each functional unit. You must load these dependencies and corequisites to have a clean development environment. In addition to the components provided by the required features for the Branch Transformation Toolkit, you may need other external packages. See Obtaining missing prerequisites for a list of these packages.

The tables below include a brief description of the functional unit, whether it also has source code, and the functional unit's ZIP file. Each row shows the direct framework corequisites and the corequisites of these corequisites.

Table 15. External dependencies and corequisites for functional units-JAR files

JAR Name	Functional unit or component	Source ZIP name	External dependency	Corequisite JAR
bttbase	Basic framework component	BTTBase	J2EE, Activity Session , ras.jar	dseb
BTTCHAEJB	CHA	BTTCHA	J2EE	bttbase
bttevent	BTT Event	BTTEvent	J2EE	dseb, bttbase, bttjavaclient, bttsm, bttinvoker, dsesym
bttfmt BTTFormatterEJB	Formatter	BTTFormatter	J2EE, qname.jar, WSDL, Web Services Invocation Framework, SOAP, Java Mail, activation.jar, xerces.jar, xalan.jar, wsatlib.jar, commons-logging-api.jar	bttbase, BTTCHAEJB
bttinvoker	EJB invocation framework	BTTInvoker	J2EE, webcontainer.jar, ivjeb35.jar, websphere.jar, Work Area, wsif.jar, wsdl4j.jar, wsatlib.jar	bttbase, bttevent, bttjavaclient, bttsm, dseb, dsesym
bttjavaclient	Java client support	BTTJavaClient	J2EE	bttbase, bttinvoker, bttsm, dseb
bttjdbsvc	Jdbc Table Service	BTTJdbcJournalService	J2EE, servletevent.jar, ivjeb35.jar, runtime.jar	bttbase, bttfmt, bttjdbtsvc, bttsvcinfra
bttjdbtsvc	Jdbc Journal Service	BTTJdbcTableService	utils.jar	bttbase, bttfmt, bttsvcinfra
bttsm	session management	BTTSessionManagement	J2EE, activitySession.jar	bttbase
bttstruts	HTML client in BTT5.1	BTTStrutsExtension	Apache Struts 1.1, J2EE, wsif.jar, WSDL	bttbase, bttinvoker, bttsm, dseb
bttstrutsportal	Fully Portal support	BTTStrutsPortal	Apache Struts 1.1, Portal Server 5.1, J2EE, wsif.jar, WSDL, dynacache.jar	bttbase, bttevent, bttinvoker, bttsm, bttstruts

Table 15. External dependencies and corequisites for functional units-JAR files (continued)

JAR Name	Functional unit or component	Source ZIP name	External dependency	Corequisite JAR
bttsvcinfra	Services Infra	BTTServicesInfra	J2EE Web Services Invocation Framework, WSDL, QName, Xerces Java Parser, commons-logging-api.jar, Xalan, SOAP, Java Mail, activation.jar	bttbase
bttsvrbean	Single Action EJB	BTTServerBean	Work Area	bttbase, bttfmt, bttsvcinfra
bttsvrflow	BTT Business Process	BTTServerFlow	Work Area, QName, ras.jar, Web Services Invocation Framework, WSDL, bpe.jar	bttbase, bttfmt, bttsvcinfra
BTTStartupEJB	BTT Startup	BTTStartup	J2EE	bttbase
dseb	Basic framework component	DSEBase	J2EE Java Servlet API (server only)	
dsecsm	Client/Server mechanism	DSEClientServer Mechanism	SSLight.jar	dsecs, dsesym, dseb
dsecs	Client/Server support	DSEClientServer Support	J/XFS	dseb
dсед	Desktop	DSEDesktop	Java Help, J2EE	dseflp, dsegb, dseb
dseflp	Flow processor	DSEFlowProcessor		dseb
dseflpeclt	Flow Processor extensions (client)	DSEFlowProcessor ExtClient		dseb, dсед, dsegb, dseflp
dsegb	GUI Beans	DSEGuiBeans	SWT	dseb
dsejxbsvc	JXFS service base	N/A	J/XFS	dseb
dsejxcsvc	JXFS Check Reader	N/A	J/XFS	dsejxbsvc, dseb
dsejxpsvc	JXFS Print service	N/A	J/XFS	dsejxbsvc, dseb
dselansvc	Access to LANDP MSR/E server	N/A	LANDP	dseb
dsesci	Common infrastructure for services	N/A		dseb
dsesym	System Management	N/A		
dsetde	Typed data extensions	DSETypedData Extensions		dseb
dsewojxdsi	J/XFS device service infrastructure (WOSA based)	N/A	J/XFS	dsewossvc, dseb
dsewomjxds	J/XFS MSR/E device service (WOSA based)	N/A	J/XFS	dsewojxdsi, dseb
dsewopjxds	J/XFS printer device service (WOSA based)	N/A	J/XFS	dsewojxdsi, dsewossvc, dseb
dsewossvc	WOSA support	N/A		dseb

Table 16. External dependencies and corequisites for functional units-WAR files

WAR name	Functional unit or component	Source ZIP name	External dependency	Corequisite JAR
BTTCHAWeb(for WebSphere Application Server only)	BTTCHAWeb	N/A		bttbase
BTTServicesInfraWeb	BTTServicesInfra	N/A		bttbase
BTTStartupWeb(for WebSphere Application Server only)	BTTStartup	N/A		bttbase

Table 17. External dependencies and corequisites for functional units-RAR files

RAR name	Functional unit or component	Source ZIP name	External dependency	Corequisite JAR
dummysnalu0	BTTDummySnaLu0Connector	N/A	J2EE JCA	
snalu0	DSELu0Connector DSELu0ConnectorJcaPlugin	N/A	Communication Server J2EE JCA WSIF	
snalu62	BTTLu62Connector BTTLu62ConnectorJcaPlugin	N/A	Communication Server J2EE JCA WSIF	

The following samples are only provided in source code contained in ZIP files:

Table 18. Source ZIP files and dependencies for samples

Sample	Source ZIP name	Dependency
Sample of how to use the LANDP MSR/E access service	DSELandpSample	dseb, dselansvc, dsencsi
Sample of how to use the WOSA service	DSEWosaSample	dseb, dsewossvc
Sample of how to use the BTTServices	BTTServicesSample	bttbase, bttsvcinfra

The following table lists the sample EAR files, their source or compiled code file, and any corequisites.

Table 19. Source ZIP and EAR files and external and corequisites for the Samples

Sample	Source ZIP and EAR files	External Corequisite	Corequisite JAR
HTML Sample Application	BTTHTMLSample.ear		bttbase, bttinvoker, bttfmt, bttjavaclient, bttjdbjvc, bttjdbtvc, bttsm, bttstruts, bttsvrbean, bttsvcinfra
HTML Sample BP Application	BTTHTMLSampleBPEAR.ear		bttbase, BTTCHAEJB, bttfmt, BTTFormatterEJB, bttjdbjvc, bttjdbtvc, bttsvrbean, bttsvrflow, bttsvcinfra, sn0dummy
Java Sample Application-CHAFMTSeperated	BTTCHAFMTServer.ear, BTTJavaSample.ear		bttbase, bttfmt, bttjdbjvc, bttjdbtvc, bttsvcinfra, bttsvrbean, dsecsm, dsecss, dsed, dseflp, dseflpeclt, dsegb, dsejxpsvc, dsesci, dsesym, dsetde, sn0dummy
Java Sample Application-MultiCHA	BTTCHAEAR.ear, BTTJavaSample.ear		
Java Sample Application-StandAlone	BTTJavaSample.ear		
Portal HTML Sample Application	BTTPortalHTMLSample.ear		bttbase, bttfmt, bttjdbjvc, bttjdbtvc, bttinvoker, bttjavaclient, bttsvrbean, bttsm, bttstruts, bttsvcinfra
WCA Sample Application	com.ibm.btt.wci.sample	Eclipse v3.0.0	dseb, dsed, dseflp, dsegb

The following table lists the packages included in the product and the JAR, RAR or ZIP files that contain them. Note that some Java packages are in more than one JAR to optimize the contents of the JAR files.

Table 20. JAR, RAR or ZIP files for packages

Package name	JAR/RAR/ZIP name
com.ibm.btt.base	bttbase.jar, BTTBase.zip
com.ibm.btt.base.types	bttbase.jar, BTTBase.zip
com.ibm.btt.base.types.ext	bttbase.jar, BTTBase.zip
com.ibm.btt.cha.ejb	bttbase.jar, BTTBase.zip, BTTCHAEJB.jar, BTTCHA.zip
com.ibm.btt.clientserver	bttjavaclient.jar, BTTJavaClient.zip
com.ibm.btt.cs.invoker.base	bttinvoker.jar, BTTInvoker.zip
com.ibm.btt.cs.invoker.base.xml	bttinvoker.jar, BTTInvoker.zip
com.ibm.btt.cs.invoker.cache	bttinvoker.jar, BTTInvoker.zip
com.ibm.btt.cs.java	bttjavaclient.jar, BTTJavaClient.zip
com.ibm.btt.cs.servlet	bttjavaclient.jar, BTTJavaClient.zip
com.ibm.btt.cs.sessionpropagation	bttinvoker.jar, BTTInvoker.zip
com.ibm.btt.event	bttevent.jar, BTTEvent.zip
com.ibm.btt.formatter.client	bttfmt.jar, BTTFormatter.zip, BTTFormatterEJB.jar
com.ibm.btt.formatter.server	bttfmt.jar, BTTFormatter.zip, BTTFormatterEJB.jar
com.ibm.btt.misc	bttbase.jar, BTTBase.zip, BTTCHAEJB.jar, BTTCHA.zip, BTTStartupEJB.jar BTTStartup.zip
com.ibm.btt.samples.business.sna.lu0	dummynalu0.rar
com.ibm.btt.samples.business.sna.lu0.exception	dummynalu0.rar
com.ibm.btt.samples.business.sna.lu0.host	dummynalu0.rar
com.ibm.btt.samples.business.sna.lu0.host.event	dummynalu0.rar
com.ibm.btt.samples.business.sna.lu0.resource	dummynalu0.rar
com.ibm.btt.samples.business.sna.lu0.services	dummynalu0.rar
com.ibm.btt.samples.business.sna.util	dummynalu0.rar
com.ibm.btt.server.bean	bttsvrbean.jar, BTTServerBean.zip
com.ibm.btt.server.flow	bttsvrflow.jar, BTTServerFlow.zip
com.ibm.btt.server.flow.al.base	bttsvrflow.jar, BTTServerFlow.zip
com.ibm.btt.server.flow.al.mapping	bttsvrflow.jar, BTTServerFlow.zip
com.ibm.btt.server.flow.al.workarea	bttsvrflow.jar, BTTServerFlow.zip
com.ibm.btt.server.flow.mapper	bttsvrflow.jar, BTTServerFlow.zip
com.ibm.btt.server.flow.message	bttsvrflow.jar, BTTServerFlow.zip
com.ibm.btt.services	bttvcinfra.jar, BTTServicesInfra.zip
com.ibm.btt.services.jdbcjournalervice	bttjdbjvc.jar
com.ibm.btt.services.jdbcservicesinfra	bttjdbtsvc.jar
com.ibm.btt.services.jdbctableservice	bttjdbtsvc.jar
com.ibm.btt.sample.appl	BTTJavaSample.ear, bttwcisample.jar
com.ibm.btt.sample.html	BTTHTMLSample.ear
com.ibm.btt.services.sample	BTTServicesSample.zip

Table 20. JAR, RAR or ZIP files for packages (continued)

Package name	JAR/RAR/ZIP name
com.ibm.btt.sm	bttsm.jar, BTTSessionManagement.zip
com.ibm.btt.sm.as	bttsm.jar, BTTSessionManagement.zip
com.ibm.btt.struts	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.actions	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.base	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.config	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.exception	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.plugins	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.session	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.taglib.html	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.utils	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.struts.wsif	bttstruts.jar, BTTStrutsExtension.zip
com.ibm.btt.strutsportal.actions	bttstrutsportal.jar, BTTStrutsPortal.zip
com.ibm.btt.strutsportal.base	bttstrutsportal.jar, BTTStrutsPortal.zip
com.ibm.btt.strutsportal.taglib.html	bttstrutsportal.jar, BTTStrutsPortal.zip
com.ibm.btt.wci.sample	bttwcisample.jar
com.ibm.connector2.sna.lu0	snalu0.rar
com.ibm.connector2.sna.lu0.exception	snalu0.rar
com.ibm.connector2.sna.lu0.host	snalu0.rar
com.ibm.connector2.sna.lu0.host.event	snalu0.rar
com.ibm.connector2.sna.lu0.resource	snalu0.rar
com.ibm.connector2.sna.lu0.tools	snalu0.rar
com.ibm.connector2.sna.lu0.tools.resources	snalu0.rar
com.ibm.connector2.sna.lu0.util	snalu0.rar
com.ibm.connector2.sna.lu62	snalu62.rar
com.ibm.connector2.sna.lu62.exception	snalu62.rar
com.ibm.connector2.sna.lu62.host	snalu62.rar
com.ibm.connector2.sna.lu62.host.event	snalu62.rar
com.ibm.connector2.sna.lu62.resource	snalu62.rar
com.ibm.connector2.sna.lu62.tools	snalu62.rar
com.ibm.connector2.sna.lu62.tools.resources	snalu62.rar
com.ibm.connector2.sna.lu62.util	snalu62.rar
com.ibm.connector2.sna.services	snalu62.rar
com.ibm.connector2.sna.util	snalu62.rar snalu0.rar
com.ibm.dse.automaton	dseflp.jar, DSEFlowprocessor.zip
com.ibm.dse.automaton.ext.client	dseflpeclt.jar, DSEFlowProcessorExtClient.zip
com.ibm.dse.base	dseb.jar, DSEBase.zip
com.ibm.dse.base.types	dseb.jar, DSEBase.zip
com.ibm.dse.base.types.ext	dsetde.jar, DSETypedDataExtensions.zip

Table 20. JAR, RAR or ZIP files for packages (continued)

Package name	JAR/RAR/ZIP name
com.ibm.dse.clientserver	dseb.jar, DSEBase.zip dsepsi.jar, DSEPresentationServerInfra.zip
com.ibm.dse.cs.servlet	dsecs.jar, DSEClientServerSupport.zip dsecsm.jar, DSEClientServerMechanism.zip dseb.jar, DSEBase.zip
com.ibm.dse.desktop	dsed.jar, DSEDesktop.zip
com.ibm.dse.gui	dsegb.jar, DSEGuiBeans.zip
com.ibm.dse.jxfds.wosamsd	dsewomjxds.jar
com.ibm.dse.jxfds.wosaptr	dsewopjxds.jar
com.ibm.dse.samples.landp	DSELandpSample.zip
com.ibm.dse.samples.wosa	DSEWosaSample.zip
com.ibm.dse.services	dsesci.jar
com.ibm.dse.services.jxfs	dsejxbsvc.jar
com.ibm.dse.services.jxfs.chk	dsejxcsvc.jar
com.ibm.dse.services.jxfs.ptr	dsejxpsvc.jar
com.ibm.dse.services.landp	dselansvc.jar
com.ibm.dse.services.wosa	dsewossvc.jar
com.ibm.dse.sysmngment	dsesym.jar
com.ibm.dse.wosabean	dsewojxdsi.jar

Where to find the missing prerequisites

Use the following table to locate and obtain any missing prerequisites. Some of them can be found in other JAR or ZIP files.

Table 21. Locations for prerequisites

Prerequisite	Resource name	How to get them
IBM DB2	db2java.zip	Available from IBM DB2 Universal Database
Oracle	classes12.zip	Available from Oracle
SQL Server 2000	msutil.jar mssqlserver.jar msbase.jar	Available from Microsoft SQL Server 2000
J2EE Connector Architecture API	j2ee.jar	Available in WebSphere Application Server
MQSeries [®]	MQSeries.jar	Available from MQSeries
Xerces Java Parser	xerces.jar	Available in WebSphere Application Server
LANDP	ldpjava.jar	Available from LANDP. Version 6.0 required
JavaHelp	jh.jar	Available in WebSphere Application Server
SOAP	soap.jar	Available in WebSphere Application Server
EJB Container	ejbcontainer.jar	Available in WebSphere Application Server

Table 21. Locations for prerequisites (continued)

Prerequisite	Resource name	How to get them
RAS/Trace Subsystem	ras.jar	Available in WebSphere Application Server
Runtime Utilities	utils.jar	Available in WebSphere Application Server
External WebSphere APIs	websphere.jar	Available in WebSphere Application Server
Xalan	xalan.jar	Available in WebSphere Application Server
EJB base classes	ivjeb35.jar	Available in WebSphere Application Server
Data converters	vaprt.jar	Available in WebSphere Application Server
QName XML Extension	qname.jar	Available in WebSphere Application Server
WSDL	wsdl4j.jar	Available in WebSphere Application Server
Portal	PortalStruts.jar PortalStrutsBase.jar PortalStrutsCommon.jar PortalStrutsTags.jar portlet-api.jar strutsfilters.jar StrutsUpdateForPortal.jar	Available in WebSphere Portal Server. Version 5.1 required
J2EE Connector Architecture Default Connection Manager	ccf2.jar	Available in WebSphere Application Server
Web Services Invocation Framework	wsif.jar wsif-j2c.jar wsatlib.jar wsif-compat.jar wsif-compatb.jar	Available in WebSphere Application Server
Work Area	acwa.jar distexcep.jar	Available in WebSphere Business Integration Server Foundation
BP Support	bpe.jar	Available in WebSphere Business Integration Server Foundation
Activity Session	activitySession.jar	Available in WebSphere Application Server
Common Log	commons-logging-api.jar	Available in WebSphere Application Server
Eclipse	compatibility.jar console.jar core.jar defaultAdaptor.jar eclipseAdaptor.jar jface.jar osgi.jar resolver.jar runtime.jar services.jar servlet.jar swt.jar ui.jar util.jar workbench.jar xercesImpl.jar xml-apis.jar xmlParserAPIs.jar	Available in Eclipse, version 3.0.0 required.
JavaBeans™ Activation Framework	activation.jar	Available in WebSphere Application Server
JavaMail	mail.jar	Available in WebSphere Application Server

Table 21. Locations for prerequisites (continued)

Prerequisite	Resource name	How to get them
Runtime	runtime.jar	Available in WebSphere Application Server

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