



Bank Transformation Toolkit installation guide

Contents

IBM WebSphere Multichannel Bank

Transformation Toolkit installation guide 1

Typographic conventions	1
Hardware and software requirements	1
Hardware requirements.	1
Software requirements	3
Additional requirements	4
Setting up a Bank Transformation Toolkit development environment.	5
Installation package structure.	5
Installing the Bank Transformation Toolkit on a development workstation	6

Setting up the Application Wizard	8
Setting up the Transaction Editor	9
Setting up Deployment Descriptor Editor.	9
Setting up the XUI Editor.	10
Setting up the Formatter Simulator	10
Setting up the APAR viewer	11
Setting up the Server Runtime Monitor Tool	11
Setting up Web Transaction Monitor	11
Setting up Rich Client Monitor	12
Installing toolkit applications on a runtime platform	12
Functional units, packages, and dependencies	12
Where to find the missing prerequisites	21

IBM WebSphere Multichannel Bank Transformation Toolkit installation guide

This installation guide describes the hardware and software requirements of IBM® WebSphere® Multichannel Bank Transformation Toolkit and how to install it into IBM Rational® Application Developer so that you can develop applications. This document is for anyone who is installing IBM WebSphere Multichannel Bank Transformation Toolkit.

IBM WebSphere Multichannel Bank Transformation Toolkit in Version 7.0.0 64-bit Windows® 2008, 64-bit AIX® and 64-bit Linux® on IBM System z® as runtime environment. For other platforms, it supports 32-bit runtime and development environments.

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 WebSphere Multichannel Bank Transformation Toolkit version 7.0.0.

Hardware requirements

Hardware requirements for Server

Note: These memory and disk requirements listed below are for the IBM WebSphere Application Server.

For Microsoft® Windows XP, Windows Server 2003 and 2008, Windows 7

- Intel Pentium processor at 500MHz or faster
- Intel® EM64T or AMD Opteron.
- Minimum 512 MB physical memory; 1 GB recommended
- Minimum 2 GB RAM
- Minimum 1 GB of free disk space for installation (includes SDK)

For Linux x86

- Intel Pentium processor at 500 MHz or faster
- Intel EM64T or AMD Opteron
- Minimum 512 MB of physical memory; 1 GB recommended
- Minimum 1 GB of free disk space for installation (includes SDK)

For Linux on IBM System z

- System z processors
- Minimum of 1,119MB available disk space for installation
- Minimum of 512 MB memory; 1 GB recommended
- CD-ROM drive

For IBM AIX (32 bit WebSphere Application Server)

- IBM POWER® family of processors
- Minimum 512 MB physical memory; 1 GB recommended
- Minimum 1 GB of free disk space for installation

For IBM AIX (64 bit WebSphere Application Server)

- IBM POWER family of processors
- Minimum 1 GB physical memory recommended
- Minimum 1 GB of free disk space for installation

For Solaris SPARC

- Sun Solaris operating environment compatible SPARC workstation at 440MHz, or faster
- Minimum 512 MB physical memory; 1 GB recommended
- Minimum 1 GB of free disk space for installation

For additional software products, for example DB2® or IBM Communications Server, refer to the respective product documentation.

Hardware requirements for Client

- x86 processors capable of supporting the supported operating systems
- 512 MB RAM
- 500 MB free disk space
- Display Resolution: Super video graphics array/adaptor (SVGA) 1024 x 768 display
- High Contrast Mode: 1152 x 768 display, only default font settings (10pt Sans)

Hardware requirements for development environment

Note: These memory and disk requirements listed below are for the IBM Rational Application Developer.

- Intel Pentium® III processor at 800 MHz, or higher recommended
- Display, minimum requirements: 1024 x 768
- 1 GB RAM minimum, 2 GB RAM
- Disk space requirements: 3.7 GB minimum for installing Rational Application Developer and additional disk space for development resources (minimum disk space can be reduced if optional features and run times are not installed).

If the development environment requires additional software products, for example DB2 or IBM Communications Server, refer to the specific product documentation.

For the latest hardware requirements, refer to the documentation at <http://www.ibm.com/software/>.

Software requirements

Supported Platform

- Server
 - Red Hat Enterprise Linux, Version 5 update 4 (32 bit and 64 bit only on IBM system z)
 - Microsoft Windows Server 2003, Enterprise & Standard with SP2(32-bit)
 - Microsoft Windows Server 2008, Enterprise & Standard (32-bit)
 - Microsoft Windows Server 2008, Enterprise with SP2(64-bit)
 - AIX 5L™ 5.3 with Service Pack 5300-04-01 (32 and 64 bit kernel support)
 - AIX 6.1 with Recommended Maintenance package 6100-00-01-0748 (32 and 64 bit)
 - Sun Solaris operating environment, Version 10 with the latest Patch Cluster (32 bit kernel support)
- Client and development
 - Windows XP Professional + SP3
 - Windows Vista business + SP1
 - Windows 7 Profession/Ultimate + SP1
 - Red Hat Enterprise Linux Desktop with Workstation option 5.0
- Installer
 - Windows XP Professional + SP3
 - Windows Vista business + SP1
 - Windows 7 Profession/Ultimate + SP1
 - Red Hat Enterprise Linux Desktop with Workstation option 5.0

Supported database

- IBM DB2 UDB Enterprise Server Edition V9 FP4
- IBM DB2 UDB Enterprise Server Edition V9.5 FP1
- IBM DB2 UDB Enterprise Server Edition V9.7
- Oracle 11g Standard/Enterprise Release 1 - 11.1.0.6
- Microsoft SQL Server Enterprise 2005

Supported development environment

- IBM WebSphere Application Server V7.0.0.9
- IBM Rational Application Developer V7.5.5

Supported browsers

- Internet Explorer 6.0 SP2 or above
- Internet Explorer 7.0
- Internet Explorer 8.0
- Firefox 3.0
- Firefox 3.5

Supported JDK

- Server
 - IBM SDK for multiplatforms, Java Technology Edition, V6.0
- Client and development.
 - IBM SDK for multiplatforms, Java Technology Edition, V6.0

Optional software

- Lotus® Expeditor V6.2 - Client for Desktop, Windows
- Lotus Expeditor V6.2 - Client for Desktop, Linux on x86
- IBM WebSphere MQ for Windows, V6.0.2.7
- IBM WebSphere MQ for Linux on x86, V6.0.2.7
- IBM WebSphere MQ for AIX, V6.0.2.7
- IBM WebSphere MQ for Solaris SPARC, V6.0.2.7
- IBM WebSphere MQ for Windows, V7.0.0.2
- IBM WebSphere MQ for Linux on x86, V7.0.0.2
- IBM WebSphere MQ for AIX, V7.0.0.2
- IBM WebSphere MQ for Solaris SPARC, V7.0.0.2
- IBM Communications Server for Linux, Version 6.4
- v IBM Communications Server for zLinux, Version 6.4
- IBM Communications Server for Windows, Version 6.4
- IBM Communications Server for AIX, Version 6.4
- IBM Tivoli® Directory Server for AIX, V6.2
- IBM Tivoli Directory Server for Windows, V6.2
- IBM Tivoli Directory Server for Linux, V6.2
- IBM Tivoli Directory Server for Solaris, V6.2

For the latest supported software, see <http://www.ibm.com/software/components>

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 1. 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

Setting up a Bank Transformation Toolkit development environment

About this task

In this procedure, you will set up a development workstation so that you can develop applications based on the IBM WebSphere Multichannel Bank Transformation Toolkit version 7.0.0. Note that the physical machine must comply with the requirements listed in the Hardware and software requirements section, including having IBM Rational Application Developer.

Note: The following procedure describes how to install Bank Transformation Toolkit on top of IBM Rational Application Developer. 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 Bank 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, Bank Transformation Toolkit supports IBM Rational Application Developer 7.5.5.

For the development environment, there is a set of plug-ins:

- **Plug-ins for IBM Rational Application Developer 7.5.5**

The plug-ins include components that have dependencies on features provided by IBM Rational Application Developer 7.5.5.

If you have IBM Rational Application Developer 7.5.5 installed on your system, the toolkit installation wizard will take IBM Rational Application Developer as your development environment. After the installation wizard decides that IBM Rational Application Developer is your development environment, it copies the IBM WebSphere Multichannel Bank Transformation Toolkit plug-ins to the /plugins directory of your IBM Rational Application Developer 7.5.5 automatically during the installation.

If IBM Rational Application Developer 7.5.5 is not installed on your system, you will need to copy the plug-ins to the \$D(RAD)/plugins directory manually after you have IBM Rational Application Developer installed later. Plug-ins for IBM Rational Application Developer can be found in the <toolkit_root>/plugins directory.

Runtime environment

For the runtime environment, Bank Transformation Toolkit supports WebSphere Application Server 7.0.0.9.

Installing the Bank Transformation Toolkit on a development workstation

About this task

To set up the development workstation, do the following:

1. Install IBM Rational Application Developer.
2. Insert the Bank Transformation Toolkit CD into CD-ROM and browse the CD. If you want to install Bank Transformation Toolkit for windows, locate and double-click the setup.exe in the Windows platform. If you want to install Bank Transformation Toolkit for Linux, locate and invoke setupLinux.bin in the Linux platform. This starts the Installation Wizard for Bank Transformation Toolkit. The **Introduction** window opens.
3. Click **Next**, and the product license agreement window opens. Check the **I accept the terms in the license agreement** checkbox and click **Next**.
4. The Installation Wizard detects if any version of Bank Transformation Toolkit is already installed on your system. Bank Transformation Toolkit version 7.0.0 can coexist with Branch Transformation Toolkit version 4.3, 5.0, 5.1 or 5.2. However Bank Transformation Toolkit version 7.0.0 cannot coexist with Branch Transformation Toolkit version 5.2.0.1 and 5.2.0.2, Bank Transformation Toolkit version 6.1.0, version 6.1.1, and version 6.1.2. If you already have version 7.0.0 installed, the Installation Wizard will display an error message showing that you already have version 7.0.0 installed. You need uninstall previous version 7.0.0 before you installed new version 7.0.0.
5. The Installation Wizard also checks the IBM Rational Application Developer you installed. If you have installed IBM Rational Application Developer, the Install Wizard will install toolkit components designed for IBM Rational Application Developer.
6. You are prompted to choose the destination directory for the installation files. If you want to choose a location other than the default location (C:\IBM\WebSphere\Multichannel Bank Transformation Toolkit 7.0.0.0 for Windows, and /opt/IBM/WebSphere/Multichannel_Bank_Transformation_Toolkit_7.0.0.0 for Linux), click **Browse**, and select that folder you want to use.
7. Click **Next**, and the **Pre-Installation Summary** window opens. It displays the product name, install folder and the disk space that the installation takes. Click **Install**.
8. The Bank Transformation Toolkit installation program creates the following set of directories on the target machine.

Table 2. Directories created by installation

Directory name	Description of contents
license	Product license files
javadoc	Product Java™ documentation
lib	Product runtime libraries

Table 2. Directories created by installation (continued)

Directory name	Description of contents
plugins	<ul style="list-style-type: none"> • Transaction Editor plug-in • APAR viewer plug-in • Migration tool plug-in • Formatter Simulator plug-in • Application Wizard plug-in • XUI Editor plug-in • Deployment Descriptor Editor plug-in
samples	Product samples
template	Template for Foreign Exchange
jre	Install Anywhere bundled JVM
Uninstall	Product uninstallation files
migration	Migration-related files

9. Start IBM Rational Application Developer.

10. Set some preferences before you import Bank 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 Bank 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 Bank Transformation Toolkit installation. To do this:

- Go to **Window → Preferences**.
- Expand the **Java** node and select **Build Path**.
- Expand the **Build Path** 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 Bank 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 Bank 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.

11. Create a Java project for application. To create the project:
 - a. Select **File** → **New** → **Project**.
 - b. Select **Java** in the left panel and then select **Java Project** in the right panel. Click **Next**.
 - c. Type the name of the project, such as HomeBanking, and click **Finish**.
12. When deploying an application, you must embed Bank Transformation Toolkit functional units, along with the required application resources, inside the J2EE EAR file. The Bank 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.

Results

Once you have installed the Bank Transformation Toolkit in IBM Rational Application Developer, you can start developing Bank Transformation Toolkit-based solutions.

Setting up the Application Wizard

Before you begin

The Application Wizard for the Bank Transformation Toolkit is a plugin. It provides a quick way to create BTT applications.

Before you use the Application Wizard:

- If you have installed the toolkit before you install the IBM Rational Application Developer, you should copy the following plugin files to the \$D(RAD)/plugins directory manually after you have IBM Rational Application Developer installed later:
 - com.ibm.btt.core_7.0.0
 - com.ibm.btt.tools.aw_7.0.0.jar

About this task

Perform the following steps to use the Application Wizard:

1. Start IBM Rational Application Developer.
2. Click **File** → **New** → **Project**, and expand **BTT**.
3. Select **Channel Application Project**. The application wizard is launched.

What to do next

You can also create BTT sample with the Application Wizard by performing the following steps:

1. Start IBM Rational Application Developer.
2. Click **File** → **New** → **BTT**, and expand HelloWorld Samples or Samples.
3. Select a **wizard item**. The BTT Sample is launched.

Setting up the Transaction Editor

About this task

The Transaction Editor for the Bank Transformation Toolkit is a plug-in. Transaction Editor allows you to validate your definition files with a graphical interface.

Prerequisites to use the Transaction Editor:

If you had installed the toolkit before you installed the IBM Rational Application Developer, you need to copy the following plug-in files to the `$D(RAD)/plugins` directory manually after you have IBM Rational Application Developer installed later:

- com.ibm.btt.core_7.0.0
- com.ibm.btt.tools.migration_7.0.0
- com.ibm.btt.tools.transaction.diagram_7.0.0
- com.ibm.btt.tools.transaction.dominate_7.0.0
- com.ibm.btt.tools.transaction.edit_7.0.0
- com.ibm.btt.tools.transaction.editor_7.0.0
- com.ibm.btt.tools.transaction_7.0.0
- com.ibm.btt.tools.common_7.0.0

To use the Transaction Editor, follow these steps:

1. Start IBM Rational Application Developer.
2. Create a simple project.
3. Create a folder named transaction in the project.
4. Right-click the folder, and select **New** → **Other...** Expand **BTT**, and select **Transaction**, and click **Next**.
5. You can choose to create a Transaction directly or using templates.
 - To create a Transaction directly, click **Next**. Select one transaction type and click **Finish**. Then the Transaction Editor is launched.
 - To create a transaction using templates, select the **Create a transaction using templates** checkbox, and click **Next**. Select one of the available templates to generate a transaction and click **Finish**. Then the Transaction Editor is launched.

Setting up Deployment Descriptor Editor

About this task

The Deployment Descriptor Editor for the Bank Transformation Toolkit is a plug-in.

Prerequisites to use the Deployment Descriptor Editor:

- If you had installed the toolkit before you installed the IBM Rational Application Developer, you need to copy the following plug-in files to the \$D(RAD)/plugins directory manually after you have IBM Rational Application Developer installed later:
 - com.ibm.btt.core_7.0.0
 - com.ibm.btt.tools.dde_7.0.0
1. Start IBM Rational Application Developer.
 2. Deployment Descriptor Editor is designed for editing btt.xml file. Find the btt.xml file in your project and right-click the file, and select **Open with → BTT Global Configuration Editor**.
 3. The Deployment Description Editor is launched. With this tool, you can edit btt.xml file both in the UI view and in xml source code. And the entire project takes this btt.xml file as the effective central manager for all components.

Setting up the XUI Editor

Before you begin

The XML UI (XUI) Editor for the Bank Transformation Toolkit is a plugin. It is a WYSWYG tool that creates BTT XML based transaction UI files.

Before you use the XUI Editor:

- If you have installed the toolkit before you install the IBM Rational Application Developer, you should copy the following plug-in files to the \$D(RAD)/plugins directory manually after you have IBM Rational Application Developer installed later:
 - com.ibm.btt.core_7.0.0
 - com.ibm.btt.rcp.xui_7.0.0
 - com.ibm.btt.rcp.xui.editor_7.0.0

About this task

Perform the following steps to use the XUI Editor:

1. Start IBM Rational Application Developer.
2. Click **File → New**, and expand **BTT** folder.
3. Select **Rich Client Page**. The XUI Editor is launched.

Setting up the Formatter Simulator

About this task

The formatter simulator for the Bank Transformation Toolkit is a plug-in. It simulates how a string is parsed into a specific data item.

Prerequisites to use the formatter simulator:

- If you had installed the toolkit before you installed the IBM Rational Application Developer, you need to copy the following plug-in files to the \$D(RAD)/plugins directory manually after you have IBM Rational Application Developer installed later:
 - com.ibm.btt.core_7.0.0
 - com.ibm.btt.tools.fs.core_7.0.0.jar
 - com.ibm.btt.tools.fs.ui_7.0.0.jar

To use the formatter simulator, follow these steps:

1. Start IBM Rational Application Developer.
2. Click **Window** → **Show View**, expand **Bank Transformation Toolkit**, and then select **Formatter Simulator**.
3. The formatter simulator will be launched.

Setting up the APAR viewer

The APAR viewer for the Bank Transformation Toolkit is a plug-in. The APAR Viewer Tool allows you to trace the fix changes.

Prerequisites to use the APAR viewer:

- If you had installed the toolkit before you installed the IBM Rational Application Developer, you need to copy the following plug-in file to the \$D(RAD)/plugins directory manually after you have IBM Rational Application Developer installed later:
 - com.ibm.btt.tools.apar_7.0.0

To use the APAR viewer, follow these steps:

1. Start IBM Rational Application Developer.
2. Click **Window** → **Show View**, expand **Bank Transformation Toolkit**, and then select **APAR Tool View**.
3. The APAR viewer will be launched.

Setting up the Server Runtime Monitor Tool

About this task

The Server Runtime Monitor Tool for Bank Transformation Toolkit allows you to monitor the status of BTT in the server side.

To use the Server Runtime Monitor Tool, you need to import it first. Follow these steps:

1. Add the Server Runtime Monitor Tool in the EAR project.
2. Deploy the EAR project on WAS server. Add the Server Runtime Monitor Tool WAR project into the EAR project.
3. Open your browser, and input the following URL: `http://<host name>:<port>/BTTRuntimeMonitor`.

Results

Then you can use the Server Runtime Monitor Tool.

Setting up Web Transaction Monitor

About this task

To set up the Web Transaction Monitor, do the following:

1. Do the global configuration in the btt.xml file. Add the following code in btt.xml file:

```
<kColl id="HTMLClient">
    ...
    <field id="monitorState" value="open" />
    <field id="monitorPath" value="RuntimeMonitor/" />
</kColl>
```

2. Do the local configuration in web page. If you want to debug one web page, you need to do the following:
 - a. Add the taglib into the page by adding the following code:
`<%@ taglib uri="/WEB-INF/btt.tld" prefix="btt"%>`
 - b. Add a JSP tag into the page by adding the following code:
`<btt:monitor isplay="in">`
3. Add BTT Web Transaction Monitor related jar `bttmonitortag.jar` into the application module dependency. `bttmonitortag.jar` is in `toolkit_root\lib` directory.
4. Unzip `bttmonitortagres.zip` and copy it into `WebContent` folder in your web application; otherwise copy it to a subfolder of `WebContent` and revise the value of the `monitorPath` to the actual path.
5. Deploy the web application, if one web page is monitored, the corresponding monitor information is displayed on the page

Setting up Rich Client Monitor

About this task

The Bank Transformation Toolkit (BTT) Rich Client Monitor helps you to view the tree structure of BTT data model.

To use the Rich Client Monitor, do the following:

1. Start IBM Rational Application Developer.
2. Add the following code to your application in the `start()` method of `Activity.java`:
`new MonitorService().showMonitor(0);`

This code is used to launch the Rich Client Monitor. You need to add it after the BTT initialization code.

3. Add the monitor related jar `clientmonitor.jar` to your Rich Client Application Runtime Classpath.
4. Launch the monitored Rich Client Application, then the monitor tool is also launched.

Installing toolkit applications on a runtime platform

About this task

Installing Bank Transformation Toolkit applications on a runtime platform consists of deploying EAR files onto WebSphere Application Server. You can do the packaging using IBM Rational Application Developer, or using the Application Assembly Tool in WebSphere Application Server.

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 Bank 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, and the functional unit's JAR file. Each row shows the direct framework corequisites and the corequisites of these corequisites.

Note: For the jars in the external dependency column, core.jar can be found in the \java\jre\lib directory of WebSphere Application Server and other jars can be found in the \lib directory of WebSphere Application Server.

Table 3. External dependencies and corequisites for functional units-JAR files

JAR Name	Functional unit or component	External dependency	Corequisite JAR
bttbcac	Business Component - Access Control	core, j2ee	bttcore, bttbcaccommon.jar, bttbcccommon.jar
bttbcaccommon	Business Component - Access Control Common	core, j2ee	bttcore
bttbccdm	Business Component - Cash Drawer Management	core, j2ee	bttcore
bttbccdmcommon	Business Component - Cash Drawer Management Common	core, j2ee	bttcore
bttbccdmdb	Business Component - Cash Drawer Management Database	core, j2ee	bttcore
bttbcccommon	Business Component	org.eclipse.ui, org.eclipse.core.runtime	bttcore, com.ibm.btt.rcp.activity, com.ibm.btt.rcp.workingarea, com.ibm.btt.rcp.theme
bttbccounter	Business Component - Counter	core, j2ee	bttcore
bttbusinesslogic	Business Logic	core, j2ee, com.ibm.ws.runtime	bttcore
bttchaejb	CHA EJB	core, j2ee	bttcore
bttchaejbclient	CHA EJB Client	core, j2ee	bttcore
bttchannels	Channels	core, j2ee, struts, commons-digester, commons-logging, commons-beanutils, commons-collections, commons-validator, com.ibm.ws.runtime com.ibm.ws.webcontainer	bttcore, bttinvoker
bttclientmonitor	Rich Client Monitor	core, j2ee, axis, com.ibm.ws.runtime	bttcore
bttcore	Core Component	core, j2ee, com.ibm.ws.runtime	
bttddbsvc	Database Service	com.ibm.ws.runtime	bttcore
btttej	Business Component ej	org.eclipse.swt, org.eclipse.jface	bttcore, bttbcaccommon.jar, bttbcccommon.jar
bttinvoker	Invoker	core, j2ee, axis, com.ibm.ws.runtime	bttcore
bttjmsmessage	Business Component JMS Message	com.ibm.ws.bootstrap, com.ibm.ws.emf, com.ibm.ws.runtime, com.ibm.ws.sib.client, com.ibm.ws.sib.utils, com.ibm.ws.wccm, com.ibm.wsspi.extension, org.eclipse.core.runtime, org.eclipse.osgi, j2ee, bootstrap, iwsorbutil	bttmessage
bttldapsvc	LDAP Service	core, j2ee	bttcore
bttmessage	Business Component Message		bttcore, bttremote
bttmobile	Mobile Adapter		
bttmonitortag	Web Transaction Monitor	core, j2ee	bttcore, bttchannels
bttmqsvc	MQ Service	core, j2ee, com.ibm.mq	bttcore
bttopsaejb	OpStep Adaptor EJB	core, j2ee, com.ibm.ws.runtime	bttcore

Table 3. External dependencies and corequisites for functional units-JAR files (continued)

JAR Name	Functional unit or component	External dependency	Corequisite JAR
bttoverrideagent	Business Component Override		bttcore, bttmessage, bttoverrideagent, bttoverridecommon, bttremote
bttoverridecommon	Business Component Override	org.eclipse.core.runtime, org.eclipse.swt	bttcore
bttoverridecustom	Business Component Override	org.eclipse.ui, org.eclipse.core.runtime	bttcore, bttremote, bttmessage, bttoverridecommon
bttremote	Business Component Remote	commons-codec-1.3, commons-httpclient-3.1, commons-logging-1.1.1, commons-logging-api-1.1.1	bttcore

Table 4. External dependencies and corequisites for functional units-RAR files

RAR name	Functional unit or component	External dependency	Corequisite JAR
dummysnaluo	BTTDDummySnaLu0Connector	core, j2ee, com.ibm.ws.runtime	
snalu0	BTTLu0Connector	core, j2ee, com.ibm.ws.runtime	
snalu62	BTTLu62Connector	core, j2ee, com.ibm.ws.runtime	

Table 5. External dependencies and corequisites for functional units-WAR files

WAR name	Functional unit or component	External dependency	Corequisite JAR
BTTRuntimeMonitor	BTT Server Runtime Monitor	core, j2ee	bttcore, bttchannels

Table 6. External dependencies and corequisites for functional units-ZIP files

ZIP name	Functional unit or component	External dependency	Corequisite JAR
bttmonitortagres	Web Transaction Monitor		
bttweb2	Web2.0 On-Demand Workplace		

Table 7. External dependencies and corequisites for functional units-plugin-ins

Plug-in Name	Functional unit or component	External dependency	Corequisite plug-ins
com.ibm.btt.bc.ac.common	Access Control Core Component		com.ibm.btt.core
com.ibm.btt.bc.ac.rcp.nl	Language plug in for Access Control UI Component		
com.ibm.btt.bc.ac.rcp		org.eclipse.core.runtime	com.ibm.btt.bc.ac.common, com.ibm.btt.rcp.service.manager, com.ibm.btt.rcp.broker, com.ibm.btt.rcp.theme, com.ibm.btt.core, com.ibm.btt.bc.common
com.ibm.btt.bc.common	Business Component Common	org.eclipse.ui, org.eclipse.core.runtime	
com.ibm.btt.bc.ej.viewer.nl	Resource bundle plugin		

Table 7. External dependencies and corequisites for functional units-plug-ins (continued)

Plug-in Name	Functional unit or component	External dependency	Corequisite plug-ins
com.ibm.btt.bc.ej.viewer	Business Component EJ Viewer	org.eclipse.swt, org.eclipse.jface	com.ibm.btt.core, com.ibm.btt.bc.ej, com.ibm.btt.bc.common, com.ibm.btt.bc.ej.viewer.nl
com.ibm.btt.bc.ej	Business Component Electronic Journal	org.eclipse.swt, org.eclipse.jface	com.ibm.btt.core, com.ibm.btt.bc.common
com.ibm.btt.bc.override.common	Business Component Override	org.eclipse.core.runtime, org.eclipse.swt	com.ibm.btt.core
com.ibm.btt.bc.override.customization.nl	Business Component Override		com.ibm.btt.bc.override.customization
com.ibm.btt.bc.override.customization	Business Component Override	org.eclipse.ui, org.eclipse.core.runtime	com.ibm.btt.bc.override.common, com.ibm.btt.bc.override.supervisor, com.ibm.btt.bc.override.teller, com.ibm.btt.core, com.ibm.btt.message, com.ibm.btt.remote
com.ibm.btt.bc.override.supervisor.nl	Business Component Override		com.ibm.btt.bc.override.supervisor
com.ibm.btt.bc.override.supervisor	Business Component Override	org.eclipse.ui, org.eclipse.core.runtime	com.ibm.btt.core, com.ibm.btt.bc.override.common, com.ibm.btt.message, com.ibm.btt.remote, com.ibm.btt.bc.override.teller
com.ibm.btt.bc.override.teller.nl	Business Component Override		
com.ibm.btt.bc.override.teller	Business Component Override	org.eclipse.ui, org.eclipse.core.runtime	com.ibm.btt.bc.override.common, com.ibm.btt.message, com.ibm.btt.remote, com.ibm.btt.core
com.ibm.btt.core	Core Component	org.eclipse.core.runtime	
com.ibm.btt.csclient.http	HTTP C/S Connector		com.ibm.btt.core
com.ibm.btt.message	Business Component Message	com.ibm.btt.core	com.ibm.btt.remote
com.ibm.btt.rcp.activity	RCP Activity Framework	org.eclipse.core.runtime, org.eclipse.ui	com.ibm.btt.core
com.ibm.btt.rcp.broker	RCP Property Broker for pure RCP environment	org.eclipse.core.runtime, org.eclipse.ui	com.ibm.btt.core
com.ibm.btt.rcp.broker.xpd	RCP Property Broker for Lotus Expeditor environment	org.eclipse.core.runtime, org.eclipse.ui, com.ibm.rcp.propertybroker	com.ibm.btt.core, com.ibm.btt.rcp.broker
com.ibm.btt.rcp.navigator	RCP Navigator Framework	org.eclipse.core.runtime, org.eclipse.ui	com.ibm.btt.core, com.ibm.btt.rcp.activity, com.ibm.btt.rcp.theme

Table 7. External dependencies and corequisites for functional units-plug-ins (continued)

Plug-in Name	Functional unit or component	External dependency	Corequisite plug-ins
com.ibm.btt.rcp.perspective	RCP Perspective Framework	org.eclipse.core.runtime, org.eclipse.ui	com.ibm.btt.core, com.ibm.btt.rcp.activity, com.ibm.btt.rcp.navigator
com.ibm.btt.rcp.service.manager	RCP Service Manager	org.eclipse.core.runtime	com.ibm.btt.core, com.ibm.btt.rcp.activity, com.ibm.btt.rcp.navigator, com.ibm.btt.rcp.perspective, com.ibm.btt.rcp.workingarea, com.ibm.btt.rcp.broker
com.ibm.btt.rcp.theme	RCP Theme Configuration	org.eclipse.core.runtime, org.eclipse.ui	com.ibm.btt.core
com.ibm.btt.rcp.workingarea	RCP Working Area	org.eclipse.core.runtime, org.eclipse.ui	com.ibm.btt.core, com.ibm.btt.rcp.activity, com.ibm.btt.rcp.visualbean.runtime, com.ibm.btt.rcp.broker, com.ibm.btt.rcp.theme
com.ibm.btt.rcp.xui.editor	Design and build the XUI File by dragging in graphical tools	org.eclipse.ui, org.eclipse.core.runtime, org.eclipse.gef, org.eclipse.core.resources, org.eclipse.ui.ide, org.eclipse.ui.workbench.texteditor, org.eclipse.ui.editors, org.eclipse.ui.views.properties.tabbed, org.eclipse.jdt.ui, org.eclipse.jdt, org.eclipse.jdt.core, org.eclipse.wst.xml.core, org.eclipse.wst.xml.ui, org.eclipse.wst.sse.core, org.eclipse.wst.sse.ui, org.eclipse.wst.common.core, org.eclipse.wst.validation, org.eclipse.wst.validation.ui, org.eclipse.jface.text, org.eclipse.jdt.launching, org.eclipse.debug.core, org.eclipse.debug.ui, org.eclipse.jdt.debug.ui, org.eclipse.core.expressions, org.eclipse.pde.ui	com.ibm.btt.core, com.ibm.btt.rcp.xui
com.ibm.btt.rcp.xui			
com.ibm.btt.bc.cm.common	Cash Drawer Management Core Component		
com.ibm.btt.bc.cm.rcp	Cash Drawer Management UI Component	org.eclipse.jface, org.eclipse.equinox.common, org.eclipse.ui, org.eclipse.core.runtime	com.ibm.btt.core, com.ibm.btt.rcp.broker, com.ibm.btt.rcp.service.manager, com.ibm.btt.bc.cm.common
com.ibm.btt.tools.migration	Migration Tool	org.eclipse.ui, org.eclipse.core.runtime, org.eclipse.jdt.core, org.eclipse.core.resources, org.eclipse.jface.text	com.ibm.btt.core

Table 7. External dependencies and corequisites for functional units-plug-ins (continued)

Plug-in Name	Functional unit or component	External dependency	Corequisite plug-ins
com.ibm.btt.tools.transaction.editor	Transaction Editor	org.eclipse.core.runtime, org.eclipse.core.resources, org.eclipse.emf.ecore.xmi, org.eclipse.emf.edit.ui, org.eclipse.ui.ide, org.eclipse.emf.transaction, org.eclipse.ui, org.eclipse.jdt.ui, org.eclipse.jdt, org.eclipse.jdt.core	com.ibm.btt.tools.transaction.edit, com.ibm.btt.tools.transaction.diagram, com.ibm.btt.tools.transaction.dominant, com.ibm.btt.core, com.ibm.btt.tools.common
com.ibm.btt.tools.transaction.diagram	Transaction Editor	org.eclipse.core.runtime, org.eclipse.core.resources, org.eclipse.core.expressions, org.eclipse.jface, org.eclipse.ui.ide, org.eclipse.ui.views, org.eclipse.ui.navigator, org.eclipse.ui.navigator.resources, org.eclipse.emf.ecore, org.eclipse.emf.ecore.xmi, org.eclipse.emf.edit.ui, org.eclipse.gmf.runtime.emf.core, org.eclipse.gmf.runtime.emf.commands.core, org.eclipse.gmf.runtime.emf.ui.properties, org.eclipse.gmf.runtime.diagram.ui, org.eclipse.gmf.runtime.diagram.ui.properties, org.eclipse.gmf.runtime.diagram.ui.providers, org.eclipse.gmf.runtime.diagram.ui.providers.ide, org.eclipse.gmf.runtime.diagram.ui.render, org.eclipse.gmf.runtime.diagram.ui.resources.editor.ide;visibility:=reexport, org.eclipse.gmf.runtime.diagram.ui.resources.editor, org.eclipse.gmf.runtime.draw2d.ui, org.eclipse.gef, org.eclipse.draw2d, org.eclipse.ocl.ecore, org.eclipse.jdt.core, org.eclipse.jdt.launching, org.eclipse.gmf.runtime.diagram.ui.printing, org.eclipse.gmf.runtime.diagram.ui.printing.render	com.ibm.btt.core, com.ibm.btt.tools.transaction, com.ibm.btt.tools.transaction.edit, com.ibm.btt.tools.transaction.dominant
com.ibm.btt.tools.transaction.dominant	Transaction Editor	org.eclipse.ui, org.eclipse.core.runtime, org.eclipse.core.resources, org.eclipse.jdt.core, org.eclipse.jdt.launching, org.eclipse.ui.ide, org.eclipse.emf.transaction.ui, org.eclipse.ui.views.properties.tabbed, org.eclipse.jdt.ui, org.eclipse.emf.validation, org.eclipse.emf.validation.ui	com.ibm.btt.core, com.ibm.btt.tools.transaction

Table 7. External dependencies and corequisites for functional units-plug-ins (continued)

Plug-in Name	Functional unit or component	External dependency	Corequisite plug-ins
com.ibm.btt.tools.transaction.edit	Transaction Editor	org.eclipse.core.runtime, org.eclipse.emf.edit, org.eclipse.swt	com.ibm.btt.tools.transaction, com.ibm.btt.tools.transaction.dominant
com.ibm.btt.tools.transaction	Transaction Editor	org.eclipse.core.runtime, org.eclipse.emf.ecore	com.ibm.btt.core
com.ibm.btt.tools.dde	Deployment Descriptor Editor	org.eclipse.core.runtime, org.eclipse.core.resources, org.eclipse.ui.ide, org.eclipse.ui.forms, org.eclipse.ui.editors, org.eclipse.ui, org.eclipse.jface.text, org.eclipse.jdt.core, org.eclipse.jdt.launching, org.eclipse.jdt.ui, org.eclipse.wst.xml.core, org.eclipse.wst.sse.core, org.eclipse.wst.xml.ui, org.eclipse.wst.sse.ui	com.ibm.btt.core
com.ibm.btt.tools.common	BTT Helper	org.eclipse.ui, org.eclipse.core.runtime	com.ibm.btt.core
com.ibm.btt.tools.fs.core	Formatter Simulator Core Component	org.eclipse.core.runtime, org.eclipse.debug.core, org.eclipse.jdt.launching, org.eclipse.jdt.core, org.eclipse.core.resources, org.eclipse.ui	com.ibm.btt.core
com.ibm.btt.tools.fs.ui	Formatter Simulator UI Component	org.eclipse.core.resources, org.eclipse.core.runtime, org.eclipse.jface.text, org.eclipse.ui, org.eclipse.ui.ide, org.eclipse.ui.forms, org.eclipse.debug.ui, org.eclipse.jdt.core	com.ibm.btt.tools.fs.core
com.ibm.btt.tools.aw	Application Wizard Tool	org.eclipse.ui org.eclipse.core.runtime, org.eclipse.jst.j2ee.ui, org.eclipse.wst.common.modulecore, org.eclipse.wst.common.frameworks, org.eclipse.wst.common.frameworks. ui, org.eclipse.jem.util, org.eclipse.jst.servlet.ui, org.eclipse.pde.ui, org.eclipse.jdt.core, org.eclipse.wst.common.project.facet. ui, org.eclipse.wst.web, org.eclipse.wst.web.ui, org.eclipse.wst.common.project.facet. core, org.eclipse.jst.j2ee.ejb, org.eclipse.jst.common.frameworks, org.eclipse.jst.server.ui, org.eclipse.jst.j2ee, org.eclipse.jst.j2ee.web, org.eclipse.ui.ide, org.eclipse.core.resources, com.ibm.btt.core	com.ibm.btt.core

Table 7. External dependencies and corequisites for functional units-plug-ins (continued)

Plug-in Name	Functional unit or component	External dependency	Corequisite plug-ins
com.ibm.btt.tools.apar	APAR viewer	org.eclipse.ui, org.eclipse.core.runtime	

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

Table 8. JAR, RAR or WAR files for packages

Package name	JAR/RAR/WAR name
com.ibm.btt.automaton	bttcore.jar
com.ibm.btt.automaton.ext	bttcore.jar
com.ibm.btt.automaton.ext	bttchannels.jar
com.ibm.btt.automaton.html	bttchannels.jar
com.ibm.btt.bc.counter	bttbccounter.jar
com.ibm.btt.base	bttcore.jar
com.ibm.btt.base.types	bttcore.jar
com.ibm.btt.base.types.ext	bttcore.jar
com.ibm.btt.bc.cm	bttbccdm.jar
com.ibm.btt.bc.cm	bttbccdmcommon.jar
com.ibm.btt.bc.cm.dao	bttbccdm.jar
com.ibm.btt.bc.cm.dao.mem	bttbccdm.jar
com.ibm.btt.bc.cm.dao.exception	bttbccdm.jar
com.ibm.btt.bc.cm.facade	bttbccdm.jar
com.ibm.btt.bc.cm.model	bttbccdm.jar
com.ibm.btt.bc.cm.model	bttbccdmcommon.jar
com.ibm.btt.bc.cm.rule	bttbccdm.jar
com.ibm.btt.bc.cm.rule.impl	bttbccdm.jar
com.ibm.btt.bc.cm.dao.db2	bttbccdmdb.jar
com.ibm.btt.bc.cm.dao.db2.exception	bttbccdmdb.jar
com.ibm.btt.cha.ejb	bttchaejb.jar
com.ibm.btt.cha.ejb	bttchaejbclient.jar
com.ibm.btt.channel	bttchannels.jar
com.ibm.btt.clientserver	bttchannels.jar
com.ibm.btt.config	bttcore.jar
com.ibm.btt.config.impl	bttcore.jar
com.ibm.btt.config.exception	bttcore.jar
com.ibm.btt.cs.html	bttchannels.jar
com.ibm.btt.cs.html.util	bttchannels.jar
com.ibm.btt.cs.java	bttchannels.jar
com.ibm.btt.cs.servlet	bttchannels.jar

Table 8. JAR, RAR or WAR files for packages (continued)

Package name	JAR/RAR/WAR name
com.ibm.btt.cs.sessionpropagation	bttchannels.jar
com.ibm.btt.element	bttcore.jar
com.ibm.btt.element.exception	bttcore.jar
com.ibm.btt.element.impl	bttcore.jar
com.ibm.btt.element.scope	bttcore.jar
com.ibm.btt.element.simple	bttcore.jar
com.ibm.btt.element.simple.impl	bttcore.jar
com.ibm.btt.element	bttcore.jar
com.ibm.btt.element	bttcore.jar
com.ibm.btt.event	bttcore.jar
com.ibm.btt.formatter.client	bttchaejb.jar
com.ibm.btt.gui.jsptags	bttchannels.jar
com.ibm.btt.http	bttchannels.jar
com.ibm.btt.invoker	bttinvoker.jar
com.ibm.btt.invoker.ejb	bttinvoker.jar
com.ibm.btt.invoker.jms	bttinvoker.jar
com.ibm.btt.invoker.pojo	bttinvoker.jar
com.ibm.btt.invoker.timer	bttinvoker.jar
com.ibm.btt.invoker.utils	bttinvoker.jar
com.ibm.btt.invoker.ws	bttinvoker.jar
com.ibm.btt.invoker.ws.dynamic	bttinvoker.jar
com.ibm.btt.invoker.ws.dynamic.axis_extension	bttinvoker.jar
com.ibm.btt.invoker.ws.dynamic.tool	bttinvoker.jar
com.ibm.btt.jsf	bttchannels.jar
com.ibm.btt.jsf.el	bttchannels.jar
com.ibm.btt.jsf.event	bttchannels.jar
com.ibm.btt.rcp.dse.navigation	bttcompat.jar
com.ibm.btt.runtimemonitor	BTTRuntimeMonitor.war
com.ibm.btt.samples.business.sna.lu0	sn0dummy.jar
com.ibm.btt.samples.business.sna.lu0.exception	sn0dummy.jar
com.ibm.btt.samples.business.sna.lu0.host	sn0dummy.jar
com.ibm.btt.samples.business.sna.lu0.host.event	sn0dummy.jar
com.ibm.btt.samples.business.sna.lu0.trace	sn0dummy.jar
com.ibm.btt.samples.business.sna.lu0.resource	sn0dummy.jar
com.ibm.btt.server.bean	bttbusinesslogic.jar
com.ibm.btt.server.bean.ejb	bttopsaejb.jar
com.ibm.btt.services	bttcore.jar
com.ibm.btt.services.comms	bttmqsvc.jar
com.ibm.btt.services.jdbc	bttddbsvc.jar
com.ibm.btt.services.ldap	bttldapsvc.jar

Table 8. JAR, RAR or WAR files for packages (continued)

Package name	JAR/RAR/WAR name
com.ibm.btt.services.ldap.model	bttldapsvc.jar
com.ibm.btt.services.mq	bttmqsvc.jar
com.ibm.btt.struts	bttchannels.jar
com.ibm.btt.struts.actions	bttchannels.jar
com.ibm.btt.struts.base	bttchannels.jar
com.ibm.btt.struts.config	bttchannels.jar
com.ibm.btt.struts.exception	bttchannels.jar
com.ibm.btt.struts.plugins	bttchannels.jar
com.ibm.btt.struts.resource	bttchannels.jar
com.ibm.btt.struts.resources	bttchannels.jar
com.ibm.btt.struts.session	bttchannels.jar
com.ibm.btt.struts.taglib.html	bttchannels.jar
com.ibm.btt.struts.utils	bttchannels.jar
com.ibm.connector2.sna.lu0	snalu0.jar
com.ibm.connector2.sna.lu0.exception	snalu0.jar
com.ibm.connector2.sna.lu0.host.event	snalu0.jar
com.ibm.connector2.sna.lu0.host	snalu0.jar
com.ibm.connector2.sna.lu0.resource	snalu0.jar
com.ibm.connector2.sna.lu0.util	snalu0.jar
com.ibm.connector2.sna.lu62	snalu62.jar
com.ibm.connector2.sna.lu62.exception	snalu62.jar
com.ibm.connector2.sna.lu62.host	snalu62.jar
com.ibm.connector2.sna.lu62.host.event	snalu62.jar
com.ibm.connector2.sna.lu62.resource	snalu62.jar
com.ibm.connector2.sna.lu62.trace	snalu62.jar
com.ibm.connector2.sna.lu62.util	snalu62.jar
com.ibm.connector2.sna.services	snalu62.jar
com.ibm.connector2.sna.util	snalu62.jar
com.ibm.connector2.sna.util	snalu0.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 9. Locations for prerequisites

Prerequisite	Resource name	How to get them
WebSphere MQ	com.ibm.mq.jar	Available from WebSphere MQ