



Version 6.1.1



Installation guide

Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 23.

This edition applies to Version 6, Release 1, Modification 1, of *IBM WebSphere MultiChannel Bank Transformation Toolkit* (5724-H82) and to all subsequent releases and modifications until otherwise indicated in new editions.

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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 or IBM WebSphere Integration 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 6.1.1 supports 64-bit AIX® runtime environment. For other platforms, it supports 32-bit runtime and development environments.

Note: IBM Branch Transformation Toolkit for WebSphere Studio has been renamed to IBM WebSphere Multichannel Bank Transformation Toolkit in Version 6.1.1.

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 6.1.1.

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, Server 2003/2008, Vista

- Intel® Pentium® processor at 500MHz or faster
- Intel EM64T or AMD Opteron.
- Minimum 512 MB physical memory; 1 GB recommended Minimum 2GB 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 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 ES/AS 4.0 Update 7 (English, 32 bit)
 - Red Hat Enterprise Linux, Version 5 (English, 32 bit)
 - Microsoft Windows Server 2003, Enterprise & Standard with SP1(32-bit)
 - Microsoft Windows Server 2008, Enterprise & Standard (32-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 + SP2 (Simple Chinese)
 - Windows Vista business + SP1 (English)
 - Red Hat Enterprise Linux WS 4.0 Update 3 (English)
- Installer
 - Windows XP Professional + SP2 (Simple Chinese)
 - Windows Vista business + SP1 (English)
 - Red Hat Enterprise Linux WS 4.0 Update 3 (English)

Supported database

- IBM DB2 UDB Enterprise Server Edition V8.2.7
- IBM DB2 UDB Enterprise Server Edition V9 FP3
- IBM DB2 UDB Enterprise Server Edition V9.5
- Oracle 10g Standard/Enterprise Release 2 - 10.2.0.2
- Oracle 11g Standard/Enterprise Release 1 - 11.1.0.6
- Microsoft SQL Server Enterprise 2000 SP4
- Microsoft SQL Server Enterprise 2005

Supported development environment

- IBM WebSphere Application Server V6.1.0.17
- IBM Rational Application Developer V7.0.0.7
- IBM WebSphere Integration Developer 6.1.2

Supported browsers

- Internet Explorer 6.0 SP2 or above
- Firefox 2.0 or above

Supported JDK

- Server
 - IBM 32-bit SDK Java™ 2 Technology Edition, V5.0 SR2
 - IBM 64-bit SDK for AIX, Java 2 Technology Edition, V5.0 SR2
- Client and development.
 - IBM 32-bit SDK, Java 2 Technology Edition, V5.0 SR2

Optional software

- Lotus® Expeditor V6.1.2 - Client for Desktop, Windows
- Lotus Expeditor V6.1.2 - Client for Desktop, Linux on x86
- IBM WebSphere MQ for Windows, V6.0.2.3
- IBM WebSphere MQ for Linux on x86, V6.0.2.3
- IBM WebSphere MQ for AIX, V6.0.2.3
- IBM WebSphere MQ for Solaris SPARC, V6.0.2.3
- IBM Communications Server for Linux, Version 6.2.3
- IBM Communications Server for Windows, Version 6.1.2.3
- IBM Communications Server for AIX, Version 6.3.1
- IBM Tivoli® Directory Server for AIX, V6.1.1.1
- IBM Tivoli Directory Server for Windows, V6.1.1.1
- IBM Tivoli Directory Server for Linux, V6.1.1.1
- IBM Tivoli Directory Server for Solaris, V6.1.1.1
- IBM WebSphere Portal Server for AIX, V6.1.0
- IBM WebSphere Portal Server for Windows, V6.1.0
- IBM WebSphere Portal Server for Linux, V6.1.0
- IBM WebSphere Portal Server for Solaris, V6.1.0

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

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 6.1.1. Note that the physical machine must comply with the requirements listed in the Hardware and software requirements section, including having IBM WebSphere Integration Developer or IBM Rational Application Developer.

Note: The following procedure describes how to install Bank Transformation Toolkit on top of IBM Rational Application Developer or IBM WebSphere Integration 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 7.0.0.7 and IBM WebSphere Integration Developer 6.1.2.

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

- **Plug-ins for IBM Rational Application Developer 7.0.0.7 and IBM WebSphere Integration Developer 6.1.2**

The plug-ins include components that have dependencies on features provided by IBM Rational Application Developer 7.0.0.7 and IBM WebSphere Integration Developer 6.1.2

If you have IBM WebSphere Integration Developer 6.1.2 installed on your system, the toolkit installation wizard will take IBM WebSphere Integration Developer as your development environment, regardless of whether you have IBM Rational Application Developer installed. After the installation wizard decides that IBM WebSphere Integration Developer is your development environment, it copies the plug-ins for IBM WebSphere Integration Developer to the `plugins` directory of your IBM WebSphere Integration Developer automatically during the installation.

If you have IBM Rational Application Developer 7.0.0.7 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 plug-ins for IBM Rational Application Developer 7.0.0.7 to the `/plugins` directory of your IBM Rational Application Developer 7.0.0.7 automatically during the installation.

If neither IBM Rational Application Developer 7.0.0.7 nor IBM WebSphere Integration Developer 6.1.2 is installed on your system, you will need to copy the

plug-ins to the `$D(RAD)/plugins` or `$D(WID)/plugins` directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later. Plug-ins for IBM Rational Application Developer or IBM WebSphere Integration Developer can be found in the `<toolkit_root>/plugins` directory.

Runtime environment

For the runtime environment, Bank Transformation Toolkit supports WebSphere Application Server 6.1.0.17.

Installing the Bank Transformation Toolkit on a development workstation

To set up the development workstation, do the following:

1. According to your business needs, install IBM Rational Application Developer or IBM WebSphere Integration 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 `setupwin32.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 6.1.1 can coexist with Branch Transformation Toolkit version 4.3, 5.0, 5.1 or 5.2. However Bank Transformation Toolkit version 6.1.1 cannot coexist with Branch Transformation Toolkit version 5.2.0.1 and 5.2.0.2, Bank Transformation Toolkit version 6.1.0. It is recommended to uninstall Branch Transformation Toolkit version 5.2.0.1, Branch Transformation Toolkit 5.2.0.2 and Bank Transformation Toolkit version 6.1.0 before installing Bank Transformation Toolkit version 6.1.1. If you already have version 6.1.1 installed, the Installation Wizard will display a warning message showing that you already have version 6.1.1 installed. If you continue with the installation, your previous installation of version 6.1.1 will be overridden.
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 and those for WebSphere Application Server. If you have IBM WebSphere Integration Developer installed, the Installation Wizard will install toolkit components designed for IBM WebSphere Integration Developer, and those for WebSphere Application Server.
6. You are prompted to choose if you want to install 32-bit or 64-bit BTT. If you want to run BTT in 64-bit AIX runtime environment, select **Bank Transformation Toolkit 6.1.1.0 64-bit** and click **Next**. Otherwise, select **Bank Transformation Toolkit 6.1.1.0 32-bit** and click **Next**.
7. 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 6.1.1.0` for Windows, and `/opt/IBM/WebSphere/Multichannel Bank Transformation Toolkit 6.1.1.0` for Linux), click **Browse**, and select that folder you want to use.

8. 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**.
9. 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
doc	Product documentation
javadoc	Product Java documentation
jre	Install Anywhere bundled JVM
lib	Product runtime libraries
license	Product license files
plugins	<ul style="list-style-type: none"> • Visual beans plug-in • Transaction Editor plug-in • APAR tool plug-in • Migration tool plug-in • Validation Tool plug-in • Formatter Simulator plug-in • Application Wizard plug-in • XUI Editor plug-in
samples	Product samples
template	Template for Foreign Exchange
Uninstall	Product uninstallation files

10. Start IBM Rational Application Developer or IBM WebSphere Integration Developer.
11. 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:
 - a. Go to **Window** → **Preferences**.
 - b. Expand the **Java** node and select **Build Path**.
 - c. Expand the **Build Path** node and select **Classpath Variables**.
 - d. Click **New** and in the **Name** entry field, type the following:
BTT
 - e. In the **Path** entry field, type the path to where the Bank Transformation Toolkit was installed.

f. 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.

12. 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**.
13. 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.

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

Setting up the Validation Tool

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

Prerequisites to use the Validation Tool:

- If you had installed the toolkit before you installed the IBM Rational Application Developer or IBM WebSphere Integration Developer, you need to copy the following plug-in files to the $\$D(RAD)/plugins$ or $\$D(WID)/plugins$ directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later:
 - com.ibm.btt.tools.validation_6.1.1

To use the Validation Tool, follow these steps:

1. Start IBM Rational Application Developer or IBM WebSphere Integration Developer.
2. Create a simple project.
3. Create a folder to contain the XML files, and copy your XML files to this folder.
4. Click **Window** → **Preferences...**
5. In the dialog box that pops up, select **BTT Validator** in the left panel.
6. In the right panel, the **XSD Path** and the **SCH Path** are set automatically. In the **Server Path** field, click **Browse**, and select the folder which contains your XML file.
7. Click **OK**.
8. In the **Project Explorer** view, right-click the XML file, and select **Validate**.
9. The error will be shown in the editor if there are any.

Setting up the Transaction Editor

The Transaction Editor for the Bank Transformation Toolkit is a plug-in. Transaction Editor facilitates the XML based end-to-end programming model.

Prerequisites to use the Transaction Editor:

- If you had installed the toolkit before you installed the IBM Rational Application Developer or IBM WebSphere Integration Developer, you need to copy the following plug-in files to the $\$D(RAD)/plugins$ or $\$D(WID)/plugins$ directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later:
 - com.ibm.btt.tools.transaction.editor_6.1.1
 - com.ibm.btt.tools.validation_6.1.1

To use the Transaction Editor, follow these steps:

1. Start IBM Rational Application Developer or IBM WebSphere Integration Developer.
2. Create a simple project.
3. Create a folder to contain the XML files, and copy your XML files to this folder.
4. Click **Window** → **Show View** → **Other...**, and expand **General**, and then select **Project Explorer**.
5. Right-click the XML file, and select **Enable BTTModel**.
6. The elements of the XML file will be shown in a hierarchy tree.

Setting up the SWT Visual Beans Editor

The SWT Visual Beans Editor for the Bank Transformation Toolkit is a plug-in. The SWT Visual Beans Tool helps you develop SWT based transaction panels

Prerequisites to use the SWT Visual Beans Editor:

- If you had installed the toolkit before you installed the IBM Rational Application Developer or IBM WebSphere Integration Developer, you need to copy the following plug-in files to the $\$D(RAD)/plugins$ or $\$D(WID)/plugins$ directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later:
 - com.ibm.btt.rcp.visualbean_6.1.1
 - com.ibm.btt.rcp.visualbean.runtime_6.1.1

To use the SWT Visual Beans Editor, follow these steps:

1. Start IBM Rational Application Developer or IBM WebSphere Integration Developer.
2. Create a Java project.
3. Add SWT Visual Bean and Standard Widget Toolkit (SWT) library to the build path.
 - a. Right-click project and select **Properties**.
 - b. Select **Java Build Path**, and select **Libraries** tab, and then click **Add Library**.
 - c. Select **SWT VisualBean**, and click **Next**.
 - d. Click **Finish** in the dialog that pops up.
 - e. Add **Standard Widget Toolkit(SWT)** library to the build path in the same way.
4. Create a visual class.
 - a. Right-click the project, and select **New** → **Visual Class**.
 - b. In the dialog box that pops up, provide a name in the **Name** field, and expand **SWT** in the **Style** box, and then select **Shell**. Check the **public static void main(String[] args)** and **Inherited abstract methods** checkboxes.
 - c. Click **Finish**. The visual class loads.

Setting up the Runtime Monitor Tool

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

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

1. Start IBM Rational Application Developer or IBM WebSphere Integration Developer.
2. From the File menu, select **File** → **Import**.
3. In the dialog box that pops up, expand **Web**, and select **WAR file**.
4. In the **EAR Membership** field, check the **Add project to an EAR** checkbox, and then in the **EAR Project Name** field, select your EAR project. Click **Next**.
5. In the **WAR file** field, click **Browse** to select the **BTTRuntimeMonitor.war** file.
6. In the **Web project** field, the name is automatically generated: **BTTRuntimeMonitor**.
7. The **Target runtime** is set to **WebSphere Application Server v6.1** by default.
8. Click **Finish**.
9. Open your browser, and input the following URL: `http://<host name>:<port>/BTTRuntimeMonitor`.

Then you can use the Runtime Monitor Tool.

Setting up the APAR Tool

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

Prerequisites to use the APAR Tool:

- If you had installed the toolkit before you installed the IBM Rational Application Developer or IBM WebSphere Integration Developer, you need to copy the

following plug-in files to the \$D(RAD)/plugins or \$D(WID)/plugins directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later:

- com.ibm.btt.tools.apar_6.1.1

To use the APAR Tool, follow these steps:

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

Setting up the formatter simulator

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 or IBM WebSphere Integration Developer, you need to copy the following plug-in files to the \$D(RAD)/plugins or \$D(WID)/plugins directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later:

- com.ibm.btt.core_6.1.1
- com.ibm.btt.tools.fs.core_6.1.1.jar
- com.ibm.btt.tools.fs.ui_6.1.1.jar

To use the Validation Tool, follow these steps:

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

Setting up the Application Wizard

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 or IBM WebSphere Integration Developer, you should copy the following plugin files to the \$D(RAD)/plugins or \$D(WID)/plugins directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later:

- com.ibm.btt.core_6.1.1
- com.ibm.btt.tools.aw_6.1.1.jar

Perform the following steps to use the Application Wizard:

1. Start IBM Rational Application Developer or IBM WebSphere Integration Developer.

2. Click **File** → **New** → **Project**, and expand WebSphere Multichannel Bank Transformation Toolkit.
3. Select **BTT Business Application Project** or **BTT Channel Application Project**. The application wizard is launched.

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

1. Start IBM Rational Application Developer or IBM WebSphere Integration Developer.
2. Click **File** → **New** → **Example**, and expand BTT Samples.
3. Select **BTT Sample** or **BTT Multichannel Sample**. The BTT Sample is launched.

Setting up the XUI Editor

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 or IBM WebSphere Integration Developer, you should copy the following plug-in files to the \$D(RAD)/plugins or \$D(WID)/plugins directory manually after you have IBM Rational Application Developer or IBM WebSphere Integration Developer installed later:
 - com.ibm.btt.core_6.1.1
 - com.ibm.btt.rcp.xui_6.1.1
 - com.ibm.btt.rcp.xui.editor_6.1.1

Perform the following steps to use the XUI Editor:

1. Start IBM Rational Application Developer or IBM WebSphere Integration Developer. 3. The XUI Editor will be launched.
2. Click **File** → **New** → **Other**, and expand WebSphere Multichannel Bank Transformation Toolkit.
3. Select **XUI File**. The XUI Editor is launched.

Installing toolkit applications on a runtime platform

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 WebSphere Integration Developer or 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, bttbccommon.jar
bttbcaccommon	Business Component - Access Control Common	core, j2ee	bttcore
bttbccounter	Business Component - Counter	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
bttbccommon			
bttbusinesslogic	Business Logic	core, j2ee, com.ibm.ws.runtime_6.1.1	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_6.1.1, com.ibm.ws.webcontainer_2.0.0	bttcore, bttinvoker
bttcompat	Compatibility	core, j2ee	bttcore, btttcpact, bttcpwa
bttcore	Core Component	core, j2ee, ras, com.ibm.ws.runtime_6.1.1,	
bttdbsvc	Database Service	com.ibm.ws.runtime_6.1.1	bttcore
bttej			
bttjmsmessage	Business Component Message	com.ibm.ws.bootstrap_6.1.0, com.ibm.ws.emf_2.1.0, com.ibm.ws.runtime_6.1.0, com.ibm.ws.sib.client_2.0.0, com.ibm.ws.sib.utils_2.0.0, com.ibm.ws.wccm_6.1.0, com.ibm.wsspi.extension_6.1.0, org.eclipse.core.runtime_3.1.2, org.eclipse.osgi_3.1.2, j2ee, bootstrap, iwsorbutil	bttmessage
bttmessage	Business Component Message		bttcore,bttremote
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
bttinvoker	Invoker	core, j2ee, axis, com.ibm.ws.runtime_6.1.1	bttcore
bttldapsvc	LDAP Service	core, j2ee	bttcore
bttmqsvc	MQ Service	core, j2ee	bttcore
bttopsaejb	OpStep Adaptor EJB	core, j2ee, com.ibm.ws.runtime_6.1.1	bttcore

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

JAR Name	Functional unit or component	External dependency	Corequisite JAR
bttweb2			

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

RAR name	Functional unit or component	External dependency	Corequisite JAR
dummysnalu0	BTTDummySnaLu0Connector	core, j2ee, wsif-compatb, wsatlib, com.ibm.ws.runtime_6.1.1	
snalu0	BTTLu0Connector	core, j2ee, wsif-compatb, wsatlib, com.ibm.ws.runtime_6.1.1	
snalu62	BTTLu62Connector	core, j2ee, com.ibm.ws.runtime_6.1.1	

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

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

Table 6. 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		
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

Table 6. 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.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
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

Table 6. 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.visualbean	SWT Visual Beans Editor	org.eclipse.ui, org.eclipse.core.runtime, org.eclipse.ve.java.core, org.eclipse.jdt.core, org.eclipse.jem, org.eclipse.jem.proxy, org.eclipse.ve.cde, org.eclipse.ve.swt, org.eclipse.ve.propertysheet, org.eclipse.gef, org.eclipse.emf.ecore, org.eclipse.jem.beaninfo, org.eclipse.core.resources, org.eclipse.ui.ide, org.eclipse.ui.views, org.eclipse.pde.ui	
com.ibm.btt.rcp.visualbean.runtime	SWT Visual Beans Runtime	org.eclipse.ui, org.eclipse.core.runtime	com.ibm.btt.core
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.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 6. 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.ui org.eclipse.core.runtime, org.eclipse.ui.navigator, org.eclipse.emf.codegen.ecore.ui, org.eclipse.core.resources, org.eclipse.wst.xml.core, org.eclipse.wst.xml.ui, org.eclipse.wst.sse.core, org.eclipse.wst.sse.ui, org.eclipse.jst.j2ee.ui, org.eclipse.jst.j2ee.navigator.ui org.eclipse.jdt.ui, org.eclipse.core.expressions, org.eclipse.ui.workbench.texteditor, org.eclipse.wst.common.ui	com.ibm.btt.tools.validation
com.ibm.btt.tools.validation	Validation Tool	org.eclipse.ui org.eclipse.core.runtime, org.eclipse.core.resources, org.eclipse.jdt.core, org.eclipse.wst.validation, org.eclipse.help, org.eclipse.jem.util, org.eclipse.wst.common.frameworks, org.eclipse.wst.xml.core, org.eclipse.wst.sse.ui, org.eclipse.wst.sse.core, org.eclipse.wst.common.uriresolver, org.eclipse.wst.common.ui, org.eclipse.pde, org.eclipse.pde.ui, org.eclipse.jst.jsp.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.compatible	compatibility component	org.eclipse.ui, org.eclipse.core.runtime	dseb, dsed, dsegb, com.ibm.btt.core, com.ibm.btt.rcp.activity, com.ibm.btt.rcp.workingarea

Table 6. 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.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
com.ibm.btt.tools.apar	APAR Tool		

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 7. 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

Table 7. JAR, RAR or WAR files for packages (continued)

Package name	JAR/RAR/WAR name
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
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.format	bttcore.jar
com.ibm.btt.format.adapter	bttcore.jar
com.ibm.btt.format.exception	bttcore.jar
com.ibm.btt.format.impl	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

Table 7. JAR, RAR or WAR files for packages (continued)

Package name	JAR/RAR/WAR name
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	bttdbsvc.jar
com.ibm.btt.services.ldap	bttldapsvc.jar
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

Table 7. JAR, RAR or WAR files for packages (continued)

Package name	JAR/RAR/WAR name
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 8. Locations for prerequisites

Prerequisite	Resource name	How to get them
WebSphere MQ	com.ibm.mq.jar	Available from WebSphere MQ
Lotus Expeditor for Desktop 6.1.2	com.ibm.rcp.propertybroker_6.1.2.jar	Available from Lotus Expeditor for Desktop 6.1.2

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