IBM WebSphere Business Components Studio

Release Notes

Version 1.1

… A member of the WebSphere Business Components family

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 20.

First Edition (November 2000)

This edition applies to version 1.1 of IBM WebSphere Business Components Studio (product number 5639-M22), and to all subsequent releases and modifications until otherwise indicated in new editions. Make sure you are using the correct edition for the level of the product.

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IBM WebSphere Business Components (WSBC) Studio Version 1.1

This document has the following sections

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- Known limitations and issues

This version of the Release Notes is based on information known at the time the CD for IBM WebSphere Business Components (WSBC) Studio Version 1.1 was created. For the latest updates to the Release Notes and Installation Guide, see ibm.com/software/components/support.html.

The green text represents changes that were made to this document after the WebSphere Business Components Studio Version 1.1 CD was created.

CD contents

The IBM WebSphere Business Components (WSBC) Studio Version 1.1 CD contains a set of Advanced Components, their supporting component-based architecture, tools, examples, samples, and documentation.

The Advanced Components (ACs) are Customer Profile and Product Catalog. The Customer Profile AC manages customer information such as names as well as related information such as addresses and telephone numbers. The Product Catalog AC manages product information and provides a way of organizing and comparing products. The CD provides an implementation of each AC.

Supporting the ACs is a service layer that provides services that are common to many ACs. The AC services included on this CD are AC Command service, AC Context service, AC Event service, AC Exception service, AC NLS service, and AC System Management service. The AC Command service provides the communication mechanism between Advanced Components and their clients while the AC Context service provides a mechanism to retain AC instance information throughout its lifetime. The AC Exception and AC Event services provide exception distribution and event notification services respectively. The AC NLS service provides a mechanism to distribute language-neutral information, which can then be formatted to a specific locale. The AC System Management service provides a mechanism to manage and maintain the system such as configuring ACs.

To support the creation and deployment of components, the Studio CD provides the WSBC Code Generator and the AC Deployment Tool. The WSBC Code Generator uses Rational Rose models to generate the framework of a component according to a predefined template. The AC Deployment Tool automates part of the process of deploying an AC onto a Web server such as WebSphere.

The Product Recommendation application included on the CD is an example of how to construct an application using ACs. This application uses the implementations of Customer Profile and Product Catalog provided on this CD.

One of the advantages of using WebSphere Business Components is that they can work with existing systems and services. The CD provides several sample non-WSBC systems, components, and services (including several non-Java components) that have been wrapped with an interface layer so that they can interact with WebSphere Business Components.

The WSBC Studio CD contains an online information Web that can be installed. The online information contains descriptions and technical details of the components, the architecture within which they exist, the services within the AC Service layer, the example application, and the wrapping samples. The Studio documentation also includes these Release Notes and the Installation Guide.

Notes

This section provides information that was not included in the online information.

AC Deployment Tool sample files

The WSBC Studio install includes three AC .jar files that you can use to view a sample of the input expected by the AC Deployment Tool. You can also use these files to practice using the AC Deployment Tool. These files are located in the tools/samples folder.

Base Components

The online information covers Base Components. However, the Studio Version 1.1 CD does not contain any Base Components. To obtain these components and the latest documentation for them, see the WebSphere Business Components Web site at ibm.com/software/components.

Customer Profile

The .bat file provided to create the Person tables for the Customer Profile AC specifies a size of 30 characters for the id columns. The default configuration specified by the ACImplementation.xml file is 40 characters. This difference results in an error when a user tries to create a Person customer because the AC is inputting a field that is too long . To correct this problem, edit the customerProfilePersonTables.bat file to increase the size of the id columns for each table. These sizes must be increased to 40.

Documentation

Javadoc

Some of the Javadoc contained in the online information may have formatting errors and may not exactly match the code (and the comments in the code) delivered on the Version 1.1 CD.

Search

The search may return an error the first time it is used in a session. To correct this, perform a different search and then perform the original search again.

Update to the WSBC Code Generator documentation

The "Modeling Advanced Components" page of the online information for the WSBC Code Generator incorrectly indicates that Professional J 2000e edition is the recommended version of Rational Rose for modeling ACs. In fact, either of the following two versions is recommended:

- Rose 2000e - Modeler edition

- Rose 2000e - Enterprise edition

Also in "Modeling Advanced Components", ~~In the "Modeling Advanced Components" page of the online information for the WSBC Code Generator,~~ the Interface Design and the Interface Models diagrams are from a hypothetical CustomerOrder AC and not from Offering AC as identified by the diagram labels.

Updates to Customer Profile documentation

In the second paragraph of the use cases page of the online information for the Customer Profile AC, the reference to the Product Catalog AC is incorrect. The reference should be to the Customer Profile AC. The hyperlink in the sentence is correct.

As the Customer Profile AC can be used in multiple industries and is not limited to the financial industry, the word "financial" should be deleted from the "Interface arguments" page of the Customer Profile AC online information.

Updates to Product Catalog documentation

In the Interactivity with other Components section, the diagram has an AC function interface called GetProductFromID. This AC function interface is replaced by one called GetProductForLocale.

Updates to AC Deployment Tool documentation

Menu options

The documentation for the AC Deployment Tool refers incorrectly to AC Deployment Tool menu options. The document indicates that the following options are available:

- Verify
- Deploy
- Undeploy

The actual menu items on the AC Deployment Tool appear as follows:

- Verify AC Instance
- Deploy AC Instance
- Undeploy AC Instance

Run AC Deployment Tool as a standalone application

Each time you run the AC Deployment Tool as a standalone application from the command line, you must run three .bat files in sequence. To do this, complete the following steps:

1. Open a command prompt.
2. Run the setupCmdLine.bat file found in the <WebSphereRoot>\AppServer\bin directory.
3. Run setWSenv.bat.
4. Run runDeploymentTool.bat.

Load an AC .jar file

The instructions describing how to load an AC .jar file should include a new first step, as follows:

1. Copy the AC .jar file to a directory designated for deployment.

By completing this step, you prevent the possibility of saving your deployment settings for the AC back to the location of the original .jar file.

Registered Name to JNDI name mapping

The Function Group Registered Name field for a function group specifies the JNDI name of the AC's Session Bean. The Target Registered Name field for a function specifies the JNDI name of the AC Command Target Bean from AC Services.

AC Configuration

Where the AC Deployment Tool documentation refers to AC configuration, the intended meaning is the settings for the deployment of an AC instance. This is distinct from the meaning of AC configuration as a set of System Management values used to configure how the AC works at runtime.

Update to AC Event service documentation

The AC Event service resource bundle is ACEventConfiguration.properties, which is located in the com/ibm/wsbc/acs/event directory subtree. In the "Configure AC Event" page, the resource bundle is incorrectly indicated as com.ibm.wsbc.acs.event.ACEventConfiguration.

Update to AC NLS service documentation

The following information should appear in AC NLS References:

- ACLocalizableTextImpl: The client using AC Command can use the initFromDomElement() method (not fromXML()) to generate the object back from the XML DOM element representing the localizable text XML.

- AC NLS service uses LocalizableException internally, ~~but you cannot specify a LocalizableException in NLS methods~~ and if the localize action was not successful, it rethrows this exception to the consumer of the AC NLS. The consumer of AC may catch LocalizableException if necessary.

- One LocalizableTextResourceAccessor Bean may be deployed per EJB Server where ACs are deployed.

- You do not need to set locale and time zone information when deploying AC NLS.

Update to AC Exception service documentation

In AC Exception references, the AC Exception (not NLS) support classes are found in the com.ibm.wsbc.acs.exception package.

Updates to the General AC documentation

In the "Deploy an AC instance" procedure, add the following step as the first step of the first procedure:

1. Use the AC Deployment Tool to register the AC. You can use the default settings provided by the AC. If you change the name of the AC instance or the JNDI name of the AC's Session Bean (the name of the AC Function Group), note the new values for these items as you will need them when you deploy the EJBs of the AC.

In the "Deploy the EJBs in the WebSphere Application Server" procedure, replace the text and table in step 5 with the following:

5. In the **Create EnterpriseBean** window, select the **General** tab. In the **Jar file** field, specify the .jar file by following these steps:

   a. Click on the **Browse** button (be prepared to wait a bit).

b. Double-click the file you want to deploy. For example, to deploy the ProductCatalog AC, you would double-click the `ProductCatalogACEJBDeployed.jar` file.

c. Double-click the .ser file for the Bean you want to deploy. For example, if you want to deploy the ProductCatalogInterface EJB, double-click the `com\ibm\wsbc\ac\proCat\ProductCatalogInterface.ser file`.

d. You will be asked, "This jar is not enabled for Work Load Management. Would you like to enable it now?" Click **No**.

WebSphere Application Server should have automatically filled in the **Name** and **Deployment descriptor** fields for you. If you changed the name of the AC instance or the JNDI name of the AC's Session Bean using the AC Deployment Tool, you must modify the information in the appropriate Deployment desciptor fields.

Note: If you use more than one server to host multiple ACs, ensure that the JNDI home names of each of the AC EJBs are different on each server. To do this you may have to change the **Deployment descriptor** fields.

In the "Add .jar files to the client's classpath" procedure, remove the last step.

In the "Register an AC instance" procedure, remove step 3. Replace the first sentence of step 4 with the following text.

If the connector Bean (MBeanServerConnectorBean) from AC Services is not already running, use the WebSphere Administrator's Console to start it.

In the "Undeploy an AC instance" procedure, add the following to the end of the final step:

, and any other directory where you are keeping deployed .jar files.

Environment

File system path values in WebSphere Application Server admin.config file

When setting the values in the WebSphere admin.config file, file system paths should be specified using MS-DOS names. For example, a folder named *Program Files* could have the MS-DOS name *Progra~1*.

JDBC 2.0 classes for DB2

The default DB2 install uses JDBC 1 classes. To use the JDBC 2.0 classes, run the usejdbc2.bat file, which is located in the sqllib/java12 directory.

JNDI names

For each server, ensure that the JNDI names used do not conflict with each other or with any JNDI subcontext names.

Operating system environment variables

The installation programs for WSBC Studio and its components may set some operating system environment variables as user variables; these variables apply only for the user who ran the particular installation. If you want to make these environment variables available to all users, you should convert these to system variables. Depending on the particular user variable, you may need to create a system variable with a name that matches the user variable or just update the value of the matching system environment variable.

WebSphere Fixpack 2

If Fixpack 2 of WebSphere has been applied and the WebSphere AdminServer no longer starts, try the following procedure:

1. In the WebSphere/AppServer/bin directory, open the admin.config file.

2. Examine the list of jar files for the com.ibm.ejs.sm.adminServer.jarFile property. If the jar files are separated by semi-colons, replace the semi-colons with commas. In addition, make sure that there are no spaces in the directory and .jar file names (that is, use DOS names).

3. Save the file.

4. Start the WebSphere AdminServer.

Product Catalog

When creating products, it is recommended that the user use a single locale to make maintaining translations easier. That is, the user creates all products in one locale and provides translations for the product as needed.

The maximum number of items returned by a search can be specified by user or by the maximumSearchResultSize setting in the ACImplementation.xml file for Product Catalog. The setting in the file is the definitive maximum value. If the maximum number specified by a user exceeds the value of the maximumSearchResultSize setting, the system defaults to the number of items defined by the maximumSearchResultSize. If the maximum number specified by a user is smaller than the value of the maximumSearchResultSize setting, the system uses the maximum number defined by the user.

Product Catalog and Customer Profile

If the maximumSearchResultSize setting is not set or is set to an invalid value such as -1 or a non-numeric value, there is no maximum search result size and all of the search results are returned.

System Management Console

The System Management Console included in this release provides only basic functionality to manage AC instances, using the JMX API and the JMX Instrumentation and Agent Reference Implementation from Sun Microsystems.

Windows NT not recognizing substitution variables

If you install WSBC 1.1 and you have substitution variables such as %JAVAHOME% in your PATH or CLASSPATH, the problem you may encounter is that the variables are not substituted (for example, if you open a command prompt window and check your PATH or CLASSPATH, it may contain %JAVAHOME% rather than the appropriate substitution). This is due to a Windows bug, and the fix for the problem is to take the following action:

1. Open the **Start>Settings>Control Panel** folder.

2. Double click the **System** icon.

3. Click on the **Environment** tab.

4. Click on the variable that is having the problem (such as PATH).

5. Click in the **Value** field for this variable as if you are going to make a change but do not actually make that change.

6. Click **Set**.

7. Click **OK**.

The above steps refresh the environment settings and the problem will not be seen in the future. Because of this problem, do not use substitution variables in your PATH or CLASSPATH.

WSBC Code Generator

The WSBC Studio install includes an AC .mdl file that you can use to view a sample of the expected input for the WSBC Code Generator when it is generating ACs. You can also use this file to practice running the WSBC Code Generator. This file is located in the tools/samples folder.

If you downloaded the WSBC Studio from the web instead of installing it from a CD, the tool cannot launch the online information when you request help. To find information about the WSBC Code Generator, refer to the *WSBC Code Generator and Modeling Guidelines* PDF document (codgentl.pdf), which has the same content as the online information.

Known limitations and issues

The following is a list of the known issues and limitations of Version 1.1:

Customer Profile

Deadlocking in a multi-user environment

In a multi-user environment, Version 1.1 of Customer Profile operations may lock each other out. When this happens, one will be rolled back and the other will be allowed to proceed. The choice of which one is rolled back is arbitrary and is determined by DB2. The rolled-back function can be retried precisely as it was before.

Multiple datasources

If you are configuring multiple Customer Profile datasources, the default Admin DB Driver in WebSphere must be JTA enabled. ~~While Customer Profile contains a setting that allows you to configure it to access different datasources for Person and Enterprise customers, Version 3.5 of the IBM WebSphere has a limitation that prevents multiple datasources from being accessed within a single transaction. This means that Person and Enterprise customer information must be stored in the same datasource.~~

Oracle databases

Known issues exist that will prevent the Customer Profile AC from operating correctly with Oracle databases. These issues will be resolved in the first fixpack. If you require assistance prior to release of the first fixpack, contact IBM technical support.

Product Catalog

Deleting ComparisonPointData and translations

When you delete a product or category, any ComparisonPointData or translations associated with the product or category are not deleted from the datastore. To delete ComparisonPointData, you must use the MarkComparisonPointDataForDelete AC function interface. To delete a translation, delete the translation from the appropriate localization tables (CATEGORYLOCALE, PRODUCTLOCALE, COMPOINTLOCALE, and COMPOINTDATALOCALE).

Handling missing translated values

If Version 1.1 of Product Catalog cannot find translated values for dynamic text, it returns null. This means that when products are compared, the dynamic text in the comparison point data have the value of null instead of the default value of the dynamic text.

Oracle databases

Known issues exist that will prevent the Product Catalog AC from operating correctly with Oracle databases. These issues will be resolved in the first fixpack. If you require assistance prior to release of the first fixpack, contact IBM technical support.

Development Environment

EJB Server times out when running Advanced Components

To run Advanced Components within VisualAge for Java, modify the EJB Server timeout value as shown in the following procedure:

1. If an EJB server is running the AC, stop it.

2. In the EJB Server Configuration window, select the EJB Server containing the AC.

3. Right-click the server and select **Properties**.

4. In the Properties dialog, increase the value of the **Transaction Timeout** setting to a value such as 1200000 and increase the value of the **Transaction Inactivity** setting to a value such as 6000000.

5. Select **OK**.

6. Restart the EJB server.

WSBC tool does not run from the command line

This problem occurs because the system could not find the java.exe program required to run the WSBC tools (which are Java applications). To ensure that the correct JDK is being used:

1. Open the Control Panel.

2. Double-click **System.**

3. Click the **Environment** tab.

4. Select the Path variable.

5. Prepend the value:

   %JAVA_HOME%\bin;

6. Click **Set**.

7. Create a new variable by typing the following into the Variable text box:

   JAVA_HOME

   For its value, type in the path to the JDK root directory. Examples of paths include c:\Program Files\JDK1.2.2 or, for WebSphere, c:\Program Files\WebSphere\Appserver\jdk)

8. Click **Set**.

9. Click **Apply** and then click **OK**.

The JAVA_HOME variable is the way WebSphere sets the JDK. This way, the system always uses the correct JDK for the WSBC tool.

Product Recommendation Sample

The Product Recommendation sample runs in the VisualAge for Java environment. It does not run on WebSphere outside of VisualAge for Java. To make it run on WebSphere:

1. Add all of the Product Recommendation Samples *.gif files to the IBM HTTP Server\htdocs directory.

2. In the same directory, create a directory called theme and add the master.css file to this new directory.

WSBC Code Generator

The following section contains limitations and issues that apply when you are generating AC code and issues that occur when installing or uninstalling the tool.

Code generation limitations and issues

The limitations and issues documented here can apply or occur when you are generating AC code.

Class not found error

You may get this error if the model that the WSBC Code Generator maintains in the cache does not reflect the changes that have been made to the model. To solve this error, clear the cache by selecting **Reset** from the Generator menu or **Clear WSBC Generator Cache** from the Tool menu in Rational Rose.

Directive is not valid warning

The WSBC Code Generator issues Directive is not valid warnings for #PackageName and #EncapsulatedUsage directives when it is reading the model prior to generating code. You can ignore these warnings as the tool uses these directives when it generates code.

Enumeration type support

The WSBC Code Generator does not support enumeration types. For these types, you will have to manually change the generated code and the XML schemas for ACs.

Help does not launch

If you downloaded the WSBC Studio from the web instead of installing it from a CD, the tool cannot launch the online information when you request help. To find information about the WSBC Code Generator, refer to the *WSBC Code Generator and Modeling Guidelines* PDF document (codgentl.pdf), which has the same content as the online information.

Incorrect package names generated

If you use the WSBC Code Generation Tool to create an AC that depends on the Customer Profile AC, the Product Catalog AC, the Common Parameter Suite, or the Common Customer Suite, you will need to change the generated code in the accessors to correct package names. For example, if the new AC depends on the Customer Profile AC, you must change the package name of Customer Profile classes in the generated code to com.ibm.wsbc.ac.custProf. This is due to a problem with the models for these ACs.

You can also correct this problem in the model by replacing the #JavaPackage directive with the #PackageName directive.

Keyed collections support

The WSBC Code Generator does not support keyed collection types. For these types, you will have to manually change the generated code and the XML schemas for ACs.

Location of the generated XML files

The WSBC Code Generator GUI does not show the destination of the generated XML files. However, the tool places these files (ACDefinition.xml, ACImplementation.xml, Events.xsd, Functions.xsd, InterfaceModels.xsd) in the location specified by the Input_Output_Directory setting for the component being generated.

Messages missing ERROR, WARNING, and INFO prefixes

When you are running the WSBC Code Generator with the -nogui option enabled, the messages displayed in the DOS window are not prefixed with ERROR, WARNING, or INFO. To see what types of messages are being produced, inspect the log file produced by the WSBC Code Generator. The messages in this file have the prefixes.

NullPointerException due to broken references

The WSBC Code Generator does not handle broken references in the Rose model files. For example, if class A had a reference to class B (from a different .cat file) and class B is removed, the WSBC Code Generator throws a NullPointerException when it generates class A. To correct this problem, remove all references in the Rose model to deleted classes, attributes, and methods.

NullPointerException due to a changed Rose model file

The WSBC Code Generator may fail with a NullPointerException if a Rose model file is changed. To prevent this from occurring, clear the cache before starting the generator by selecting the Generator menu of the WSBC Code Generator and then clicking **Reset**.

Operations with the same name

Within a class, each operation should have a unique name. For each dependent AC Function, the WSBC Code Generator generates a command accessor method whose name is based on the operation name. If operation names are not unique, the tool does not generate more than one command accessor methods for that name. Non-unique operation names may occur when you have multiple AC Functions within the model of an AC Function Group and the operations have names that are repeated in one or more of the other AC Functions.

OutOfMemoryError

In an attempt to limit the amount of memory it uses, the WSBC Code Generator loads into the working cache only the portions of the model it needs for a generation run. For example, if you are generating a class which has relationships to classes in five different categories, the WSBC Code Generator loads only the classes in the five .cat files (which are Rose controlled units) containing the related classes. However, the working cache is cleared only when you exit the generator or when you clear it manually. Depending on how many dependencies the class you are generating has and how long it has been since the cache was cleared, the cache may increase to where it can cause OutOfMemoryErrors.

To avoid OutOfMemoryErrors:

- If you encountered the OutOfMemoryError while generating a single class, clear the cache by exiting the generator, by selecting **Reset** from the Generator menu, or by selecting **Clear WSBC Generator Cache** from the Tool menu in Rational Rose.

- If you encountered this error when generating a number of classes or generating a category, either reduce the number of classes you are trying to generate, use the -nogui option of the generator, or clear the cache.

- Increase Java's maximum heap by altering the generator.bat file (via the -Xmx option on the Java command).

Rose model multiplicity not reflected in the generated function and interface model schema files

The WSBC Code Generator does not generate the multiplicity of collections and arrays contained in the Rose model for the Functions.xsd and InterfaceModels.xsd. To correct this, you must change the AC interface models and function models in Rose to add the multiplicity to the aggregate relationships for collections, arrays of AC interface models, and for collections of simple types.

Source file overwritten errors

The WSBC Code Generator may generate Java code for some AC classes twice because of a problem with the AC rule templates. You can ignore these messages because the code is completely generated twice (there is no difference between the first generation and the second one).

Unable to generate AC source code or XML from a package

You cannot generate AC source code or XML from a package even if it is stereotyped as AdvancedComponent. You can only generate AC source code or XML from a class with the <AdvancedComponent> stereotype.

UnknownHostException

If you encounter an UnknownHostException while running the WSBC Code Generator, verify that TCPIP is installed correctly on the machine and there are no TCPIP-related network problems.

Warning message for Rose models without path maps

For the WSBC Code Generator, you typically import one or more .cat files into Rose, which would set path maps. If the Rose model does not contain any path maps, you will see the following message "No UML path maps: No UML

WSBC Code Generator does not launch from within Rational Rose

If you use the Generator menu of the WSBC Code Generator to view or change its preferences and you do not close the WSBC Code Generator GUI, the WSBC Code Generator does not launch from within Rational Rose. To launch the generator, exit the existing WSBC Code Generator GUI first.

path maps have been set. Because SanFrancisco uses path maps, the UML scan may not succeed". If the model does not have .cat files, ignore this message.

WSBC Code Generator does not run because the system cannot find the path to the tool

This problem only occurs if you install the BC part of the WSBC Code Generator (which is downloaded from the Web). The WSBC Studio installation creates a environment variable called WSBCTOOLS_PATH. This variable is used to locate the part of the WSBC Code Generator that generates AC code. The part of the WSBC Code Generator that generates BC code also uses an environment variable called WSBCTOOLS_PATH; however, the installation for the BC part of the tool does not set a value for the variable. The problem occurs when the AC part and BC part are installed under a different directory structure as the variable can only contain one path.

To correct this problem:

1. Set the value of the WSBCTOOLS_PATH to the directory path of the part of the tool that you want to use.

   For example, if you want to generate BC code and the BC part of the tool is installed in the C:\WSBC_WebVer\1.1\tools directory, you must set this variable to WSBCTOOLS_PATH=C:\WSBC_WebVer\1.1\tools (the location of the BC part of the tool.) If you want to generate AC code and the AC part of the tool is installed in the C:\WSBC\1.1\tools directory, you must set this variable to WSBCTOOLS_PATH=C:\WSBC\1.1\tools (the location of the AC part of the tool.)

   Note: the path to the tool you want to use must not contain any spaces. Spaces cause a NoClassDefFound error when the WSBC Code Generator is run. To avoid these errors, use DOS names. For example, for C:\Program Files\IBM, use C:\Progra~1\IBM.

2. To run the tool from Rational Rose, set the WSBCTOOLS_PATH Virtual Path Map to point to the part of the tool that you want to use:

   a. Open Rational Rose

   b. Go to **File > Edit Path Map ...**

   c. In the Virtual Path Map dialog, type the following into the **Symbol:** text box

      WSBCTOOLS_PATH

      In the **Actual Path:** text box, type the drive and path to the root of the AC or BC part to the WSBC Code Generator that you want to use.

   d. Click **Add** then click **Close**.

   e. Close Rational Rose

The Studio installation sets WSBCTOOLS_PATH to point to the AC part of the code.

Installation Issues

The following is a list of the known issues related to installing Version 1.1 of the Studio:

Configure the AC Deployment Tool

If the system did not have VisualAge for Java for Windows 3.5 when you installed WebSphere Business Components Studio, you will have to configure VisualAge in order to run the AC Deployment Tool from the Java Tool menu. In the following instructions <WSBCROOT> is the directory you specified for the installation of IBM WebSphere Business Components Studio.

To configure AC Deployment Tool to run from the VisualAge for Java Tool menu, complete the following steps:

1. Close VisualAge for Java if you currently have it running.

2. If it is not already present, create a directory "com-ibm-wsbc-actools-deployment" in the directory <VAJROOT>\ide\tools.

3. Extract ACModel.jar and ACToolsDeployment.jar from the <WSBCROOT>\tools\lib directory to the directory you just created.

4. Copy the actools.ini file found in <WSBCROOT>\tools to the directory you created in step 2.

5. Edit the actools.ini file so that basepath is set to the directory where settings.xml is found: <WSBCROOT>\tools. The basepath should have double slashes as delimiters, and should end in double slashes, as in the following example:

```
basepath=c:\\Program Files\\ibm\\WSBC\\1.1\\tools\\
```

6. Copy the default.ini file from the <WSBCROOT>\tools\vaj to the directory you created in step 2.

Configure the WSBC Code Generator

If the system did not have WebSphere Application Server Advanced Edition 3.5 or Rational Rose 2000e when WebSphere Business Components Studio was installed, you will have to configure the system in order to run the WSBC Code Generator. In the following instructions <INSTALLDIRECTORY> is the directory <WSBCROOT>\tools. <WSBCROOT> is the directory you specified for the installation of IBM WebSphere Business Components Studio. The "Rose program directory" is the directory that contains rose.exe (normally C:\Program Files\Rational\Rose).

To configure the system to run the WSBC Code Generator, complete the following steps:

1. Copy <INSTALLDIRECTORY>\rose\WSBC_STEREOTYPES.ini into the Rose program directory.

2. Copy the <INSTALLDIRECTORY>\acstereotypes directory to the Rose program directory.

3. If you do not have java.exe in your PATH, edit the ~~data~~WSBC.properties file, located in the <INSTALLDIRECTORY>\data\ directory. Substitute <INSTALLDIRECTORY> in the file with the path to the actual directory. The file delimiter should be \\. For example, if the INSTALLDIRECTORY is c:\wsbc\ec110\tools, the replacement should be c:\\wsbc\\ec110\\tools.

4. Edit the generator.bat file located in <INSTALLDIRECTORY>\bin. Replace <WebSphere_Installed> with the path of the directory where WebSphere Application Server is installed.

5. Edit the registry by doing the following ~~typing regedit on a command line. Add the following registry entries (keeping the version name identical to that of WSBC)~~:

   a. Open Notepad and copy the following registry entry text into it:

   Note: the following registry entries are different from the registry entries included in the Release Notes for the Studio CD. See the table at the end of this procedure for the changes.

```
REGEDIT4

[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC Generator]
"Active"="Yes"
"Company"="International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp, Copyright © 2000 Spin Software LLC."
"LanguageAddIn"="No"
"Version"="1.1.0"
"MenuFile"="rose\\WSBC_COMMON.mnu"
"InstallDir"="<INSTALLDIR>"

[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC AC Generator]
"Active"="Yes"
"Company"="International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp, Copyright © 2000 Spin Software LLC."
"LanguageAddIn"="No"
"Version"="1.1.0"
"MenuFile"="rose\\WSBC_AC.mnu"
"InstallDir"="<INSTALLDIR>"
"OLEServer"="AC_GeneratorAddIn.EventHandler"
```

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC BC Generator]
"Active"="Yes"
"Company"="International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp, Copyright © 2000 Spin Software LLC."
"LanguageAddIn"="No"
"Version"="1.1.0"
"MenuFile"="rose\\WSBC_BC.mnu"
"InstallDir"="<INSTALLDIR>"
"OLEServer"="BC_GeneratorAddIn.EventHandler"

[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC DirectiveAssistant]
"Active"="Yes"
"Company"="International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp."
"LanguageAddIn"="No"
"Version"="1.1.0"
"MenuFile"="rose\\WSBC_DA.mnu"
"InstallDir"="<INSTALLDIR>"
"OLEServer"="DA_AddIn.EventHandler"

[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC BC Generator\Events]
"OnActivate"="Interface"
"OnDeactivate"="Interface"
"OnEnableContextMenuItems"="Interface"
"OnSelectedContextMenuItem"="Interface"

[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC AC Generator\Events]
"OnActivate"="Interface"
"OnDeactivate"="Interface"
"OnEnableContextMenuItems"="Interface"
"OnSelectedContextMenuItem"="Interface"

[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC DirectiveAssistant\Events]
"OnActivate"="Interface"
"OnEnableContextMenuItems"="Interface"
"OnSelectedContextMenuItem"="Interface"
```

b. In Notepad, replace `<INSTALLDIR>` with the location of the tools directory for WSBC. Use \\ for the file delimiter. For example, if the INSTALLDIRECTORY is c:\wsbc\ec110\tools, the replacement should be c:\\wsbc\\ec110\\tools.

c. Save the file as a .reg file. Use quotation marks to prevent Notepad from appending .txt to the file name.

d. Make a backup of your current registry.

e. Start the registry editor (type `regedit` in a command line).

f. To import the .reg file, select **Registry** and then select **Import Registry Fil**e.... Navigate to the file you saved in step c, select it, and then select **Open**.

6. Update the registry HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\StereotypeCfgFiles by adding a new String:
   `FileX`
   where X is the next available integer.
   The value should be WSBC_STEREOTYPES.ini

7. COM Server Entries: Three .dll files need to be registered as COM servers. The files are:

   o <INSTALLDIRECTORY>\bin\BC_GeneratorAddIn.dll

   o <INSTALLDIRECTORY>\bin\AC_GeneratorAddIn.dll

   o <INSTALLDIRECTORY>\bin\DA_AddIn.dll

8. Register these files by invoking the following command lines ~~or via install shield (if different)~~:

   ```
   o    regsvr32 /s "<INSTALLDIRECTORY>\bin\BC_GeneratorAddIn.dll"
   o    regsvr32 /s "<INSTALLDIRECTORY>\bin\AC_GeneratorAddIn.dll"
   o    regsvr32 /s "<INSTALLDIRECTORY>\bin\DA_AddIn.dll"
   ```

9. Update the WSBCTOOLS_PATH environment variable to <INSTALLDIRECTORY>.

10. Update the PATH variable to include <INSTALLDIRECTORY>\bin.

Note: The following table shows the difference between the registry entries called for by the Release Notes on the Studio CD and the Release Notes that are downloadable from the Internet. The changes are marked in green text.

```
 [HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC Generator]
"Active"="Yes"
"Company"="IBM International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp, Copyright © 2000 Spin Software LLC."
"LanguageAddIn"="No"
"Version"="1.1.0"
"MenuFile"="rose\\WSBC_COMMON.mnu"
"InstallDir"="<INSTALLDIR>"


[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC AC Generator]
"Active"="Yes"
"Company"="IBM International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp, Copyright © 2000 Spin Software LLC."
"LanguageAddIn"="No"
"Version"="1.1.0"
"MenuFile"="rose\\WSBC_AC.mnu"
"InstallDir"="<INSTALLDIR>"
"OLEServer"="AC_GeneratorAddIn.EventHandler"



[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC BC Generator]
"Active"="Yes"
"Company"="IBM International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp, Copyright © 2000 Spin Software LLC."
"LanguageAddIn"="No"
"Version"="1.1.0"
"MenuFile"="rose\\WSBC_BC.mnu"
"InstallDir"="<INSTALLDIR>"
"OLEServer"="BC_GeneratorAddIn.EventHandler"


[HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Rose\AddIns\IBM WSBC DirectiveAssistant]
"Active"="Yes"
"Company"="IBM International Business Machines Corporation"
"Copyright"="Copyright © 2000 IBM Corp."
"LanguageAddIn"="No"
"Version"="2 1.1.0"
```

```
"MenuFile"="rose\\WSBC_DA.mnu"
"InstallDir"="<INSTALLDIR>"
"OLEServer"="DA_AddIn.EventHandler"
```

Rational Rose Tools menu does not have the WSBC Code Generator

You should be able to start the WSBC Code Generator from the Tools menu of Rational Rose. If the menu does not have this item:

1. If it is not already installed, install the WSBC Code Generator and restart the computer.

2. If the Java executable is not in your path, add it by doing the following:

    a. Go to the Control Panel and select **System** and then select **Environment**.

    b. In the dialog, select the PATH variable.

    c. Type the path to the java.exe file.

    d. Click **Set** and then click **Apply**.

3. Add the WSBC Code Generator to Rational Rose by doing the following:

    a. From the Rational Rose Add-Ins menu, click **Add-in Manager**. select IBM WSBC Code Generator..

    b. Select AC Code Generator or BC Code Generator or both.In the list of add-ins, select **IBM WSBC Code Generator**, and either **IBM WSBC AC Code Generator** or **IBM WSBC BC Code Generator** or both. You can also select **IBM WSBC Directive Assistant** at this time.

    c. Click Apply.

The Tools menu will now have an item for the IBM WSBC Generator.

WSBCTOOLS_PATH environment variable not removed during uninstall

The Environment variable, WSBCTOOLS_PATH, may not be removed from the Path settings by the uninstall program. If this happens, manually remove WSBCTOOLS_PATH from the Path settings.

AC Deployment Tool

AC having two states simultaneously

Before deploying an AC in WebSphere, ensure that the root path for WebSphere is set correctly. If the path is incorrect, an error may occur during deployment that results in the tool displaying the AC as having Deployed and Undeployed states simultaneously. To check and set the root directory for WebSphere, select the **Actions** menu and then select **Set Preferences**. For the EJB Server setting, select WebSphere. The path to WebSphere is then displayed and is available for editing if necessary.

Corrupt XML file in a deployed .jar file

The .jar file process used by the AC Deployment Tool may corrupt the manifest file in the deployed copy of the . jar file. This makes it unusable at runtime. To correct this problem:

1. Create a copy of the original .jar file and store the copy in the deployment directory. Use the original version of the file at runtime.

2. Run the AC Deployment Tool to create the deployed copy of the .jar file.

3. To update the AC with any changes made using the AC Deployment Tool, copy the ACDD.xml file from the deployed copy of the .jar file to the runtime copy.

Null pointer exception

When the AC Deployment Tool verifies a single AC instance, it enables the Deploy AC Instance option on the **Actions** menu. If you select that option without clicking anything on the tree, a null pointer exception occurs and the AC Deployment Tool does not deploy the AC. To prevent this, select the AC instance on the tree before selecting the **Deploy AC Instance** option.

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