



IBM WebSphere Business Components Studio

Release Notes

Version 1.1.1

... 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 10.

First Edition (March 2001)

This edition applies to version 1.1.1 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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Contents

- IBM WebSphere Business Components (WSBC) Studio Version 1.1.1..... 1**
- Studio contents..... 1
- Notes..... 2
- AC Deployment Tool..... 2
- Base Components 2
- Documentation..... 2
- Environment 2
- Product Catalog 3
- WSBC Code Generator..... 3
- Migration 3
- Enhancements and fixes in this release..... 4
- AC Deployment Tool..... 4
- Advanced Components 5
- Documentation..... 6
- Environment 6
- Samples..... 6
- System Management Console 7
- WSBC Code Generator..... 7
- Known limitations and issues 7
- AC Deployment Tool..... 7
- Advanced Component Services 7
- Documentation..... 8
- Environment 8
- Product Catalog 8
- Product Recommendation Sample 8
- WSBC Code Generator..... 9

- Notices 10**
- Trademarks and service marks..... 11

IBM WebSphere Business Components (WSBC) Studio Version 1.1.1

This document has the following sections

- Studio contents
- Notes
- Enhancements and fixes in this release
- Known limitations and issues

This version of the Release Notes is based on information known at the time the IBM WebSphere Business Components (WSBC) Studio Version 1.1.1 was created.

Studio contents

IBM WebSphere Business Components (WSBC) Studio Version 1.1.1 contains a set of Advanced Components, their supporting component-based architecture, tools, examples, samples, and documentation. This release consists of patches to the Studio Version 1.1 and cannot be installed by itself. You must have Studio 1.1 installed before you can install version 1.1.1.

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.

There is a separate WSBC Studio 1.1.1 documentation installation program; it updates the version 1.1 online help system to the 1.1.1 level. 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 is not included in the online documentation for Studio version 1.1.1.

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.

Changing Advanced Component properties

If you undeploy an Advanced Component to change its properties, you must reload (**File >Load**) the .jar file so that the AC Deployment Tool can obtain the new values.

Base Components

The online information covers Base Components. However, the Studio does not contain any Base Components. To obtain these components, see the WebSphere Business Components Web site at ibm.com/software/components.

Documentation

Online Information 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.

Updates to Product Catalog documentation

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

Location Change for Order Capture and Text Analyzer documentation

If Order Capture 1.1.0 and/or Text Analyzer 1.1.0 documentation is already installed when you install version 1.1.1 of the WSBC documentation, the documentation installer relocates the links to the Order Capture and Text Analyzer documentation. To find the documentation to these links, expand the Advanced Components node in the Help System.

Installing Order Capture and Text Analyzer documentation

If you install version 1.1.1 of the WSBC documentation and then later decide to install the Order Capture 1.1.0 and/or Text Analyzer 1.1.0 documentation, you must run the WSBCDocumentation111 executable and choose the Repair option. This enables the documentation for these two components.

Environment

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.

Java for the WSBC Code Generator

The WSBC Code Generator tool requires JDK 1.2.2 and it must be in the path of the system. WebSphere Application Server Advanced Edition 3.5 contains this version. If you do not have WebSphere Application Server installed, obtain the JDK 1.2.2 from IBM and add the path to the JDK into the system PATH.

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.

Product Catalog

When creating products, categories, comparison points, and comparison point data, it is recommended that the user use a single locale. The user can then create translations as needed.

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.

Migration

If you have already configured and deployed version 1.1.0 the Customer Profile and Product Catalog ACs, you should do the following to migrate them to the WebSphere Business Components Studio version 1.1.1:

1. Record the configurations that you made to the ACImplementation.xml file for the Customer Profile and Product Catalog Advanced Components. The 1.1.1 Fixpack features improvements and fixes to these components, but you will have to reinstall these components to receive the benefits of 1.1.1 Fixpack.
2. If you are using the databases created by version 1.1.0, back up the data in these databases as a precaution.
3. Install the Studio Fixpack version 1.1.1 using the Installation Guide included with the Fixpack. See the table below for a summary of what steps you need to perform

Chapter 1: General installation and configuration procedures

Installing the prerequisites	Unchanged except that Rational Rose 2001 is now supported as a development tool and that Solaris and Windows 2000 are now supported as production environments
Installing the WebSphere Business Components Studio	Perform this procedure
Create the Advanced Component databases and their tables	If you used the default database structure, you only need to run the views batch files for Customer Profile. These are numbers 3, 4, and 5 in the tables of this procedure. The rest of the procedure is already performed in the 1.1.0 installation for DB2.

Chapter 2: Setting up the development environment

Compensating for not having WebSphere Application Server	The 1.1.0 Studio required WebSphere Application Server. If the machine still has it installed, this procedure can be ignored
Creating a JNDI database for VisualAge for Java	Already performed in the 1.1.0 installation.

Configuring VisualAge for Java	Perform step 6 only.
Configuring the tools	Perform this procedure.
Installing Advanced Component Services	Perform this procedure to obtain the latest code.
Configuring the Advanced Component Services	Perform this procedure.
Installing Advanced Components	Perform this procedure to install the latest code. For each component, reimplement the changes that were made to 1.1.0 version of the ACImplementation.xml file into the 1.1.1 version of the file.
Running the Advanced Components	Perform this procedure.
Installing the AC and AC Services Rose models	Perform this procedure.
Help system	Already performed in the 1.1.0 installation.
Chapter 3: Setting up a production environment	
Configuring the JNDI database	Perform this procedure
Configuring the System Management Console	Already performed in the 1.1.0 installation.
Configuring the EJB servers in WebSphere	Perform this procedure.
Installing the AC Services EJBs	Perform this procedure to install the latest code.
Configuring the Advanced Component Services	Perform this procedure.
Configuring Advanced Components	
Configuring the AC	Perform this procedure to install the latest code. For each component, reimplement the changes that were made to 1.1.0 version of the ACImplementation.xml file into the 1.1.1 version of the file.
Configuring WebSphere to detect the AC's datasources	Already performed in the 1.1.0 installation for DB2.
Register the AC and its commands using the AC Deployment Tool	Perform this procedure.
Installing the Advanced Component EJBs	Perform this procedure.
Running the Advanced Components	Perform this procedure.
Creating Clients	Perform this procedure.

Enhancements and fixes in this release

This section lists the enhancements and fixes made to WebSphere Business Components Studio.

AC Deployment Tool

The usability and functionality of this tool has been improved. For example, you can now select multiple files when loading .jar files or you can now select multiple AC instances and perform an action on them. You can also set the message area to clear automatically before displaying a new message.

Advanced Components

- Customer Profile and Product Catalog have new configuration points that have been added to the ACImplementation.xml file. The Fixpack 1.1.1 install process overwrites the ACImplementation.xml file with a new copy. You will then need to modify the file to change any default settings.

Here is a list of the new configuration points for both components:

- The name of the transactionManagerFactory class
- The sqlErrorCodePolicy policy implementation
- The dateFormat used by the DBMS

In addition to the configuration points listed above for both Customer Profile and Product Catalog, Customer Profile has the following new configuration points:

- The wildcardCharacter
 - The table and column names for the PersonNameSearchView
 - The table and column names for the EnterpriseNameSearchView
 - The table and column names for the EmailAddressSearchView
 - The table and column names for the TelephoneNumberSearchView
 - The table and column names for the AddressUsageJoinView
- The Customer Profile AC has new database views which were introduced to improve performance and concurrency. If you have an existing Customer Profile database, you can create these views by running the views batch files. See batch files 3, 4, and 5 in the tables contained in the "Create the Advanced Component databases and their tables" procedure of the Studio Fixpack 1.1.1 Installation Guide.

If you have separate databases for your person and enterprise information, you must run the customerProfileContactPointViews batch file twice, once for each database.

- To create an Advanced Component that depends on the Customer Profile AC, Product Catalog AC, Common Parameter Suite, or Common Customer Suite, you can now use the #PackageName directive to correctly generate the package names. This resolves a known issue in Studio 1.1.
- Performance and scalability improvements have been made to the Customer Profile AC by introducing more views and indexing, by removing the delete cascade, and other performance improvements. These changes have reduced the occurrences of deadlocking when the following combinations of function calls are made simultaneously:
 - Update Address and Delete Address
 - Delete Customer and Add Customer
 - Delete Customer and Delete Customer

The data in the database is unaffected by these changes.

- The InterfaceModels.xsd for the Product Catalog AC was missing an = sign following the maxOccurs setting in the ComparisonPointDataRow definition. This has been corrected in the fixpack.
- Customer Profile Error codes CP7009 and CP7013 were duplicates and error codes CP7109 and CP7113 were also duplicates. CP7013 and CP7113 have been removed.
- The Product Catalog AC was not updating the MainSynchKey properly. Since information about a product is stored into two separate tables, the AC must update the synchronization key associated with each table when modifying a value in a table. The synchronization keys prevent changes made by another user from being lost when the current user modifies a value. This condition has been corrected in this Fixpack.

- The GetProductFromID functional interface has been removed from the functions.xsd file of Product Catalog. This interface is not provided by the AC.
- The bat files used to create the DB2 tables for Customer Profile version 1.1 created ID columns of size 30. This was incompatible with the default configuration of the AC, which specified a size of 40 for the ID columns. The batch files have been updated to conform with the default configuration. The previous version of Studio documented this problem in the Release Notes.
- The generated XML files for Customer Profile and Product Catalog have been regenerated to comply with the current architecture schemas.
- In Product Catalog, intermittent problems with the addComparisonPointDataToProductComparisonPoint functional interface in the WebSphere Test Environment have been fixed. It was improperly validating a column in the database that was previously removed.
- When the acInstanceName of ProductBean is null, the getACIdentifier method sent the wrong message identifier. It now sends PC5002 instead of PC6002. It throws PC6002 instead of PC6000.

Documentation

- The Studio Installation Guide and the Studio Samples and Examples Installation Guide have been reorganized to help users set up development and production environments.
- The Javadoc included in the online information system have been refreshed.
- A Troubleshooting Reference has been added to help you in diagnosing problems. It lists some of the problems you might encounter and how to work around or fix them.
- A tutorial has been added to show the entire process of creating an AC from modeling to starting the AC in WebSphere Application Server. The User Interface of the AC Deployment Tool and the System Management Console described in the Tutorial is from the 1.1.0 Studio but Tutorial functions properly using the 1.1.1 version of these tools.

Environment

- WebSphere Business Components Studio now supports Windows NT 4.0, Windows 2000, Solaris 7, and AIX 4.3.3 as production platforms. The development environment continues to be Windows NT. See the Studio Installation Guides for details.
- Customer Profile and Product Catalog can now use Oracle 8i as their database. To accommodate the differing SQL return codes that each database uses for error checking, these ACs use policies to hold the SQL return code values. Note that WebSphere Application Server Advanced Edition 3.5 does not support the use of Oracle 8i on Windows 2000.
- In Windows NT, the IBM WS Admin Server prompts the user to provide a user name and password. It uses them to log onto DB2. In Windows 2000, the IBM WS Admin Server uses the local system account. This means that you must either give the local system account DB2 authority or you must set the WS Admin Server to use the DB2 user ID and password.

Samples

The CPPCSampleSource.jar has been moved from the <wsbc root>\ACFeatures\Samples\source directory to the <wsbc root>\ACFeatures\Samples\CPPCSample\source directory.

For the Product Recommendation sample, the error you received when you selected a credit card has been fixed in Studio Fixpack 1.1.1. In addition, the John Doe sample customer now has an age, which means that a product recommendation can now be made.

System Management Console

The ini file for the System Management Console has a CFG_Development_Time setting. For version 1.1, the value was set to true. Typically, when you want this value to be true, you are working in VisualAge for Java, where it is relatively easy to change the value as it is a resource. If you are not working in VisualAge for Java, you typically want this value to be set to false as you usually use the AC Deployment Tool to perform JNDI registration. It is more complex to change this setting outside of VisualAge for Java. For this reason, the default setting has been changed to false. For more information on this topic, see the Studio Installation Guide.

WSBC Code Generator

- The WSBC Code Generator in Studio 1.1.1 now uses Rational Rose 2001e Enterprise or Modeler Edition in addition to Rational Rose 2000i Enterprise or Modeler Edition.
- When the WSBC Code Generator generated code for the Delete*Adapter classes of Customer Profiles and the DisassociateComparisonPointFromCategoryAdapter class, the Mark*Adapter classes, and the Resequenece*Adapter classes of Product Catalog, the code returned null. With this fix, the generated code returns a String that contains an XML tag that does not contain content. This XML tag has the format:

```
<PureClassNameResponse/>
```

where 'PureClassName' is the name of the class without the Adapter suffix. For example, if DeleteAddressAdapter is the class name, the String (tag) returned should be:

```
<DeleteAddressResponse/>
```
- The WSBC Code Generator was prefixing a P in front of interface models contained in the InterfaceModels.xsd for the Common Customer Suite, Common Parameter Suite, and the Common Core AC Suite. This has now been corrected. If you regenerate the inteface models, they no longer have the prefixing P. This could affect clients that invoke commands using these interface models as parameters and it could also affect Adapter classes when you created an AC that uses these parameter suites.

Known limitations and issues

The following is a list of the known issues and limitations of Version 1.1.1:

AC Deployment Tool

Tool fails to launch

If WebSphere Business Components Studio was installed without having VisualAge for Java on the machine (which is the production environment) and the default install location was not used, the AC Deployment Tool may fail to launch. To fix this, edit the actools.ini file found in <WSBC root>\1.1\tools directory so that the basepath is set to the directory where settings.xml is found. The basepath should have double slashes as delimiters, and should end in double slashes, as in the following example:

```
basepath=c:\\Progra~1\\ibm\\WSBC\\1.1\\tools\\
```

Advanced Component Services

If you, from one AC, call another AC using the AC Command Service, WebSphere Application Server may throw an isolation level inconsistent exception. This occurs when the transaction isolation level of the ACCommandTarget is different from the level that the AC session bean's function uses, which normally is TRANSACTION_REPEATABLE_READ. To reduce the chance of this occurring, the AC Command Target deployment descriptor defaults the isolation level to TRANSACTION_REPEATABLE_READ in this release. However, this does not completely fix the problem as the AC session bean could be deployed with a different isolation level and each AC session bean method may require different isolation level. A workaround for this problem is deploy the second AC in a separate server. Websphere does not check on the isolation level consistency when calling from one server to another. Each function must still have the same isolation level as the target bean.

The isolation level in the deployment descriptor is removed in EJB 1.1 specification, so this will not be a problem in future releases.

Documentation

Modify or Repair options do not work

If you launch the WSBC Documentation Maintenance Setup for the 1.1.1 version and then run the Modify or Repair options, the install program aborts the Modify or Repair operation. To use these options, run the documentation executable that was used to install the documentation. When it runs, you can then select the Modify or Repair option and the install program completes the operation successfully.

Cannot download files from the tutorial

If you are not using Internet Explorer as your browser, you may encounter difficulties opening the .zip or .mdl files included with the tutorial. To open these files, you can do one of the following:

- Press Shift while clicking the file
- Switch to Internet Explorer and then open these files normally
- Extract the files from the <WSBC root>\1.1\doc\tutorials.zip file

Environment

When running WebSphere Application Server, you may receive the following error for a class within the Advanced Component services:

```
javax.management/ObjectName java.lang.NoClassDefFoundError:  
javax.management/ObjectName com.ibm.ejs.sm.client.command.ExecutionException:  
Command MBeanServerConnectorHome.start Sub-command Error.
```

To correct this:

1. Check that the ACServicesServer.jar and the jmxri.jar files are in the Dependent Classpath and the Command line arguments classpath.
2. If the two files are in the classpath and you still receive this error, try placing the path to these files at the end of the Dependent Classpath and Command line arguments classpath.

Product Catalog

Handling missing translated values

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

Product Recommendation Sample

You may, while viewing the Product Recommendation Sample in browser, see the following error message after clicking on a link:

```
An error has occurred while processing  
request:http://localhost:8080/servlet/\servlet\com.ibm.wsbc.samples.ac.cppc.S  
ervletName
```

where ServletName represents the name of the servlet being called.

To correct this problem, open each of the Product Recommendation sample JSP files in a text editor such as Wordpad and replace each occurrence of

```
\servlet\
```

with

```
/servlet/
```

Once you have made this change, the links in the sample will work correctly.

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.

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.

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 in the WSBC.properties file.

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.

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.

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.

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