IBM

IBM Order Capture Business Component

Installation Guide

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 24.

First Edition (November 2000)

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IBM Order Capture Business Component Version 1.1 Installation Guide

The IBM Order Capture Business Component is deployed as a WSBC Advanced Component (AC). This document describes the installation, the setup required to use the Order Capture AC, and the setup required to use the Order Capture sample.

The green text represents changes that were made to this document after the Order Capture Business Component Version 1.1 CD was created.

Installation prerequisites

The following are the prerequisites for installing Order Capture files.

Software

The Order Capture installation has an dependency on IBM WebSphere Business Components Studio, Version 1.1. You must install WSBC Studio before installing any Order Capture files on your workstation. It is recommended that you install the WebSphere® Application Server before installing WSBC Studio.

Hardware

The Order Capture AC installation procedure does not have any additional hardware prerequisites for installation other than those required by WSBC Studio.

Install the product from the CD

To begin installation, perform the following steps:

1. Insert the CD in your CD-ROM drive.

2. Use Microsoft® Windows Explorer to navigate to the CD's directory. Select the **OCInstall** directory, and run the `Setup.exe` file.

3. You have a choice between a **Typical** or **Custom** installation. It is recommended that you choose the **Typical** installation, which installs the Order Capture AC files, documentation, and sample.

Order Capture Advanced Component

This information is provided as a reference for those customers who will be using the Order Capture AC in their application. It includes the .jar files, classpaths, and DB2® setup that are required.

To install and run the Online Sales Desk Sample (which uses Order Capture), you do not need to perform any of these steps. Go directly to the Online Sales Desk Sample section.

.jar files

The following are the Java™ packages for the WSBC Order Capture AC:

- **ACOrderCaptureEJBDeployed.jar** Contains the standard EJB Deployed .jar file

- **ACOrderCaptureEJBClient.jar** Contains the standard EJB Client .jar file

- **ACOrderCaptureEJB.jar** Contains the standard EJB .jar file

- **ACOrderCaptureCommon.jar** Contains the definitions for the argument classes and must be in the classpath for the client (if using the object-oriented Order Capture interfaces), the WebSphere Application Server, and the SanFrancisco™ servers

- **ACOrderCaptureServer.jar** Contains the internal implementation of the Order Capture AC and must be in the classpath for the WebSphere EJB server and the SanFrancisco servers

- **ACOrderCaptureServerSF.jar** Contains the internal implementation of the Order Capture AC and must be in the classpath for the SanFrancisco servers

Configure the classpaths

There are several paths that you must add before your application can be deployed and run. Each of these is described below.

Ensure that there are no spaces in your PATH or CLASSPATH environment variables. If there are spaces, specify the directory as XXXXXX~1 where XXXXXX is the first 6 characters (not spaces) of the directory name. If the directory is over 6 characters, add "~1" to the end.

System classpath

Add the WSBC_ROOT into your system classpath; for example, `C:\PROGRA~1\IBM\WSBC\1.1\`

System path

Ensure that the following path is in your system PATH environment variable: `<WSBC directory> \com\ibm\sf\bin`

Dependent classpath

The dependent classpath is a text box that you can view by clicking on the node in the WebSphere Administrator's Console. This classpath is only used to deploy an Enterprise JavaBean™ (EJB) and the classpath may be deleted after the EJB's deployment. Placing a value in the text box is equivalent to adding the value in the `admin.config` file. When deploying the Order Capture AC, set the dependent classpath as follows (without any line breaks):

```
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACEI18NEJBClient.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\
ACOrderCaptureEJBClient.jar;
```

```
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\ACOrderCaptureEJB.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\ACOrderCaptureCommon.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\
ACOrderCaptureServerSF.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\jmxri.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesServer.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesSMClient.jar;
```

Server classpath

The server classpath is in the server's command line arguments text box. The value of the classpath is used by the running EJB. For any class that is not found, an exception will show up in the logs disguised as a remote exception.SF, which is needed for SFException. Set the server classpath to the following value (without any line breaks):

```
-classpath
C:\PROGRA~1\IBM\WSBC\1.1\;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACEI18NEJBClient.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\
ACOrderCaptureEJBClient.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\ACOrderCaptureEJB.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\ACOrderCaptureServer.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\ACOrderCaptureCommon.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\
ACOrderCaptureServerSF.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\jmxri.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesServer.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesSMClient.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesEJBClient.jar;
```

Web application classpath

This classpath is set on the Web application under the WSBC servlet engine. It is used by the servlet that the client application starts, and requires several Open Applications Group Interface Specification (OAGIS) .jar files, and SanFrancisco. The value of the Web application classpath is as follows:

```
$WSBC_ROOT$Services\BaseServices\ACEI18NEJBClient.jar
$WSBC_ROOT$Services\BaseServices\jmxri.jar
$WSBC_ROOT$ACFeatures\Components\OrderCapture\ACOrderCaptureCommon.jar
```

Command line classpath

The command line classpath is used to prime the SanFrancisco part of Order Capture, start and stop the System Management Beans, start and stop the components, and run the data setup. The value for the command line classpath can be set by running the following command prior to any run (without any line breaks):

```
set classpath=%CLASSPATH%;
C:\WebSphere\AppServer\lib\ujc.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesEJBClient.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesClient.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesServer.jar;
C:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\jmxri.jar;
C:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\ACOrderCaptureServerSF.jar
```

Modify the admin.config file

Modify the admin.config file as follows:
1. Close the WebSphere Administrator's Console.
2. Shut down the IBM WS AdminServer Service.
3. Open the C:\WebSphere\AppServer\bin\admin.config file in a text editor such as Notepad. Find the line in this file that starts with the following string:
   ```
   com.ibm.ejs.sm.adminserver.classpath
   ```

Assuming that `<WSBC directory>` is `C:\WSBC`, append to this line the following string (without the line breaks):

```
;C\:/WSBC;
C\:/WSBC\ACFeatures\Components\OrderCapture\ACOrderCaptureServerSF.jar;
C\:/WSBC\ACFeatures\Components\OrderCapture\ACOrderCaptureCommon.jar;
C\:/WSBC\ACFeatures\Samples\OrderCapture\OCS.jar;
C\:/WSBC\Services\BaseServices\ACServicesEJBClient.jar;
C\:/WSBC\Services\BaseServices\ACServicesClient.jar;
C\:/WSBC\Services\BaseServices\ACServicesServer.jar;
C\:/WSBC\Services\BaseServices\jmxri.jar
```

Note: In the admin.config file, you must precede the colon (:) character with the backslash (\) character.

4. Save the admin.config file.

Deploy the Order Capture AC

The Order Capture AC has the following Beans:

- OrderCapture

- OrderCaptureFulfillment

- OrderCaptureMaintenance

In addition to these Beans, the Order Capture AC requires that the following AC Services Beans also be deployed in WebSphere:

- LocalizableTextResourceAccessor

- ACCommandTarget

- MBeanServerConnector

To deploy the AC Services Beans, see "Deploy AC Services EJBs in WebSphere Application Server" in the *IBM WebSphere Business Components Studio Version 1.1 Installation Guide*, in the "Advanced Component Services" section, under "Deploy the AC Services in WebSphere Application Server." You can then use the same instructions to deploy the three Order Capture Beans, using the ACOrderCaptureEJBDeployed.jar file. Deploy these three Beans in the same WebSphere server (the default is WSBC Server) where the AC Services Beans were deployed.

Note: If you choose not to use the default install path during the installation, you must make a manual change to the DTDPath. After Order Capture is deployed, the System Management Console can be used to change the value of the DTDPath to point to the appropriate directory in the installation path that contains the DTDs. Refer to "Add .jar files for the AC System Management Console's classpath" and "Configure the System Management Console" in the *IBM WebSphere Business Components Studio Version 1.1 Installation Guide* for further information.

Run the AC Deployment Tool

The AC Deployment Tool can be used for the Order Capture AC. This tool will register the necessary names in JNDI so that the Order Capture AC functions can be accessed. (The AC Deployment Tool does not actually deploy any EJB's.) The tool uses the default deployment descriptor file provided with the Order Capture AC.

The Online Sales Desk sample application deploys the Order Capture AC using a Java program and does not use the default deployment descriptor provided. For more information on how the sample deploys the Order Capture AC, look at the sample source code. The sample uses slightly different names in JNDI so they will not conflict with the default names supplied in the Order Capture deployment descriptor.

When you run the AC Deployment Tool you will need to verify or change some of the default values.

To run the tool:

1. Start the AC Deployment Tool and load the ACOrderCaptureServer.jar file.

2. On the **General** tab, verify the **Instance Name** field. This will be the name used to reference the AC. If this is changed, the modelMBeanDescriptor name in the Order Capture ACImplementation.xml in the ACOrderCaptureServer.jar file will have to be changed.

3. On the **General** tab, verify the **Global Context URL** and **Global Context Factory** values are correct. You will not normally have to change these fields.

4. Select each function group. In the Function Group pane, verify the **Function Group Registered Name** field. This field must match the JNDI home name for the deployed EJB Session Bean. There are three EJBs for Order Capture: OrderCaptureMaintenance, OrderCaptureFulfillment, and OrderCapture. Verify that all three of these match their JNDI home names.

5. For each function name in each function group, verify the **Target Registered Name**. Click on the function name and in the AC Function pane check the **Target Registered Name**. This name must match the JNDI home name for the ACCommandTarget deployed EJB. Check each function.

6. From the menu bar select **Action > Set Preferences**. In the URL field change the value to IIOP://localhost:900/. Click **OK**.

7. Verify the AC by selecting the instance node and selecting **Actions > Verify AC instance** from the menu bar.

8. Once the verification is successful, deploy the AC by selecting the AC instance node and selecting **Actions > Deploy AC Instance** from the menu bar.

OrderCapture.ini file

You can add an .ini file to the C:\PROGRA~1\IBM\WSBC\1.1\com\ibm\wsbc\ac\OrderCapture directory. The name of the .ini file should be the same as the company name attribute set on the Order Capture AC. (For example, if your company name attribute is OrderCaptureCompany, then the .ini file name should be OrderCaptureCompany.ini.) The company name attribute can be viewed or changed using the System Management Console.

The .ini file contains a list of .xml files that are to be processed as part of the initial OrderCapture AC setup. Using the System Management Console, you can run the CreateData() method on the OrderCapture AC. When this method is run the first time, the Order Capture AC will look for the .ini file and will process each .xml file listed in order. This is a one-time initialization. The format of the lines in the .ini file are:

```
c:\\xml\\OC_setup_1.xml
c:\\xml\\OC_setup_2.xml
```

The full path and file name is required for each .xml file name.

Setup for DB2

The Order Capture DB2 setup (either initiated at the end of the installation of Order Capture or by running the OCConfigDB2.bat file) can perform the following if DB2 is installed and if you are authorized to create tables in DB2. If this was not completed after installation, follow the steps below.

Create the database

Create the database using the following SQL command shipped for DB2:

```
db2cmd db2 -f $WSBC_ROOT$\com\ibm\sf\db\db2\OCAC-Create-DB2-Database.sql
```

Create the tables

Connect to the database and use the following command to create the tables in the database:
```
db2cmd db2 -f $WSBC_ROOT$\com\ibm\sf\db\db2\OCAC-Create-DB2-Table.sql
```

Create the indices

Connect to the database and create indices for some of the tables by using the following command:
```
db2cmd db2 -f $WSBC_ROOT$\com\ibm\sf\db\db2\OCAC-Create-DB2-Index.sql
```

Setup

Prime SanFrancisco for DB2 by using the following command:
```
java com.ibm.sf.gf.NamingAdmin -reset -containerprimelist OCAC-Prime-DB2.list
```

Setup for Oracle®

If you are using Oracle, you must modify the `SFConfig.ini` file that is located in your WSBC install directory (for example, `C:\PROGRA~1\IBM\WSBC\1.1\SfConfig.ini`).

1. Find the following line in the SFConfig.ini file:
   ```
   datastore=//db2/OCAC:NAMING
   ```
2. Change the above line to the following:
   ```
   datastore=//oracle/OCAC:NAMING.
   ```
3. Save the file.

You must also use the System Management Console to change the database value from *db2* to *oracle*. Refer to "Configure the System Management Console" in the *IBM WebSphere Business Components Studio Version 1.1 Installation Guide* for further details.

Create the database

Create the database by using the appropriate Oracle facilities to create the database instance `OCAC`.

The following is an example of how to create an Oracle database:

1. Run the sqlplus tool provided by Oracle. Enter the user name and password when prompted.

2. Enter the following commands at the prompts:
   ```
   CREATE USER "IBMSF" IDENTIFIED EXTERNALLY DEFAULT TABLESPACE "USERS"
   TEMPORARY TABLESPACE "TEMP" PROFILE DEFAULT QUOTA UNLIMITED ON "TEMP"
   QUOTA UNLIMITED ON "USERS" ACCOUNT UNLOCK;
   GRANT "CONNECT" TO "IBMSF";
   ALTER USER "IBMSF" DEFAULT ROLE ALL;
   ```

Create the tables

Create the database tables in the OCAC database as follows:

1. Run the sqlplus tool provided by Oracle. Enter the user name and password when prompted.

2. Enter the following command at the prompt:
   ```
   @com\ibm\sf\db\oracle\OCAC-Create-Oracle-Table.sql
   ```

Create the indices

Create the database indices as follows:

1. Run the sqlplus tool provided by Oracle. Enter the user name and password when prompted.

2. Enter the following command at the prompt:
   ```
   @com\ibm\sf\db\oracle\OCAC-Create-Oracle-Index.sql
   ```

Prime SanFrancisco

Prime SanFrancisco for Oracle by using the following command:
```
java com.ibm.sf.gf.NamingAdmin -reset -containerprimelist OCAC-Prime-Oracle.list
```

Online Sales Desk sample

Online Sales Desk sample prerequisites, files, and preliminary steps

Prerequisites

If you are going to deploy this sample in the VisualAge for Java WebSphere Test Environment, these instructions assume that you have installed VisualAge for Java in the directory `C:\VAJava35` with the following:

- IBM EJB Development Environment feature

- IBM WebSphere Test Environment feature

- AC Services EJBs in the following EJB groups:

    - ACServices

    - LocalizableText

See the following topics in the *IBM WebSphere Business Components, Version 1.1 Installation Guide*:

- "Prepare the VisualAge for Java environment" shows you how to add the above features

- "Deploy the AC Services in the VisualAge for Java WebSphere Test Environment" shows you how to create the AC Services EJB groups.

Location of sample files

This sample is installed in *<Online Sales Desk sample directory>*, which is the following directory:
`<WSBC directory>\<samples subdirectory>\OrderCapture`

The directory `<WSBC directory>` is where you have installed IBM WebSphere Business Components Studio Version 1.1, and `<samples subdirectory>` is the subdirectory where the samples are located, which is `ACFeatures\Samples`.

The following lists the locations of the .jar files of the Advanced Components (ACs) or services that this sample requires:

Required .jar files for the sample	
Advanced Component or service	**Directory**
Customer Profile AC	`<WSBC directory>\ACFeatures\` `Components\CustomerProfile`
Order Capture AC	`<WSBC directory>\ACFeatures\` `Components\OrderCapture`
ProductCatalog AC	`<WSBC directory>\ACFeatures\` `Components\ProductCatalog`
AC Services	`<WSBC directory>\` `Services\BaseServices`

The following lists the files required for this sample:

- non-Java Web files found in *<Online Sales Desk sample directory>*

  - `\web\*.html`
  - `web\images\*.gif`
  - `web\images\*.jpg`
  - `web\*.jsp`
  - `web\scripts\*.js`

- INI file for Order Capture data setup found in *<Online Sales Desk sample directory>*\setup\

  - `OCSampleCompany.ini`

- XML files found in *<Online Sales Desk sample directory>*

  - `xml\*.xml`
  - `xml\*.dtd`

- batch files that populate the sample's databases found in *<Online Sales Desk sample directory>*\setup\

  - `OCSample.bat`
  - `customerProfileEnterpriseDB.bat`
  - `customerProfileEnterpriseData.bat`
  - `customerProfileEnterpriseTables.bat`
  - `customerProfileCodeTables.bat`
  - `customerProfileContactPointsTables.bat`
  - `productCatalogInsertData.bat`
  - `productCatalogCreateTables.bat`

- batch files that configure the WebSphere Application Server structure for the sample found in *<Online Sales Desk sample directory>*

  - `WSConsoleTree.bat`

- class and resource files not in JARs

  - `<WSBC directory>\com\ibm\...\*.*`

- Initialization files found in *<WSBC directory>*

  - `SFconfig.ini`
  - `WSBCconfig.ini`

- .jar files from the sample found in *<Online Sales Desk sample directory>*

  - `OCS.jar`

- .jar files from the Customer Profile AC

    o `CommonCoreAC.jar`

    o `CommonCustomerSuite.jar`

    o `CommonParameterSuite.jar`

    o `CustomerProfileAC.jar`

    o `CustomerProfileACEJB.jar`

- .jar files from the Product Catalog AC

    o `CommonCoreAC.jar`

    o `CommonParameterSuite.jar`

    o `ProductCatalogAC.jar`

    o `ProductCatalogACEJB.jar`

- .jar files from the Order Capture AC

    o `ACOrderCaptureCommon.jar`

    o `ACOrderCaptureServer.jar`

    o `ACOrderCaptureServerSF.jar`

    o `ACOrderCaptureEJB.jar`

- .jar files from AC Services. See the section "Advanced Component Services" in the *IBM WebSphere Business Components Studio Version 1.1 Installation Guide* for a list of these files.

Edit the SFconfig.ini file

Open the `SFconfig.ini` file in a text editor. Make sure the following properties are set correctly. If they are not, correct or add them:

- `InstallBase = ` *`<WSBC directory>`*

- `datastore = //db2/OCAC:ibmsf.Naming`

    Note: This value assumes that you are using DB2

- `GSM_host = <your system name>`

- `sfenv = ` *`<WSBC directory>`*`\\com\\ibm\\sf\\etc\\sfenv.ini`

- `SFSchemaMapPreferences = ` *`<WSBC directory>`*`\\preferences\schemamap`

- `naminguser=`

- `namingpass=`

If you want to test this sample in the VisualAge for Java WebSphere Test Environment, make sure the following properties are set:

- `theJVM = <fully qualified path to your java.exe (for example, d:\\java1.2\\bin\\java)> -Xbootclasspath/p:<WSBC directory>\\hack`

  Note: Create the directory `<WSBC directory>`\hack if it does not exist. This is only needed for running inside VisualAge for Java.

Save your changes to the file.

Check the system paths

Ensure that there are no spaces in your PATH or CLASSPATH environment variables. If there are spaces, specify the directory as XXXXXX~1 where XXXXXX is the first 6 characters (not spaces) of the directory name. If the directory is over 6 characters, add "~1" to the end.

1. Make sure that the following path is in your NT System PATH environment variable (it may be in your NT User PATH, but you need to add it to the System PATH as well):

   `<WSBC directory>`\com\ibm\sf\bin

2. Make sure that the following paths are in your system CLASSPATH environment variable:

   - `<WSBC directory>`

   - `<WSBC directory>`\ACFeatures\Components\
     OrderCapture\ACOrderCaptureServerSF.jar

   - `<WSBC directory>`\ACFeatures\Components\
     OrderCapture\ACOrderCaptureCommon.jar

   - `<WSBC directory>`\Services\BaseServices\ACServicesServer.jar

Create output directory

Check whether the directory `<WSBC directory>`\Logs exists. If this directory does not exist, create it. This directory will contain output from running the sample on WebSphere Application Server.

Edit and copy the OCSampleCompany.ini file

1. Open the `OCSampleCompany.ini` file in a text editor. Check that the paths to the XML files listed in this .ini file are correct. For example, suppose the following string appeared in the .ini file:

   `C:\\xml\\OC_sync_currency_setup.xml`

   If you have installed WSBC in `C:\WSBC\`, you would change the above string to the following (without any intervening white space):

   `C:\\WSBC\\ACFeatures\\Samples\\OrderCapture`
   `  \\xml\\OC_sync_currency_setup.xml`

   Save your changes to this file.

2. Copy the `OCSampleCompany.ini` to the `<WSBC directory>`\com\ibm\wsbc\ac\OrderCapture directory. Create this directory if it does not exist.

Edit the OrderCaptureSMSpec.xml file

1. Open the `OrderCaptureSMSpec.xml` file in a text editor or an XML editor.

2. In this file, find the **modelMBeanAttributeDescriptor** tag with the **name** attribute equal to `"DTDPATH"`. Change the **value** attribute in this tag so that it points to the directory of the DTD files in Order Capture. This directory is *<WSBC directory>*`\ACFeatures\Components\OrderCapture\dtd`. For example, you would change the **value** attribute from `"C:\xml"` to `"C:\Program Files\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\dtd"`.

3. Save your changes to this file.

Create and populate the databases

Create and populate the `CPENT` and `PROCAT` databases by executing the following batch file from the *<Online Sales Desk sample directory>*`\setup` directory:

```
db2cmd OCSample.bat
```

Note: You may see some output from this command that look like errors. For example, you might see some of the following:

```
DB21034E  The command was processed as an SQL statement because it was not a
valid Command Line Processor command.  During SQL processing it returned:
SQL0204N  "USERID.CODE_CATEGORY" is an undefined name.  SQLSTATE=42704
SQL1013N  The database alias name or database name "FOO  " could not be
found.  SQLSTATE=42705
```

Messages like the above are expected and do not mean that the command has failed.

Test and deploy the Online Sales Desk sample in the VisualAge for Java WebSphere Test Environment

Prerequisites

Ensure that you have followed the instructions in the section "Online Sales Desk sample prerequisites, files, and preliminary steps." This section also lists the location of the files for this sample.

These instructions assume that you have imported the following into the VisualAge for Java Workspace:

- AC Services EJBs in the following EJB groups:

    o ACServices

    o LocalizableText

Note: For a given AC, ensure that you import the .jar files that contain EJBs last.

In the *IBM WebSphere Business Components, Version 1.1 Installation Guide* see the following topics for information about importing files into VisualAge for Java:

- "Install, deploy, and run an AC in VisualAge for Java" shows you how to import the .jar files of an AC, as well as the .jar files for the EJBs for an AC.

- "Deploy the AC Services in the VisualAge for Java WebSphere Test Environment" shows you how to import the .jar files of the AC services, as well as the .jar files for the EJBs of the AC Services.

Copy the non-Java code files

Assume that you have installed VisualAge for Java in the directory C:\VAJava35. Copy the non-Java code files (and their directory structure) in the directory `C:\VaJava35\ide\project_resources\IBM WebSphere Test Environment\hosts\default_host\default_app`.

Import .jar files into VisualAge for Java

Import each group of .jar files into the same project. For example, you would import the group of Order Capture AC .jar files (`ACOrderCaptureCommon.jar`, `ACOrderCaptureServer.jar`, `ACOrderCaptureServerSF.jar`, and `ACOrderCaptureEJB.jar`) into one project. You could name this project OrderCapture.

Note: The *EJB.jar files in each group of .jar files should be imported after all other .jar files in the group have been imported.

For example, the following steps describe how to import the .jar file named `ACOrderCaptureServer.jar` into a project named OrderCapture:

1. In the Workbench, on the menu bar, click **File > Import**.

2. In the **Import SmartGuide**, select the **Jar file** radio button as your import source. Click **Next**.

3. For the **Filename** field, enter the full path name for the `ACOrderCaptureServer.jar` file. For the **Project** field, enter `OrderCapture` (or any other unique identifier).

4. Ensure that the **.class** checkbox is selected. Click the **Details** button next to the **.class** check box. In the **Class file import** window, click **Select all**. Click **OK**.

5. Repeat step 4 for the other two **Details** buttons.

6. Click **Finish**.

7. Repeat steps 1-6 for each of the .jar files in the same group.

Repeat steps 1-7 for each group of .jar files for the Product Catalog and Customer Profile ACs.

Note: You may notice that Product Catalog and Customer Profile share some .jar files in their groups of required .jar files. These common .jar files do not need to be imported twice. It makes no difference which project they are imported into as long as they are imported.

Import additional class files into VisualAge for Java

The following steps describe how to import the additional class files needed for this sample:

1. In the Workbench, on the menu bar, click **File > Import**.

2. In the **Import SmartGuide**, select the **Directory** radio button as your import source. Click **Next**.

3. In the **Directory** field, enter the partial path to the class files. This path is *<WSBC directory>*\com. In the **Project** field, enter `Class Files`, or any other unique identifier.

4. Ensure that the **.class** checkbox is selected. Click the **Details** button next to the **.class** check box. In the **Class file import** window, ensure that the **com** and **ibm** directories are selected. Click **OK**.

5. Ensure that only the **.class** check box is selected. Click **Finish**.

Repeat steps 1-5 with the following exceptions:

- For the **Directory** field, enter *<WSBC Directory>*

- Click the **Details** button next to the **.resource** check box. In the right frame of the **Resource file import** window, ensure that only the **com** directory is selected.

Import additional .ini files into VisualAge for Java

The following steps describe how to import the additional .ini files needed for this sample:

1. In the Workbench, on the menu bar, click **File > Import**.

2. In the **Import SmartGuide**, select the **Directory** radio button as your import source. Click **Next**.

3. In the **Directory** field, enter the partial path *<WSBC directory>*. In the **Project** field, click **Browse** and select the project **Class Files** (or the name of the project where you imported the class files).

4. Ensure that the **.resource** checkbox is selected. Click the **Details** button next to the **.resource** check box. In the **Resource file import** window, ensure that only the SFconfig.ini and WSBCconfig.ini files are selected. Click **OK**.

5. Click **Finish**.

Export class files into the WSBC directory structure

The following steps describe how to export the class files needed for this sample:

1. In the Workbench, click the **Packages** tab. Scroll down to find the package **com.ibm.websphere.exception**.

2. Right-click the package and select **Export** from the pop-up menu.

3. In the **Export SmartGuide**, select the **Directory** radio button as your import source. Click **Next**.

4. In the **Directory** field, enter the directory *<WSBC directory>*.

5. Ensure that the **.class** checkbox is selected. Click the **Details** button next to the **.class** check box. In the **Class file export** window make sure all the classes from the selected package are selected. Click **OK**.

6. Click **Finish**.

Repeat steps 1-6 for the following packages:

- **com.ibm.websphere.command**

- **org.w3c.dom**

Export the class **sun.rmi.server.UnicastRef** to the *<WSBC directory>*\hack directory:

1. Right-click the **UnicastRef** class and select **Export** from the pop-up menu,

2. In the **Export SmartGuide**, select the **Directory** radio button as your export source. Click **Next**.

3. In the **Directory** field, enter the directory *<WSBC directory>*\hack.

4. Ensure that the **.class** checkbox is selected. Click the **Details** button next to the **.class** check box. In the **Class file export** window, make sure that only the **UnicastRef** class is selected. Click **OK**.

5. Click **Finish**.

Start the WebSphere Test Environment Server

1. Stop the IBM HTTP Server and the IBM WS AdminServer services.

2. In the Workbench, on the menu bar click **Windows > Options**.

3. Select the **Resources** object. In the text box **Workspace class path**, enter the full path names of the file db2java.zip (for example, `C:\SQLLIB\java\db2java.zip`), and the *<WSBC directory>*`\hack`. Click **Apply**. Click **OK**.

4. In the Workbench, on the menu bar click **Workspace > Tools > WebSphere Test Environment**.

5. In the **WebSphere Test Environment Control Center** window, select the **Servlet Engine** object. Click **Edit Class Path**.

6. In the **Servlet Engine Class Path** window, click **Select All**. Click **OK**.

7. In the **WebSphere Test Environment Control Center** window, click **Start Servlet Engine**.

8. Select the **Persistent Name Server** object. Ensure that `jdbc:db2:was` is specified in the **Database URL** field, and `com.ibm.db2.jdbc.app.DB2Driver` is specified in the **Database driver** field (if using DB2). You can leave the **Database ID** and **password** fields blank.Click **Start Name Server**.

9. Select the **DataSource Configuration** object.

    Note: The Persistent Name Server must be started before you can click on this object.

10. From the **DataSource Configuration** panel, click **Add**. Fill in the following fields:

    o   **DataSource name**: cpEnt

    o   **Database URL:** jdbc:db2:cpEnt

    Click **OK**.

11. Repeat step 10 with the following values:

    o   **DataSource name**: proCat

    o   **Database URL:** jdbc:db2:proCat

Create and deploy EJB groups

Create and deploy the following EJB groups:

*   ACServices, LocalizableText, (see the *IBM WebSphere Business Components, Version 1.1 Installation Guide* for instructions on how to create these groups)

*   CustomerProfileAC

*   ProductCatalogAC

*   OrderCaptureAC

The following steps describe how to create the OrderCaptureAC EJB group:

1. In the Workbench, select the **EJB** tab.

2. On the menu bar, click **EJB > Add > EJB Group**

3. In the **Project** field, specify the **OrderCapture** project (or whatever project name you gave when you imported the Order Capture AC .jar files).

4. In the **Create a new EJB Group named** field, enter `OrderCaptureAC`.

5. Click **Finish**.

Repeat steps 1-5 for the Customer Profile and Product Catalog ACs.

The following steps describe how to create the EJBs for the Order Capture AC EJB group:

1. In the Workbench, select the **EJB** tab.

2. In the **Enterprise Bean** pane, you should see the EJB groups that you have created. Right-click the **OrderCaptureAC** EJB group and select **Import Enterprise Beans...** from the pop-up menu.

3. Under the type of files to import, make sure the **bean** and **class** boxes are checked.

4. Click the **Browse** button next to the **Filename** field, and find and select the **ACOrderCaptureEJB.jar** file.

5. Click the **Details...** button next to the Beans, click the **Select All** button, and click **OK**.

6. Repeat step 5 for the class details.

7. Click **Finish**.

Repeat steps 1-7 for each EJB group, selecting the appropriate *EJB.jar file for each group.

Generate the deployed code for the EJBs

The following steps describe how to create the deployed code for the EJBs:

1. In the Workbench, select the **EJB** tab.

2. In the **Enterprise Bean** pane, select the **OrderCaptureAC** EJB group. Right-click on the group and select **Generate Deployed Code**.

3. Repeat steps 1-2 for the Customer Profile and Product Catalog ACs.

Create and start Enterprise JavaBeans servers

Deploy the EJBs that are in the following EJB groups:

- ACServices

- LocalizableText

- CustomerProfileAC

- ProductCatalogAC

- OrderCaptureGroup

The following steps describe how to deploy the EJBs:

1. In the Workbench, select the **EJB** tab.

2. In the **Enterprise Bean** pane, select all of the above-mentioned EJB groups. Right-click this multiple selection and choose **Add To > Server Configuration** from the pop-up menu.

3. In the **EJB Server Configuration** window, right-click the EJB Server that you have just created and select **Properties** from the pop-up menu.

4. In the **Properties for EJB Server window**, change both the **Transaction Timeout** and the **Transaction Inactivity Timeout** fields to a very large number such as 6000000. Click **OK**.

5. In the **EJB Server Configuration** window, right-click the EJB Server that you have just created and select **Start Server** from the pop-up menu.

6. Wait until the server is started. The message "Server open for business" should appear in the Console.

Register JNDI settings

1. In the Workbench, find and expand the **com.ibm.wsbc.samples.oc** package. Right-click the **OCSACComponentSetup** class and select **Properties** from the pop-up menu.

2. In the **Properties for OCSACComponentSetup** window, click the **Class Path** tab. Click the **Edit** button next to the **Project path** field. Click **Select All**. Click **OK**. Click **OK** again to save your settings.

3. Run the **main** method of the **OCSACComponentSetup** class. This will deploy and start up the EJBs.

As an alternative, the steps of deploying and starting the EJBs can be run separately, by doing steps 1-3 for the following classes:

- **DeployCustomerProfile**

- **DeployProductCatalog**

- **DeployOrderCapture**

- **OCSStartup**, **OCSStart**, **OCSCreateData**.

Execute the sample

Open the following in a Web browser:

`http://localhost:8080/Login.jsp`

You should see a login screen. The following table lists the valid user ID and password combinations for this sample:

User IDs and passwords for the Order Capture sample	
User ID	**Password**
987654	mynameistommy
123456	mynameisbetsy
456789	napalisthebest

You can also find these values, as well as other data, by looking at the following:

- setup XML files (found in `..\xml\*.xml`)

- `CPENT` and `PROCAT` databases in DB2 (if you are using DB2 for datastore)

Note: If you have previously installed and uninstalled WSBC, you may get the following error:

`Error 500 - wrong name error.`

To fix this, delete the contents of the `C:\VAJava35\ide\project_resources\IBM WebSphere Test Environment\temp\JSP1_0\default_app` directory. This directory contains compiled JSPs that may refer to a previous installation of WSBC. After deleting the contents of this directory, you should be able to execute the sample.

Stop and restart the sample

Follow these steps to stop the sample:

1. Run the following class:

   ```
   com.ibm.wsbc.samples.oc.OCSStop
   ```

2. Stop the EJB Servers for this sample, the **Persistent Name Server**, and the **Servlet Engine**.

Follow these steps to restart the sample:

1. Start the **Persistent Name Server**, the **Servlet Engine**, and the EJB Servers for this sample.

2. Run the following classes:

   ```
   com.ibm.wsbc.samples.oc.OCSStartup
   com.ibm.wsbc.samples.oc.OCSStart
   ```

3. Open the URL listed above in a Web browser.

Destroy and recreate sample data

If an error occurred in the OCSCreateData, or you wish to destroy the sample data that you have created, you can run the class `com.ibm.wsbc.samples.oc.OCSDestroyData`.
Note: You must have all servers up, and you must have deployed and started the EJBs (through `OCSACComponentSetup` or `OCSStartup` and `OCSStart`).
After running the OCSDestroyData, you must run the OCSCreateData again before running the sample to reinitialize the sample data (the servers must be up and the EJBs must be deployed and started through `OCSACComponentSetup` or `OCSStartup` and `OCSStart`).

Test and deploy the Online Sales Desk sample on WebSphere Application Server

Prerequisites

If you have previously created the `hack` directory, this directory should be removed or renamed when running on WebSphere Application Server. In addition, in the SFConfig.ini file, ensure that the `theJVM` variable is set to `java` (`theJVM=java`).

Ensure that you have followed the instructions in the section "Online Sales Desk sample prerequisites, files, and preliminary steps." This section also lists the location of the files for this sample.

The following instructions assume that you have installed WebSphere Application Server in `C:\WebSphere\AppServer`

Modify the admin.config file

1. Close the WebSphere Administrator's Console. Shut down the IBM WS AdminServer Service.

2. Open the `C:\WebSphere\AppServer\bin\admin.config` file in a text editor such as **Notepad**. Find the line in this file that starts with the following string:

   ```
   com.ibm.ejs.sm.adminserver.classpath
   ```

Assuming that *<WSBC directory>* is C:\WSBC, append to this line the following string (without the line breaks):

```
;C\:/WSBC;
C\:/WSBC\ACFeatures\Components\OrderCapture\ACOrderCaptureServerSF.jar;
C\:/WSBC\ACFeatures\Components\OrderCapture\ACOrderCaptureCommon.jar;
C\:/WSBC\ACFeatures\Samples\OrderCapture\OCS.jar;
C\:/WSBC\Services\BaseServices\ACServicesEJBClient.jar;
C\:/WSBC\Services\BaseServices\ACServicesClient.jar;
C\:/WSBC\Services\BaseServices\ACServicesServer.jar;
C\:/WSBC\Services\BaseServices\jmxri.jar
```

Note: In the admin.config file, you must precede the colon (:) character with the backslash (\) character.

3. Save the admin.config file.

Start the WSBC Server

1. Start the IBM WS AdminServer Service. Open the Administrator's Console.

2. Expand the root node.

3. Expand the node named after your server.

4. Right-click the **WSBC Server** node and select **Start** from the pop-up menu.

Edit the WSConsoleTree.bat file

1. Open the WSConsoleTree.bat file in a text editor.

2. Find the following section in the file and set the variables appropriate to your system:

    ```
    set WSBC_ROOT=C:\Progra~1\IBM\WSBC\1.1\
    set HOSTNAME=hostname
    set SNAME=WSBC Server
    set DB2JAVA_ZIP=D:\SQLLIB\java\db2java.zip
    ```

    The value of WSBC_ROOT is the directory where you have installed IBM WebSphere Business Components Studio Version 1.1.

    Note: In this batch file, you cannot have any spaces in your directory path, and you must add a backslash (\) at the end of directory names. For example, you would change C:\Program Files\ to C:\Progra~1\.

    The value of HOSTNAME is your host name. Use the short name of your server. For example, if the name of your server is cacciato.torolab.ibm.com, you would use cacciato as your host name.

    The value of SNAME is the name of your server.

    The value of DB2JAVA_ZIP is the full path name of the db2java.zip file, which contains the JDBC drivers for the DB2 database.

3. Save your changes to this file.

Run the WSConsoleTree.bat file

1. Go to the `C:\WebSphere\AppServer\bin` directory and run the following at a command prompt:

<WSBC directory>`\ACFeatures\Samples\OrderCapture\WSConsoleTree.bat`

This command does the following:

- Fills in the dependent classpath for the node with the following values:

```
<WSBC directory>\ACFeatures\Components\CustomerProfile\CommonCustomerSuite.jar
<WSBC directory>\ACFeatures\Components\CustomerProfile\CustomerProfileAC.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureCommon.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureEJB.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureEJBClient.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureServerSF.jar
<WSBC directory>\ACFeatures\Components\ProductCatalog\CommonCoreAC.jar
<WSBC directory>\ACFeatures\Components\ProductCatalog\CommonParameterSuite.jar
<WSBC directory>\ACFeatures\Components\ProductCatalog\ProductCatalogAC.jar
<WSBC directory>\Services\BaseServices\ACEI18NEJBClient.jar
<WSBC directory>\Services\BaseServices\ACServicesClient.jar
<WSBC directory>\Services\BaseServices\ACServicesSMClient.jar
<WSBC directory>\Services\BaseServices\ACServicesServer.jar
<WSBC directory>\Services\BaseServices\jmxri.jar
```

- Sets the command argument value for the WSBC server to the following value:

```
<WSBC directory>\
<WSBC directory>\ACFeatures\Components\CustomerProfile\CommonCustomerSuite.jar
<WSBC directory>\ACFeatures\Components\CustomerProfile\CustomerProfileAC.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureCommon.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureEJB.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureEJBClient.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureServer.jar
<WSBC directory>\ACFeatures\Components\OrderCapture\ACOrderCaptureServerSF.jar
<WSBC directory>\ACFeatures\Components\ProductCatalog\CommonCoreAC.jar
<WSBC directory>\ACFeatures\Components\ProductCatalog\CommonParameterSuite.jar
<WSBC directory>\ACFeatures\Components\ProductCatalog\ProductCatalogAC.jar
<WSBC directory>\ACFeatures\Samples\OrderCapture\OCS.jar
<WSBC directory>\Services\BaseServices\ACEI18NEJBClient.jar
<WSBC directory>\Services\BaseServices\ACServicesEJBClient.jar
<WSBC directory>\Services\BaseServices\ACServicesSMClient.jar
<WSBC directory>\Services\BaseServices\ACServicesServer.jar
<WSBC directory>\Services\BaseServices\jmxri.jar
```

- Creates the Order Capture Sample Web application

- Creates the datasources and the database driver

Edit initialization files, and configure and populate the databases

1. Ensure that you have edited the `SFconfig.ini`, `OCSampleCompany.ini`, and `OrderCaptureSMSpec.xml` files as described in "Online Sales Desk sample prerequisites, files, and preliminary steps."

2. Ensure that you have created and configured the `CPENT` and `PROCAT` databases as described in "Online Sales Desk sample prerequisites, files, and preliminary steps."

Register JNDI settings

1. Open a new command window. Note that if any of your environment variables were modified, you *must* open a new window to pick up the changes. Run the following command (without the line breaks) with the locations modified to match your installation:

   ```
   set classpath=%CLASSPATH%;
   D:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Samples\OrderCapture\OCS.jar;
   D:\WebSphere\AppServer\lib\ujc.jar;
   D:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesEJBClient.jar;
   D:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesClient.jar;
   D:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\ACServicesServer.jar;
   D:\PROGRA~1\IBM\WSBC\1.1\Services\BaseServices\jmxri.jar;
   D:\PROGRA~1\IBM\WSBC\1.1\ACFeatures\Components\OrderCapture\
   ACOrderCaptureServerSF.jar.
   ```

2. Make sure that the following .jar files are now in your CLASSPATH environment variable:

   - o `ACOrderCaptureServerSF.jar`

   - o `OCS.jar`

   - o `<WebSphere AppServer directory>\AppServer\lib\ujc.jar`

   - o `ACServicesEJBClient.jar`

   - o `ACServicesClient.jar`

   - o `ACServicesServer.jar`

   - o `jmxri.jar`

   The directory *<WebSphere AppServer directory>* is where you have installed WebSphere Application Server.

3. From a command prompt, execute the following:

   ```
   java com.ibm.wsbc.samples.oc.OCSACComponentSetup
   ```

As an alternative, you may separately deploy and start each of the EJBs by executing the following classes. You might want to run these commands separately in order to localize any errors:

- **com.ibm.wsbc.samples.oc.DeployCustomerProfile**

- **com.ibm.wsbc.samples.oc.DeployProductCatalog**

- **com.ibm.wsbc.samples.oc.DeployOrderCapture**

- **com.ibm.wsbc.samples.oc.OCSStartup**, **com.ibm.wsbc.samples.oc.OCSStart**, **com.ibm.wsbc.samples.oc.OCSCreateData**.

Note: If after running the above command(s) you see the command hang indefinitely displaying the following output:

```
Before start(), AdvancedComponents:ACInstanceName=OrderCaptureI001 is in state STOPPED
```

view the *<WSBC directory>*`\sflogs\SFGSMProcess.log` file. If the file reports an Unsatisfied Link exception finding ibm*.dll, reboot the machine, restart the WSBC server, and run the above commands again.

Execute the sample

Open the following in a Web browser:
```
http://localhost/OrderCaptureSample/Login.jsp
```

You should see a login screen. The following table lists the valid user ID and password combinations for this sample:

User IDs and passwords for the Order Capture sample	
User ID	**Password**
987654	mynameistommy
123456	mynameisbetsy
456789	napalisthebest

You can also find these values, as well as other data, by looking at the following:

- setup XML files (found in `..\xml\*.xml`)

- `CPENT` and `PROCAT` databases in DB2 (if you are using DB2 for datastore)

Note: If you have previously installed and uninstalled WSBC, you may get the following error:

`Error 500 - wrong name error.`

To fix this, delete the contents of the `C:\WebSphere\AppServer\temp\default_host\WSBC Order Capture Sample` directory. This directory contains compiled JSPs that may refer to a previous installation of WSBC. After deleting the contents of this directory, you should be able to execute the sample.

Stop and restart the sample

Follow these steps to stop the sample:

1. Run the following command to stop the sample:

   `java com.ibm.wsbc.samples.oc.OCSStop`

2. Stop the **WSBC Server** in WebSphere Application Server.

Follow these steps to restart the sample:

1. Start the WSBC Server in WebSphere Application Server.

2. Run the following command to restart the sample:

   `java com.ibm.wsbc.samples.oc.OCSStartup`

3. Run the following command to restart the SanFrancisco servers:

   `java com.ibm.wsbc.samples.oc.OCSStart`

4. Open the URL listed above in a Web browser.

Destroy and recreate sample data

If an error occurred in the OCSCreateData, or you wish to destroy the sample data that you have created, you can run the class `com.ibm.wsbc.samples.oc.OCSDestroyData`.
Note: You must have all servers up, and you must have deployed and started the EJBs (through `OCSACComponentSetup` or `OCSStartup` and `OCSStart`).
After running the OCSDestroyData, you must run the OCSCreateData again before running the sample to reinitialize the sample data (the servers must be up and the EJBs must be deployed and started through `OCSACComponentSetup` or `OCSStartup` and `OCSStart`).

Troubleshooting

Any exception can show up in the following six places:

- `WSBCStderr.log`

- `WSBCStdout.log`

- `C:\actest\ac.log`

- `C:\actest\ac.trc`

- `C:\PROGRA~1\IBM\WSBC\1.1\sflogs\SFGSMProcess.log`

- `C:\PROGRA~1\IBM\WSBC\1.1\sflogs\OCACServer.log`

Note: To see the `ac.log` and `ac.trc` files, you must create the `c:\actest` directory.

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