

IBM® WEBSHERE® APPLICATION SERVER V6.0 – LAB EXERCISE

Application Update

What this exercise is about	1
Lab Requirements	1
What you should be able to do	1
Introduction	2
Exercise Instructions	2
Part 1: Installing and Testing the WebSphereBank Application Resources	3
Part 2: Full Application Update	7
Part 3: Partial Application Update Using ZIP File	10
Part 4: Single File Application Update	12
Part 5: Single Module Application Update	14
What you did in this exercise	16

What this exercise is about

WebSphere Application Server v6.0 provides various features which can be used to manage your J2EE 1.4 applications. This exercise will have you update a J2EE 1.4 application using various methods.

Lab Requirements

List software required for the student to complete the lab.

- Installation of WebSphere Application Server version 6 and unfederated application server
- Installation of lab sample code into directory
 - Windows: **C:\Labfiles60**
 - UNIX/Linux: **/tmp/Labfiles60**
- This Lab also contain "SHOWME" Flash demo. To view this demo you will need a flash plug-in for your browser.

What you should be able to do

At the end of this lab you should be able to:

- Update your application in WebSphere Application Server v6.
- Initiate a partial application update within WebSphere Application Server v6.

Introduction

The J2EE 1.4 application which you will be updating is a simple banking application named WebSphereBank. It is composed of EJB, Web, and Application Client modules. In the EJB module there is a session bean and an entity bean.

In this lab, you will be updating the WebSphereBank application running on the WebSphere Application Server v6.0. The process you will use to update the application will depend on whether you are performing a full application update, or a partial application update.

Exercise Instructions

Some instructions in this lab may be Windows operating-system specific. If you plan on running the lab on an operating-system other than Windows, you will need to execute the appropriate commands, and use appropriate files(**.sh** vs. **.bat**) for your operating system. Unless an exception is noted in the instructions, the term UNIX is synonymous to AIX, Solaris, and HP-UX operating systems throughout this document. The directory locations are specified in the lab instructions using symbolic references, as follows:

Location Reference	Windows example	UNIX/Linux example
<WAS_HOME>	C:\WebSphere\AppServer\	/usr/WebSphere/AppServer (AIX) /opt/WebSphere/AppServer (Linux, Solaris, HP-UX)
<LAB_FILES>	C:\Labfiles60	/tmp/Labfiles60
<DB_LOCATION>	C:\LabFiles60\CloudscapeDB\BANKDB	/tmp/LabFiles60/CloudscapeDB/BankDB

Windows users please note: When directory locations are passed as parameters to a Java program such as EJBDeploy or wsadmin, it is necessary to replace the backslashes with forward slashes to follow the Java convention. For example, C:\Labfiles60\ would be replaced by C:/Labfiles60/.

**** NOTE **** Solution instructions are normally provided at the end. The solution is not provided in this case because you need to do the exercises in order to understand Java tools and there is no final solution to import. To go through the lab, start at Part One assuming you have met the requirements in the section “User Requirements” stated above.

Part 1: Installing and Testing the WebSphereBank Application Resources

Note: In this part we will run a wsadmin command to install the WebSphereBank sample and a .jacl script to create the JDBC resources required for WebSphereBank.

- ___ 1. Open a command prompt and navigate to your instance bin directory.

cd <WAS_HOME>\profiles\<<profile_name>\bin

Replace <profile_name> with the name of your profile.

- ___ 2. Check to see if the server is running, and if it is, stop it.

1. Run the command:

For Windows: **serverStatus server1**

For AIX/Linux: **./serverStatus.sh server1**

2. If the server status indicates STARTED, then run the command:

For Windows: **stopServer server1**

For AIX/Linux: **./stopServer.sh server1**

Note: The reason for completing these steps with the server stopped is that some changes to the namespace are picked up only on server startup.

- ___ 3. Run the clean-up script. This script will test to see if you have installed WebSphereBank from previous lab and will remove the WebSphereBank application and the BANKDS Data Source.

___ a. From a Command Prompt, navigate to **<WAS_HOME>/profiles/<profile_name>/bin**

___ b. Run the command:

Windows: (Note: the forward slash is correct even for windows)

wsadmin -conntype none -f <LAB_FILES>/common/prepWSBank.jacl

UNIX/Linux/Solaris/HP-UX:

./wsadmin.sh -conntype none -f <LAB_FILES>/common/prepWSBank.jacl

- ___ 4. Create BANKDS data source

___ a. Navigate to **<WAS_HOME>\profiles\<<profile_name>\bin**

___ b. Run the following command.

Windows: (Please see the notes below before you proceed with the command)

**wsadmin -conntype none -f <LAB_FILES>\common\setupBankDS.jacl <myCell> <myNode>
<DB_LOCATION> <serverName>**

UNIX/Linux: (Please see the notes below before you proceed with the command)

**./wsadmin.sh -conntype none -f <LAB_FILES>/common/setupBankDS.jacl <myCell>
<myNode> <DB_LOCATION> <serverName>**

Notes:

- a. The BANKDB database and tables have already been created for you.
- b. <DB_LOCATION> must be a fully qualified path to the database. Windows users can use either single forward slashes (/) or double backslashes (\\) within the database path.
For example: C:\\Labfiles60\\CloudscapeDB\\BANKDB
... or C:/Labfiles60/CloudscapeDB/BANKDB
- c. Substitute your cell name and your node for <myCell> and <myNode>. You can also look at the file structure under <WAS_HOME>/profiles/<PROFILE_NAME>/config directory to determine the Cell Name and Node Name for your Application Server installation. The directory structure is <WAS_HOME>/profiles/<PROFILE_NAME>/config/cells/<myCell>/nodes/<myNode>
- d. <serverName> is optional and will default to the value "server1" if it is not supplied.
- e. Example of entire command string:
./wsadmin.sh -conntype none -f /tmp/LabFiles60/common/setupBankDS.jacl MyCell01 MyNode01 /tmp/LabFiles60/CloudscapeDB/BANKDB server1

___ 5. Start the application server

For Windows: **startServer server1**

For AIX/Linux: **./startServer.sh server1**

___ 6. Install WebSphereBank application

From same directory, run the following command. Replace LAB_FILES with your lab file path.

Windows:

wsadmin -c "\$AdminApp install <LAB_FILES>/WASv6_AppUpdateLab/WebSphereBank.ear {-appname WebSphereBank -usedefaultbindings -deployejb -deployejb.dbtype CLOUDSCAPE_V5}"

UNIX/Linux:

./wsadmin.sh -c '\$AdminApp install <LAB_FILES>/WASv6_AppUpdateLab/WebSphereBank.ear {-appname WebSphereBank -usedefaultbindings -deployejb -deployejb.dbtype CLOUDSCAPE_V5}'

___ 7. Log on to the Administrative Console

Open a Web Browser and navigate to the following URL:

<http://localhost:9060/ibm/console>

___ 8. When prompted for a User ID, enter **wsdemo** to log in.

___ 9. In the Administrative Console, under **Applications > Enterprise Applications**, if the WebSphereBank application is not already started, select the **WebSphereBank** application and click on **Start**.

___ 10. Test the application.

___ a. Open a browser.

___ b. Enter the URL <http://localhost:9080/WebSphereBankWeb/>.

___ c. Click on Create Customer.

___ d. Enter Customer Number, Name and Tax ID. Click **Create**.

Create Customer

Messages

Customer Number:	<input type="text" value="10"/>
First Name:	<input type="text" value="John"/>
Last Name:	<input type="text" value="Doe"/>
TAX ID:	<input type="text" value="012-34-5678"/>

___ 11. You will see details for customer created. Click **Create Account**.

Customer Details

New Customer has been successfully created

Customer Number:	10
First Name:	JOHN
Last Name:	DOE
TAX ID:	012-34-5678

___ 12. Enter **101** for the Account Number, **Checking** for account type and **600** for the starting balance. Click **Create**.

Create a new Account

Messages

Customer Number:

Account Number:

Account Type: Savings Checking

Starting Balance: \$

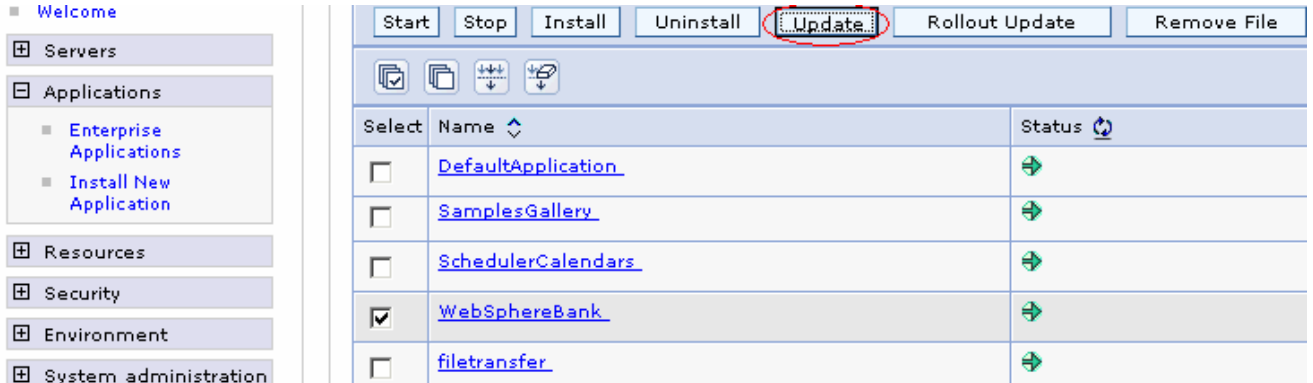
___ 13. Create a second account.

- ___ a. Enter **102** for the Account Number, **Savings** for account type and **400** for the starting balance. Click **Create**.

If the accounts are created without generating errors, then the datasource is working; if you have problems, check the database name and path in the datasource properties and also check for the correct casing of the BANKDS datasource name (all caps)

Part 2: Full Application Update

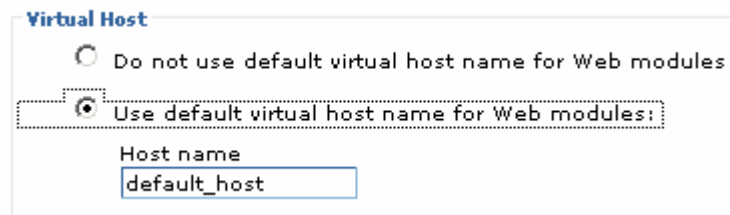
1. In the Administrative Console, under **Applications > Enterprise Applications**, select the **WebSphereBank** application and click on **Update**.



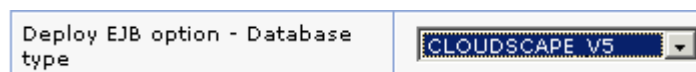
2. In update window, select **Full application**.
3. For path specify <LAB_FILES>/WASv6_AppUpdate/WebSphereBank2.ear.



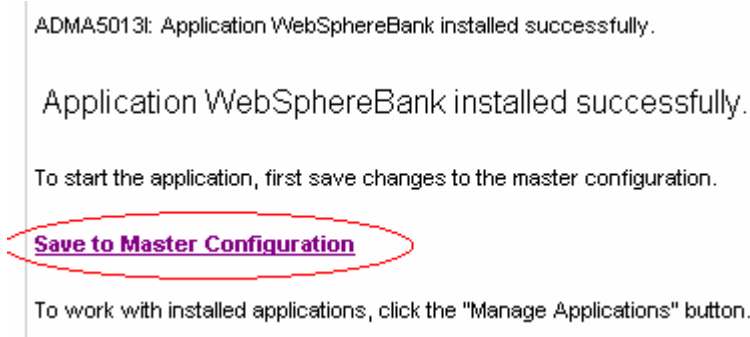
4. Click **Next**.
5. On the next panel, select **Use default virtual host name for Web modules**.



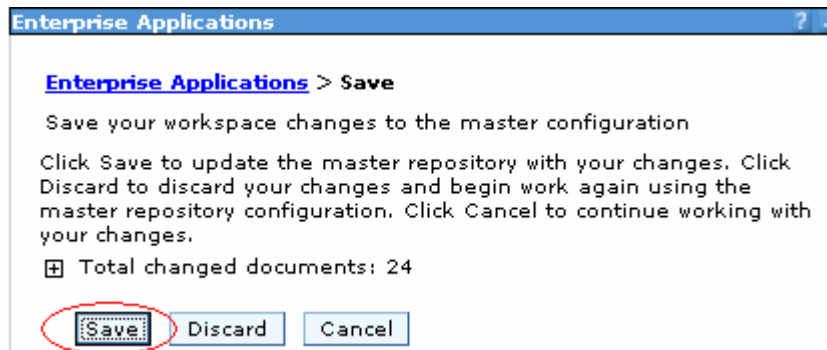
6. Click **Next**.
7. Click **Step 3 Provide options to perform EJB Deploy**.
8. Verify **CLOUDSCAPE_V5** is selected for **Database type**.



- ___ 9. Click **Step 11 Summary**, and then click **Finish**.
- ___ 10. After messages indicate installation was successful, you need to **Save to Master Configuration**.



- ___ a. Click **Save to Master Configuration**.
- ___ b. Click **Save**.



- ___ 11. Test the updated application.
 - ___ a. Open a Web Browser and navigate to the following URL:
http://localhost:9080/WebSphereBankWeb
 - ___ b. Click **Get Balance**.
 - ___ c. For the Account Number enter **101**, note account balance _____.
 - ___ d. Click **Transfer Funds**.

___ e. For the From Account enter **101**, for the To Account enter **102**, and for the amount enter **10**.

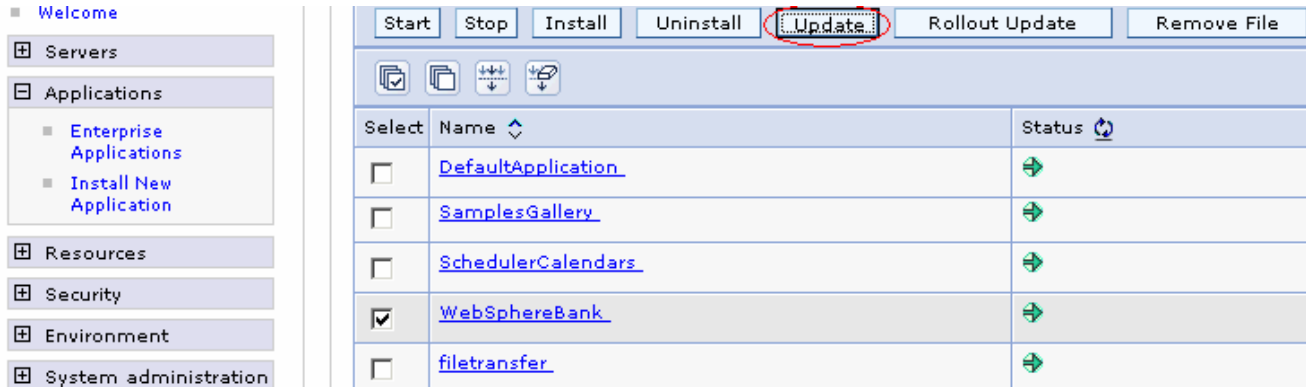
From Account:	<input type="text" value="101"/>
To Account:	<input type="text" value="102"/>
Amount:	\$ <input type="text" value="10"/>
<input type="button" value="Transfer"/>	<input type="button" value="Reset"/>

___ f. Click **Transfer**.

___ g. You will notice that the messages indicate an incorrect transfer amount. An extra \$10 was transferred. Also, "Messages" is spelled incorrectly. Let's fix the spelling.

Part 3: Partial Application Update Using ZIP File

1. In the Administrative Console, under **Applications > Enterprise Applications**, select the **WebSphereBank** application and click on **Update**.



2. In update window, select **Partial application**.
3. For path specify **<LAB_FILES>/WASv6_AppUpdate/WebSphereBank3.zip**.

Partial application

Select this option to update or add several files to an application. Use a valid compressed file format such as .zip or .gzip. The compressed file is unzipped into the installed application directory. If the uploaded files exist in the application with the same paths and file names, the uploaded files replace the existing files. If the uploaded files do not exist, the files are added to the application. You can remove existing files from the installed application by specifying metadata in the compressed file.

Upload the archive file with the new or replacement files.

Local file system

Specify path

4. Click **Next**.
5. On the next panel click **OK**.
6. After messages indicate update has ended, you need to **Save to Master Configuration**.

Update of WebSphereBank has ended.

Update of WebSphereBank has ended.

To start the application, first save changes to the master configuration.

Save to Master Configuration

- a. Click **Save to Master Configuration**.
- b. Click **Save**.

- ___ 7. Test the updated application.
- ___ a. Back in the WebSphereBank window, refresh your screen or click **Transfer Funds** again.
 - ___ b. You will notice that “Messages” is now “Transaction Messages”, and the WebSphere Bank gif has been changed to include shadows.

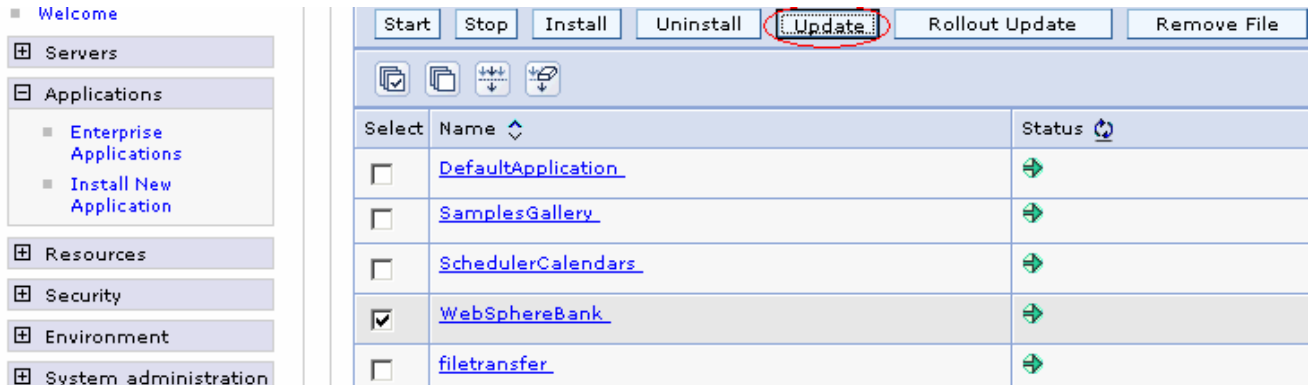


If the WebSphere Bank gif doesn't change, you may need to change your browser settings: Tools > Internet Options > Temporary Internet Files > Settings: check "Every visit to the page".

- ___ c. Let's change "Transaction Messages" back to "Messages".

Part 4: Single File Application Update

1. In the Administrative Console, under **Applications > Enterprise Applications**, select the **WebSphereBank** application and click on **Update**.



2. In update window, select **Single file**. For **Relative path to file**, specify (typing slash or backslash as appropriate for your operating system)

WebSphereBankWeb.war/jsp/transferfunds.jsp

3. For path specify <LAB_FILES>/Labfiles60/WASv6_AppUpdate/transferfunds4.jsp.

Single file

Select this option to update an existing file or to add a new file to the application the relative path to the file matches an existing path to a file in the installed application, the uploaded file replaces the existing file. If the relative path to the does not exist in the installed application, the uploaded file is added to the application.

Relative path to file.

 Path to the existing file, or to the desired path for the new file.

Upload the new or replacement files.

Local file system

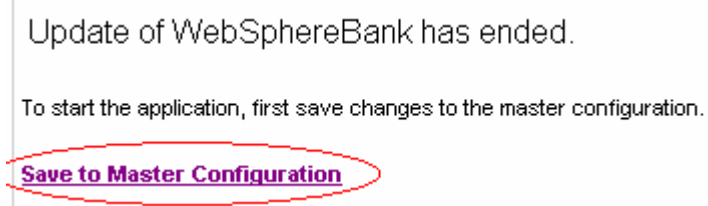
Specify path

Remote file system

Specify path

4. Click **Next**.
5. On the next panel, click **OK**.

___ 6. After messages indicate update has ended, you need to **Save to Master Configuration**.



___ a. Click **Save to Master Configuration**.

___ b. Click **Save**.

___ 7. Test the updated application.

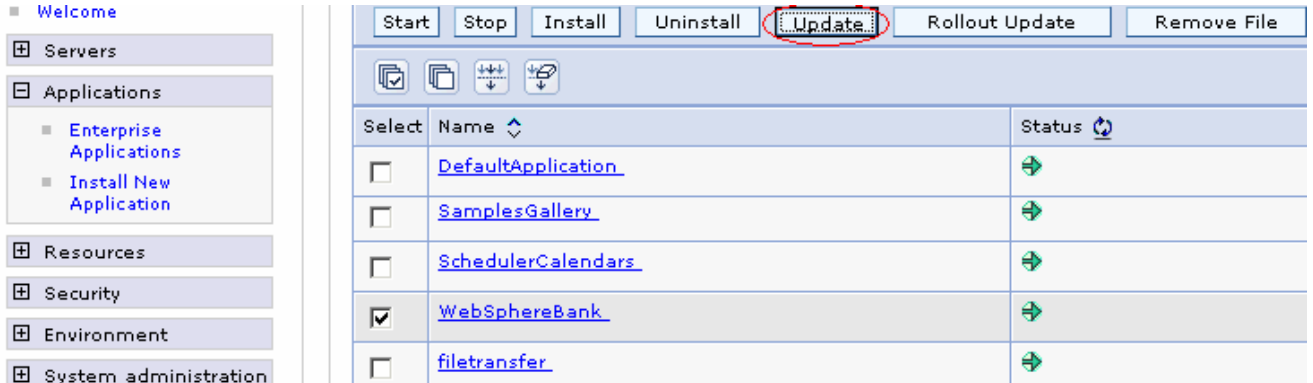
___ a. Back in the WebSphereBank window, refresh your screen or click **Transfer Funds** again.

___ b. Notice that “Transaction Messages” is back to “Messages”.

___ 8. We still need to fix the transfer problem. Let’s do that next.

Part 5: Single Module Application Update

1. In the Administrative Console, under **Applications > Enterprise Applications**, select the **WebSphereBank** application and click on **Update**.



2. In the update window, select **Single module**. For **Relative path to file**, specify **WebSphereBankWeb.war**.
3. For path specify **<LAB_FILES>/WASv6_AppUpdate/WebSphereBankWeb5.war**.
4. For Context root specify **WebSphereBankWeb**.

Single module

Select this option to update an existing module or to add a new module to the application. If the relative path to the module matches an existing path to a module in the installed application, the uploaded module replaces the existing module. If the relative path to the module does not exist in the installed application, the uploaded module is added to the application.

Relative path to module.

Path to the existing module, or to the desired path for the new module.

Upload the new or replacement module.

Local file system

Specify path

Remote file system

Specify path

Context root
 Used only for standalone Web modules (.war files)

5. Click **Next**.

- ___ 6. On the next panel, select **Use default virtual host name for Web modules**.

Virtual Host

Do not use default virtual host name for Web modules

Use default virtual host name for Web modules!

Host name
default_host

- ___ 7. Click **Next**.
- ___ 8. On the next panel, click **Continue**.
- ___ 9. On the next panel, click **Step 5 Summary**, and then click **Finish**.
- ___ 10. After messages indicate update has ended, you need to **Save to Master Configuration**.

Update of WebSphereBank has ended.

Update of WebSphereBank has ended.

To start the application, first save changes to the master configuration.

Save to Master Configuration

- ___ a. Click **Save to Master Configuration**.
- ___ b. Click **Save**.
- ___ 11. Test the updated application.
- ___ a. Return to the WebSphereBank **Transfer Funds** window.
- ___ b. For the From Account enter **101**, for the To Account enter **102**, and for the amount enter **10**.
- ___ c. Click **Transfer**.
- ___ d. Notice the correct amount is transferred. The application update is complete.
- ___ 12. Uninstall the application.
- ___ a. In the Administrative Console, under **Applications > Enterprise Applications**, select the **WebSphereBank** application and click on **Uninstall**.
- ___ b. Click **OK**.
- ___ c. Click **Save**.
- ___ d. Click **Save** again.
- ___ 13. You can now close your web browser and stop your server.

What you did in this exercise

In this exercise, you updated a J2EE 1.4 application using both partial (.war, .zip and single file) and full (.ear file) update methods.

This page is left intentionally blank.