#### Lab 2 – Adding a WebSphere application to an integrated solution

#### Part 1: Generate an application wrapper for the WebSphere application

The WebSphere Application Deployment Project wizard can automatically create an application wrapper for your Web application, provided you have already installed a working version of your application into a test or development WebSphere Application Server environment.

To create an application wrapper for the Document Manager sample application, perform the following steps:

- 1. Select Start > Programs > IBM Express Runtime 2.2 > Express Runtime Developer to launch the Express Runtime development environment. If you see the Welcome window, close it to go to the workbench.
- Select File > New > WebSphere Application Deployment Project. The WebSphere Application Deployment Project wizard is displayed. (If the WebSphere Application Deployment Project option is not visible, make sure you are on the Express Runtime Developer perspective.)

Provide a name for the WebSphere Application Deployment Project. For this lab, enter *ACME\_DocMgr* as the **Project name** and click **Next** (Figure 2-1).

🔞 WebSphere	e Application Deployment Project 🛛 🛛 🔀		
WebSphere /	WebSphere Application Deployment Project		
Create a project	in the workspace or in an external location		
Project name:	ACME_DocMgr		
Use defaul	t location		
Location: C:/F	Program Files/IBM/Runtime/2.2/SolutionEnabler/workspace/		
0	< Back Next > Finish Cancel		

Figure 2-1 WebSphere Application Deployment Project wizard

3. You will see the Locate Source Profile window (Figure 2-2). In the Local Directory field enter:

C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\config

#### Click Next.

😧 WebSphere Application Deployment Project	
Locate Source Profile Locate the source profile which contains your deployed applications.	
Locate the WebSphere Application Server profile containing the web applications deploy. You can point to the "config" directory inside a local or remote profile dire you can provide a profile configuration archive file. The configuration in the provided profile is used to generate deployment scripts. That configuration in the provided profile is used to generate deployment scripts. The configuration is the provided profile is used to generate deployment scripts. WebSphere Application Server profile:	you want to ctory, or You can mes, and
Local directory:     * :\Program Files\WebSphere\AppServer\prc	Browse
O Remote directory:	Browse
O Configuration archive:	Browse
⑦ < Back Next > Finish	Cancel

Figure 2-2 Locate the source profile of WAS server

Note: If your WAS server is running remotely, select the **Remote directory** option to browse to the configuration directory. You can also specify an archived configuration file as the source for your application information.

4. In the **Select Applications** panel, select the checkbox that corresponds to *RuntimeDocumentMgmt* and click **Next** (Figure 2-3).

😢 WebSphe	ere Application Deployment Project	
Select App Select the app	lications lications to deploy.	G,
Applications:	DefaultApplication     ivtApp     query     RuntimeDocumentMgmt	Select all Deselect all Refresh
0	< Back Next > Einish	Cancel

Figure 2-3 Specify WebSphere application

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 The WebSphere Application wizard loads the configuration information. In this process it will determine the type of resources the application uses (Figure 2-4). Review the summary information displayed and click Next.

😢 WebSphe	ere Application Deployment Project	
Review Con Review the infe to the profile a	Ifiguration Summary formation extracted from the profile. If necessary, make changes and reload.	
Log Sum	imary initions were found for these items. Deployment-specific attributes databaseAuthAlias (JAASAuthData) IRDB2Provider (JDBCProvider) jdbc/DocMgmtEx (DataSource)	: can be modi
<	Reload configuration	> from profile
0	< Back Next > Finish	Cancel

Figure 2-4 WebSphere application configuration summary

6. Accept the default selections on the General Options panel (Figure 2-5) and click Next.



Figure 2-5 General Options panel

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 Next, the WebSphere Application wizard will prompt you to provide the location of the JAR files and the native library files that are required for the application (Figure 2-6). Click OK for the wizard to automatically locate the files on the local computer.

💽 Loc	ite Files Automatically			
?	To automatically locate the JAR files and native library files required by the resource "IRDB2Provider", specify the computer where the files are located. The files are located using the paths from the original profile.			
	⊙ Local computer			
	Remote computer			
	Host;			
	User name:			
	Password:			
	OK Cancel			

Figure 2-6 Locating JAR files and native library files

Note: This panel helps you to grab the necessary JAR and native library files for your datasource. You will not see this panel if your current application does not have a datasource resource defined.

8. You will see that the *Classpath files* and *Native libraries* are displayed on the panel (Figure 2-7). Click **Next**.

😢 WebSphere Application Deployment Project	×
IRDB2Provider	P
Specify the JAR files and native library files required by the JDBC provider "IRDB2Provider".	<u> </u>
Locate fil	es automatically
Classpath files Locate the JAR files required by "IRDB2Provider".	
db2jcc.jar db2jcc_license_cisuz.jar db2jcc_license_cu.jar	Add Remove
Native libraries Locate required native library files.	
Windows Linux    Linux on POWER    AIX    OS/400 (i5/OS)	Add Remove
() < <u>B</u> ack <u>N</u> ext > <u>Finish</u>	Cancel

Figure 2-7 WebSphere application files

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Note: If you do not see the **Locate Files Automatically** window in Figure 2-6, click on **Locate files automatically** at top right corner of the panel (refer to Figure 2-8). You could also click the **Add** button to browse to the directory that contains those files.

😢 WebSphere Application Deployment Project 🛛 🛛 🔀
IRDB2Provider
Specify the JAR files and native library files required by the JDBC provider "IRDB2Provider".
Locate files automatically
Classpath files
③ The resource "IRDB2Provider" referenced the following JAR files which have not been provided: db2jcc.jar, db2jcc_license_cisuz.jar, db2jcc_license_cu.jar.
Add
Kellove
Native libraries Locate required native library files.
Windows Linux Linux on POWER AIX OS/400 (15/OS)
Add Remove
Image: Second

Figure 2-8 Manually locate WebSphere application files

9. You will see the datasource panel (Figure 2-9). Accept the default values and click Next.

🔞 WebSphere	Application Deployment Project
jdbc/DocMgm Configure the dat	a source jdbc/DocMgmtEx.
Database name:	* DOCMGTD7
Server name:	* ainul.my.ibm.com Enable modifying this value during deployment
Port number:	* 50000 Enable modifying this value during deployment
0	< Back Next > Finish Cancel

Figure 2-9 Datasource panel

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 Provide the password for the profile that is displayed. Make sure that this profile has administrator access on the computer. In this lab, enter *er22admin* for the userID and password (Figure 2-10). Next, click **Finish** to create the application project.

😢 WebSp	here Application Deployment Project	
database Configure ti	AuthAlias ne auth alias "databaseAuthAlias".	°.
User ID:	* er22admin Enable modifying this value during deployment	
Password:	* •••••••	
?	< Back Next > Finish	Cancel

Figure 2-10 Specify administrator access

Note: This scenario is specific for this lab. When importing applications in your development environment, you should check the boxes (**Enable modifying this value during deployment**) to let these values be exposed at deployment time.

11. From the **Express Runtime Explorer**, you will see that the **ACME\_DocMgr** application wrapper is created (Figure 2-11).



Figure 2-11 WebSphere application wrapper created

12. Close the **ACME\_DocMgr** application wrapper in the Editor panel.

**Congratulations!** You have successfully created an application wrapper which contains all of the necessary WebSphere Jython scripting to install the web application and to create all of the required resources and bind the application to those resources. And you have written **ZERO** lines of script code to achieve this!

#### Lab 2 – Adding a WebSphere application to an integrated solution

#### Part 2: Adding the application wrapper to an integrated solution

Now, you can begin creating a solution project that combines the WebSphere application with required middleware and configuration information about this middleware. Each task is described in detail in this section.

1. In the Express Runtime Developer perspective, expand Express Runtime, Solutions, and Express Runtime, Version 2.2 sample solutions (Figure 2-12).

🍓 Express Runtime Developer - Express Run	time Developer				_ 🗆 🔀
File Edit Navigate Search Project Data Run	Window Help				
: 📬 • 📰 🙆 : 🐂 🛤 i 🐂 🕸 i 🛍 📾	🗌 💁 • 🛛 🖉 🗄	1 🞯 • 🕴 🗐 🛛 🥭	🛷 i 🔁 • i 🥹 i 🖇	$\underline{b} + \underline{b} + $	
Express Runtime Developer					
Express Runtime Explorer 🔀 🗖 🗖					- 8
Express Runtime     Solutions     Express Runtime solution for sample     Express Runtime, Version 2.2, solutione     ACME_DocMgr					
Consistent of the second secon					
.DeployWebApplications.preferences	Properties 🖾		📔 🍰 🖂 🗸 🖓 🖬	🙍 Tasks 🔀 Problems Console E	rror Log 🛛 🧔 💥 🌞 🗢 🗖 🗍
in polecc	Property	Value		0 items	
				V ! Description	Resour
	1			[[ <b>\$</b> ]	×

Figure 2-12 Express Runtime Developer sample Solutions

### Lab 2 – Adding a WebSphere application to an integrated solution

- 2. Select Express Runtime solution for sample for Windows Single target (IRU2\_2SingleTargetSampleWin). Right click, select Copy.
- 3. Right click on white-space in the Express Runtime Developer perspective, select Paste.
- 4. On the **Copy Project** window, specify the name of your project file (see Figure 2-13). Make sure you have specified **Use default location** and click **OK**.

🙋 Copy I	Project 🛛 🔀
Project na	me: ACME_DocMgr_Solution
🗸 Use d	efault location
Location;	C:/Program Files/IBM/Runtime/2.2/SolutionEnabler/w Browse
?	OK Cancel

Figure 2-13 Copy project dialog box

5. Your solution will appear as: Express Runtime solution for sample for Windows – Single target (ACME\_DocMgr\_Solution). Follow the next step to change the name of your solution.

Right click on white-space in the **Express Runtime Developer** perspective, select **Rename**. Change it to **ACME\_DocMgr\_Solution**. As the result, you will see that the solution project name now has been changed.

Move the solution project to the bottom of explorer's listing as shown in Figure 2-14.



Figure 2-14 Solution project renamed and moved to the bottom of ER Explorer

- 6. In the **Express Runtime Developer** perspective, double-click on your new solution to open the **Solution Project wizard**.
- 7. In the **Solution Project wizard**, click on the **Tasks** tab. This shows the applications currently included in the solution (Figure 2-15).

Solution Tasks	Overridden application variables
Add, remove or reorder tasks. Install tasks contain applications to be installed. Manual tasks contain instructions for the user. Install tasks and manual tasks can be grouped into task groups.	Override the appearance or behavior of variables in the selected application.
Application: DB2 Universal Database Express E     Application: Express Runtime Publishing Docum     Application: WebSphere Application Server - E:     Application: HTTP Server for Windows     Application: Web server plug-in for IBM WebSp     Application: Express Runtime Publishing Docum     Application: Express Runtime Publishing Docum     Application: Express Runtime Publishing Docum	Remove
Task Configuration (?	Shared Variable Value Configuration

Figure 2-15 Solution Project wizard Tasks tab

- 8. Select Express Runtime Publishing Document Manager WebSphere Application Server (the last application in the list) and click Remove.
- 9. Select Express Runtime Publishing Document Manager IHS Configuration and click Remove.
- 10. Select Express Runtime Publishing Document Manager DB2 Express Edition Configuration and click Remove.

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11. Click Add under Solution Tasks. On the Add Solution Tasks wizard (Figure 2-16), select Add applications and click Next.



Figure 2-16 Add Solution Tasks wizard

12. Select ACME\_DocMgr application to add to the existing task (Figure 2-17).

🗞 Add						×	
Add applications	o <b>ns</b> to add.						
Add to install task	: Sample ap	upplication and IBM middleware for Windows				~	
Task description:		Sample application and IBM middlew	are for Windows				
Parent task group:		<none></none>				×	
Applications:	ACME     DB2 f     IBM F     Linux     Linux     Linux     Linux     Linux     Linux     Linux     Linux	Dockligr Xpress Configuration - Express R ITTP Server Configuration - Expre - DB2 Express (IRU2_2DB2Expre - Express Runtime Console (IRU - IBM HTTP Server (IRU2_2IHS6 - Informix Dynamic Server Expre - Security for WebSphere Applica - Web server plug-ins for IBM We - WebSphere Application Server on POWER - DB2 Express (IRU2	Optional			Select All	
		on POWER - IBM HTTP Server (I on POWER - Security for WebSp			~		

Figure 2-17 Specify tasks

- 13. Click **Finish** to add the selected tasks to your solution wrapper.
- 14. Perform the steps to generate the solution. To do this, right-click on **ACME\_DocMgr\_Solution**, click **Generate Solution**.

**Congratulations!** You have successfully created an integrated solution which includes the **ACME\_DocMgr** application and the middleware components needed to run the application.