

IBM Software Assembly Toolkit Tutorial

Using DA Wizards to Build an Integrated Solution

In this tutorial, we are going to explore a few of the wizards that are available in IBM Software Assembly Toolkit. This tutorial assumes that you have already downloaded and installed IBM Software Assembly Toolkit 3.1 and you have installed WebSphere Application Server, DB2, and have an application that you have installed on top of this middleware stack (the sample application from the ISAT Deploy Tutorial).

Part 1: Generate a deployment accelerator for the WebSphere application

The WebSphere Deployment Accelerator Project wizard can automatically create a deployment accelerator for your Web application, provided you have already installed a working version of your application into a test or development WebSphere Application Server environment (which we did for the sample application in the tutorial – Deploying a Sample Solution).

To create a deployment accelerator for the Document Manager sample application, perform the following steps:

1. Select **Start > Programs > IBM Solution Assembly Toolkit 3.1 > Express Runtime Developer** to launch the ISAT development environment.
2. Select **File > New > WebSphere Deployment Accelerator Project**. The WebSphere Deployment Accelerator Project wizard is displayed (Figure 2-1). (If the **WebSphere Deployment Accelerator Project** option is not visible, make sure you are on the Express Runtime Developer perspective.)
3. Provide a name for the WebSphere Project. For this lab, enter **ACME_Was_App** as the **Project name**, the **Application ID** will be filled in for you. Click **Next**.

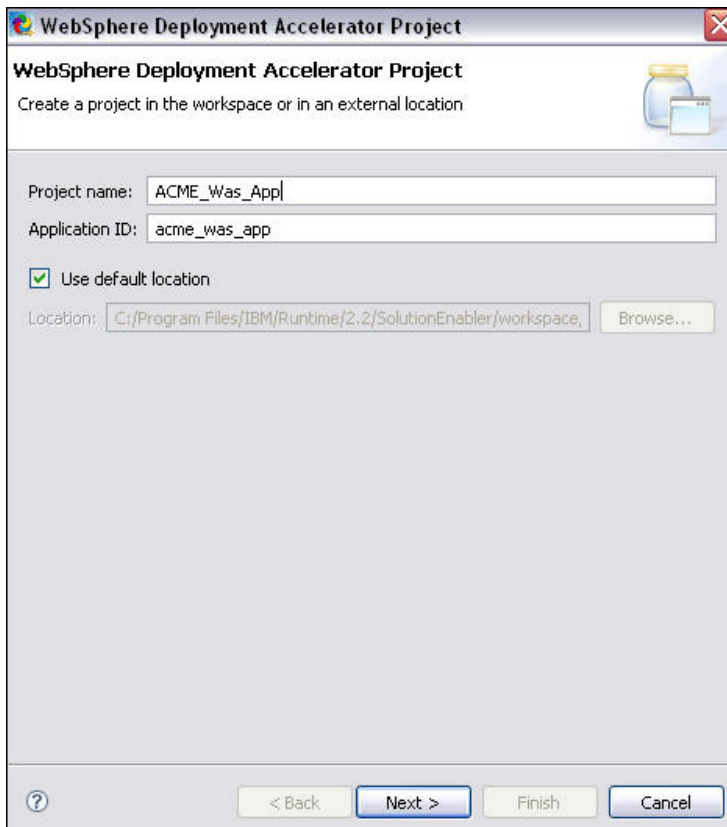


Figure 2-1 WebSphere Deployment Accelerator Project wizard

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4. 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**.

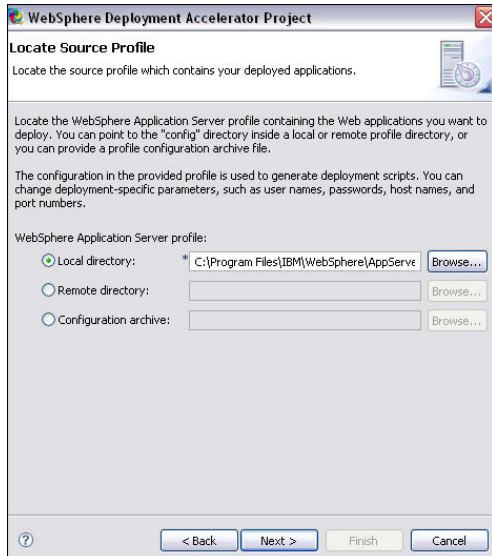


Figure 2-2 Locate the source profile of WAS server

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.

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

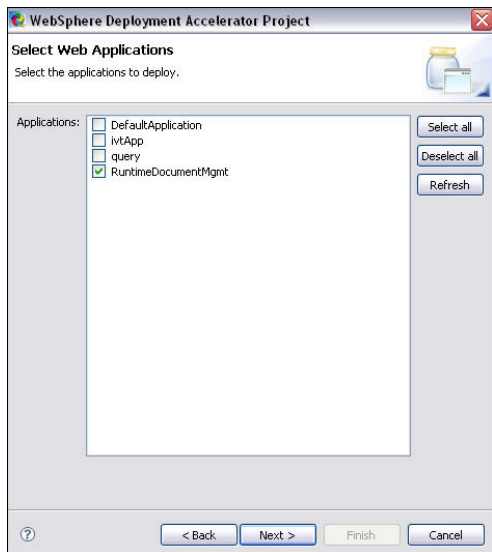


Figure 2-3 Specify Web application

6. 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**.

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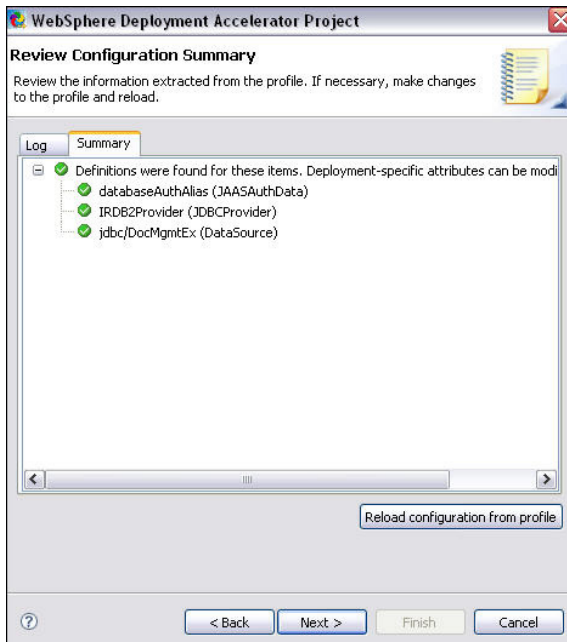


Figure 2-4 WebSphere application configuration summary

7. The wizard allows you to specify the profile you want to use as the target profile during deployment (Figure 2-5). Accept the defaults and click **Next**.

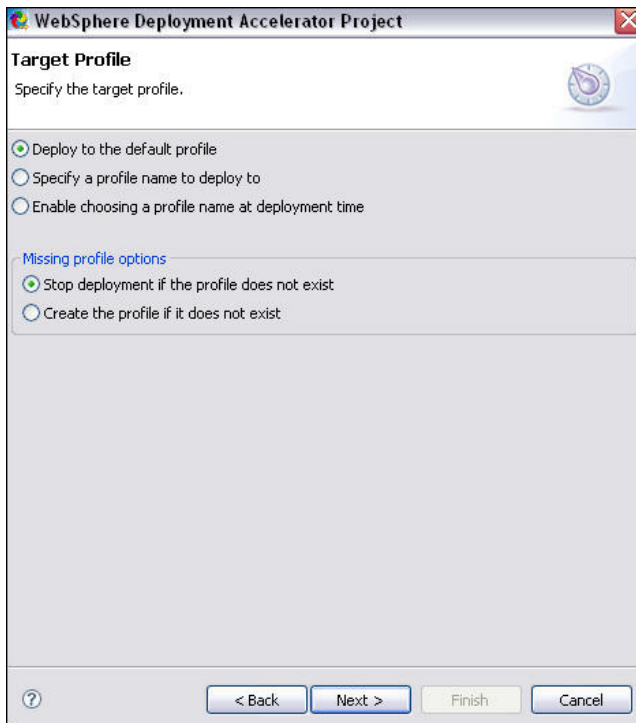


Figure 2-5 Target Profile Options panel

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- The wizard allows you to specify which application server in the profile you want to use as the target during deployment (Figure 2-6). Accept the defaults and click **Next**.

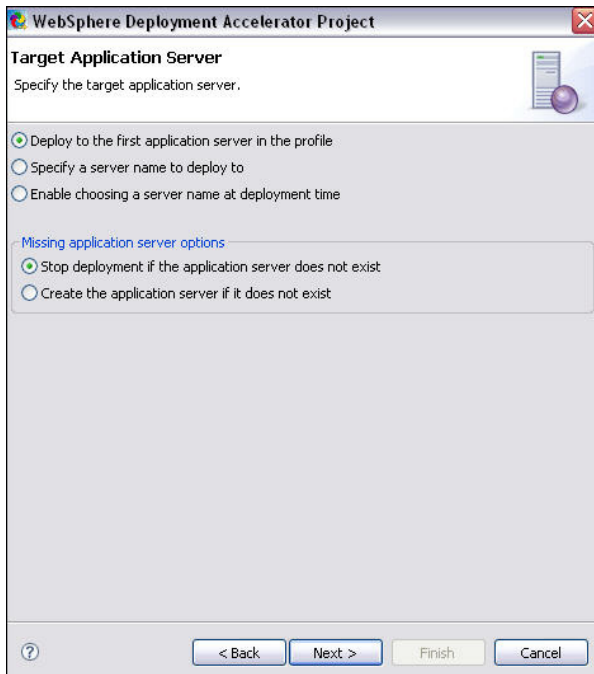


Figure 2-6 Target Application Server Options panel

- The wizard allows you to modify the default settings for the application server by setting heap size, the maximum number of log files kept, adding JAR files to the classpath, and setting system JVM properties (Figure 2-7). Accept the default settings and click **Next**.

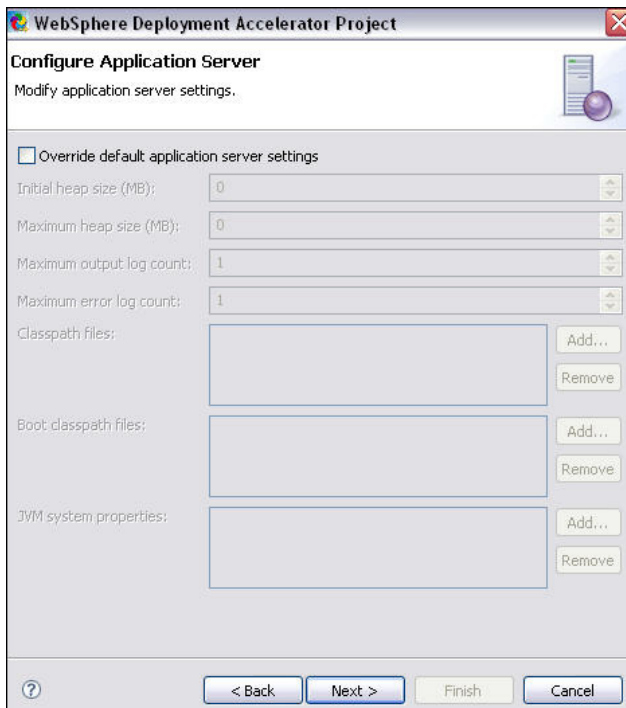


Figure 2-7 Configure Application Server Settings panel

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10. The wizard allows you to specify which web server is required (Figure 2-8). Accept the defaults and click **Next**.

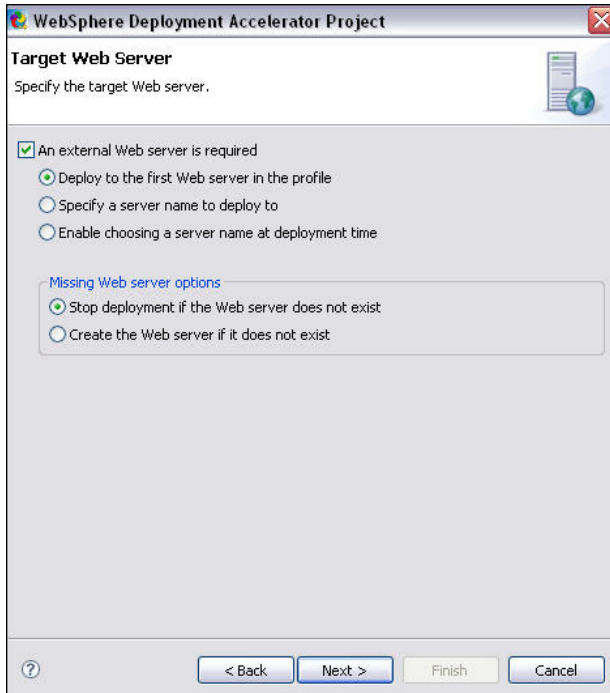


Figure 2-8 Target Web Server Options panel

11. The wizard allows you to specify your own Jacl or Jython scripts to run during the deploy (Figure 2-9). For this exercise, we will let the wizard generate those scripts for us. Click **Next**.

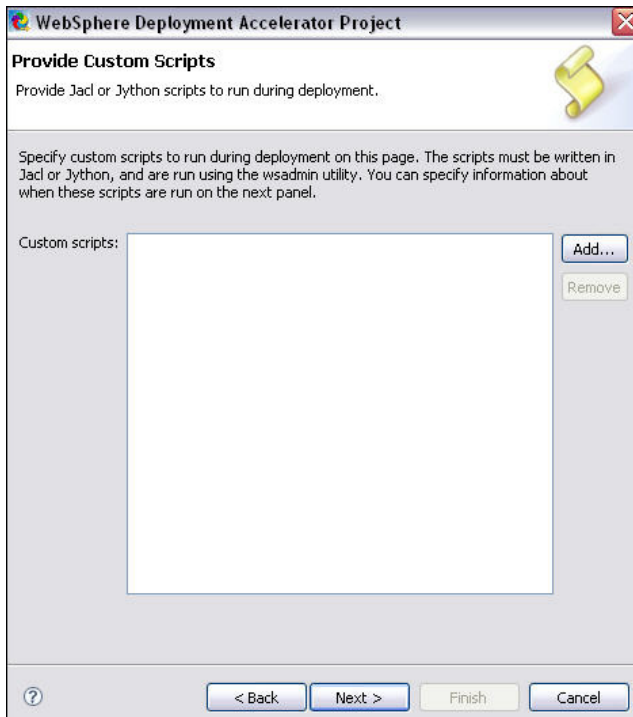


Figure 2-9 Custom Scripts panel

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12. The wizard allows you to add additional steps to be performed during deployment (Figure 2-10). Accept the defaults and click **Next**.



Figure 2-10 Deployment Options panel

13. The wizard allows you to modify the default settings for the application by opting to precompile JSP files, deploy enterprise beans, and to deploy the application as a Web service (Figure 2-11). Accept the default settings and click **Next**.

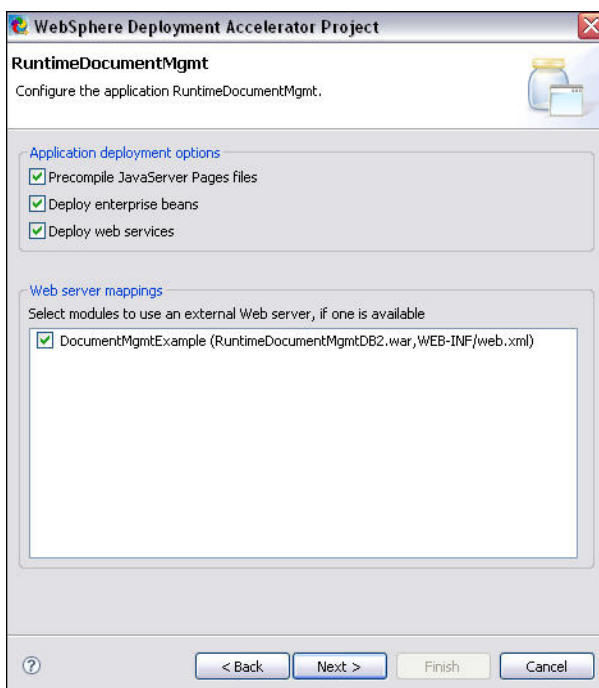


Figure 2-11 Configure Application panel

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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 2-12). Click **OK** for the wizard to automatically locate the files on the local computer.

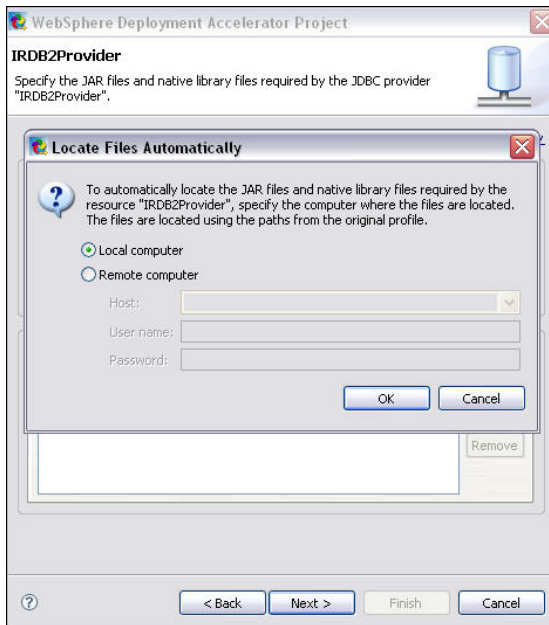


Figure 2-12 Locating JAR files and native library files

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.

- You will see that the *Classpath files* and *Native libraries* are displayed on the panel (Figure 2-13). Click **Next**.

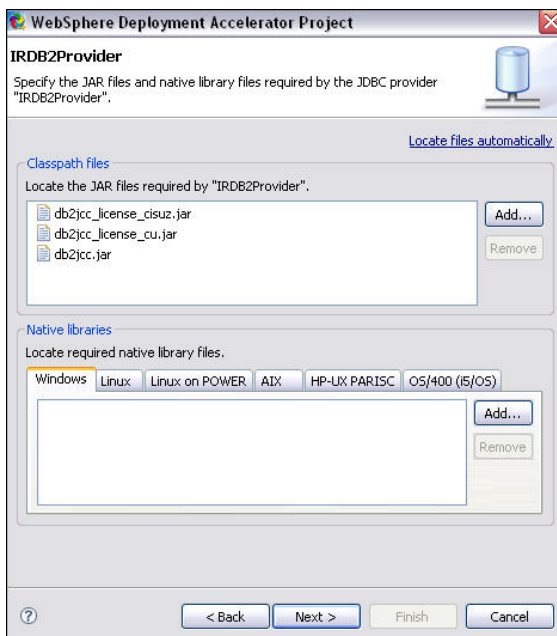


Figure 2-13 Classpath and Native library files

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Note: If you do not see the **Locate Files Automatically** window in Figure 2-12, click on **Locate files automatically** at top right corner of the panel (refer to Figure 2-14). You could also click the **Add** button to browse to the directory that contains those files.

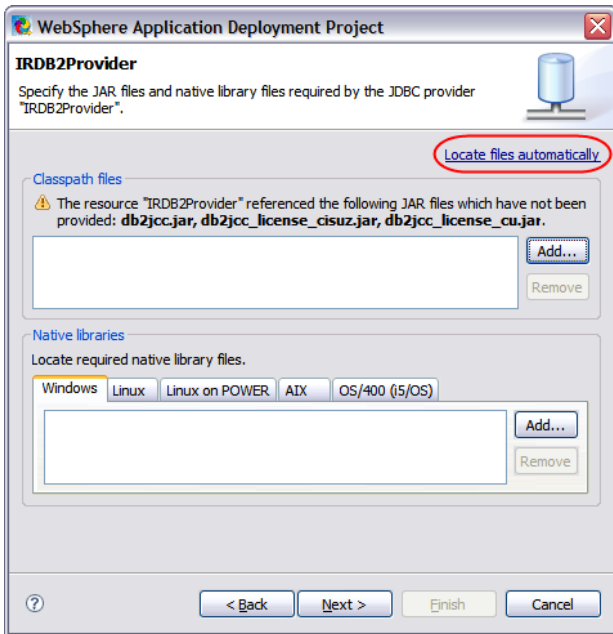


Figure 2-14 Manually locate WebSphere application files

16. You will see the resource specific options (Figure 2-15). Accept the default values and click **Next**.

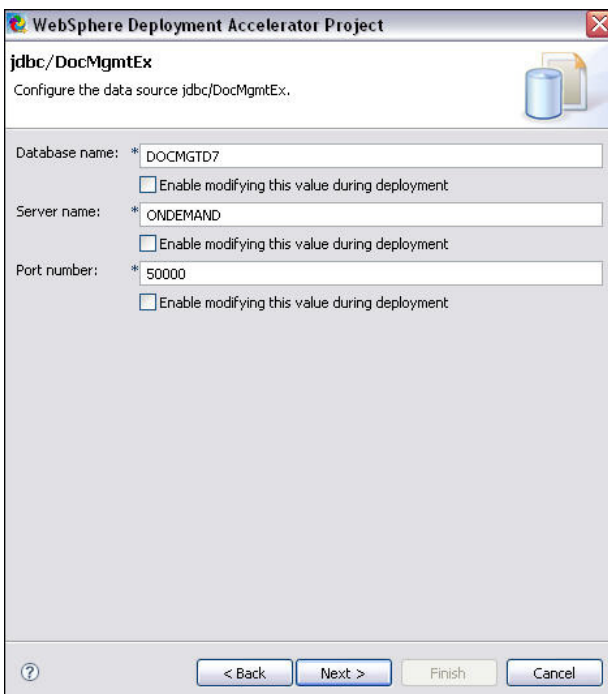
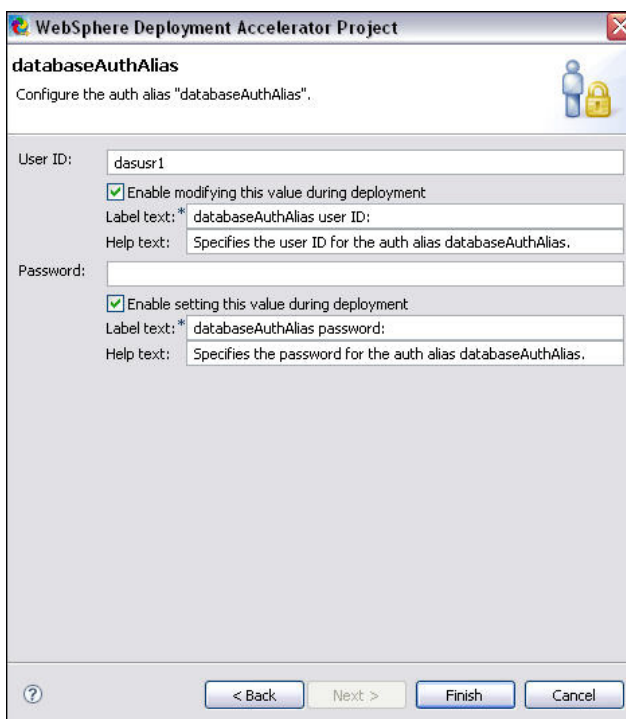


Figure 2-15 Resource Specific Options panel

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17. The wizard allows you to set the default values for the User ID and password to access the database (Figure 2-16). It also allows these values to be modified by the installer.
18. For this lab, accept the default value for the User ID.
19. For the User ID, check the box **Enable modifying this value during deployment** to let these values be exposed at deployment time.
20. For the Password, check the box **Enable setting this value during deployment** to let these values be exposed at deployment time.
21. You may optionally change the label and help text for these fields.
22. Next, click **Finish** to create the application project.



The screenshot shows a wizard window titled "WebSphere Deployment Accelerator Project" with a sub-header "databaseAuthAlias". Below the sub-header, it says "Configure the auth alias 'databaseAuthAlias'." There are two main sections: "User ID:" and "Password:". The "User ID:" section has a text box containing "dasusr1", a checked checkbox "Enable modifying this value during deployment", a "Label text:" field with "databaseAuthAlias user ID:", and a "Help text:" field with "Specifies the user ID for the auth alias databaseAuthAlias.". The "Password:" section has an empty text box, a checked checkbox "Enable setting this value during deployment", a "Label text:" field with "databaseAuthAlias password:", and a "Help text:" field with "Specifies the password for the auth alias databaseAuthAlias.". At the bottom, there are four buttons: "?", "< Back", "Next >", "Finish", and "Cancel".

Figure 2-16 Specify administrator access

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23. From the **Express Runtime Explorer**, you will see that the **ACME_Was_App** application deployment accelerator is created and opened in the Editor panel (Figure 2-17).

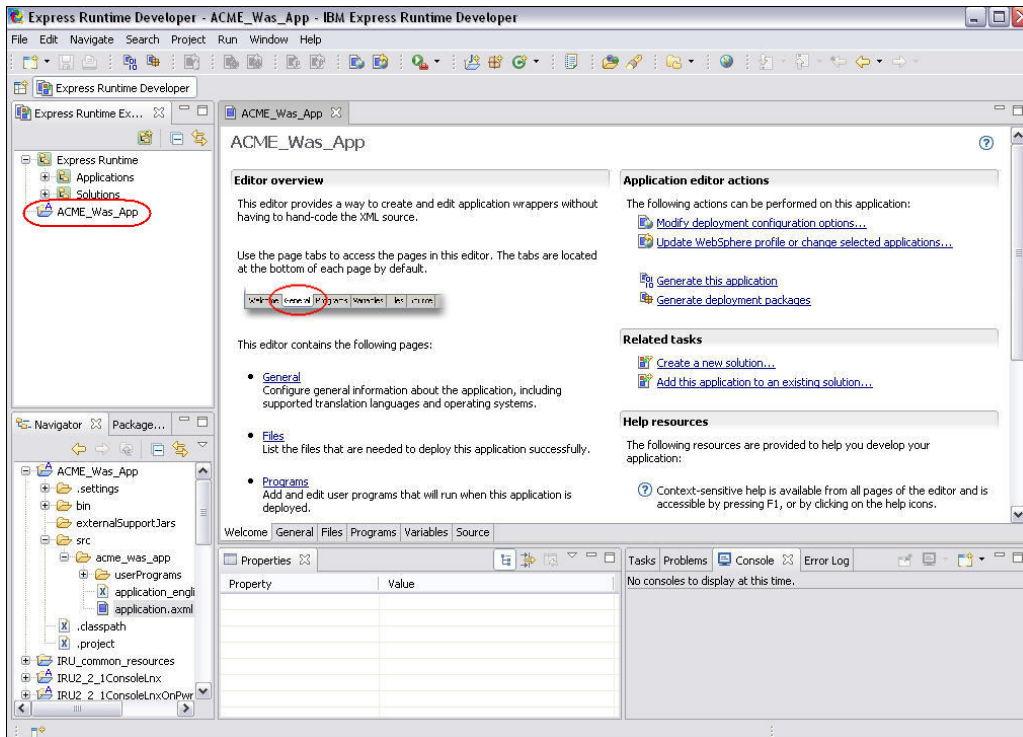


Figure 2-17 WebSphere application deployment accelerator created

24. You may want to explore through the files generated for this deployment accelerator using the Navigation panel. When you are finished, close the **ACME_Was_App** deployment accelerator in the Editor panel.

Congratulations! You have successfully created a deployment accelerator, 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!

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Part 2: Generate a deployment accelerator for our sample database

The Database Deployment Accelerator Project wizard can automatically create a deployment accelerator for your database. (We will use the sample database we created in Lab 1).

To create a deployment accelerator for the Document Manager sample database, perform the following steps:

1. Select **File > New > Database Deployment Accelerator Project**. The Database Deployment Accelerator Project wizard is displayed (Figure 2-18).
2. Provide a name for the Database Project. For this lab, enter **ACME_DB** as the **Project name**, the **Application ID** will be filled in for you. Click **Next**.

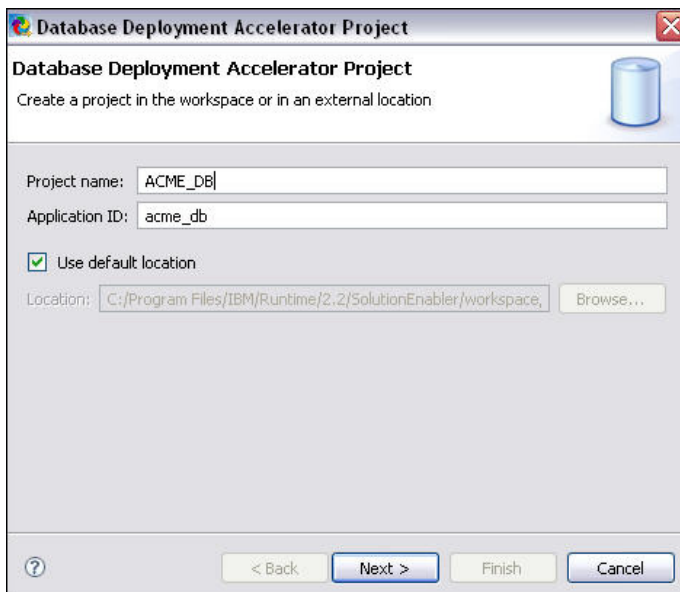


Figure 2-18 Database Deployment Accelerator Project wizard

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3. Select **IBM DB2 Database for Linux, UNIX, and Windows** as the type of database you are going to create (Figure 2-19). Click **Next**.

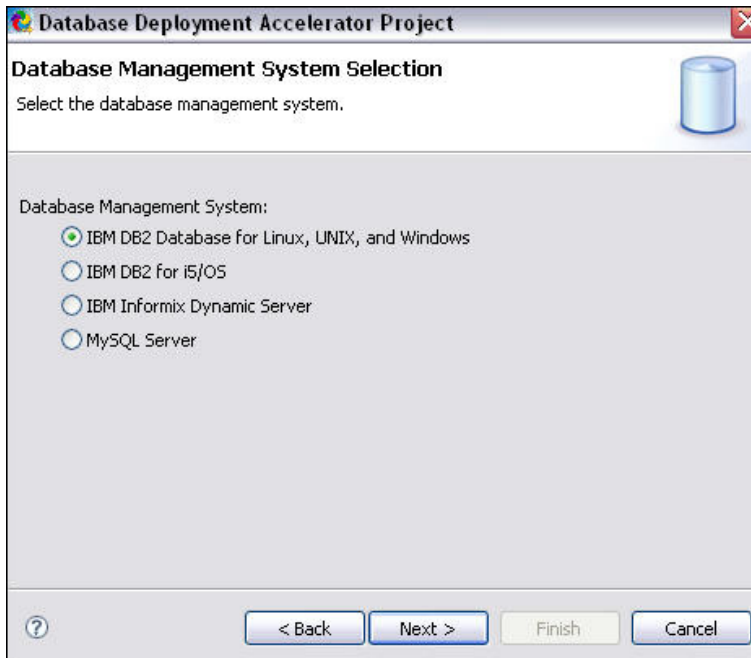


Figure 2-19 Database Management System Selection

4. The Database wizard allows you to specify whether you want to create a database from an existing DDL file and populate it using an SQL file or if you want to derive the database definition from an existing database and use it as a prototype (Figure 2-20). Accept the defaults to create the database and its content using an existing database. Click **Next**.

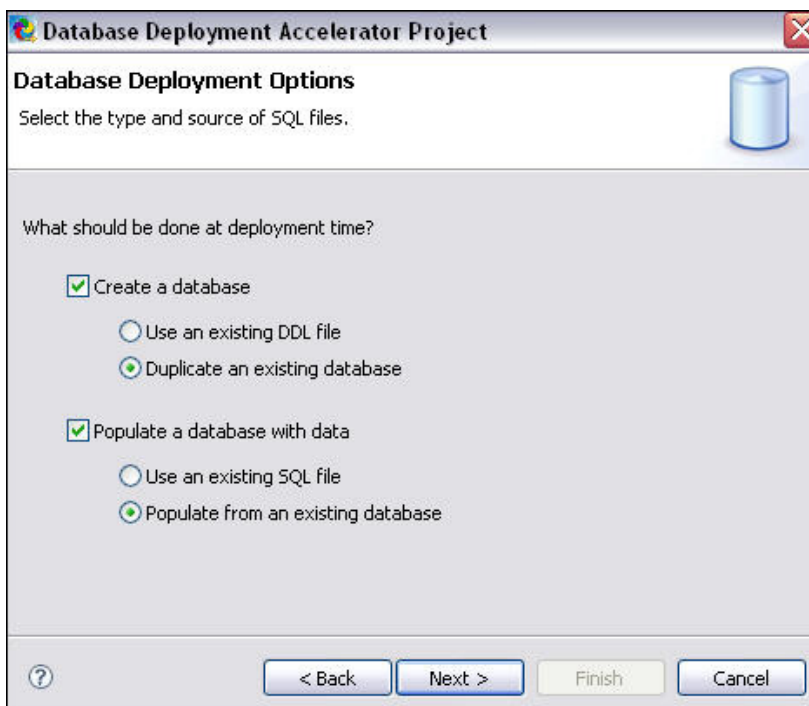


Figure 2-20 Database Deployment Options panel

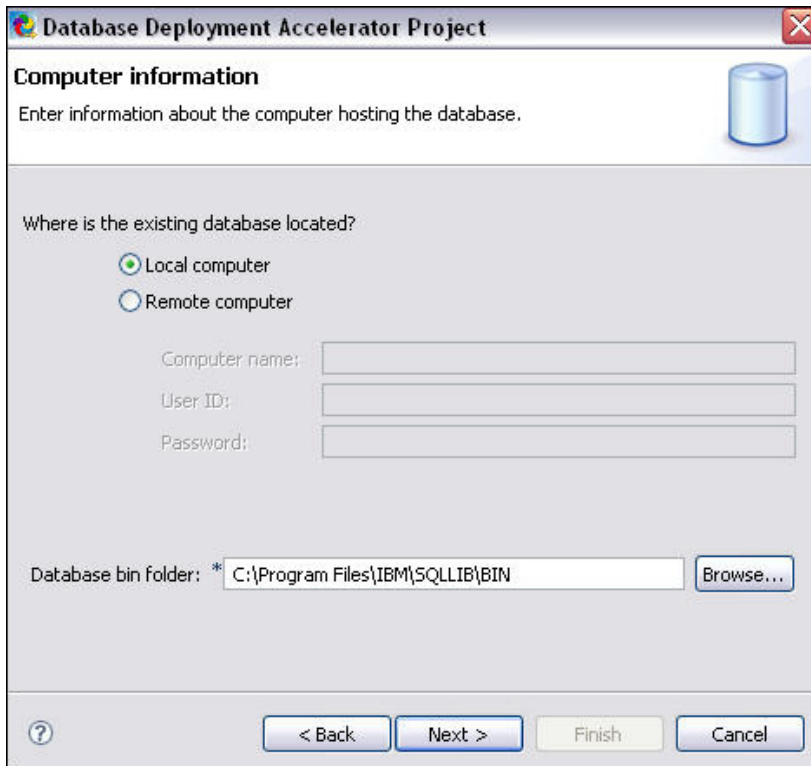
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- Next, you are asked to identify the location of the existing database (Figure 2-21). In the **Database bin folder** field enter:

C:\Program Files\IBM\SQLLIB\BIN

Click **Next**.



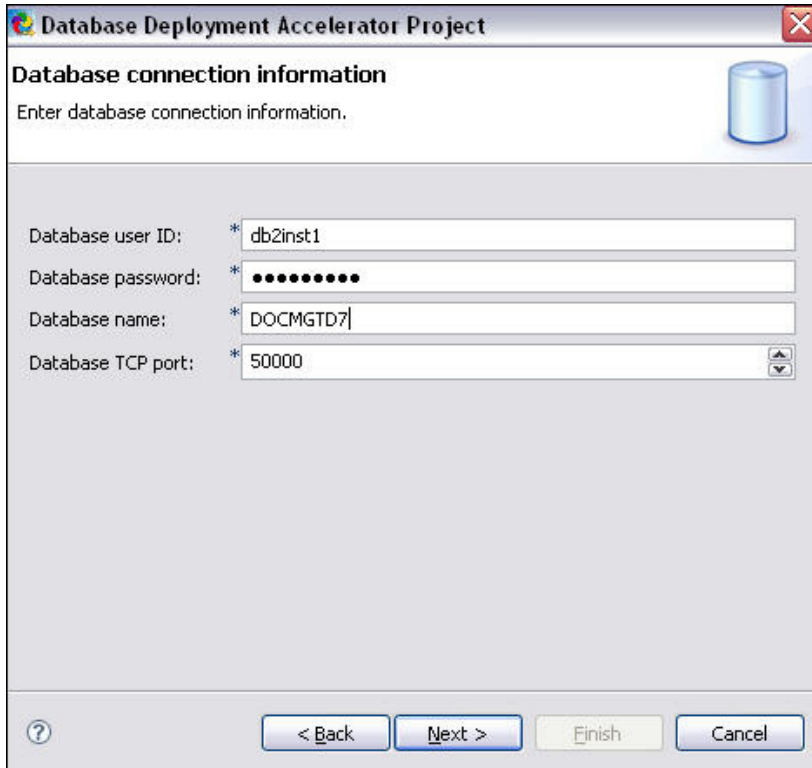
The screenshot shows a Windows-style dialog box titled "Database Deployment Accelerator Project". The main heading is "Computer information" with a sub-instruction: "Enter information about the computer hosting the database." Below this, a question asks "Where is the existing database located?" with two radio button options: "Local computer" (which is selected) and "Remote computer". Under the "Remote computer" option, there are three text input fields labeled "Computer name:", "User ID:", and "Password:". At the bottom of the form, there is a text field for "Database bin folder:" containing the path "C:\Program Files\IBM\SQLLIB\BIN" and a "Browse..." button. The bottom of the window features a help icon, a "< Back" button, a "Next >" button, a disabled "Finish" button, and a "Cancel" button.

Figure 2-21 WebSphere application configuration summary

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6. The wizard allows you to specify the information needed to access the existing database (Figure 2-22).



The screenshot shows a window titled "Database Deployment Accelerator Project" with a close button in the top right corner. The main area is titled "Database connection information" and contains the instruction "Enter database connection information." To the right of this text is a blue cylinder icon representing a database. Below the instruction are four input fields, each with an asterisk indicating it is required:

- Database user ID: * db2inst1
- Database password: * ••••••••
- Database name: * DOCMGTD7
- Database TCP port: * 50000

At the bottom of the window, there is a help icon (question mark) on the left and four buttons: "< Back", "Next >", "Finish", and "Cancel".

Figure 2-22 Database Connection Information panel

Set the following values:

- Database user ID: **db2inst1**
- Database password: **db2admin**
- Database name: **DOCMGTD7**
- Database TCP port: **50000**
- Click **Next**

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- The wizard allows you to specify the database schema to be used when generating the database definition file (Figure 2-23). Accept the default and click **Next**.

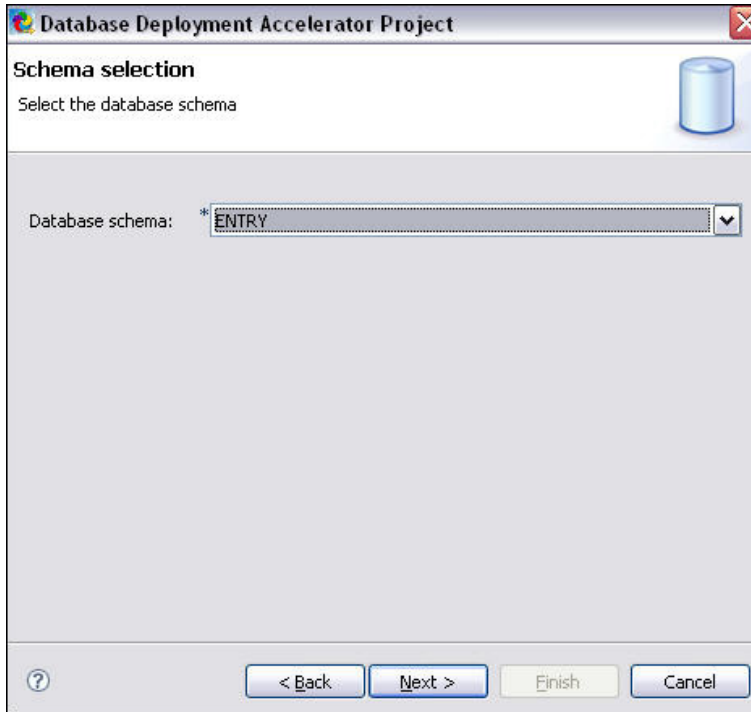


Figure 2-23 Schema Selection panel

- The wizard allows you to generate the database definition file for the entire database or only for selected tables in the existing database (Figure 2-24). Accept the default settings and click **Next**.

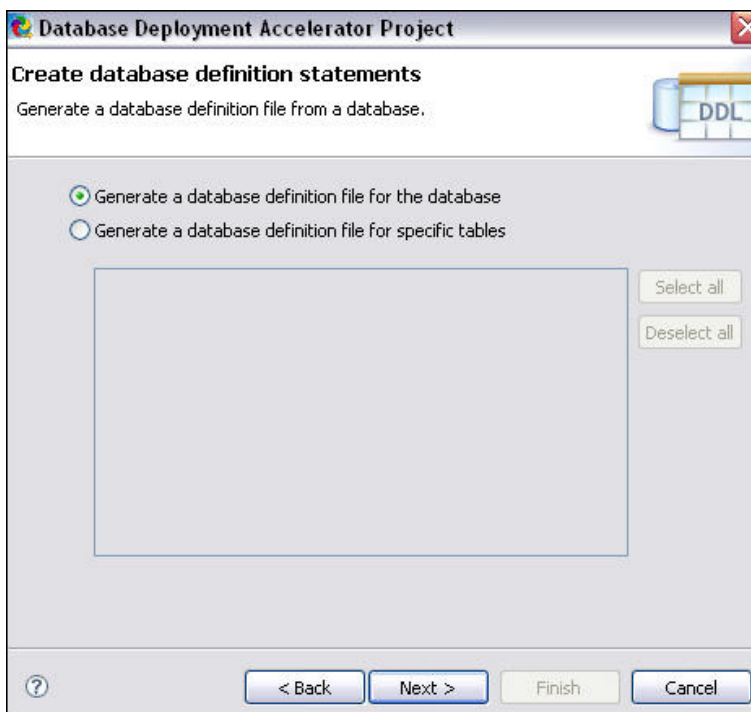


Figure 2-24 Database Definition Options panel

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- The wizard allows you to customize the command that gathers the information about the existing database (Figure 2-25). Accept the defaults and click **Next**.

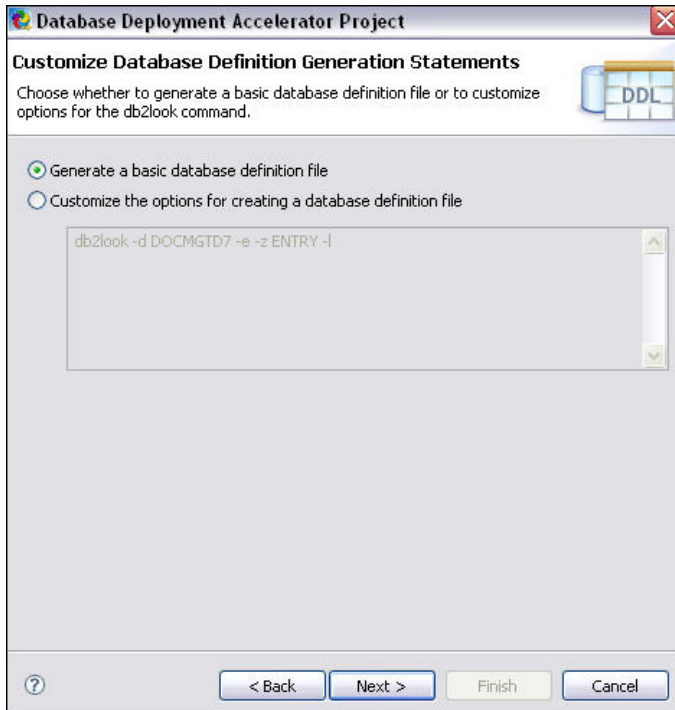


Figure 2-25 Customize Database Definition Command panel

- The wizard gives you the option of populating data for the entire database or only for specific tables (Figure 2-26). Accept the default and click **Finish** to create the database project.

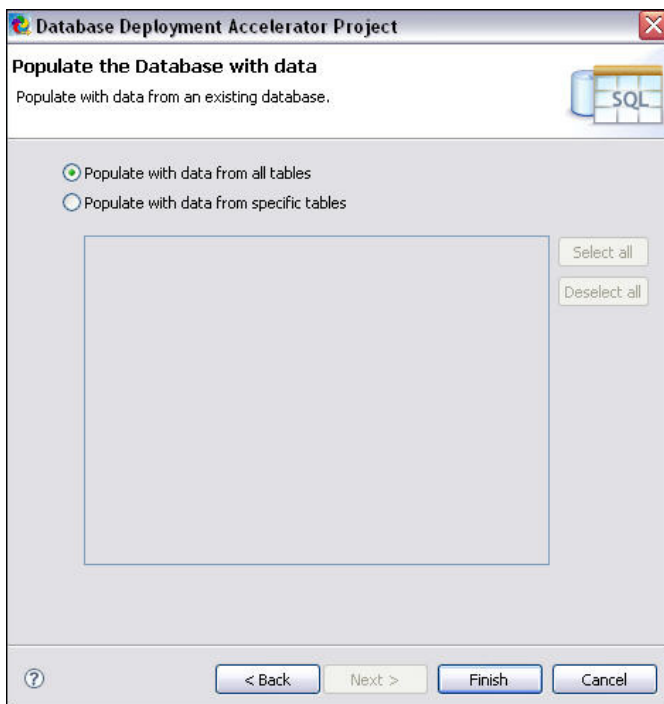


Figure 2-26 Populate Database Options panel

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11. From the **Express Runtime Explorer**, you will see that the **ACME_DB** database deployment accelerator is created and opened in the Editor panel (Figure 2-27).

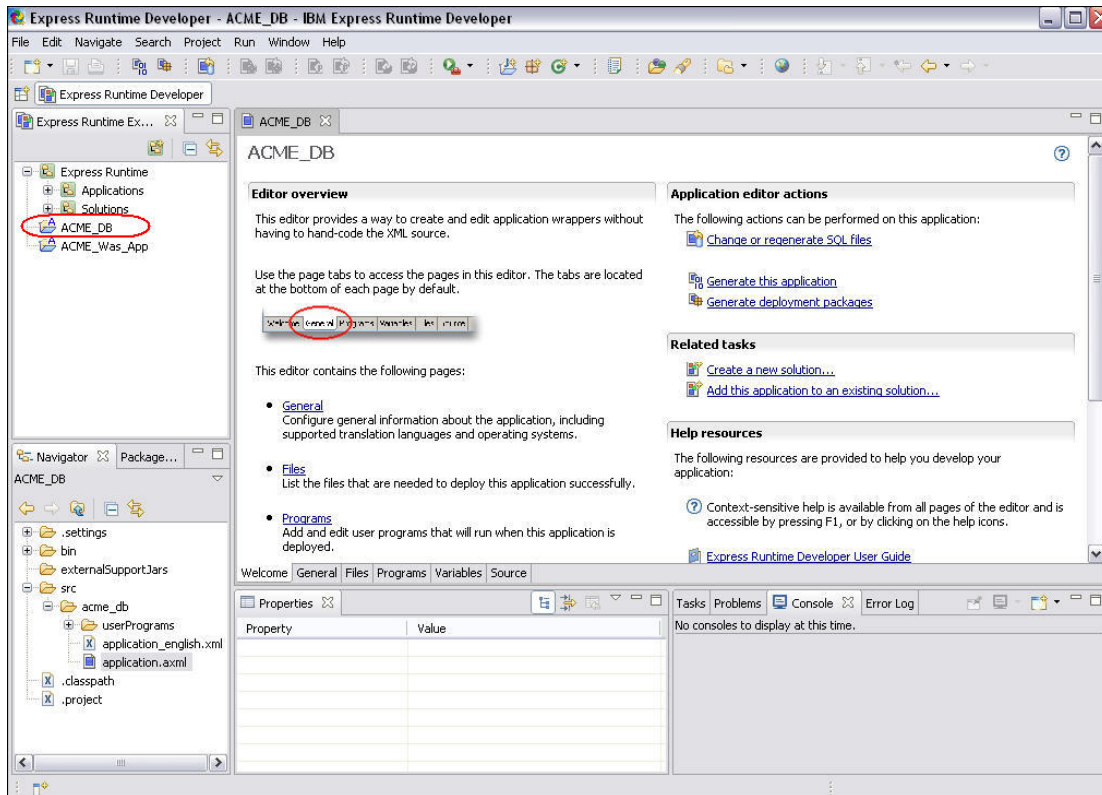


Figure 2-27 Database deployment accelerator created

12. You may want to explore through the files generated for this deployment accelerator using the Navigation panel. When you are finished, close the **ACME_DB** deployment accelerator in the Editor panel.

Congratulations! You have successfully created a deployment accelerator, which contains all of the necessary SQL scripting to create and populate your sample database. And you have written **ZERO** lines of code to achieve this!

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Part 3: Adding these deployment accelerators to an integrated solution

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

1. Select **File > New > Solution Deployment Accelerator Project**. The Solution Deployment Accelerator Project wizard is displayed (Figure 2-28).
2. In the **Project name** field, specify the name of your solution project. For this exercise, enter **ACME_Solution**. Make sure you have specified **Use default location** and click **Next**.

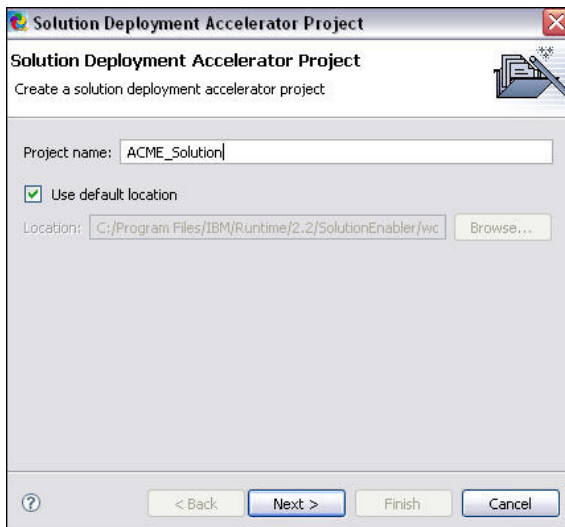


Figure 2-28 Solution Deployment Accelerator Project

3. You will see a summary of the solution information (Figure 2-29) – accept the default values and click **Finish** to create the solution project.

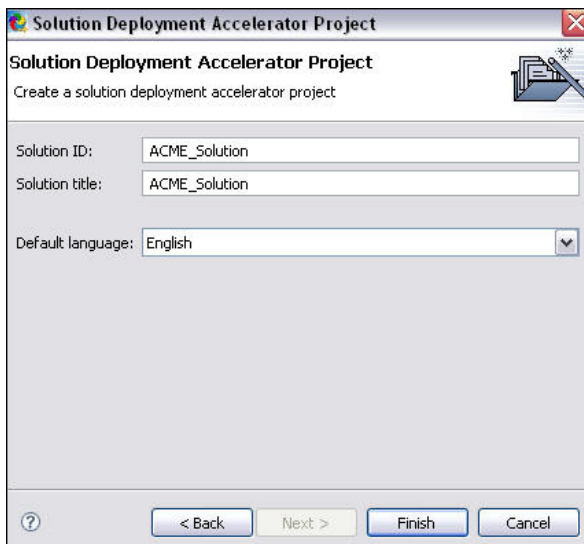


Figure 2-29 Solution Deployment Accelerator Project

4. From the **Express Runtime Explorer**, you will see that the **ACME_Solution** deployment accelerator is created and opened in the Editor panel (Figure 2-30).

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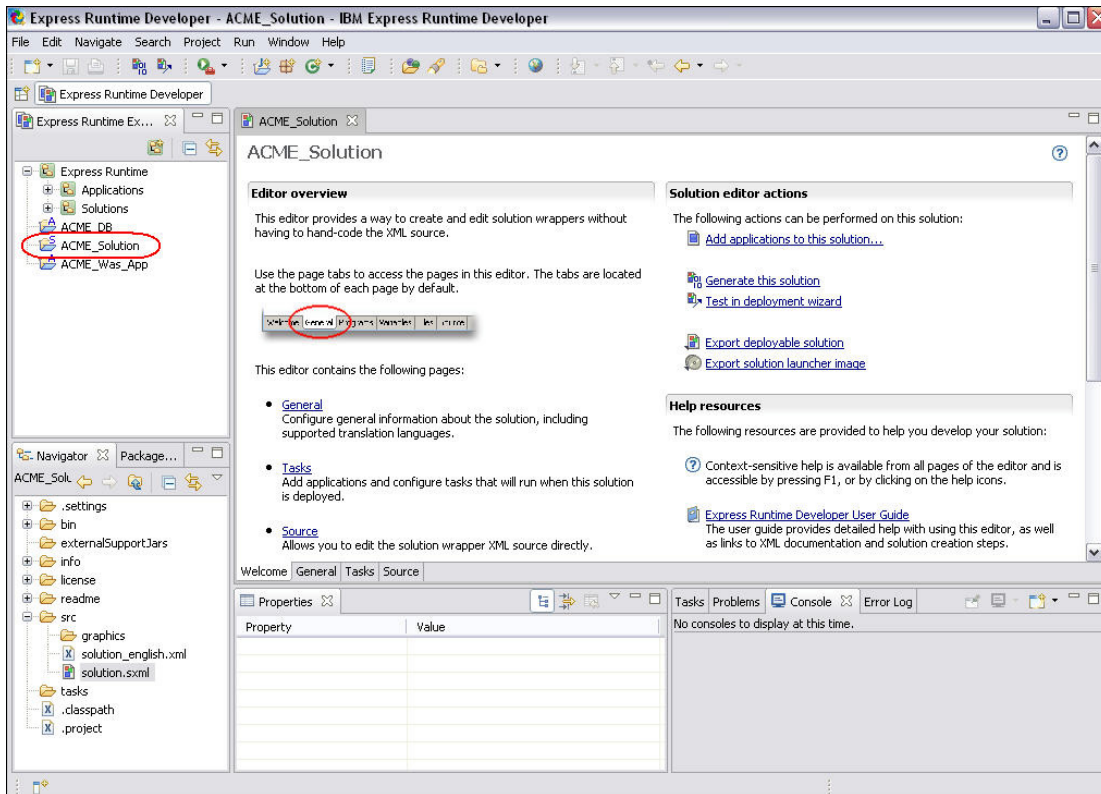


Figure 2-30 ACME_Solution

5. In the Editor panel, click on the **Tasks** tab. There are no tasks currently defined, so we'll create one.

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- Click **Add...** under the **Solution Tasks** section. On the **Add Solution Tasks** wizard (Figure 2-31), select **Create an empty install task** and click **Next**

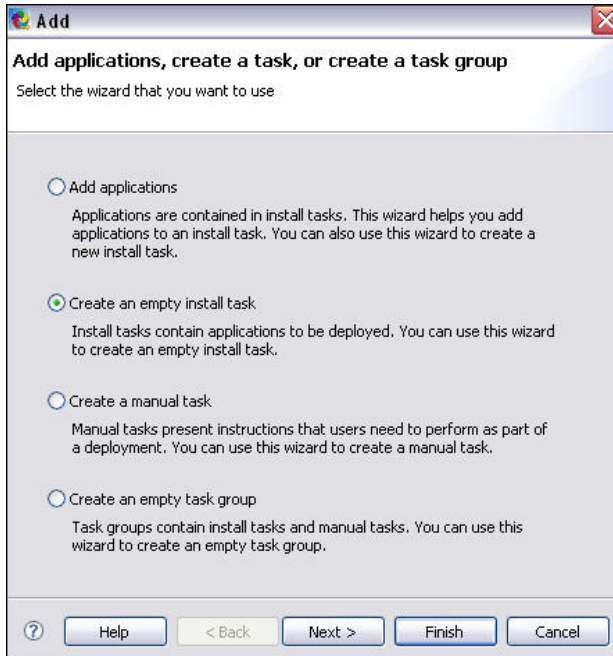


Figure 2-31 Add Solution Tasks wizard

- Enter the description of the task (Figure 2-32) that you want to appear during deployment.



Figure 2-32 Add Solution Tasks wizard

- Click **Finish** to add the new task to your solution.
- In the Editor panel, you will now have one task in the **Solution Tasks** section. Select it and click **Add...** On the **Add Solution Tasks** wizard (Figure 2-33), select **Add applications** and click **Next**.

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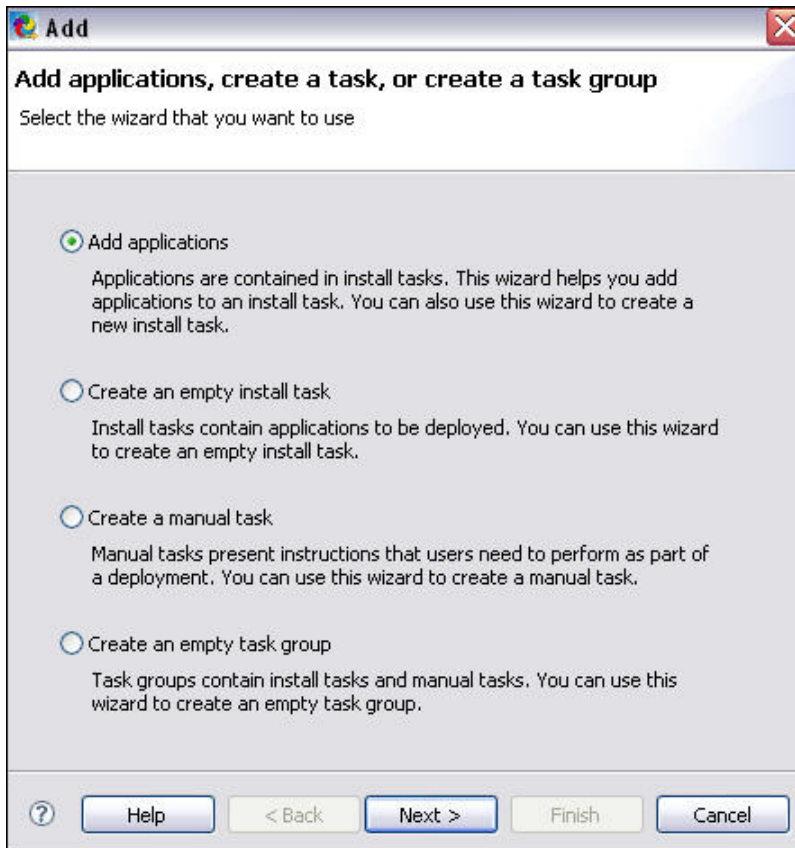


Figure 2-33 Add Solution Tasks wizard

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10. You will be presented with a list of all the application deployment accelerators in the workspace (Figure 2-34). Select the following applications:

- ACME_DB
- ACME_Was_App
- IBM HTTP Server Configuration
- Windows – DB2 Express
- Windows – IBM HTTP Server
- Windows – Web server plug-ins for IBM
- Windows – Websphere Application Server Express

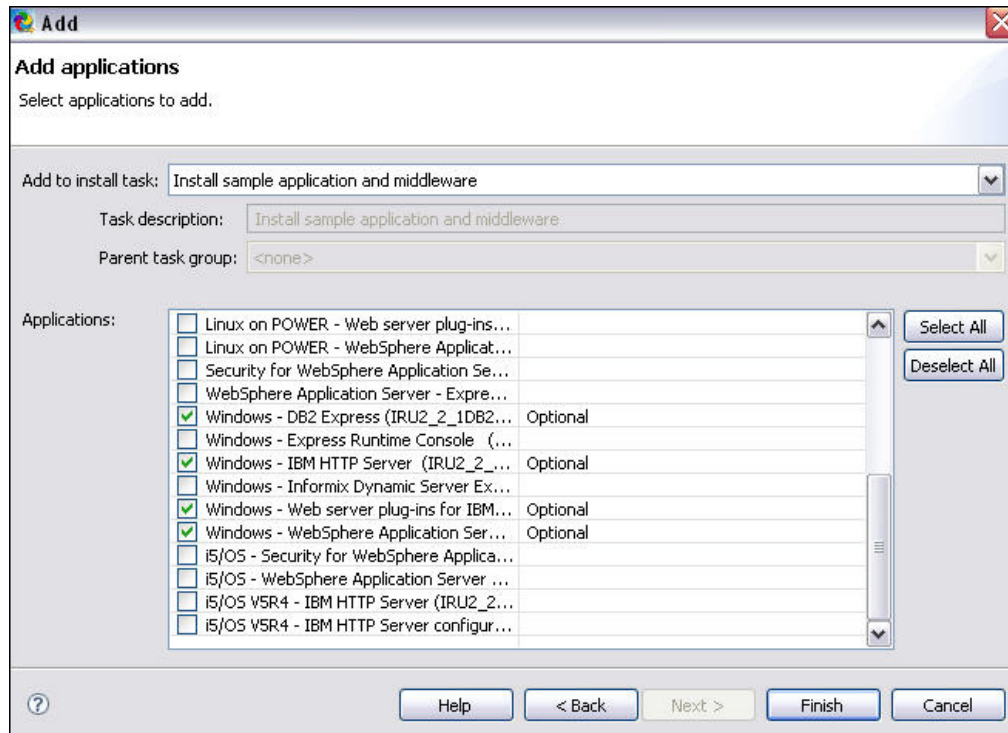


Figure 2-33 Add Solution Tasks wizard

11. Click **Finish** to add the selected applications to your install task.

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12. In the **Solution Tasks** section, select the individual applications and click **Up** or **Down** to reorder your list to match the one in Figure 2-34.

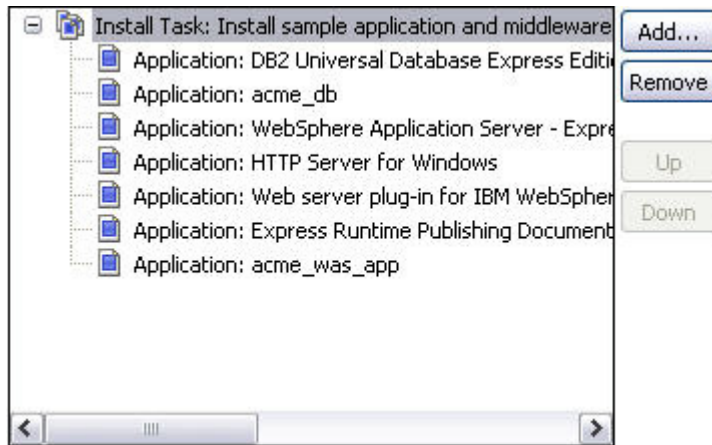


Figure 2-34 Solution Tasks list

13. Perform the steps to generate the solution. To do this, right-click on **ACME_Solution** in the Developer panel, select **Generate Solution**. You should see Figure 2-35 when the operation is complete.

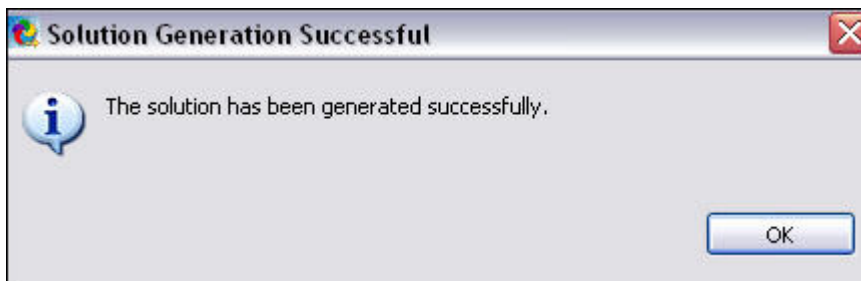


Figure 2-35 Solution Generation complete

Congratulations! You have successfully created an integrated solution, which includes the Web application, and sample database generator along with the middleware components needed to run the application.