Slide 1

Introduction to the PlantsByWebSphere application

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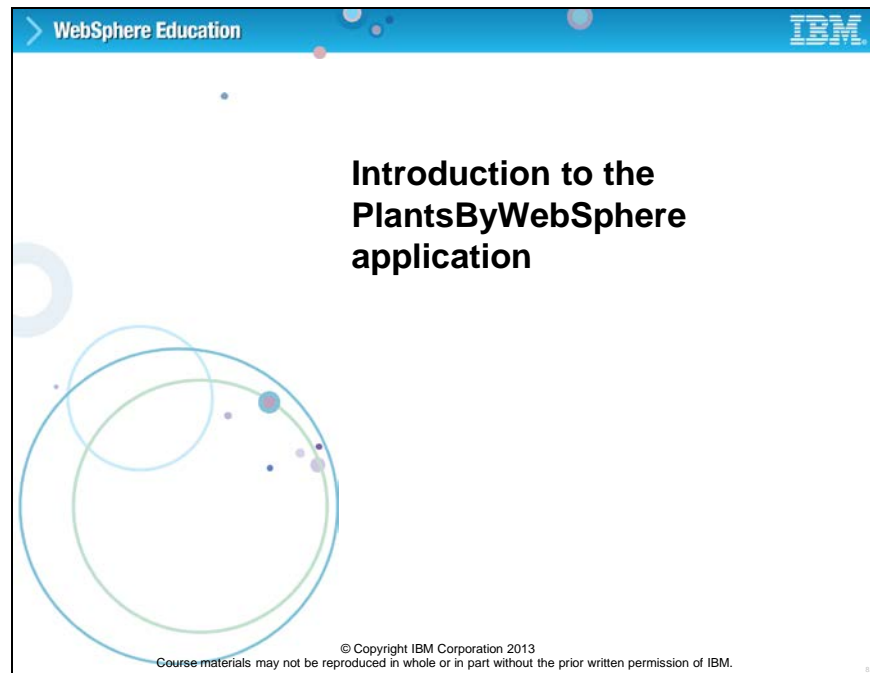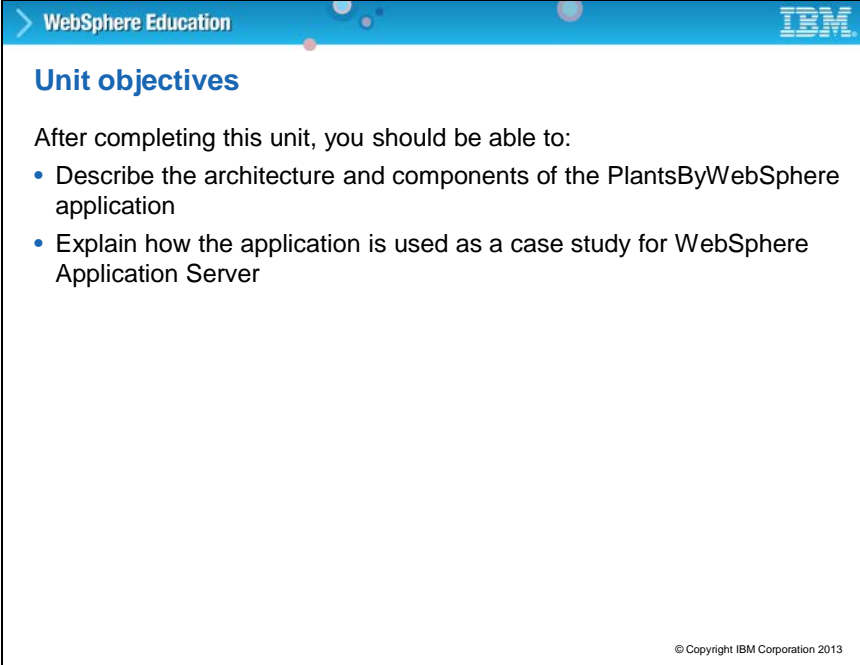Course materials may not be reproduced in whole or in part without the prior written permission of IBM.

Unit 8: Introduction to PlantsByWebSphere

This unit describes the PlantsByWebSphere application architecture and how it is used to demonstrate WebSphere Application Server concepts and functions.

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Title: Unit objectives

After completing this unit, you should be able to:

- Describe the architecture and components of the PlantsByWebSphere application
- Explain how the application is used as a case study for WebSphere Application Server

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Title: PlantsByWebSphere application

PlantsByWebSphere is a simple shopping cart application that is available with the WebSphere Application Server distribution. It uses Derby as its database, but can also be configured to work with other databases such as DB2.

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Title: PlantsByWebSphere sample

PlantsByWebSphere is a sample application that ships with the product. There are numerous other sample applications, which are now available through the information center. In previous versions of WebSphere, these other samples were available directly through the WebSphere Application Server distribution.

For educational purposes, the PlantsByWebSphere application is modified slightly. This modification is made to more easily demonstrate several functional issues that are useful to point out in this class.

- To demonstrate session failover in a clustered environment, an extra link is added to the Help page. This link shows server information so that it is easy to understand where the server affinity is mapped.
- To more easily demonstrate application security, an extra link that is called Admin Home is also added to the Help page. This link makes it easier to access the Admin servlet, which is protected through Java EE security. Otherwise, the user must type in the URL (or use a bookmark).

This course also uses DB2 instead of Derby, giving students a chance to configure data sources and JDBC drivers (instead of relying on the embedded definitions as part of the enhanced EAR). If it is necessary to rebuild the DB2 database, you can run the CreateDB script in the software directory of your course VMware image.

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Title: Home page: http://<hostname>/PlantsByWebSphere

This slide shows the home page for the PlantsByWebSphere application.

To access the PlantsByWebSphere application, enter the web address

http://localhost/PlantsByWebSphere in your browser and you see the home page that is shown

here.

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Title: Login and registration

This screen shows the Login and Registration screens for the PlantsByWebSphere application.

It is not necessary to log in to the application unless the user wants to go through the purchasing screens.

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Title: My Account

When you log in to the application successfully, you see this screen. It shows the My Account page for the PlantsByWebSphere application. If this screen shows user information, then the user is already logged in. If not, a login screen is displayed.

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Title: Shopping

This screen shows three of the shopping tabs for the PlantsByWebSphere application. These include Trees, Flowers, and Fruits & Vegetables. From these screens, users can click the individual items and add them to their cart.

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Title: Select an item

This screen shows the details for an individual item within the PlantsByWebSphere application.

Users can click **Add to cart** and continue to shop. Or, if they want, they can choose to check out.

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Title: Shopping cart

This screen shows the shopping cart screen for the PlantsByWebSphere application. From this screen, users can modify the quantities of their items, click **Checkout Now**, or continue to shop.

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Title: Checking out – billing information

This screen shows the first of the checkout screens for the PlantsByWebSphere application. This screen is where users confirm the billing and shipping information. They also must enter credit card data. Be careful here, as the format of the credit card information must be 16 digits with space as shown.

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Title: Checking out: Submit

After the billing information is entered, the user is able to click **Submit Order**.

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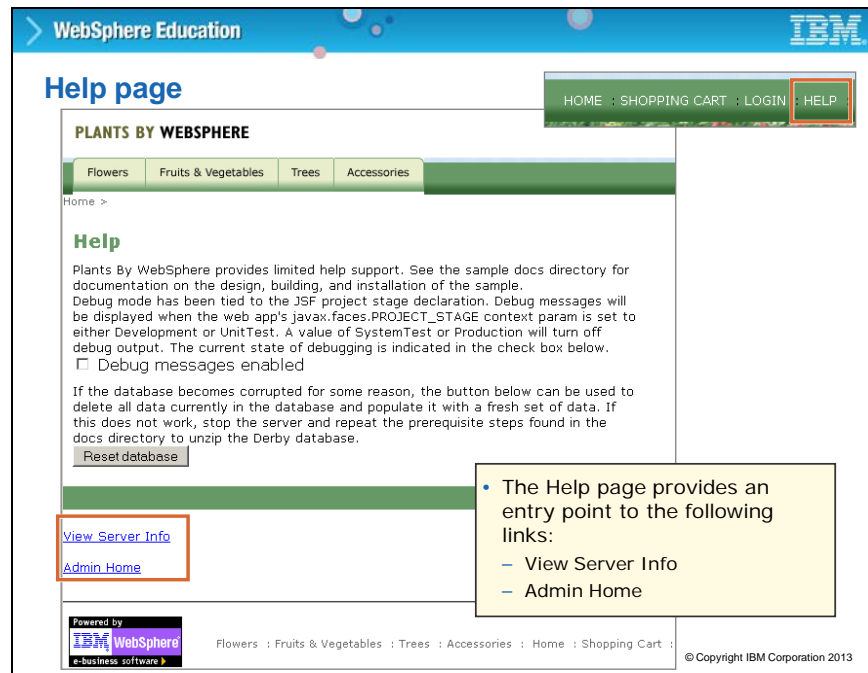
Title: Help page

The Help page provides an entry point to the following links: **View Server Info** and **Admin Home**. These links are added to the PlantsByWebSphere application especially for this course. They are not part of the PlantsByWebSphere EAR file that is distributed with the product.

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Title: View Server Info page

The View Server Info page shows which server is hosting the current connection. This information is useful for demonstrating server failover, since it is important to know which cluster member to stop.

The session data is used to demonstrate failover of session information through memory-to-memory replication.

The PlantsByWebSphere sample application does not store the shopping cart in an HTTP session object as an application might typically do, so it does not failover correctly in the event of a server failure. Instead, this session information field was created to demonstrate HTTP session object failover.
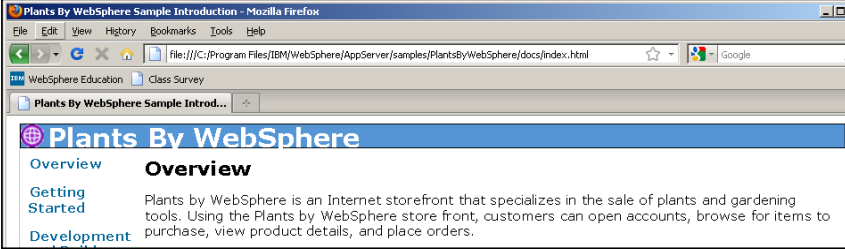
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Title: Admin home page

The administrative pages are mapped to a WebSphere application security role. When application security is enabled, authorization is required to access these pages.

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Title: HTML documentation for PlantsByWebSphere (1 of 2)

The following files contain potentially useful information about PlantsByWebSphere:

index.html and techNotes.html.

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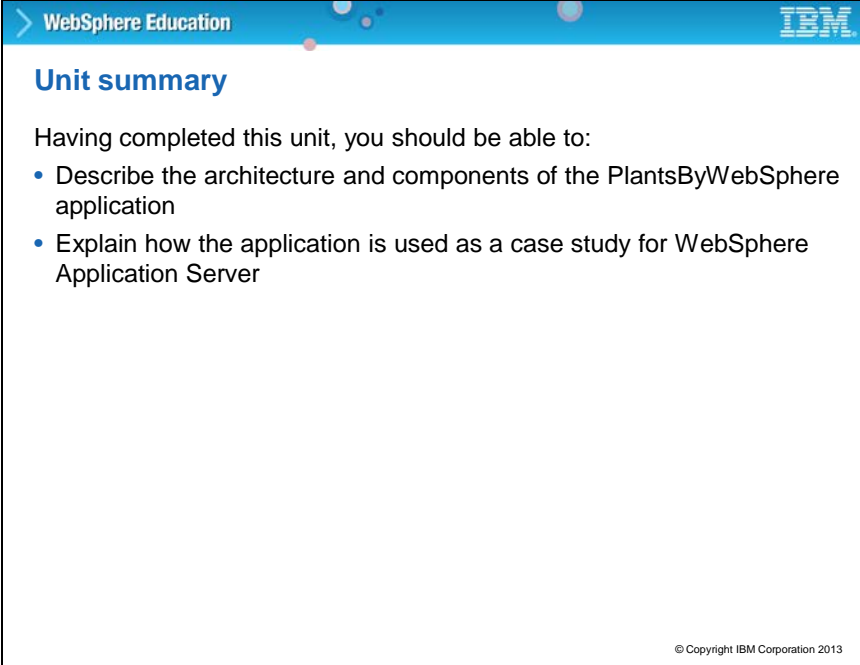**Title: HTML documentation for PlantsByWebSphere (2 of 2)**

The Technotes page provides information about the default email address and password. Also, the database tables and SQL statement for creating them are shown. A description of the Java objects that the application uses is also shown.

The Plants by WebSphere Sample incorporates the following technologies:

- Java Persistence API (JPA) entity beans
- Stateless session beans
- Stateful session beans
- Servlets
- JavaServer Faces (JSF) files and Facelets
- Java Platform, Enterprise Edition security

The Plants by WebSphere application is supported through a series of JSF pages and HTML pages. These pages communicate with the following servlets: AccountServlet, ShoppingServlet, ImageServlet, and AdminServlet. The servlets use the various enterprise bean business methods, which in turn, access data from the database as needed.

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Title: Unit summary

After completing this unit, you should be able to describe the PlantsByWebSphere application functions.