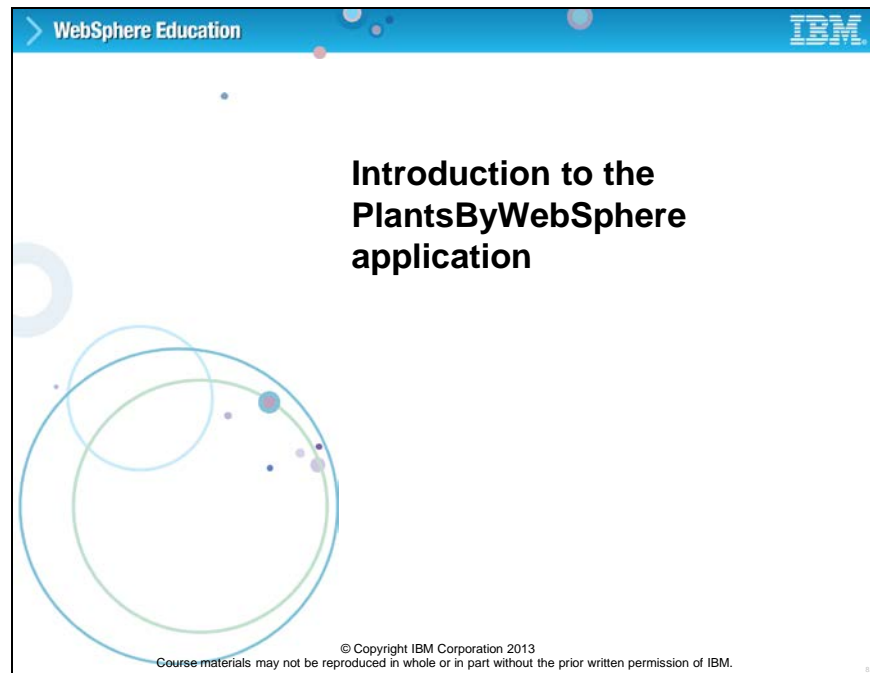


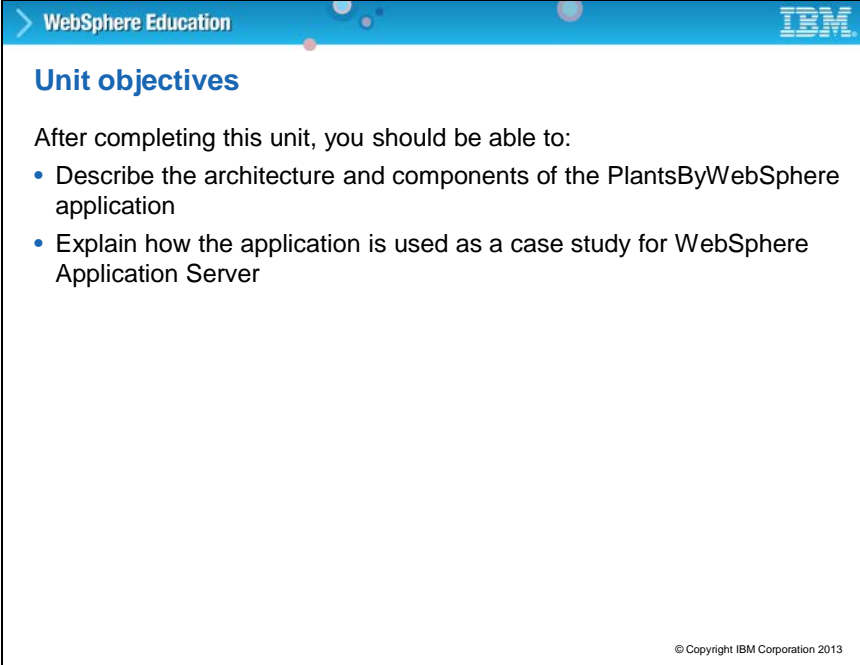
Slide 1



## 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.

Slide 2



The slide features a blue header bar with the text 'WebSphere Education' on the left and the 'IBM' logo on the right. Below the header, the title 'Unit objectives' is displayed in blue. The main content area contains the text 'After completing this unit, you should be able to:' followed by a bulleted list of two objectives. The bottom right corner of the slide contains the copyright notice '© Copyright IBM Corporation 2013'.

WebSphere Education

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### 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: 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

Slide 3

WebSphere Education 

## PlantsByWebSphere application



- Simple shopping cart application
  - Added server information
  - Uses Derby, but can use DB2
  - Built as an enhanced EAR

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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.

## Slide 4

WebSphere Education

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## PlantsByWebSphere sample

- PlantsByWebSphere is available through the **Features > Samples Applications** that come with the WebSphere Application Server
  - Can be found in <was\_root>\samples\PlantsByWebSphere
  - Additional samples are available through the information center
- The version of PlantsByWebSphere used in this course is altered slightly
  - To make the PlantsByWebSphere application more useful for educational purposes, two links are added to the bottom of the **Help** page (**View Server Info** and **Admin Home**)

PlantsByWebSphere - File Browser

Location: /opt/IBM/WebSphere/AppServer/samples/PlantsByWebSphere

Name	Size	Type	Date Modified
Derby	1 item	folder	Fri 10 Aug 2012 12:53:05 PM EDT
docs	4 items	folder	Fri 10 Aug 2012 12:53:05 PM EDT
pbw-ear	3 items	folder	Fri 10 Aug 2012 12:53:05 PM EDT
pbw-lib	2 items	folder	Fri 10 Aug 2012 12:53:05 PM EDT
PlantsByWebSphere	2 items	folder	Fri 10 Aug 2012 12:53:05 PM EDT
target	1 item	folder	Fri 10 Aug 2012 12:53:05 PM EDT
pom.xml			on 16 Jan 2012 01:43:22 PM EST

7 items, Free space: 17.0 GB

[View Server Info](#)

[Admin Home](#)

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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.

Slide 5



**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.

Slide 6

**WebSphere Education** **IBM**

**Login & Registration**

**PLANTS BY WEBSHERE**

Flowers Fruits & Vegetables Trees Accessories

HOME : SHOPPING CART **LOGIN** : HELP

Home > Sign in

**Registration**

Enter the information below to set up your account. Without your permission, we will not share your information with our trusted business partners.

Required fields are denoted with a red asterisk.

**Login Information**

E-mail address \* user@plants.com

Password \* .....

Verify Password \* .....

**Contact Information**

First Name \* lma

Last Name \* Gardner

Address Line 1 \* 123 Main St

Address Line 2

City \* Gotham

State \* PA

ZIP Code \* 15222

Phone (daytime) \* 412-555-1234

**Register**

**PLANTS BY WEBSHERE**

Home

**Login or Register**

If you are a returning customer and previously set up an account, please enter your e-mail address and password below.

E-mail address: pbywebsphere.ibm.com

Password: .....

**Sign in**

- Log in with
  - User: plants@plantsbywebsphere.ibm.com
  - Password: plants
- Or, register as new user
  - Enter your own data

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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.

Slide 7

**WebSphere Education** **IBM**

## My Account

**PLANTS BY WEBSHERE** Your shop

Flowers Fruits & Vegetables Trees Accessories HOME SHOPPING CART

Home > Sign in

### Account Update

Enter the information below to update your account. This information will not be shared without your permission. With your permission we will only share your name and email address with our trusted business partners.

Required fields are denoted with a red asterisk (\*).

**Contact Information**

First Name \* David  
 Last Name \* Grover  
 Address Line 1 \* 123 Main Street  
 Address Line 2 Apt C  
 City \* Raleigh  
 State \* NC  
 ZIP Code \* 27604  
 Phone (daytime) \* 919-555-1234

- Click **My Account** on the bottom to see your account information
- If you are not logged in, you are prompted to log in or register

Powered by **IBM WebSphere** Flowers : Fruits & Vegetables : Trees : Accessories : Home : Shopping Cart My Account : Login : Help

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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.

Slide 8



**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.



Slide 9

WebSphere Education
IBM

### Select an item


- When you have an item page open, you see the details and are able to **change the quantity** and **Add to cart**.

PLANTS BY WEBSHERE

Flowers
Fruits & Vegetables
Trees
Accessories

[Home](#) > Trees

#### Bonsai



**Tabletop Fun**  
 Bonsais are great miniature replicas of your favorite yard tree. They can be indoors or out -- and their size makes them perfect for tabletop decoration.

Item Selection:
 

ITEM#	DESCRIPTION	PRICE	QUANTITY
T0003	0.5 gallon mature tree	\$30.00	1

Add to 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.

## Slide 10

WebSphere Education IBM

## Shopping cart

- The shopping cart can be filled with numerous items
- Click **Checkout Now** when ready

### PLANTS BY WEBSHERE

Flowers Fruits & Vegetables Trees Accessories

Home

### Shopping Cart

Here are the items you have selected. To recalculate your total after changing the quantity of an item, select the 'Recalculate' button. To remove an item from your cart, enter "0" as the quantity. Select 'Checkout Now' to begin the checkout process.

ITEM #	ITEM DESCRIPTION	PACKAGING	QUANTITY	PRICE	SUBTOTAL
F0002	Baby Breath	2 plants	<input type="text" value="2"/>	\$6.00	\$12.00
V0007	Watermelon	1 pkt. (100 seeds)	<input type="text" value="1"/>	\$2.00	\$2.00

**Order Subtotal: \$14.00**

[Continue Shopping](#) [Recalculate](#) [Checkout Now](#)

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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.

Slide 11

**WebSphere Education** **IBM**

### Checking out: Billing information

**Shipping Information**

☒ Check here if the shipping address is the same as the billing address.

Full Name \*

Address Line 1 \*

Address Line 2 \*

City \*

State \*

Zip Code \*

Phone (daytime) \*

**Shipping Method**

Select a shipping method below. Your order total will be updated on the next page.

Shipping Method \*

**Credit Card** \*

Card Number \*  orderinfo:ccardnum: Credit card numbers must be entered as XXXX XXXX XXXX XXXX.

Expiration Month \*

Expiration Year \*


Cardholder Name \*

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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.

## Slide 12

WebSphere Education 

## Checking out: Submit

**PLANTS BY WEBSPHERE**

Flowers Fruits & Vegetables Trees Accessories

Home > Shopping Cart >

**Review Your Order**  
Review your order below and select 'Submit Order' at the bottom to place your order. You can also add more items to your order by selecting 'Continue Shopping'.

Order Information	
ORDER TOTAL	BILLING ADDRESS
<b>\$10.99</b>	David Grover 123 Main Street Apt. C Raleigh, NC 27604 919-555-1234

Order Information	
SHIPPING ADDRESS	BILLING ADDRESS
David Grover 123 Main Street Apt. C Raleigh, NC 27604 919-555-1234	David Grover 123 Main Street Apt. C Raleigh, NC 27604 919-555-1234

**Order Details**

ITEM #	ITEM DESCRIPTION	PACKAGING	QUANTITY	PRICE	SUBTOTAL
V0002	Ornamental Gourd	1 pkt. (100 seeds)	1	\$1.50	\$1.50
A0008	Gloves	3 pairs per pack	1	\$4.50	\$4.50

Order Subtotal: \$6.00

Shipping, Standard Ground ( 3 to 6 business days ) \$4.99: \$4.99

**Order Total: \$10.99**

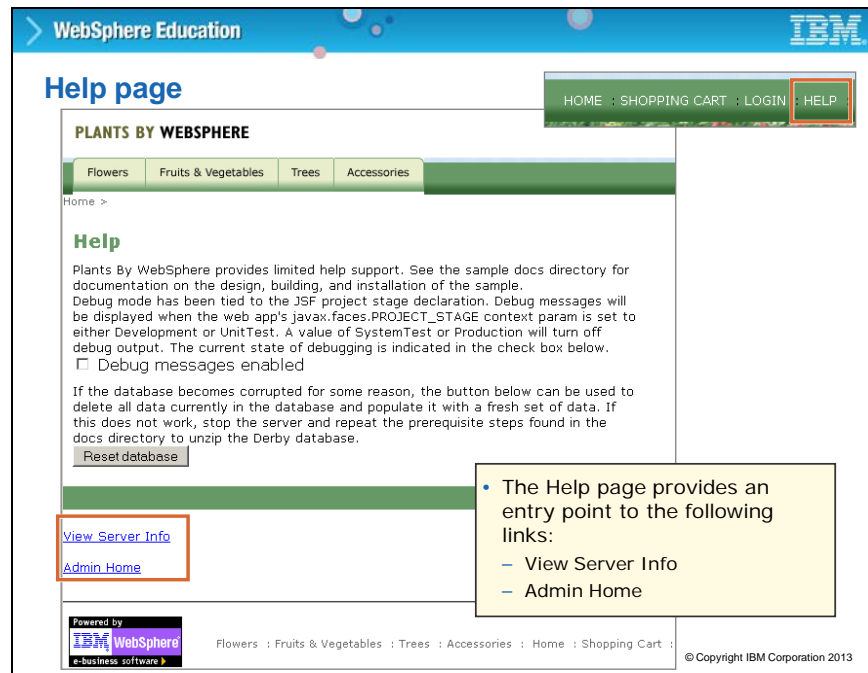
[Continue Shopping](#) [Submit Order](#)

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Click **Submit Order** to complete the transaction

**Title: Checking out: Submit**

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



### 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.

## Slide 14

**WebSphere Education** **IBM**

## View Server Info page

- The **View Server Info** page shows which server is hosting the connection
  - Used for demonstrating server failover
- It also displays the **Session Data** (and time created)
  - Used for demonstrating session failover

**PLANTS BY WEBSHERE**

Runtime server information

Cell	Node	Process	Session Data	Session Created
was85host01Node01Cell	was85host01Node01	server1	null	null

Session Data

**PLANTS BY WEBSHERE** HOME

Runtime server information

Cell	Node	Process	Session Data	Session Created
was85hostNode01Cell	was85host01Node01	server1	Stephanie	Fri Aug 10 15:18:56 EDT 2012

Session Data

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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.

The screenshot displays the 'Admin home page' of the 'PLANTS BY WEBSHERE' application. The page has a blue header with 'WebSphere Education' and the IBM logo. Below the header, there's a green navigation bar with 'HOME : ADMIN HOME'. The main content area is titled 'Supplier Configuration' and contains a form to 'Enter the Supplier's Configuration Information'. The form fields are: Full Name (Greenhouse By WebSphere), Street Address (4205 Miami Blvd.), City (Durham), State (NC), Zip (27709), Phone (919-555-1212), and Location URL (http://localhost:9080/OrderProcessorEJB/services/FrontGate). An 'Update Configuration' button is at the bottom of the form. A yellow callout box on the right states: 'The Admin Home page is used to demonstrate application security' and 'When configured, these pages require authentication'. The footer includes '© Copyright IBM Corporation 2013'.

**Title: Admin home page**

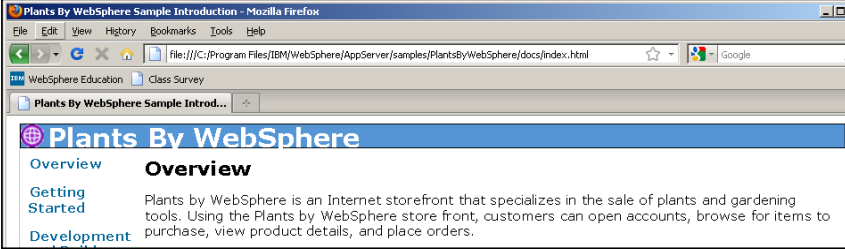
The administrative pages are mapped to a WebSphere application security role. When application security is enabled, authorization is required to access these pages.

WebSphere Education

IBM

## HTML documentation for PlantsByWebSphere (1 of 2)

- For more information about PlantsByWebSphere, there are several HTML files in the sample directory that can be useful
- **Overview:**  
`<was_root>/samples/PlantsByWebSphere/docs/index.html`



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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.



## Slide 17

WebSphere Education IBM

## HTML documentation for PlantsByWebSphere (2 of 2)

- **TechNotes:**  
`<was_root>/samples/PlantsByWebSphere/docs/techNotes.html`

Plants By WebSphere Sample TechNotes - Mozilla Firefox

File Edit View History Bookmarks Tools Help

File:///C:/Program Files/IBM/WebSphere/AppServer/samples/PlantsByWebSphere/docs/techNotes.html

WebSphere Education Class Survey

Plants By WebSphere Sample TechN...

### Plants By WebSphere Technotes

- Overview
- Getting Started
- Development and Build
- Application Install and Management

#### Getting started

You can create a unique e-mail address and password for the Plants by WebSphere Sample by clicking **register for your own account here** on the Login page. In addition, a default e-mail address and password exist for the Plants by WebSphere Sample that is presented in the following table:

E-mail address	plants@plantsbywebsphere.ibm.com
Password	plants

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

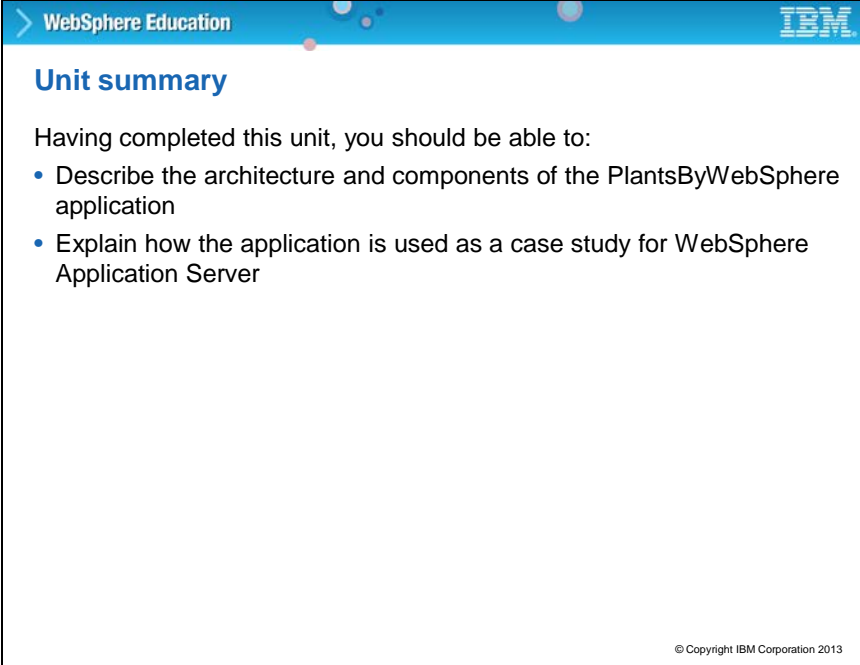
The Technotes page provides information about the default email address and password. Also, the database tables and SQL statement for creating them are shown. A description of the Java objects that the application uses is also shown.

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.

Slide 18



The slide is titled "Unit summary" and is part of a "WebSphere Education" presentation, as indicated by the header. It lists two learning objectives for completing the unit. The IBM logo is in the top right corner, and a copyright notice is at the bottom right.

WebSphere Education 

### Unit summary

Having completed 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: Unit summary**

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