Slide 1

WebSphere Education   **IBM**

WebSphere Application Server administrative console

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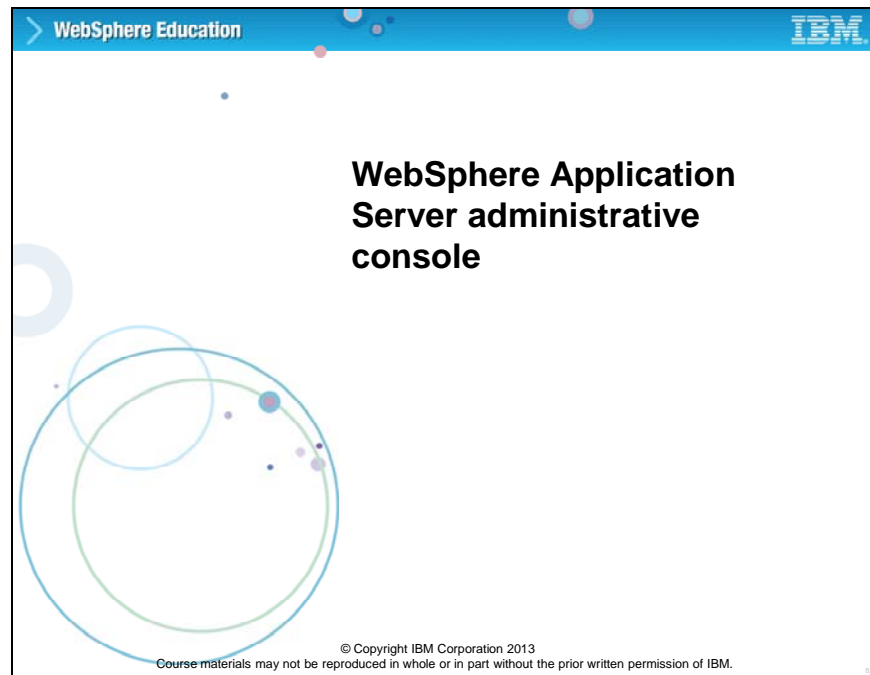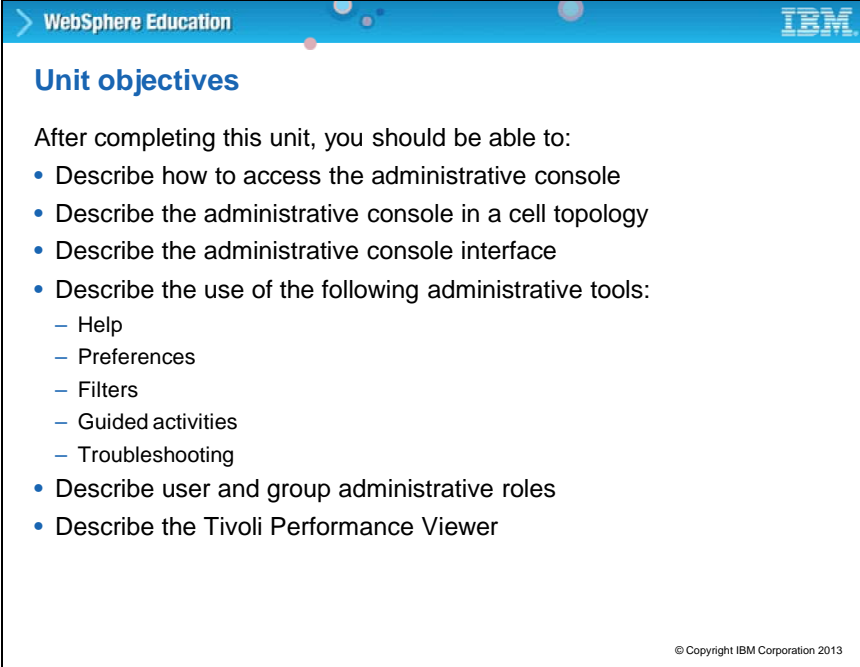
Unit 7: WebSphere Application Server administrative console

This unit describes how to interact with the WebSphere Application Server administrative console.

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Title: Unit objectives

After completed this unit, you should be able to:

- Describe how to access the administrative console

- Describe the administrative console in a cell topology

- Describe the administrative console interface

- Describe the use of administrative tools such as help, preferences, filters, guided activities, and troubleshooting

- Describe user and group administrative roles
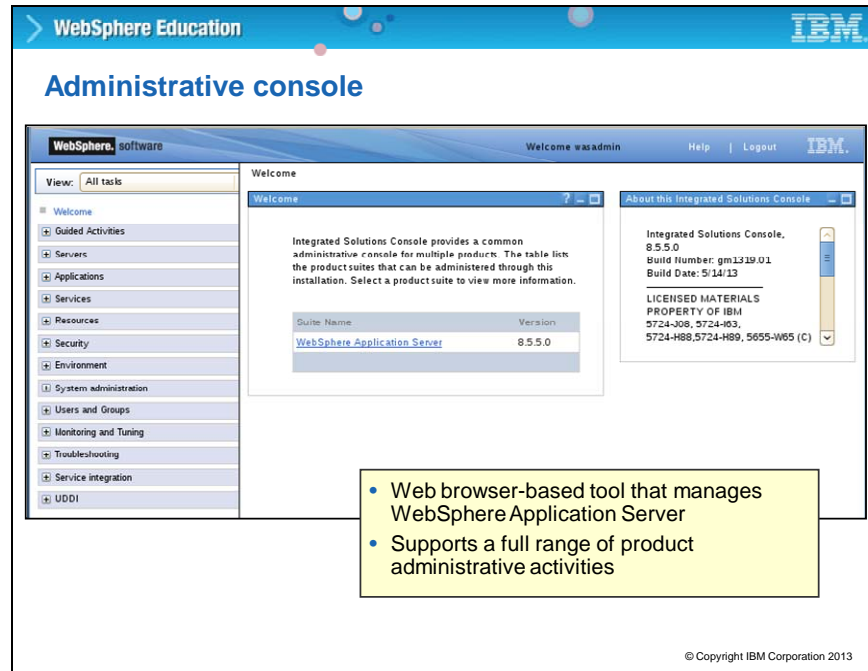
- Describe the Tivoli Performance Viewer

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Title: Administrative console

The administrative console is a web browser-based graphical interface tool that allows you to manage your applications and perform system administration tasks for your WebSphere Application Server environment. Your actions in the console modify a set of XML files that are called the master configuration. You can use the administrative console to complete tasks such as:

- Add, delete, start, and stop application servers
- Deploy new applications to a server
- Start and stop existing applications
- Modify certain configurations
- Add and delete Java EE resource providers for applications that require data access
- Manage variables, shared libraries, and other configurations that can span multiple application servers
- Configure product security, including access to the administrative console
- Collect data for performance and troubleshooting purposes

Stand-alone application servers, administrative agents, deployment managers, and job managers each have their own administrative consoles. You can install the administrative console during

profile creation or after you create a profile. You can uninstall any administrative console that you install.

To install an administrative console after profile creation, or to uninstall the administrative console, use wsadmin commands.

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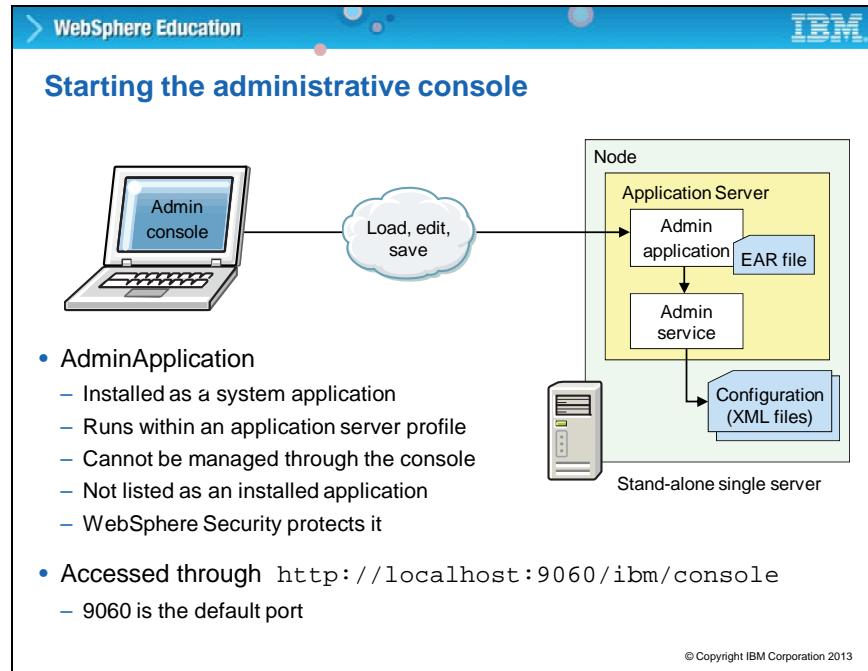
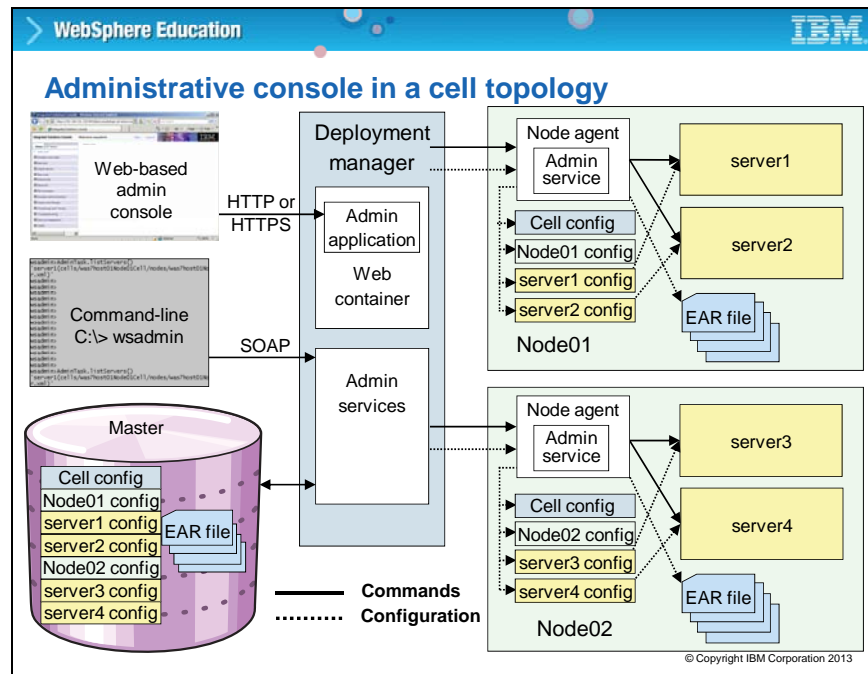**Title: Starting the administrative console**

The administrative console application is installed during the initial installation process. The AdminApplication is installed as a system application and runs within an application server profile. The AdminApplication cannot be managed through the console, and is not listed as an installed application. WebSphere security protects the application. The diagram shows how the administrative console is used to access a stand-alone application server.

The console is accessed through the URL shown here. While 9060 is the default port, the port can be different. Check with your administrator for the correct port.

Starting the console involves the following steps: Start the administrative console by starting the server process that runs the console application. For example, if you want to access the application server named server1, you must start that server.

In a network deployment environment, you would start the deployment manager. If the console application starts successfully, you see the message "Application started: isclite" in the SystemOut.log file of the server.

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**Title: Administrative console in a cell topology**

This diagram shows two separate views of WebSphere administration:

- The flow of administration commands (shown as solid lines)
- The flow of administration configuration files (shown as dotted lines)

For both of these flows, the diagram proceeds from left to right.

In a network deployment environment, configuration changes and updates to application servers that are running in a cell are managed from a central point - the deployment manager. You use the administrative console (or wsadmin command-line interface) to access the deployment manager, which manages the configuration for all the nodes in the cell. The deployment manager keeps the master copy of the configuration for the entire cell. A node agent, running on each node in the cell, also keeps a copy of the configuration locally, and periodically synchronizes updates with the deployment manager.

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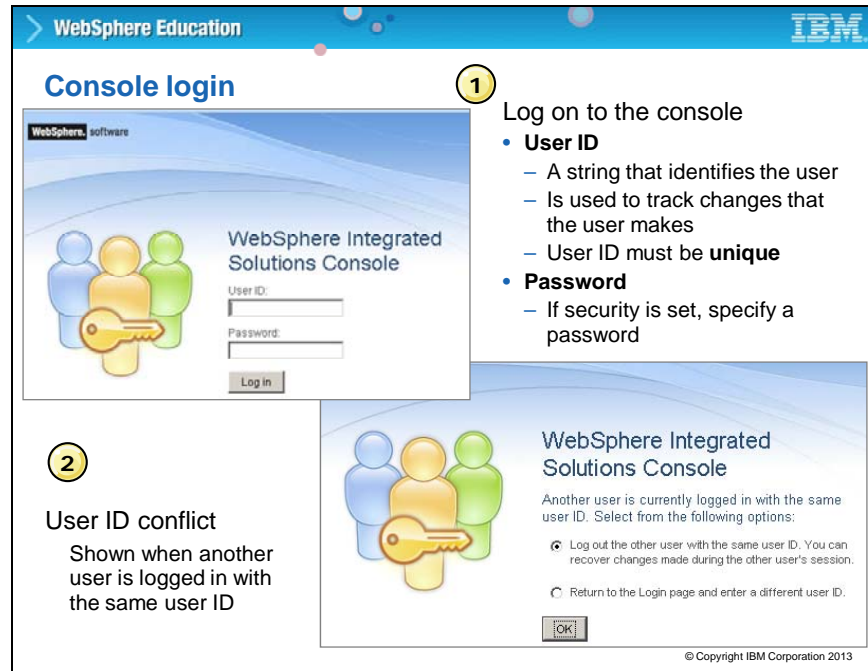
Title: Console login

To access the administrative console, you must enter a user ID.

If administrative security is enabled, then you must also enter a password and then click **Log in**.

In some cases, when you log in the user ID conflict window opens indicating that the user ID is already in use. The message displays in any of the flowing cases:

- The user closed a web browser while browsing the administrative console before logging out, and then opened a new browser and tried to access the administrative console with the same user ID.

- Or, the user opened a web browser to access the administrative console while accessing the administrative console in another open web browser with the same user ID.

- Or, the user opens a web browser and attempts to log in to the console with the same user ID that is already in use. It is in use by another user who logged in to the console from another web browser on another computer.

You can log out the other user with the same user ID. You can recover changes that are made during the other user's session, or return to the login page and enter a different user ID.

After you are logged in, be sure to use the log out link in the console toolbar when you are finished to prevent unauthorized access. If there is no activity during this login session for an extended time, the session expires and you must log in again.

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The administrator can change the session timeout. The default is set to 30 minutes. If you have one or more different stand-alone servers that are running on the same system, and you want to administer them concurrently from the same or a different system, then you must:

- Ensure that each server uses a unique value for its administrative console port.
- Run a separate web browser process for each administrative console that you want to access concurrently.

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Title: Recovering prior changes

If your previous session timed out before the changes are published to the master configuration, you can either recover changes that you made to the configuration from the previous session, or use the master configuration. The default is to recover changes from a previous session. The **Recover prior changes** window displays if the user session times out or the user closes the web browser without logging out.
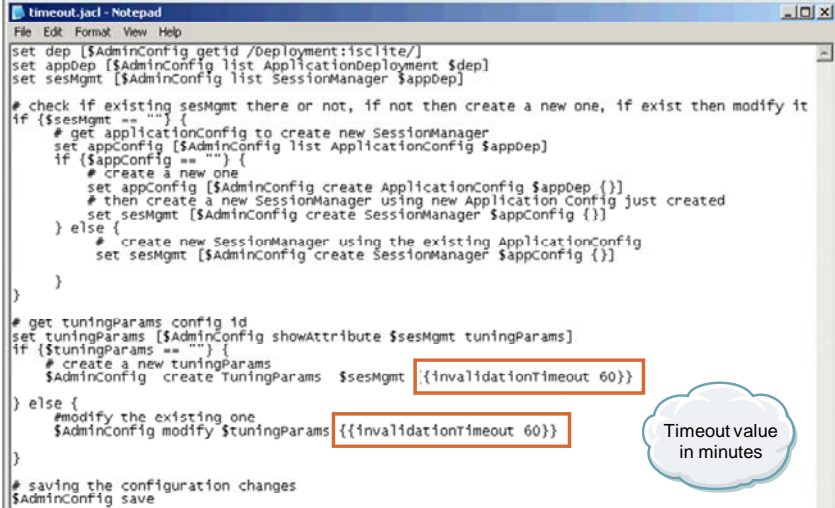
You can work with the master configuration. When selected, this setting specifies to use the default administrative configuration instead of the configuration that was last used for the session of the user. Changes that are made to the session of the user since the last save of the configuration are lost. This field is displayed only if the user changed the configuration and then logged out without saving the changes.

Or, you can recover changes that are made in the previous session. When selected, this setting specifies to use the same administrative configuration that is used for the last user's session. This option recovers changes that the user made since the last save of the configuration for the session of the user. This field is displayed only if the user changed the administrative configuration and then logged out without saving the changes.

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Title: Administrative console session timeout

If there is no activity during a session for an extended time, the session expires and you must log in again to access the console. The default timeout is 30 minutes. The administrator can change the session timeout by running the timeout.jacl script that is available from the WebSphere information center. There are two parameters, named invalidationTimeout, which must be changed within the script. The timeout value is in minutes.

This slide shows the script that modifies the administrative console timeout duration. You are going to work with a similar script in an upcoming lab exercises.

Copy the script from the WebSphere information center to a file. Change the <timeout value> for the invalidationTimeout parameters on the two lines in the sample script. Save the file to any directory. Start the wsadmin scripting client and issue the command as shown.

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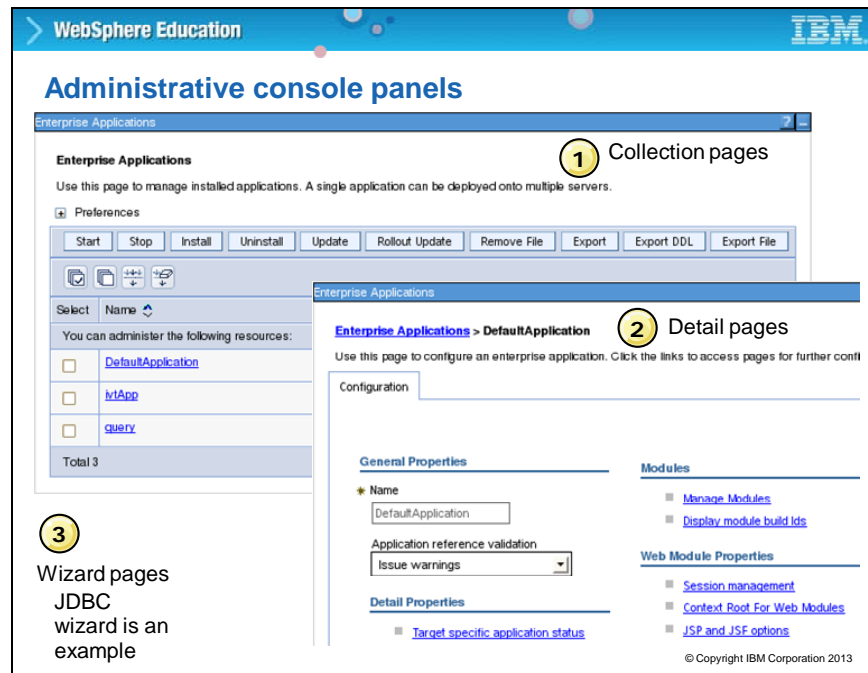
Title: Administrative console panels

Administrative console pages are arranged in a few basic patterns. Understanding their layout and behavior can help you use them more easily.

Collection pages manage a collection of existing administrative objects. A collection page typically contains one or more of the following elements: Scope, which is described in administrative console scope settings. Preferences, which are described in administrative console preference settings. Table of existing objects displays existing administrative objects of the type that the collection page specifies. The table columns summarize the values of the key settings for these objects. If no objects exist yet, an empty table is displayed. Use the available options to create an object.

Use **detail** pages to configure specific administrative objects, such as an application server. A detail page typically contains one or more of the following elements:

Configuration tabbed page, which is for modifying the configuration of an administrative object. Each configuration page has a set of general properties that are specific to the administrative object. Other sets of properties display on the page, but vary depending on the object.

The **Runtime** tabbed page displays the configuration that is in use for the administrative object. The object is read-only in most cases. Some detail pages do not have runtime tabs. If you can edit runtime properties, these properties directly affect the current runtime environment, but are not preserved when that environment is stopped.

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The **Local topology** tabbed page displays the topology that is in use for the administrative object. View the topology by expanding and collapsing the different levels of the topology. Some detail pages do not have local topology tabs.

Use wizard pages to complete a configuration process that comprise several steps. Wizards show or hide certain steps that depend on the characteristics of the specific object that you are configuring, as is the case for the JDBC wizard.

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Title: Administrative console areas

You encounter several common areas of the console.

Banner - Displays a common image across all integrated solutions console installations. The banner includes a greeting to the user who is logged in and links to log out of the console and to open console help.

Navigation tree - Lists the tasks available in the console. Tasks are grouped into organizational nodes that represent categories of tasks, for example, servers or applications. The organizational nodes can be nested in multiple levels. The tasks that are shown are only those tasks for which the user has access. When you click a task in the navigation tree, a page is displayed in the work area that contains one or more modules for completing the task. Use the **View selection** list at the top of the navigation area to modify the list of tasks according to your preferences.

You can organize the tasks as follows:

All tasks - shows all tasks in the console.

My tasks - shows only the tasks that you added to the view. This list is initially empty, but provides a link to the My Tasks module. Use My Tasks to add and remove from the My Tasks list in the navigation.

Product selection - Selecting a product name shows only the tasks for that particular product, for example, WebSphere Application Server.

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Message area - Messages display within the work area that is based on the type of work that is being completed. Messages can indicate that work can be reviewed or saved, or they can indicate errors.

Help - Displays information and links for obtaining field, page, or command assistance help.

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Title: Administrative console banner

The banner displays three links:

Welcome - Displays the administrative console home page. It contains links to information sources and includes a greeting with the user ID associated with the current session. The Welcome link is just below the banner on the left side.

Logout - Logs you out of the administrative console session. Upon successfully logging out the user session, the Login page is displayed. If changes were made and not saved before logging out, the **Save** page displays.

Help - Opens a new web browser with detailed online help for the administrative console. It is important to note that this help is not the WebSphere information center.

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Title: Administrative console navigation tree (1 of 2)

The navigation tree lists the tasks available in the console. Tasks are grouped into organizational nodes that represent categories of tasks. The organizational nodes can be nested in multiple levels. The tasks that are shown are only those tasks for which the user has access. When you click a task in the navigation tree, a page is displayed in the work area that contains one or more modules for completing the task. The navigation tree can include the following tasks:

- Guided activities - Provides information and details for certain configuration options.
- Servers - Enables configuration of application servers and web servers.
- Applications - Enables installation and management of applications.
- Services - Enables configuration of service providers, clients, policy sets, trust service, security cache, and reliable message state.
- Resources - Enables configuration of application resources and management of those resources.
- Security - Enables configuration and management of WebSphere security, SSL, and web services security.
- Environment - Enables configuration of hosts, replication domains, environment variables, naming, and others.

Use the **View selection** list at the top of the navigation area to modify the list of tasks according to your preferences.

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Title: Administrative console navigation tree (2 of 2)

Other tasks in the navigation tree include:

- System administration - Enables configuration and management of components, users, and preferences.

- Users and Groups - Enables configuration of users and groups.

- Monitoring and Tuning - Enables configuration of the Performance Monitoring Infrastructure and Tivoli Performance Viewer.

- Troubleshooting - Enables tracking and verification of configuration errors and problems.

- Service integration - Enables configuration with the service integration bus.

- UDDI - Enables configuration of UDDI nodes.

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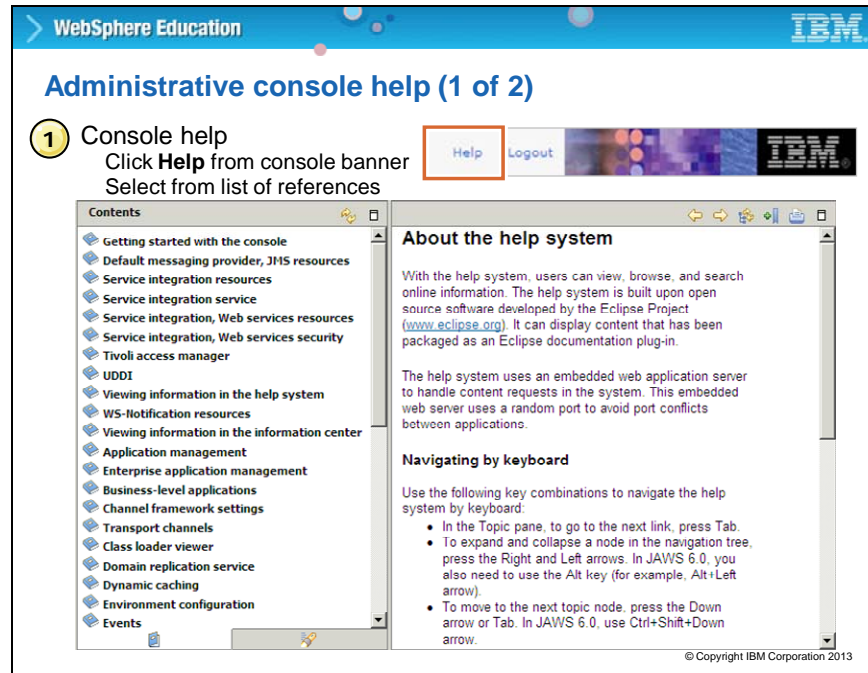
Title: Administrative console help (1 of 2)

Help is available for the entire console or for a specific page in the console. To get console help, click **Help** from the administrative console banner. A new web browser with detailed online help for the administrative console opens.

You can select from a list of references and topics, which does not access the WebSphere information center.

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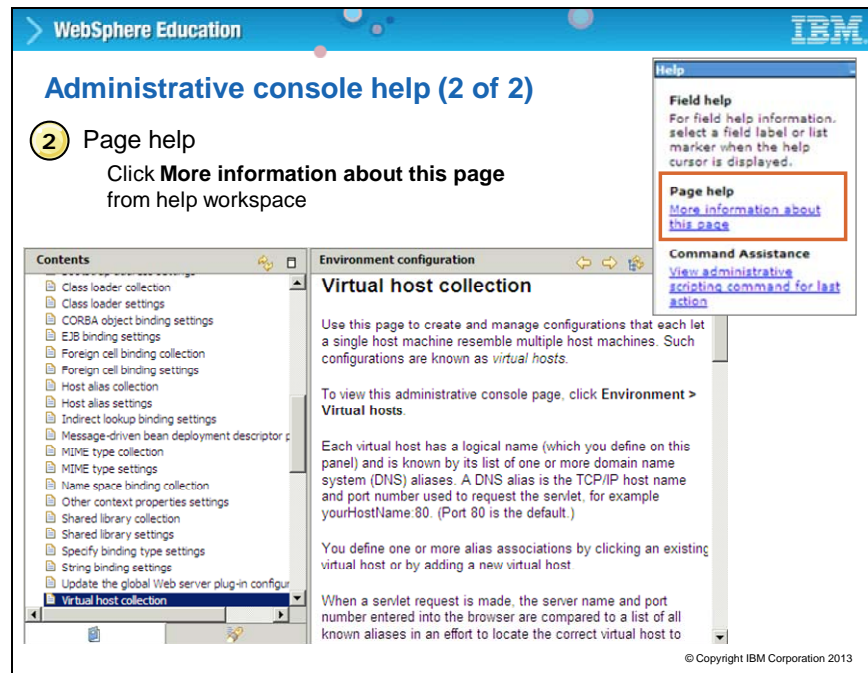
Title: Administrative console help (2 of 2)

Access help in the following ways:

Click either of the following tabs of an online help page:

Click the **Help index** tab and select from the list of help panels to view administrative console help information.

Click the **Search** tab, provide search terms, and then click **Search**. Under Results, select a help panel that contains the search information.

In the help portal, that is on the right side of the administrative console panel, do one or all of the following tasks:

Click a field label or a list marker in the administrative console panel for the help to display under field help. Alternatively, place the cursor over the field label or the list marker for the corresponding help to display at the cursor. Attention: When you place the cursor over the field label or list marker, the help might be truncated in a Firefox browser. Click the field label or list marker so that the full help displays under field help.

Click the link under Page help to access the help panel for the administrative console panel. The help panel is the same help panel that displays when you click the "**?**" Icon.

If Command assistance is listed, click the link under Command assistance to view wsadmin scripting commands for the last action that completed within the console panel.

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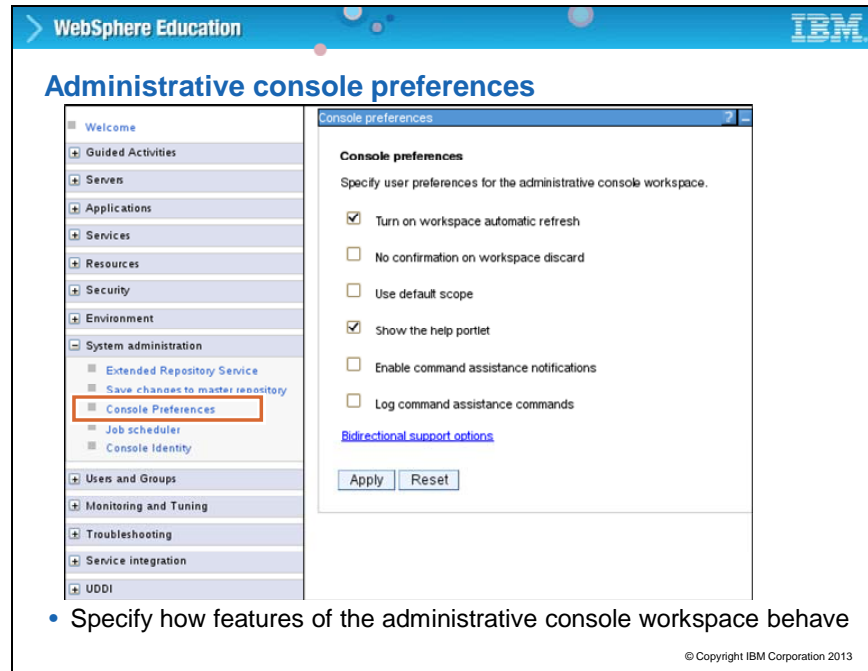
Title: Administrative console preferences

Use the preference settings to specify how you want information to display on an administrative console panel. The preference settings vary from one administrative console panel to another.

Turn on workspace automatic refresh: Specifies whether you want the administrative console workspace to refresh automatically after the administrative configuration changes. The default is for the workspace to refresh automatically. If you delete a WebSphere variable, for example, the WebSphere variables page refreshes automatically and shows the updated list of WebSphere variables in the WebSphere variables collection.

Enable command assistance notifications: Specifies whether to send Java Management Extensions (JMX) notifications that contain command assistance data from the administrative console. Enablement of the notifications allows integration with product tools such as the IADT Jython editor for WebSphere Application Server. Enablement of this option is recommended for non-production environments only.

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Title: Administrative console preferences, filters, and scope

Maximum rows: Indicates the maximum number of rows to display per page when the collection is large.

Show resources at one authorizing group level: Specifies the authorization group level that is used to filter the resources in the table. Only those roles that apply to your ID can display in the table. Valid values are All Roles, Administrator, Deployer (for application collection panels only), Operator, Configurator, and Monitor. If All Roles is selected, then all the resources that you are authorized to view are displayed in the table and grouped by role. Otherwise, the resources for the role that is selected are displayed in the table.

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Title: Guided activities

The Guided activities feature displays each administrative console page that you must process, surrounded by the following information to help you do the task successfully.

- An introduction to the task, introducing essential concepts and describing when and why to do the task
- Other tasks to do before and after doing the task
- The main steps to complete during this task
- Hints and tips to help you avoid and recover from problems
- Links to field descriptions and extended task information in the online documentation

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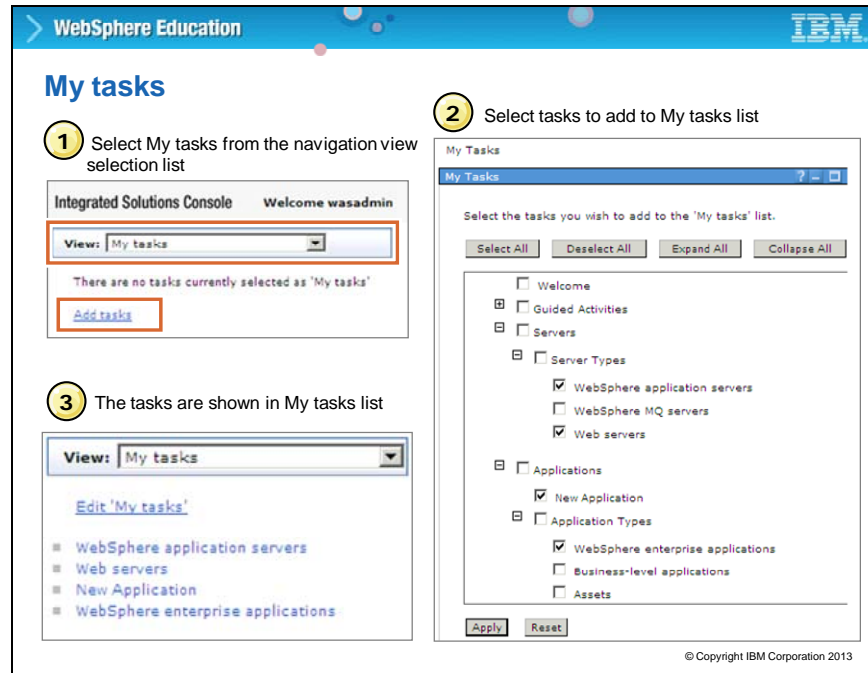
Title: My tasks

Use "My tasks" to create and edit a list of tasks to view in the console navigation. A task includes a page that contains one or more web applications, or console modules that are used to complete that task. When you first access the console, all tasks to which you have access are displayed in the navigation. "My tasks" is especially useful to customize the navigation to show only the tasks you use most often. After you customize your tasks, "My tasks" is initially displayed each time you log in to the console.

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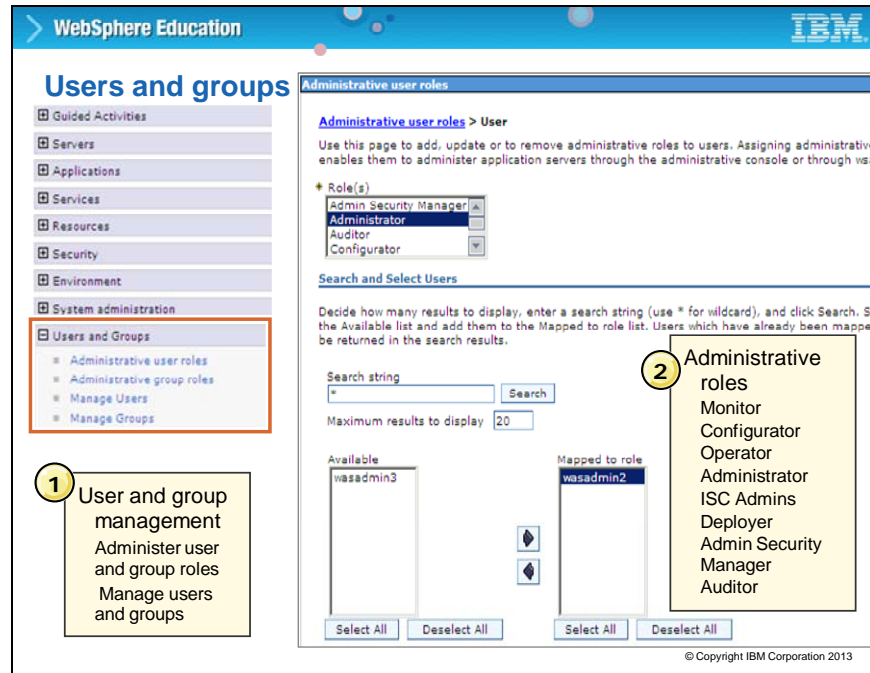
Title: Users and groups

Administrative user roles: Use this page to add, update, or to remove administrative roles to users. Assigning administrative roles to users enables them to administer application servers through the administrative console or through wsadmin scripting.

Administrative group roles: Use this page to add, update, or to remove administrative roles to groups. Assigning administrative roles to groups enables them to administer application servers through the administrative console or through wsadmin scripting.

Manage Users and **Manage Groups**: Allows you to create or delete users and groups within your user registry.

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Title: Troubleshooting information

Troubleshooting tasks are available to help you work with problems that might occur. From the troubleshooting navigation menu, you can:

- Configure log and trace settings
- Identify and view configuration problems
- View where modules exist within a topology of enterprise applications
- View problems that exist in the present configuration through Configuration Validation
- Review the startup configuration, current configuration, and current state of a diagnostic domain through Diagnostic Provider
- Review run time errors, warnings, and information messages through Runtime Messages

The Class Loader Viewer helps you diagnose problems with class loaders.

Diagnostic Providers are a quick method for viewing configuration and the current state of individual components within an application server environment.
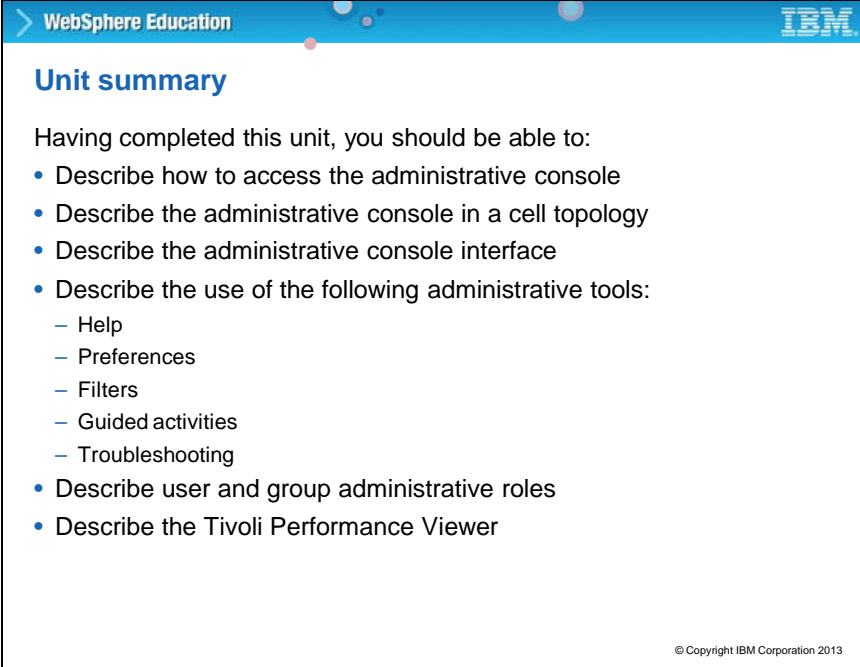
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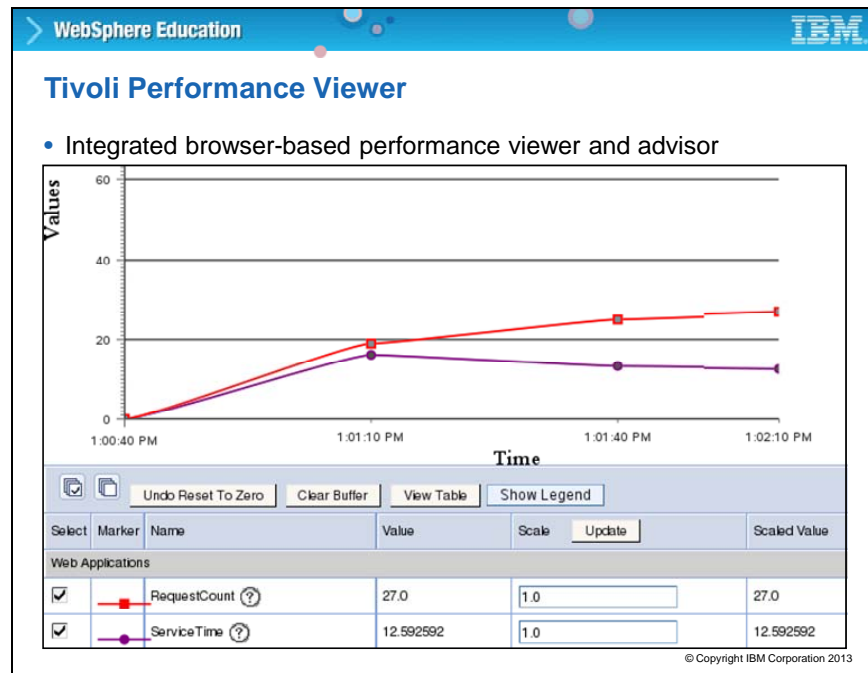
Title: Tivoli Performance Viewer

Administrators and programmers can monitor the overall health of WebSphere Application Server from within the administrative console by using Tivoli Performance Viewer.

From Tivoli Performance Viewer, you can view current activity or log Performance Monitoring Infrastructure (PMI) performance data for the following resources:

- System resources such as CPU utilization
- WebSphere pools and queues such as a database connection pool
- Customer application data such as average servlet response time

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Title: Unit summary

Having completed this unit, you should be able to:

- Describe how to access the administrative console
- Describe the administrative console in a cell topology
- Describe the administrative console interface
- Describe the use of administrative tools such as help, preferences, filters, guided activities, and troubleshooting
- Describe user and group administrative roles
- Describe the Tivoli Performance Viewer