One Identity Active Roles

Web Interface Administration Guide

Legend

WARNING: A WARNING icon highlights a potential risk of bodily injury or property damage, for which industry-standard safety precautions are advised. This icon is often associated with electrical hazards related to hardware.

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

Active Roles Web Interface Administration Guide
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Contents

Introduction

The Active Roles Web Interface Administration Guide is for individuals who are responsible for deploying and tailoring the Web Interface to suit the needs of their organization. This document provides a brief overview of the Web Interface, explains the customization capabilities, and provides instructions on how to customize the Web Interface and perform administrative tasks.

Deploying the Web Interface

About the Web Interface

The Active Roles (formerly known as ActiveRoles®) Web Interface is a highly customizable, easy-to-use Web-based application that facilitates the data administration and provisioning in Active Directory. Via the Web Interface, an intranet user can connect to Active Roles using a Web browser and perform day-to-day administrative tasks, including user management tasks such as modifying personal data or adding users to groups.

A Web Interface user can perform administrative tasks and view or modify directory data. However, the user's scope of authority is limited by the rights delegated in Active Roles. A user sees only the commands, directory objects, and object properties to which the user's role provides administrative access.

The Web Interface pages are easy to customize. An administrator can customize them without modifying a single line of code. Menu commands can be added or removed, and Web Interface pages can be modified by adding or removing fields that display property values.

The key features and benefits of the Active Roles Web Interface include:

- **Role-based suite of interfaces** Enables multiple interfaces to coexist on an intranet, with each interface providing a separate, administrative role-oriented, customizable set of menus, commands, and forms.
- **Dynamic configuration based on roles** Dynamically adapts to meet the roles assigned to Web Interface users. A user is only shown the commands, directory objects, and object properties for which the user's role provides administrative access.
- **Point-and-click customization** An administrator can customize menus, commands, and pages without writing a single line of code.
- **Full-featured management of Active Directory accounts** Provides for all administrative tasks on Active Directory accounts, such as users, groups, and computers. The Web Interface can be tailored for any category of administrative personnel, whether day-to-day administrators, business data owners, help desk operators, or even regular end-users.
- **Management of computer resources** Provides the ability to manage computer resources such as printers, shares, services, devices, local users and groups.

- **User Profile Editor** Enables end users to manage personal or emergency data through a simple-to-use Web interface, provided that the users have the appropriate permissions specified with Active Roles.
- **Instant application of corporate rules** Efficiently supplements and restricts the user input based on corporate rules defined with Active Roles: displays property values generated according to the rules, and prohibits administrative users from entering data that violate the rules.
- **Single sign-on with integrated Windows authentication** Provides for single sign-on, without normally requiring users to type passwords again once they are logged on and authenticated by the operating system.
- **International support** Incorporates international support through the language-specific information and resource files that store user interface elements in multiple languages.

Different sites for different roles

Multiple instances of the Web Interface, referred to as *Web Interface sites*, can be installed with different configurations. The following is a list of configuration templates that are available out-of-the box.

- **Default Site for Administrators** Supports a broad range of tasks, including the management of directory objects and computer resources.
- **Default Site for Help Desk** Handles typical tasks performed by Help Desk operators, such as enabling/disabling accounts, resetting passwords, and modifying select properties of users and groups.
- **Default Site for Self-Administration** Provides User Profile Editor, allowing end users to manage personal or emergency data through a simple-to-use Web interface.

Each configuration template provides an individual set of commands installed by default. The Web Interface site can be customized by adding or removing commands, and by modifying Web pages (forms) associated with commands.

Although the Web Interface dynamically adapts to roles assigned to users, the ability to tailor separate Web Interface sites to individual roles gives increased flexibility to the customer. It helps streamline the workflow of directory administrators and help-desk personnel. Static configuration of interface elements ensures that Web Interface users have access to the specific commands and pages needed to perform their duties.

Active Roles administrators can use the customization capabilities of the Web Interface to add and remove commands and to modify Web pages (forms) associated with commands. For information about how to perform customization, see "Customizing the Web Interface" later in this document.

Multiple interfaces with different configurations can coexist on a network. Therefore, there is no need to re-configure the Web Interface for each particular role.

Deployment tasks

Active Roles makes it possible to deploy any number of Web Interface sites, with each site having its own configuration or sharing the configuration with other sites. The configuration of each Web Interface site is stored in the Active Roles database, and replicated by the Active Roles Administration Services. This provides the following advantages:

- The configuration of an existing Web Interface site can be re-used
- Multiple Web Interface sites may share common configuration

A site's configuration specifies customizable settings of user interface elements, such as menus, commands, and pages (forms), displayed by the Web Interface. Each configuration is identified by name, stored as an entity, and applied on a per-site basis.

When adding a new Web Interface site, you can apply a default configuration template or select the configuration of an existing Web Interface site. A configuration template creates a site with new configuration that can be customized as needed. Re-using the configuration of an existing site causes sites to share common configuration.

When multiple Web Interface sites share common configuration, any customization of one site is automatically applied to the others. For example, if you add a command or modify a form on one site, the new command or modified form appears on all the other sites.

The procedure for deploying the Web Interface includes two stages:

- **Installing and initially configuring the Web Interface** At this stage, the files are copied to the computer, and three Web Interface sites are created based on the default configuration templates. For instructions on how to install the Web Interface and perform initial configuration, see "Installing and configuring the Web Interface" in the Active Roles Quick Start Guide.
- **Creating, modifying or deleting a Web Interface site** At this stage, you can create additional Web Interface sites, and modify or delete existing Web Interface sites.

When creating a new Web Interface site, you have the option to apply the configuration of an existing Web Interface site to the newly created one. If you have the Web Interface site tailored to suit your needs, and need to deploy its instance on another Web server, this option ensures that the new Web Interface site has the same set of menus, commands and pages as the existing one.

When initially configured, the Web Interface has three Web Interface sites each of which is based on a default configuration templates. you can modify the Web server-related parameters, such as the Web application alias, for these Web Interface sites, or delete Web Interface sites. You can also create additional Web Interface sites.

To create, modify, or delete a Web Interface site

1. Open Active Roles Configuration Center.

   You can open Configuration Center by selecting **Active Roles 7.6 Configuration Center** on the **Apps** page or **Start** menu, depending upon the version of your Windows operating system.

2. In the Configuration Center main window, under **Web Interface**, click **Manage Sites**.
3. On the **Web Interface** page, do one of the following:
   - To create a new site, click **Create**.
   - To modify an existing site, select the site from the list and click **Modify**.
   - To delete a site, select the site from the list and click **Delete**.
   - To export the configuration of a site to a file, select the site and click **Export Configuration**.
4. View or change the following settings in the wizard that appears if click **Create** or **Modify**:
   - **IIS Web site** Specifies the IIS Web site containing the Web application that implements the Web Interface site. You can select the desired Web site from a list of all Web sites defined on the Web server.
   - **Alias** Specifies the alias of the Web application that implements the Web Interface site. The alias defines the virtual path used in the address of the Web Interface site on the Web server.
   - **Configuration** Create a new configuration based on a template and assign it to the Web Interface site, or use the configuration of an existing Web Interface site. It is also possible to import data from an existing configuration or from a configuration export file.

     Configuration specifies customizable settings of user interface elements, such as menus, commands, and Web pages (forms), displayed by the Web Interface. The configuration of a Web Interface site is stored as part of the Active Roles configuration data, and is hosted by the Administration Service to which the Web Interface is connected. Multiple sites may use the same configuration. When you customize a Web Interface site, your changes are saved in the site's configuration.

     On the **Configuration page** , you can choose from the following options:
   - **Keep the current configuration** Choose this option when modifying an existing Web Interface site if you do not want to assign a different configuration to that site.
   - **Create from a template** Create a new configuration for the Web Interface site based on a template. With this option, you need to supply a unique name for the new configuration and select the desired template.

     Choose this option if you want the Web Interface site to use a separate configuration that is initially populated with the template data.
   - **Use an existing configuration** Assign an existing configuration to the Web Interface site. With this option, you need to select the desired configuration from a list of configurations found on the Administration Service. The list includes the configurations of the current Active Roles version only.

     Choose this option if you want the Web Interface site to share its configuration with other Web Interface sites. For example, when creating a new instance of a

given site for load balancing, you should assign the configuration of that site to the new Web Interface site.

Each Web Interface site can be accessed from a Web browser using the address based the Web application alias:

`http://<WebSite>/<Alias>`

Here, <*WebSite*> identifies the IIS Web site containing the Web application that implements the Web Interface site and <*Alias*> stands for the alias of that Web application, as specified in Configuration Center. For example, if the Web application is contained in the default Web site, the address is http://<*Computer*>/<*Alias*>, where <*Computer*> stands for the network name of the computer (Web server) running the Web Interface.

By default, Web Interface users connect to the Web Interface using a HTTPs transport, which encrypts the data transferred from a Web browser to the Web Interface. In case you do not a secure transport for transferring data to the Web interface, you can disable the HTTPs option using the Configuration Center.

The secure hypertext transfer protocol (HTTPS) uses Secure Sockets Layer (SSL) provided by the Web server for data encryption. For instructions on how to enable SSL on your Web server, see https://support.microsoft.com/en-in/help/324069/how-to-set-up-an-https-service-in-iis.

If SSL is enabled, users specify an HTTPS prefix rather than an HTTP prefix when connecting to the Web Interface.

Reusing an earlier configuration version

When you deploy the Web Interface, you use Configuration Center to create or modify Web Interface sites. Configuration Center allows you to specify how you want a given Web Interface site to be configured, by letting you create, select or import a so-called *configuration* which is basically a collection of settings that fully determine the menus, commands, forms and other elements of the pages provided by the Web Interface site.

For each Web Interface site, Active Roles stores the site's configuration in a particular object held in the Active Roles database, and allows the configuration to be identified by that object. Configuration Center retrieves and enumerates configuration objects when it builds a list of existing configurations.

During upgrade of Active Roles, Web Interface site configuration objects are merely copied to the new Active Roles database. As a result, the database holds configuration objects of an earlier version. If you want your new Web Interface sites to have the same configuration as your Web Interface sites of the earlier version, you can use Configuration Center to create configuration objects of the current version by importing configuration objects of an earlier version.

To reuse a configuration of an earlier Web Interface version

1. On the **Configuration** page of the wizard for creating or modifying a Web Interface site in Configuration Center, select the **Import from an existing configuration**

option.

2. In **Configuration** name, type a name for the new configuration that will be created by importing an existing configuration, or accept the default name.
3. From the **Configuration to import** list, select the name of the configuration you want to import.

   To distinguish between different configuration versions, the version number is added to the name of each configuration in the list.

One more situation that may require the use of an earlier configuration version is when you need to restore the configuration of a Web Interface site from a backup. Configuration Center allows you to export configuration to a file. The export file is a backup from which the configuration can be restored if necessary. You can import the configuration from an export file created by the current Active Roles version or by an earlier version.

To export the configuration of a Web Interface site to a file

- On the page for managing Web Interface sites in Configuration Center, select the desired Web Interface site, click **Export Configuration**, and then supply the path and name of the to which you want to export the configuration.

To import the configuration from an export file

1. On the **Configuration** page of the wizard for creating or modifying a Web Interface site in Configuration Center, select the **Import from a file** option.
2. In **Configuration** name, type a name for the new configuration that will be created by importing data from the export file, or accept the default name.
3. From the **File to import** field, select the export file.

Earlier Active Roles versions exported site configuration data to an export package (a collection of export files) rather than a single export file. You can use Configuration Center to import configuration from an export package: Click the **Browse** button next to the **File to import** filed, navigate to the folder containing the export package files, and select the .txt file that identifies the export package.

Getting Started

Active Roles (formerly known as ActiveRoles®) offers a convenient, easy-to-use, customizable Web Interface that enables authorized users to perform day-to-day administrative tasks, including user management tasks such as modifying personal data or adding users to groups. Via the Web Interface, an intranet user can connect to Active Roles using a Web browser. A user sees only the commands, directory objects, and object properties to which the user's role provides administrative access.

By default, the Web Interface includes three different sites—the site for Administrators, the site for Help Desk, and the site for self-administration. The site for Administrators supports a rich variety of administrative tasks, while the site for Help Desk supports a simplified set of tasks to expedite the resolution of trouble tickets. The site for self-administration is indented for managing personal accounts.

The Web Interface also allows setting the user interface language according to your preferences. The language setting has effect on all menus, commands, and forms that come with the Web Interface, as well as the tool tips and help. Thus, users can work with the Web Interface in their own language.

The Web Interface delivers a reliable, comprehensive solution for users who have administrative access to Active Roles to modify commands that the Web Interface provides for without writing a single line of code, and enables such users to add and remove commands on menus, and modify command pages by adding and removing fields that display property values. For information on how to customize the Web interface, refer to the Active Roles Web Interface Administration Guide.

The Active Roles Web Interface User Guide is for individuals who are responsible for performing day-to-day administrative tasks. This document provides a brief overview of the Web Interface, and includes step-by-step instructions on how to perform administrative tasks.

The following topics describe the procedures for connecting to the Web Interface. First, configure your Web browser to display the Web Interface pages properly. Then, connect to the Web Interface. Finally, you may specify personal settings for the Web Interface.

- Configuring the Web browser
- Connecting to the Web Interface
- Changing personal settings
- Logging out of the Web Interface

Configuring the Web browser

There are several different Web browsers that you can use to access the Active Roles Web Interface. No matter which browser you use, it must have JavaScript and cookies enabled.

JavaScript is a programming language for making Web pages interactive. Cookies are small files stored on your computer that contain information about the Web Interface.

For instructions on how to enable JavaScript and cookies in your browser, see the following topics.

- Configuring Google Chrome
- Configuring Mozilla Firefox

Configuring Google Chrome

To access the Active Roles Web Interface, Google Chrome must have JavaScript and cookies enabled.

To enable JavaScript and cookies in Google Chrome

1. Click the Chrome menu button on the browser toolbar, and then click **Settings**.
2. On the **Settings** page, click **Show advanced settings**, and then click the **Content settings** button in the **Privacy** section.
3. In the **Content settings** dialog box, do the following:
    a. Make sure that the **Allow local data to be set** option is selected under **Cookies**.
    b. Make sure that the **Allow all sites to run JavaScript** option is selected under **JavaScript**.
    c. When finished, click **Done**.

Configuring Mozilla Firefox

To access the Active Roles Web Interface, Firefox must have cookies enabled. You don't need to worry about JavaScript as this option is normally enabled and, beginning with Firefox 23, cannot be disabled or re-enabled by using the **Options** dialog box.

To enable cookies in Mozilla Firefox

1. Click **Options** on the **Tools** menu.
2. In the **Options** dialog box, do the following:
    a. Click the **Privacy** button at the top of the dialog box.
    b. Make sure that the **Remember history** option is selected in the **History** area.
    c. When finished, click **OK**.

Connecting to the Web Interface

To connect to the Web Interface, you need to know the name of the Web server running the Web Interface and the name of the Web Interface site you want to access. The default site names are as follows:

- **ARWebAdmin** Site for administrators; supports a broad range of administrative tasks
- **ARWebHelpDesk** Site for Help Desk; supports the most common administrative tasks
- **ARWebSelfService** Site for self-administration; enables end users to manage their personal accounts

To connect to the Web Interface

- In the address box of your Web browser, type the address of the Web Interface site, and then press Enter.

For example, to connect to the default site for administrators, you might type **http://server/ARWebAdmin** where **server** stands for the name of the Web server running the Web Interface.

Changing personal settings

When using the Web Interface, you can specify the following personal settings:

- **User interface language** The language of the Web Interface pages. This setting affects all menus, commands, and forms of the Web Interface, as well as tool tips and help, allowing the user to view the Web Interface pages in the selected language.
- **Maximum number of objects to display in search results** Determines the maximum number of objects displayed in single-page lists, such as lists of search results or lists that show contents of containers.
- Use this setting cautiously because displaying a large number of objects may adversely affect performance of your Web browser. Instead of displaying all objects, it would be advisable to use searching and filtering to find the objects you need.
- **Number of items to display per page in paged lists** Determines the maximum number of list items displayed on a single page in multi-page lists. Affects only the lists, such as lists of approval tasks, that are divided into pages, causing each page to display no more items than specified by this setting.

  Use this setting cautiously. If you specify a small number, you will need to page through list items. However, specifying an unreasonably large number may result in poor performance of the list view.
- **Number of page links to display for paged lists** Determines the maximum number of links to pages displayed for multi-page lists. Affects only the lists, such as

lists of approval tasks, that are divided into pages, allowing the user to page through list items by clicking page numbers beneath the list. This setting specifies how many page numbers are to be shown and the duration of the Web Interface notification.

Active Roles saves these settings on a per-user basis in the configuration of the Web Interface site. Once saved, the personal settings take effect regardless of which computer is used to access the Web Interface. The user can have different personal settings for different Web Interface sites.

To change personal settings

1. Click the **Settings** (gear) icon in the upper right corner of the Web Interface window.
2. Configure the settings as needed.
3. Click **Save** for the changes to take effect.

Logging out of the Web Interface

Logging out of the Web Interface can save Web Interface users from harmful security breaches. Users should log out of the Web Interface when their work is completed.

To log out of the Web Interface

- Click the name of the current Web Interface user in the top right corner of the Web Interface window, and then click **Log out**.

The **Log out** command closes the current Web Interface session and deletes all the session-related data from the local computer.

Not logging out may pose a security risk (for example, if the user accesses the Web Interface from a public computer). In such a case, the Web Interface can forcibly terminate the session due to user inactivity.

The Web Interface provides an inactivity timeout, ensuring that the session is not terminate unexpectedly. The administrator can specify the amount of continuous idle time that must pass in a Web Interface session before a message box pops up to prompt the user for an action. If the user does not respond to the prompt, the session is forcibly terminated after an additional grace period.

Web Interface Basics

Administrative tasks overview

The Web Interface home page displays categories of administrative tasks supported by the Web Interface. The same categories are displayed along the vertical strip on the left side of the Web Interface window, referred to as Navigation bar. Click icons on the Navigation bar to perform the following tasks:

- Directory Management Browse for, and manage, directory objects, such as users and groups. You can navigate through containers in the directory; view, filter and select objects held in the container; and apply commands to the selected object or container.
- Search Search for, and manage, directory objects. You can select containers in the directory, and specify search criteria. The Web Interface searches in the selected containers and all of their subcontainers, and lists the objects that match your search criteria, allowing you to apply commands to objects in the list.
- Approval Perform the tasks related to approval of administrative operations. The scope of your responsibilities depends upon your role in the approval workflow processes.
- Settings Set up your personal settings that control the display of the Web Interface pages.
- Customization Add, remove, or modify user interface elements, such as menu items (commands) and pages (forms), intended to manage directory objects. This task requires the rights of Active Roles Admin.

NOTE:

- For more information on extending the Active Roles provisioning and account administration capabilities to your cloud applications, click the supported connectors in the **What's New** section from the Active Roles drop-down list.
- On the title bar of the Active Roles Web Interface, click **Feedback** to provide a product feedback. You are redirected to a new browser that allows you to provide the feedback.

- For Admin site, by default, the feedback option is available.
- For HelpDesk site, navigate to Customization | Global Settings and check the Enable user feedback link check-box to enable the feedback option.
- The feedback option is not available for SelfService site.

Directory Management

Directory Management allows you to browse for, and administer, directory objects in your organization. Your Active Roles permissions determine which tasks you can perform.

Directory Management provides the following views:

- **Active Directory** Lists Active Directory domains managed by Active Roles, allowing you to navigate through containers in those domains. You can view, filter and select objects held in the container, and apply commands to the selected object or container.
- **Managed Units** Lists Managed Units defined in Active Roles, allowing you to view objects, and navigate through containers, held in Managed Units. You can filter and select objects, and apply commands to the selected object or container.

For information on how to administer Active Directory objects, see Managing Active Directory objects later in this document.

Search

Search provides a flexible, query-based mechanism that helps locate directory objects quickly and without browsing through the directory tree. You can select containers in the directory, and build a query by specifying search criteria. The Web Interface searches in the selected containers and all of their subcontainers, and lists the objects that match your search criteria. When the objects you target are returned as the results of a search query, you can then perform the necessary administrative tasks.

You can also save the queries that you build and use them again at a later time. The Web Interface saves queries as your personal views, with each view consisting of the containers and search criteria that you select, as well as the customized sorting and column information that you specify.

For instructions on how to perform a search, see Searching for directory objects later in this document.

Approval

Approval provides you with the tools for performing tasks related to approval workflow. You can use these tools to complete approval tasks assigned to you as an Approver, and to

monitor the status of the operations that you initiated, if those require approval.

For details on how to perform approval tasks, see Using Approval Workflow later in this document.

Settings

By using **Settings**, you can specify:

- The language of the Web Interface pages.
- The maximum number of objects displayed in single-page lists.
- The maximum number of list items displayed on a single page in multi-page lists.
- The maximum number of links to pages displayed for multi-page lists.
- Maximum time in minutes, for which the notification is to be visible.
- Maximum number of notifications to be stored in Active Roles.

You can also enable **Show objects owned by inheritance or secondary ownership**. Selecting this check box allows Self-Administration Web Interface users to view objects in **My Managed Resources** even if the user is not assigned to the objects as the primary owner (manager), but as a secondary or inherited owner.

Settings are saved on a per-user basis in the configuration of the Web Interface site. For more information, see Changing personal settings.

Customization

Customization allows you to tailor the Web Interface to suit the specific needs of your organization. The **Customization** item is only displayed if you are logged on as Active Roles Admin. The Active Roles Admin account is specified upon configuration of the Active Roles Administration Service.

Customization includes the following tasks:

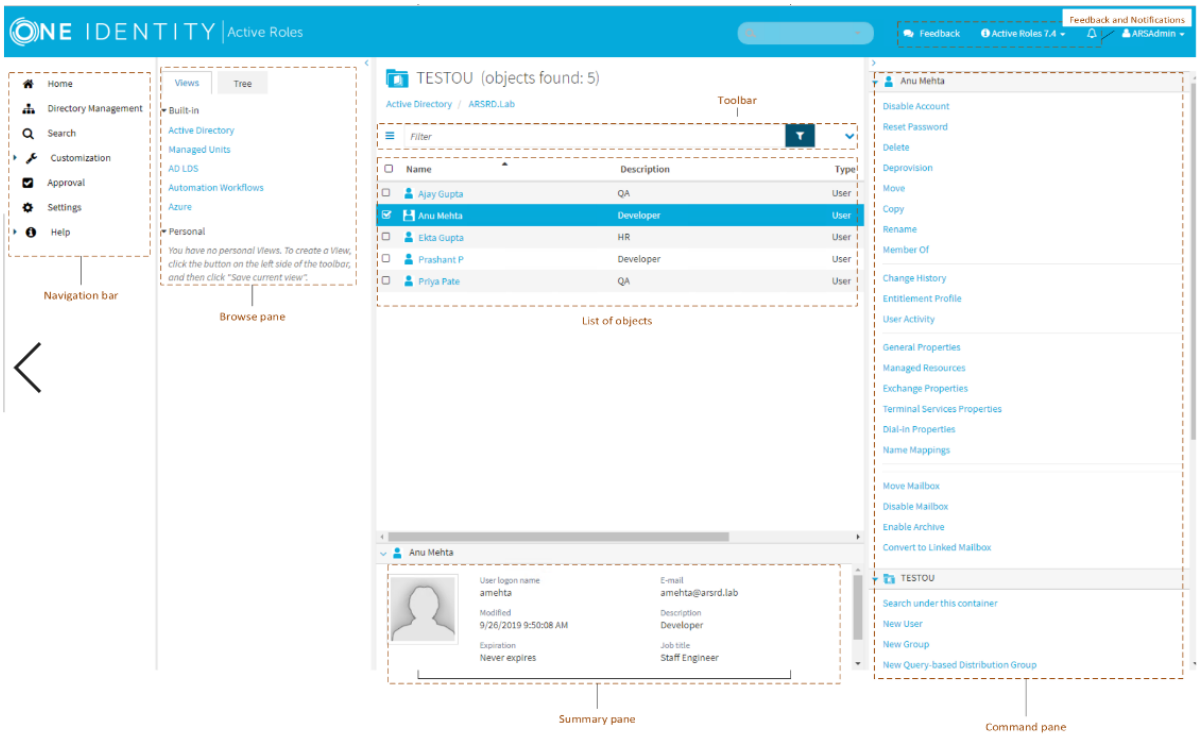
- **Directory Objects** Modify menus, commands, and forms for administering directory objects. View or change global settings, such as the logo image and color scheme.
- **Restore Default** Restore the original (default) menus, commands, and forms, discarding all previous customizations.
- **Reload** Put into effect the menus, commands, and forms that you have customized.

The customization settings determine the configuration of the Web Interface site for all users.

For more information and instructions on how to customize the Web Interface, see "Customizing the Web Interface" in the Active Roles Web Interface Administration Guide.

User interface overview

The section describes the user interface elements that are common across the Web Interface.



Navigation bar

Located on the left side of the page, the Navigation bar provides the first level of navigation for most of the tasks you can perform in the Web Interface. The Navigation bar is organized by Web Interface areas, and includes the following items:

- **Home** Go to the Web Interface home page.
- **Directory Management** Browse for, and administer, directory objects in your organization.
- **Search** Search for, and administer, directory objects in your organization.
- **Customization** Customize Web Interface pages. Available to Active Roles Admin only.
- **Approval** Perform the tasks relating to approval of administrative operations.
- **Settings** View or change your personal settings that control the display of the Web Interface.
- **Help** Find Help topics and other helpful resources for the Web Interface.

For more information about functions of the Navigation Bar, see Administrative tasks overview earlier in this document.

Browse pane

Located next to the Navigation bar, the Browse pane lists the built-in views and personal views, and allows you to access the tree view:

- Built-in views provide entry points to browsing for objects in the directory. Personal views are filter or search queries you build and save to use them again at a later time. To see built-in views and personal views, click the **Views** tab at the top of the Browse Pane.
- The tree view helps you browse for directory objects by using the directory tree to navigate through the hierarchical structure of containers. To see the tree view, click the **Tree** tab at the top of the Browse Pane.

List of objects

When you select a container or view in the Browse pane, you'll see a list of objects. If you select a container, the list includes the objects held in that container. If you select a view, the list includes the objects that match the view settings. It is also possible to customize the list by sorting and filtering, and by adding or removing list columns.

You can select objects from the list and apply commands to the selected object or objects. When you click the name of a container object, such as a domain or an organizational unit, the list changes to display the objects held in that container, thereby enabling you to browse through containers in the directory.

Toolbar

The Toolbar contains a number of controls allowing you to manage the current list of objects:

- Click the Menu button on the left side of the Toolbar to save the current list as a personal view, add or remove list columns, or export the list to a text file.
- Type in the Filter field and then click the button next to that field to have the list include only those objects whose naming properties match what you typed.
- Click the Expand/Collapse button on the right side of the Toolbar to configure filtering criteria based on object properties. To have the list include only the objects that match your filtering criteria, click the button next to the Filter field.

Current container

The area above the Toolbar displays the name of the current container—the container that holds the objects shown in the list, and identifies the hierarchical path to the current container in the directory. Click the name of a container in the path to view a list of objects held in that container.

Command pane

Located to the right of the list of objects, the Command pane provides commands you can apply to objects you select from the list as well as commands you can apply to the current container:

- If no objects are selected in the list, the menu includes only the commands that apply to the current container. These commands are grouped under a heading that shows the name of the current container.
- If a single object is selected in the list, the commands that apply to the selected object are added in the top of the menu, under a heading that shows the name of the selected object.
- If multiple objects are selected from the list, the commands that apply to all of the selected objects are added in the top of the menu, under a heading that shows the number of the selected objects.

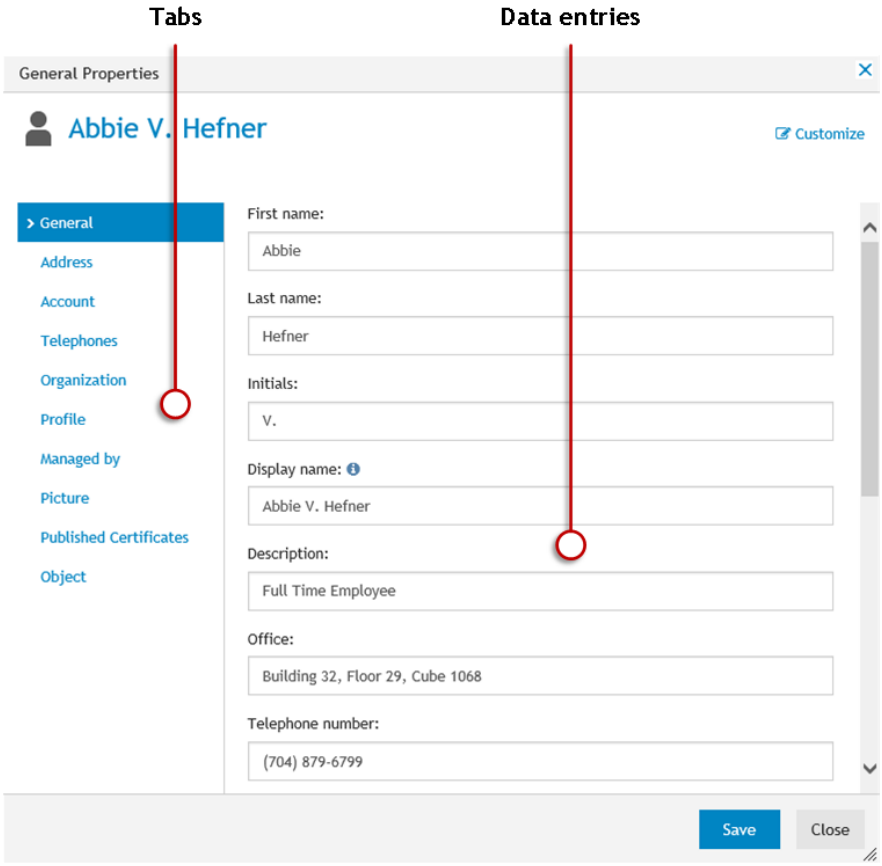
Summary pane

When you select an object from the list, information about that object is displayed in the Summary pane under the list of objects. The information includes some commonly used properties of the object, and depends upon the object type. For example, user properties provide more detailed information about a user account, such as the logon name, e-mail address, description, job title, department, expiration date, and the date and time that the account was last changed. If you don't see the Summary pane, click in the area beneath the list of objects.

Object property pages

Property pages are used in the Web Interface to modify directory objects. The following figure gives an example of the property page that appears when you select a user account from the list of objects and click **General Properties** in the Command pane.

Figure 1: Object Property page



The property page consists of several tabs. Each tab provides a number of data entries allowing you to view or change certain properties of the directory object. Click a tab to access the data entries on that tab. To apply the changes you have made in the data entries, click the **Save** button.

Active Roles Admin can use the **Customize** link in the upper right corner of the page to add or remove data entries or entire tabs from the property page. The **Customize** link is not displayed unless you are logged on as a member of the Active Roles Admin account, which specified in the configuration settings of the Active Roles Administration Service.

Notification and Feedback

On the upper right corner, you can view the Feedback option, Active Roles drop-down menu, and a Notification icon.

- Feedback option: Allows you to provide product feedback.
- Active Roles drop-down menu: Allows you to know more about the new features in the current version, access online-help, and configure settings.
- Notification icon: Allows you to view the notifications.

Managing the list of objects

The list of objects in the Web Interface has a number of features that help you locate the objects you target. Thus, you can sort objects in a list and apply a filter to a list. You can also add or remove list columns.

Sorting and filtering the list of objects

The Web Interface allows you to set a sort order and apply a filter in the list of objects.

To sort the list of objects by name

- Click the **Name** column heading once or twice to sort the list by object name in ascending or descending order. An arrow in the column heading indicates the sort order.

You can also sort the list by other columns. Click a column heading to change the sort order. For instructions on how to add or remove columns, see Adding or removing columns from the list of objects later in this document.

To filter the list of objects

- To filter the list by naming properties, type in the Filter field on the Toolbar and then press Enter or click the button next to the Filter field. As a result, the list includes only the objects whose naming properties match what you typed. The naming properties include name, first name, last name, display name, and logon name.
- To filter the list by other properties, click the button on the right side of the Toolbar to expand the Toolbar, click **Add criteria**, choose the properties by which you want to filter, click **Add**, and then configure the criteria as appropriate. When finished, press Enter or click the button next to the Filter field on the Toolbar. As a result, the list includes only the objects that match the criteria you configured.

After you have applied a filter, the list includes only the objects that match the filter. For example, you can type a few characters in the Filter field on the Toolbar and then press Enter to view only the objects whose name starts with the characters you typed.

To remove the filter and restore the original list of objects

- If you did not add criteria, clear the Filter field on the Toolbar and then press Enter; otherwise, expand the Toolbar, click **Clear all**, and then press Enter.

Adding or removing columns from the list of objects

You can customize the list of objects by adding or removing list columns. Each column is intended to display a certain property of objects in the list, and can be used to set a sort order.

To add or remove list columns

1. Click the Menu button on the left side of the Toolbar, and then click **Choose columns**.
2. To add a column for a certain property, click the name of the property in the **Hidden columns** list and then click the right arrow button to move the property to the **Displayed columns** list.
3. To remove a column for a certain property, click the name of the property in the **Displayed columns** list and then click the left arrow button to move the property to the **Hidden columns** list.

You can reorder list columns by moving list items up and down in the **Displayed columns** list: Click the name of the property in the list and then click the up arrow button or the down arrow button next to the list.

Locating directory objects

The Web Interface provides search and filtering tools to help you locate directory objects quickly and easily. By creating and applying an appropriate search or filter query, you can build shorter lists of objects, which makes it easier to select the objects needed to accomplish your administrative tasks.

You can also save search and filter queries as your personal views, and use them again at a later time. Each view saves the following settings that you specify: the container to search or filter; the search or filtering criteria; the set of columns and the sort order in the list of search or filtering results.

Searching for directory objects

To search for directory objects, you can use the **Search** page that allows you to select the container to search and specify criteria for the objects you want to find. The Web Interface searches in the container you select and in all of its subcontainers.

The Web Interface opens the **Search** page when you do any of the following:

- Type in the Search field located in the upper right corner of the Web Interface window, and then press Enter or click the magnifying glass icon in the Search field. In this case, the Web Interface searches all managed Active Directory domains for objects whose naming properties match what you typed and the **Search** page lists the search results. The naming properties include name, first name, last name, display name, and logon name.
- Click **Search** on the Navigation bar. The **Search** page opens, allowing you to configure and start a search.

To configure and start a search

1. Click the **Search in** box on the Toolbar, and then select the container that you want to search. You can select more than one container.

   The Web Interface will search in the selected container and all of its subcontainers.
2. Specify criteria for the objects that you want to find:
   - To search by naming properties, type in the Search field on the Toolbar. The Web Interface will search for objects whose naming properties match what you typed. The naming properties include name, first name, last name, display name, and logon name.
   - To search by other properties, click the button on the right side of the Toolbar to expand the Toolbar, click **Add criteria**, choose the properties by which you want to search, click **Add**, and then configure the criteria as appropriate. The Web Interface will search for objects that match the criteria that you configured.
3. Press Enter to start the search.

The search results are listed on the Search page. You can customize the list by adding or removing list columns and sorting the list by column data. To add or remove list columns, click the Menu button on the left side of the Toolbar and then click **Choose columns** (see also Adding or removing columns from the list of objects earlier in this document). To sort the list by column data, click column headings.

Example: Searching by object type

The following steps demonstrate how you can use the search function to list all groups that exist in the Active Directory domains managed by Active Roles:

1. Click **Search** on the Navigation bar.
2. Click the button on the right side of the Toolbar to expand the Toolbar, click **Add criteria**, select the check box next to **Object type is User/InetOrgPerson/Computer/Group/Organizational Unit**, and then click the **Add** button.
3. On the Toolbar, click **Group** in the list next to **The object type is**, and then press Enter.

Filtering the contents of a container

If a container, such as an organizational unit in your Active Directory, holds large number of objects, you can narrow down the displayed list of objects by filtering the objects held in that specific container.

To filter the objects held in a container

1. Navigate to the container in the Web Interface.

   To navigate to a container, you can search for the container object (see Searching for directory objects) and then click its name in the list of search results on the **Search** page. Alternatively, you can browse for the container objects by using the Browse pane and the List of objects.

   > IMPORTANT: The scope of filtering is always set to the current container, and does not include any subcontainers of that container. Filtering is essentially a search for objects held in a given container only. If you want to search the current container and all of its subcontainers, click **Search under this container** in the Command pane, and then configure and perform a search as described in Searching for directory objects earlier in this document.

2. Specify how you want to filter the objects held in the container:
   - To filter objects by naming properties, type in the Filter field on the Toolbar and then press Enter or click the button next to the Filter field. The list of objects will include only the objects whose naming properties match what you typed. The naming properties include name, first name, last name, display name, and logon name.
   - To filter objects by other properties, click the button on the right side of the Toolbar to expand the Toolbar, click **Add criteria**, choose the properties by which you want to filter, click **Add**, and then configure the criteria as appropriate. The list of objects will include only the objects that match the criteria you configured.
3. To apply the filter, press Enter or click the button next to the Filter field on the Toolbar.

When a filter is applied to a container, the Web Interface lists a subset of all objects held in that container. You can remove the filter to view all objects: If you did not add criteria, clear the Filter field on the Toolbar and then press Enter; otherwise, expand the Toolbar, click **Clear all**, and then press Enter.

Example: Filtering by object type

The following steps demonstrate how you can configure a filter that lists only user accounts held in a particular organizational unit, removing objects of any other type from the list:

1. Navigate to the organizational unit in the Web Interface.
2. Click the button on the right side of the Toolbar to expand the Toolbar, click **Add criteria**, select the check box next to **Object type is User/InetOrgPerson/Computer/Group/Organizational Unit**, and then click the **Add** button.
3. On the Toolbar, confirm that the field next to **The object type is** reads **User** and then click the button next to the Filter field, or press Enter.

Using personal views

In the Web Interface, you can use search or filter queries to locate directory objects. To create a query, you specify a set of rules that determine the contents of the resulting list of objects. You can, for instance, specify that only user accounts held in a particular organizational unit should be listed. In addition, you can adjust the set of columns and the sort order in the list of search or filtering results.

The ability to locate the objects you target is crucial as you need to focus your attention on only those objects that apply to the task you are performing. However, creating a search or filter query that displays the objects you are interested in for a particular task can be time-consuming. Personal views provide a way for you to save that work. Once you have created a query that displays just the objects you need, you can provide the query with a name and save it to use later. That saved query is a personal view. Each view saves the following settings that you specify: the container to search or filter; the search or filtering criteria; the set of columns and the sort order in the list of search or filtering results.

Creating a personal view

Personal views are like search or filter queries that you have named and saved. After creating a personal view, you will be able to reuse it without re-creating its underlying search or filter query. To reuse a personal view, click the name of that view on the **Views** tab in the Browse pane. The Web Interface applies the search or filter query saved in the view, and displays the results in the list with the same set of columns and sort order as when you created the view.

To create a personal view

1. Do one of the following:
   - Configure and perform a search. For instructions, see Searching for directory objects.
   - Create a filtered list of objects. For instructions, see Filtering the contents of a container.
2. Click the Menu button on the left side of the Toolbar, and then click **Save current view**.

3. In the dialog box that appears, type a name for the personal view, and then click **Save**.

Changing a personal view

The personal views that you created are listed on the **Views** tab in the Browse pane. When you select a view in the Browse pane, Web Interface applies the search or filter query saved in the view, and displays the results in the list with the same set of columns and sort order as when you created the view. At this point, you can make changes to the search or filter criteria, set of columns and sort order, and then save the changed settings to the selected personal view or create a new personal view based on the changed settings.

To save the changed settings to the selected personal view

1. Select a personal view in the Browse pane.
2. Make changes to the search or filter criteria, list columns or sort order.
3. Click the Menu button on the left side of the Toolbar, and then click **Save current view**.
4. In the dialog box that appears, don't change the name of the view. Click **Save**.

To create a new personal view based on the changed settings

1. Select a personal view in the Browse pane.
2. Make changes to the search or filter criteria, list columns or sort order.
3. Click the Menu button on the left side of the Toolbar, and then click **Save current view**.
4. In the dialog box that appears, type a name for the new personal view and then click **Save**.

You can also rename or delete personal views.

To rename a personal view

- On the **Views** tab in the Browse pane, click the Edit button next to the name of the view, type a new name, and then press Enter or click the Edit button once more.

To delete a personal view

- On the **Views** tab in the Browse pane, click the Delete button next to the name of the view.

Performing Management Tasks

Managing your personal account

The **User Profile Editor** section in the Web Interface site for self-administration gives you a convenient way to display and update your own identity information, such as your telephone numbers or mail address in your user account. The contents of the pages in the **User Profile Editor** section can be customized by the Active Roles administrator, who can add new elements to the pages, modify or remove existing elements, and regroup related elements on different tabbed pages.

To view or modify your user account

1. In your Web browser, go to the address (URL) of the Web Interface site for self-administration.

   By default, the address is http://<server>/ARWebSelfService where <server> stands for the name of the server running the Web Interface.

2. On the Web Interface Home page, click **User Profile Editor**.
3. Use the page provided by the Web Interface to view or modify your user account.
4. Click the **Save** button to apply your changes.

It's up to the Active Roles administrator to determine what information you are authorized to view or modify on the **User Profile Editor** page. Some fields on the page might not be editable. The fields that you are not permitted to modify appear on the page as read-only text. The properties that you are not permitted to view are not displayed on the **User Profile Editor** page.

Managing Active Directory objects

The **Directory Management** section of the Web Interface allows you to browse for, and administer, directory objects in your organization. You can navigate through containers in the directory; view, filter and select objects held in the container; and apply commands to the selected object or container.

Whether you can perform a certain management task depends upon permissions granted to your user account, and the Web Interface customization settings.

A general procedure for performing a Directory Management task is as follows.

To perform a management task

1. On the Navigation bar, click **Directory Management**.
2. On the **Views** tab in the Browse pane, click one of the following:
    - To manage objects in Active Directory containers, such as domains or organizational units, click **Active Directory**. This displays a list of Active Directory domains.
    - To manage directory objects in a certain Managed Unit, click **Managed Units**. This displays a list of Managed Units.
3. In the list of objects, do one of the following:
    - To navigate to a container, such as an organizational unit, click the name of that container.
    - To perform a command that applies to the current container, click that command in the Command pane under the name of the current container.
    - To perform a command on a particular object held in the current container, select the check box next to the name of that object, and then click the command in the top area of the Command pane, under the name of the object.
    - To perform a command on two or more objects at a time, select the check box next to the name of each object, and then click the command in the top area of the Command pane.

    NOTE: In the list of objects, clicking the name of a leaf object such as a user or group, displays a page where you can view or modify object properties; clicking a container object such as a domain or an organizational unit, displays a list of objects held in that container.

When you perform a management tasks, the Web Interface supplements and restricts your input based on policies and permissions defined in Active Roles. The Web Interface displays the data generated by policies, and prevents the input of data that would cause policy violations. The following rules apply:

- If a policy requires that a value be specified for a particular property, the name of the field for that property is marked with an asterisk (*).

- If a policy imposes any restrictions on a property, an information icon is displayed next to the name of the field for that property. Click the icon to view policy information, which you can use to enter an acceptable value.
- When you specify a property value that violates a policy, and click **Save**, the Web Interface displays an error message. Review the error message and correct your input.
- Pages for object creation must include the entries for all required properties. Otherwise, the Web Interface fails to create the object. For information on how to configure forms, see "Configuring forms" in the Active Roles Web Interface Administration Guide.
- Object property pages display the values of the properties for which you have the Read permission. You can modify only those properties for which you have the Write permission. The properties for which you only have the Read permission are displayed as read-only.
- The Command pane includes only the commands that you are permitted to use.
- The list of objects includes only the objects that you are permitted to view.

Batch operations

In the Web Interface, you can select multiple objects (such as users, groups and computers), and then apply a certain command to your selection of objects. This allows you to perform a batch operation on all the selected objects at a time instead of executing the command on each object separately. The Web Interface supports the following batch operations:

- **Delete** Allows you to delete multiple objects at a time.
- **Deprovision** Allows you to deprovision multiple users or groups at a time.
- **Move** Allows you to move a batch of objects to a different organizational unit or container.
- **Add to groups** Allows you to add a batch of objects to one or more groups of your choice.
- **Update object attributes** Allows you to perform bulk attributes operations on multiple users at a time.
- **Reset Password** Allows you to reset the password for multiple users at a time.

Batch operations are available in the list of objects on the following Web Interface pages:

- **Search** This page lists the search results when you perform a search.
- **View Contents** This page displays the objects held in a given organizational unit, Managed Unit, or container.

To perform a batch operation, select the check box next to the name of each of the desired objects in the list, and then click a command in the top area of the Command pane. This executes the command on each object within your selection.

NOTE: Active Roles administrators can customize Web Interface by adding and removing commands, and modifying pages associated with commands. For more information, see "Customizing the Web Interface" in the Active Roles Web Interface Administration Guide.

Example 1: Enabling a user account

This topic demonstrates how to enable a disabled user account by using the Web Interface.

To enable a disabled user account

1. Locate the user account you want to enable. For instructions on how to locate objects in the Web Interface, see Locating directory objects earlier in this document.
2. In the list of objects, select the user account you want to enable.
3. In the Command pane, click **Enable Account**.

NOTE: If the user account is not disabled, the Command pane includes the **Disable Account** command instead of the **Enable Account** command.

Example 2: Adding a user to a group

This demonstrates how to add a user account to a group by using the Web Interface.

To add a user account to a group

1. In the Web Interface locate and select the user account. For instructions on how to locate objects in the Web Interface, see Locating directory objects earlier in this document.
2. In the Command pane, click **Member Of**.
3. On the **Member Of** page that appears, click **Add**.
4. On the **Select Object** page that appears, perform a search to locate the group. For instructions on how to configure and start a search, see Searching for directory objects earlier in this document.
5. In the list of search results on the **Select Object** page, select the group to which you want to add the selected user account, and then click **Add**.

Running an automation workflow

Workflow refers to a sequence of actions that leads to the completion of a certain task. Active Roles allows administrators to configure various workflows that can be started on a scheduled basis or on user demand. This workflow type is called *automation workflow*. For more information, see "Automation workflow" in the Active Roles Administration Guide.

If an automation workflow is configured so that running it on demand is allowed, then such a workflow can be run from the Web Interface.

To run an automation workflow from the Web Interface

1. On the Navigation bar, click **Directory Management**.
2. On the **Tree** tab in the Browse pane, expand the **Workflow** branch and click the container that holds the desired workflow.
3. In the list of objects, select the desired workflow.
4. In the Command pane, click **Run**.
5. If prompted, review or change the values of the workflow parameters.
6. Click **OK** in the confirmation message box.

The Web Interface prompts you for parameter values if the workflow has any parameters that need to be supplied by the user running the workflow on demand. If the workflow has no parameters that require user input, then the Web Interface starts the workflow without prompting you for parameter values.

Once you have started an automation workflow, the Web Interface opens a run history report allowing you to examine the progress of workflow execution. The report displays the workflow execution status along with information about the activities performed during workflow run. For a workflow that is in progress you have the option to cancel execution of the workflow by clicking the **Terminate** button.

After the workflow is completed, the report retains history information about the workflow run. For each completed run of the workflow, the report allows you to identify when and by whom the workflow was started, when the workflow was completed, and what parameter values were used.

The report also lists the workflow activities that were executed during the workflow run. For each activity, you can determine whether the activity was completed successfully or returned an error. In case of error, the report provides an error description. For activities requesting changes to directory data (for example, activities that create new objects or modify existing objects), you can examine the requested changes in detail by clicking the Operation ID number in the run history report.

To view run history of an automation workflow in the Web Interface

1. On the Navigation bar, click **Directory Management**.
2. On the **Tree** tab in the Browse pane, expand the **Workflow** branch and click the container that holds the desired workflow.
3. In the list of objects, select the desired workflow.

In the Command pane, click **Run History**.

Managing temporal group memberships

By using temporal group memberships, you can manage group memberships of objects such as user or computer accounts that need to be members of particular groups for only a certain time period. This feature gives you flexibility in deciding and tracking what objects need group memberships and for how long.

This section guides you through the tasks of managing temporal group memberships in the Web Interface. If you are authorized to view and modify group membership lists, then you can add, view and remove temporal group members as well as view and modify temporal membership settings on group members.

Adding temporal members

A temporal member of a group is an object, such as a user, computer or group, scheduled to be added or removed from the group. You can add and configure temporal members using the Web Interface.

To add temporal members of a group

1. In the Web Interface, select the group, and then choose the **Members** command.
2. On the **Members** page, click **Add**.
3. In the **Select Object** dialog box find and select the objects that you want to make temporal members of the group, and then click **Temporary Access**.
4. In the **Temporal Membership Settings** dialog box, choose the appropriate options, and then click **OK**:
    - To have the temporal members added to the group on a certain date in the future, select **On this date** under **Add to the group**, and choose the date and time you want.
    - To have the temporal members added to the group at once, select **Now** under **Add to the group**.
    - To have the temporal members removed from the group on a certain date, select **On this date** under **Remove from the group**, and choose the date and time you want.
    - To retain the temporal members in the group for indefinite time, select **Never** under **Remove from the group**.

    NOTE: You can make an object a temporal member of particular groups by managing the object rather than the groups. Select the object, and then choose the **Member Of** command. On the **Member Of** page, click **Add**. In the **Select Object** dialog box, find and select the groups, and specify the temporal membership settings as appropriate for your situation.

Viewing temporal members

In the list of group members displayed by the Web Interface, you can distinguish between regular and temporal group members. It is also possible to hide or display so-called *pending members*, the temporal members that are scheduled to be added to the group in the future but are not actual members of the group so far.

To view temporal members of a group

1. In the Web Interface, select the group, and then choose the **Members** command.
2. Review the list on the **Members** page:
    - An icon of a small clock overlays the icon for the temporal members.
    - If the **Show pending members** check box is selected, the list also includes the temporal members that are not yet added to the group.

The list of group memberships for a particular object makes it possible to distinguish between the groups in which the object is a regular member and the groups in which the object is a temporal member. It is also possible to hide or display so-called *pending group memberships*, the groups to which the object is scheduled to be added in the future.

To view groups in which an object is a temporal member

1. In the Web Interface, select the object, and then choose the **Member Of** command.
2. Review the list on the **Member Of** page:
    - An icon of a small clock overlays the icon for the groups in which the object is a temporal member.
    - If the **Show pending group memberships** check box is selected, the list also includes the groups to which the object is scheduled to be added in the future.

Rescheduling temporal group memberships

The temporal membership settings on a group member include the *start time* and *end time* settings.

The start time setting specifies when the object is to be actually added to the group. This can be specific date and time or an indication that the object should be added to the group right away.

The end time setting specifies when the object is to be removed from the group. This can be specific date and time or an indication that the object should not be removed from the group.

You can view or modify both the start time and end time settings using the Web Interface.

To view or modify the start or end time setting for a member of a group

1. In the Web Interface, select the group, and then choose the **Members** command.
2. In the list on the **Members** page, select the member and then click the **Temporary Access** button.
3. Use the **Temporal Membership Settings** dialog box to view or modify the start or end time settings.

The **Temporal Membership Settings** dialog box provides the following options:

- **Add to the group | Now** Indicates that the object should be added to the group at once.
- **Add to the group | On this date** Indicates the date and time when the object should be added to the group.
- **Remove from the group | Never** Indicates that the object should not be removed from the group.
- **Remove from the group | On this date** Indicates the date and time when the object should be removed from the group.

Regular members have the **Add to group** and **Remove from group** options set to **Already added** and **Never**, respectively. You can set a particular date for any of these options in order to convert a regular member to a temporal member.

NOTE:

- You can view or modify the start time and end time settings by managing an object rather than the groups in which that object has memberships. select the object, and then choose the **Member Of** command. On the **Member Of** page, select the group for which you want to manage the object's start or end time setting and click **Temporary Access**.
- On the **Members** or **Member Of** page, you can change the start or end time setting for multiple members or groups at a time. On the page, select multiple list items, click **Temporary Access**, and then, in the **Temporal Membership Settings** dialog box, make the changes you want.

Removing temporal members

You can remove temporal group members in the same way as regular group members. Removing a temporal member of a group deletes the temporal membership settings for that object with respect to that group. As a result, the object will not be added to the group. If the object already belongs to the group at the time of removal, then it is removed from the group.

To remove a temporal member of a group

1. In the Web Interface, select the group, and then choose the **Members** command.
2. On the **Members** page, select the member, and click **Remove**.

NOTE: You can remove an object that is a temporal member of a group by managing the object rather than the group. Select the object, and then choose the **Member Of** command. On the **Member Of** page, select the group from the list and click **Remove**.

Managing AD LDS data

You can use the Web Interface to manage directory data in Microsoft Active Directory Lightweight Directory Services (AD LDS). Similarly to Active Directory domains, directory data can be managed in only the AD LDS instances that are registered with Active Roles (managed AD LDS instances).

The application directory partitions found on the managed AD LDS instances are grouped together in the **AD LDS (ADAM)** container, thus making it easy to locate the AD LDS data. Each directory partition is represented by a separate container (node) so you can browse the partition tree the same way you do for an Active Directory domain.

The Web Interface supports a wide range of administrative operations on AD LDS users, groups and other objects, so you can create, view, modify, and delete directory objects, such as users, groups, containers and organizational units, in AD LDS the same way you do when managing data in Active Directory.

To browse the directory tree in AD LDS directory partitions

1. On the Navigation bar, click **Directory Management**.
2. In the Browse pane, click the **Tee** tab.
3. On the **Tree** tab, do the following:
    a. Expand the **AD LDS (ADAM)** container.
    b. Under **AD LDS (ADAM)**, expand a directory partition object to view its top-level containers.
    c. Expand a top-level container to view the next level of objects in that container.
4. Do one of the following:
    - To move down a directory tree branch, continue expanding the next lowest container level on the **Tree** tab.
    - To administer a directory object at the current directory level, click a container on the **Tree** tab and use the instructions that follow.

To manage directory data in AD LDS

On the **Tree** tab in the Browse pane, under **AD LDS (ADAM)**, click the container that holds the data you want to manage.

1. In the list of objects, select the object that represents the directory data you want to manage.
2. Use commands in the Command pane to perform management tasks.

NOTE: In the list of objects, clicking the name of a leaf object, such as a user or group, displays a page intended to view or modify object properties; clicking a container object, such as a partition or an organizational unit, displays a list of objects held in that container.

Managing computer resources

You can use the Web Interface to manage the following computer resources:

- **Services** Start or stop a service, view or modify properties of a service.
- **Network file shares** Create a file share, view or modify properties of a file share, stop sharing a folder.
- **Logical printers** Pause, resume or cancel printing, list documents being printed, view or modify properties of a printer.
- **Documents being printed (print jobs)** Pause, resume, cancel or restart printing of a document, view or modify properties of a document being printed.
- **Local groups** Create or delete a group, add or remove members from a group, rename a group, view or modify properties of a group. Unavailable on domain controllers.
- **Local users** Create or delete a local user account, set a password for a local user account, rename a local user account, view or modify properties of a local user account. Unavailable on domain controllers.
- **Devices** View or modify properties of a logical device, start or stop a logical device.

To manage computer resources

1. In the Web Interface, locate the computer that hosts resources you want to manage. For instructions on how to locate objects in the Web Interface, see Locating directory objects earlier in this document.
2. Select the computer in the list of objects, and then click **Manage** in the Command pane.
3. In the list of resource types, click the type of resource you want to manage.
4. In the list of objects that appears, select the resource you want to manage.
5. Use commands in the Command pane to perform management tasks on the selected resource.

To manage print jobs

1. Repeat Steps 1–2 of the previous procedure, to start managing computer resources.
2. In the list of resource types, click **Printers** to view a list of printers found on the computer you selected.
3. In the list of printers, select a printer whose print jobs you want to manage.
4. In the Command pane, click **Print Jobs** to view a list of documents being printed.

5. In the list of documents, select a document to pause, resume, restart, or cancel printing.
6. Use commands in the Command pane to perform management tasks on the selected document.

Restoring deleted objects

The Web Interface can be used to restore deleted objects in any managed domain that is configured to enable Active Directory Recycle Bin—a feature of Active Directory Domain Services introduced in Microsoft Windows Server 2008 R2.

To undo deletions, Active Roles relies on the ability of Active Directory Recycle Bin to preserve all attributes, including the link-valued attributes, of the deleted objects. This makes it possible to restore deleted objects to the same state they were in immediately before deletion. For example, restored user accounts regain all group memberships that they had at the time of deletion.

This section provides instructions on how to restore deleted objects by using the Web Interface. For more information, see the "Recycle Bin" chapter in the *Active Roles Administration Guide*.

Locating deleted objects

If Active Directory Recycle Bin is enabled in a managed domain, the Web Interface provides access to the **Deleted Objects** container that holds the deleted objects from that domain. On the **Tree** tab in the Browse pane, the **Deleted Objects** container appears at the same level as the domain object, under the **Active Directory** node. If multiple managed domains have Active Directory Recycle Bin enabled, then a separate container is displayed for each domain. To tell one container from another, the name of the container includes the domain name (for example, **MyDomain.MyCompany.com - Deleted Objects**).

When you select the **Deleted Objects** container, the Web Interface lists all the deleted objects that exist in the corresponding domain. The list can be sorted or filtered as appropriate to locate particular objects (see Managing the list of objects earlier in this document). If you click an object in the list, a menu appears that displays all actions you can perform on that object.

Searching the Deleted Objects container

To locate deleted objects, you can perform a search in the **Deleted Objects** container:

1. On the **Tree** tab in the Browse pane, click the **Deleted Objects** container.
2. In the Command pane, click **Search under this container**.

3. Specify criteria for the deleted objects that you want to find:
    - To search by naming properties, type in the Search field on the Toolbar. The Web Interface will search for objects whose naming properties match what you typed. The naming properties include name, first name, last name, display name, and logon name.
    - To search by other properties, click the button on the right side of the Toolbar to expand the Toolbar, click **Add criteria**, choose the properties by which you want to search, click **Add**, and then configure the criteria as appropriate. The Web Interface will search for objects that match the criteria that you configured.
4. Press Enter to start the search.

Locating objects deleted from a certain OU or MU

To view a list of objects that were deleted from a particular Organizational Unit (OU) or Managed Unit (MU), you can use the **View or Restore Deleted Objects** command. The command opens a page that lists the deleted objects that were direct children of the corresponding OU or MU at the time of deletion.

To view a list of objects that were deleted from a particular OU or MU

1. Select the OU or MU that held deleted objects you want to view.
2. In the Command pane, click **View or Restore Deleted Objects**.

The Web Interface lists the objects that were deleted from the OU or MU you selected. The list can be sorted or filtered as appropriate to locate particular objects (see Managing the list of objects earlier in this document).

NOTE: The **View or Restore Deleted Objects** command is also available on domain and container objects.

Restoring a deleted object

You can restore deleted objects by using the **Restore** command that is available in the Command pane when you select a deleted object in the Web Interface.

To restore a deleted object

1. In a list of deleted objects, select the object you want to undelete. For instructions on how to build a list deleted objects, see Locating deleted objects.
2. In the Command pane, click **Restore**.
3. Review and, if necessary, change the settings in the **Restore Object** dialog box, and then click **OK** to start the restore process.

The **Restore Object** dialog box prompts you to choose whether the deleted child objects (descendants) of the deleted object should also be restored. The **Restore child objects**

check box is selected by default, which ensures that the **Restore** command applied on a deleted container restores the entire contents of the container.

NOTE: When restoring a deleted object, ensure that its parent object is not deleted. You can identify the parent object by viewing properties of the deleted object: the canonical name of the parent object, preceded with the "Deleted from:" label, is displayed beneath the name of the deleted object on the property page for that object. If the parent object is deleted, you need to restore it prior to restoring its children because deleted objects must be restored to a live parent.

Using Approval Workflow

Understanding approval workflow

The approval workflow system included with Active Roles provides:

- A point-and-click interface to configure approval rules, available from the Active Roles console. The approval rules are stored and performed by the Active Roles Administration Service.
- The directory management section of the Web Interface for submitting operation requests for approval. For example, approval rules could be configured so that creation of a user account starts an approval workflow instead of immediately executing the user creation operation. For information on how to use the directory management section, see Managing Active Directory objects earlier in this document.
- The **Approval** area of the Web Interface to manage operation requests and approvals. This area includes a "to-do" list of the approval tasks the designated user has to carry out, allowing the user to approve or reject operation requests.

The **Approval** area provides a way to perform change approval actions, allowing you to control changes to directory data that require your approval and monitor your operations that require approval by other persons. You can use the **Approval** area to:

- Perform approval tasks—approve or reject operations so as to allow or deny the requested changes to directory data. Examples of operations include (but not limited to) creation and modification of user accounts or groups.
- Check the status of your operations—examine whether the changes to directory data you requested are approved and applied, or rejected.

When a Web Interface user makes changes to directory data that require permission from other individuals in an organization, the changes are not applied immediately. Instead, an operation is initiated and submitted for approval. This starts a workflow that coordinates the approvals needed to complete the operation. The operation is performed and the requested changes are applied only after approval. An operation may require approval from one person or from multiple persons.

When an operation is submitted for approval, Active Roles tracks the initiator and the approver or approvers. The initiator is the person who requested the changes. Approvers are those who are authorized to allow or deny the changes. An operation that requires

approval generates one or more approval tasks, with each approval task assigned to the appropriate approver. Active Roles administrators configure approval workflow by creating approval rules to specify what changes require approval and who is authorized to approve or deny change requests.

In the **Approval** area, you can work with the operations for which you are assigned to the approver role. As an approver, you are expected to take appropriate actions on your approval tasks.

To access the Approval area

- On the Web Interface Home page, click in the **Approval** box.

Locating approval items

The **Approval** area provides a number of views to help you locate approval items—tasks and operations:

- **My Tasks** Contains detailed entries representing the approval tasks assigned to you. Depending on their status, the approval tasks are distributed into two views. The **Pending** view allows you to manage the approval tasks awaiting your response. The **Completed** view lists your approval tasks that have been completed.
- **My Operations** The **Recent** view lists your recent operations that required approval, and allows you to examine the status and details pertinent to each operation.

In addition to using the predefined views, you can locate operations and tasks by using the search function.

To search for an operation or task by ID

1. In the right pane of the Web Interface page, under the **Search** label, type the ID number of the operation or task in the **Search by ID** box.
2. Click the button next to the **Search by ID** box to start the search.

You can also search for approval items (operations and tasks) by properties other than ID. For instance, you can find the operations that were initiated by a specific user. Another example is the ability to locate approval tasks generated within a specific time period. To access the advanced search function, click **Advanced Search** under the **Search** label. Then, use the **Advanced Search** page to configure your search settings and start a search.

Advanced search is the most comprehensive way to search for approval items such as operations and tasks. Use it to find approval items based on their properties. You do this by creating queries, which are sets of one or more rules that must be true for an item to be found. An example of a query for operations is "Initiator is (exactly) John Smith." This specifies that you are searching for operations that have the Initiator property set to John Smith's use account.

With advanced search, you can use conditions and values to search for approval items based on item properties (referred to as "fields" on the search page). Conditions are limitations you set on the value of a field to make the search more specific. Each type of item has a set of relevant fields and each type of field has a set of relevant conditions that advanced search displays automatically.

Some fields, such as "Target object property," require that you select a property to further define your search. In this case, you configure a query to search for operations or tasks specific to the approval of changes to the objects based on a certain property of those objects. For example, to find the operations that request any changes to the "Description" property, you could select the "Target object property" field, select the "Description" property, and then choose the "Modified" condition.

Some conditions require a value. For example, if you select a Date field, the "Is between" condition requires a date range value so you have to select a start date and an end date to specify a date range. Another example is the Initiator field, which requires that you select a user account of the Initiator role holder.

In some cases, a value is not required. For example, if you select the "Modified" condition, value is not necessary since this condition means that you want your search to be based on any changes to a certain property, without considering what changes were actually requested or made to the property value.

The following topics cover the predefined views of the **Approval** section.

Using "My Tasks"

You can use the **My Tasks** area to work with the approval tasks assigned to you as an approver. According to their status, the tasks are distributed into two views: **Pending** and **Completed**.

For information about the **Pending** view, see Pending tasks.

For information about the **Completed** view, see Completed tasks.

Pending tasks

The **Pending** view contains a list of your approval tasks to be completed. Each task in the list is identified by a header area that provides basic information about the task such as a unique ID number of the task, who requested the operation that is subject to approval, when the task was created, the time limit of the task (if any), and the target object of the operation. In the middle of a task's header area is a section that contains the title of the task (**Approve operation** by default), a label indicating the status of the task, and summary information about the operation that is subject to approval.

The task's header area contains the action buttons you can use to apply the appropriate resolution to the approval task. The action buttons are displayed at the bottom of the header area. Which buttons are displayed depends upon configuration of the approval rule. You may encounter the following action buttons there:

- **Approve** Click this button to allow the requested operation.

  Depending on configuration of the approval and policy rules, the Web Interface may request you to enter additional information that must be added to the operation request. For example, when you approve the operation of creating a user account, you may have to supply certain properties of the user account in addition to those supplied by the administrator who requested creation of that user account. If additional information is required, clicking **Approve** displays a page where you can supply the required information. You can also access that page by clicking the **Examine task** button.
- **Reject** Click this button to deny the requested operation.
- **Escalate** Click this button to assign the approval task to an approver of a higher level.

  This button is displayed if the approval rule has one or more approver levels (referred to as escalation levels) configured in addition to the initial approver level. Escalation levels are normally used to assign (escalate) the approval task automatically to the approver of a higher level if the task is not completed in time. The approval rule may be configured to allow approvers to escalate approval tasks as needed, in which case the task's header area contains the **Escalate** button.
- **Delegate** Click this button to assign the approval task to a different person. You can select the user account of the person to whom you want to assign the task.

  This button is displayed if the approval rule is configured with the option to allow approvers to reassign (delegate) their approval tasks to others.
- **Custom buttons** The approval rule may add custom buttons to the task's header area. The action that Active Roles performs when you click a custom button depends upon configuration of the workflow containing the approval rule. The administrator who configures the workflow should normally supply an instruction on the use of custom action buttons. To view the instruction, click the **Examine task** button. This opens a page containing the same action buttons that you see in the task's header area. The instruction text is displayed above the action buttons on that page.

The task's header area contains the **Examine task** button allowing you to get detailed information about the task, review the object properties submitted for approval, and supply or change additional properties. Clicking the **Examine task** button displays a page containing a replica of the task's header area, the action buttons, and a number of information sections. Review the information on the page, supply or change the object properties for which the task requests your input, and then click the appropriate action button.

The page that appears when you click the **Examine task** button includes the following information sections:

- **Object properties**

  The contents of this section heavily depends upon configuration of the approval rule. Thus the approval rule may request you to enter additional information that must be added to the operation request. For example, when you approve the operation of creating a user account, you may have to supply certain properties of the user account in addition to those supplied by the administrator who requested creation of

that user account. In this case, enter the requested properties in the fields under **Supply or change the following properties**.

Normally, the approval rule is configured so that the approver is allowed to review the values of the object properties that were supplied or changed by the operation that is subject to approval. The approval rule may also be configured to allow the approver to change those property values. In either case, you can view or change them in the fields under **Review the properties submitted for approval**.

- **Approvers**

  This section displays a list of the user accounts or groups to which the approval task is currently assigned. Any of the listed users or members of the listed groups can act as an approver on the task in question.

- **Approval progress**

  This section provides information on the date and time that the task was created and whether the task was escalated to a higher approver level or reassigned (delegated) to other persons. If the task was escalated, you can view when escalation occurred and what caused escalation. If the task was reassigned (delegated), you can view who and when delegated the task and to whom the task was delegated.

- **Details**

  In this section you can view aggregated information about the approval task properties and configuration, and some details of the operation that the task is intended to allow or deny. The **Operation ID** filed provides a link to a page where you can examine the operation in more detail.

To complete a pending task

1. Click **Examine task** in the task's header area.
2. On the **Object properties** page, review, supply or change the object properties for which the task requests your input, and then click the appropriate action button.

You can also complete a task by clicking the appropriate action button in the task's header area. However, if the current policy and approval rules require the approver to supply some additional information, the Web Interface would open the **Object properties** page, prompting you to configure the required properties.

Completed tasks

The **Completed** view contains a list of your approval tasks that are completed and do not require approver action. Each task in the list is identified by a header area that provides basic information about the task such as a unique ID number of the task, who requested the operation that is subject to approval, when the task was created, and the target object of the operation. In the middle of a task's header area is a section that contains the title of the task (**Approve operation** by default), a label indicating the status of the task, and summary information about the operation that was subject to approval. The header area also identifies the approver action that was applied to complete the task and the completion reason, if any, specified by the approver who completed the task.

The task's header area contains the **Examine task** button allowing you to get detailed information about the task and review the object properties that were submitted for approval or changed by the approver who completed the task. Clicking the **Examine task** button displays a page containing a replica of the task's header area and the following information sections:

- **Object properties**

  The contents of this section heavily depends upon configuration of the approval rule. Thus the approval rule may request the approver to enter additional information that must be added to the operation request. For example, when you approve the operation of creating a user account, you may have to supply certain properties of the user account in addition to those supplied by the administrator who requested creation of that user account. The values of the properties supplied by the approver are displayed in the fields under **Supply or change the following properties**.

  Normally, the approval rule is configured so that the approver is allowed to review the values of the object properties that were supplied or changed by the operation that is subject to approval. The approval rule may also be configured to allow the approver to change those property values. In either case, you can view them in the fields under **Review the properties submitted for approval**.

- **Approvers**

  This section displays a list of the user accounts or groups to which the approval task was assigned.

- **Approval progress**

  This section provides information on the date and time that the task was created, and whether the task was escalated to a higher approver level or reassigned (delegated) to other persons. If the task was escalated, you can view when escalation occurred and what caused escalation. If the task was reassigned (delegated), you can view who and when delegated the task and to whom the task was delegated.

  The **Task completed** sub-section indicates the date and time that the task was completed, identifies the approver who completed the task and the approver action that was applied to complete the task, and lists the values of the object properties that were supplied or changed by the approver.

- **Details**

  In this section you can view aggregated information about the approval task properties and configuration, and some details of the operation that was allowed or denied by the completed task. The **Operation ID** filed provides a link to a page where you can examine the operation in more detail.

Using "My Operations"

In the **My Operations** area, the **Recent** view lists your operation requests that are waiting for approval from other individuals, as well as those allowed (approved) or denied (rejected) by the approver. You can use this view to monitor the status of your requests.

You also have the option to cancel any of your requests that are not yet approved or rejected.

Each operation listed in the **Recent** view is identified by a header area that provides basic information about the operation such as a unique ID number of the operation, when and by whom the operation was requested, and the target object of the operation. A section in the middle of the operation header contains a summary of the operation, operation status and an operation reason that was supplied when the operation was submitted for approval.

The operation summary identifies the operation type (such as **Create user** or **Change user**) and may provide information about the changes to the object properties that result from the operation. From the operation status you can tell whether the operation is waiting for approval (pending), allowed (completed), denied (rejected) or canceled. If a given operation is waiting for approval, you can remove the operation request by clicking the **Cancel operation** button.

The operation header contains the **View operation details** button allowing you to get detailed information about the operation and review the object properties that were submitted for approval or changed by the approver who allowed the operation. Clicking the **Examine task** button displays a page that contains a replica of the operation header and the following information sections under the operation header:

- **Properties changed during this operation**

  This section lists the object property values that were changed as a result of the operation, new values assigned to the properties, and identifies who made the changes.

- **Workflow activities and policy actions**

  This section provides detailed information about all policies and workflows that Active Roles performed when processing the operation request, including information about the approval tasks created as a result of approval workflow activities. For each approval task, you can view the status of the task along with aggregated information about the properties and configuration of the task.

  From the task status you can tell whether the task is waiting for completion (pending), completed to allow the operation or rejected to deny the operation. From the additional information about a task, you can identify, for instance, the approvers to whom the task is assigned, the due date of the task, the approver who allowed or denied the operation and what changes, if any, the approver made to the original operation request.

- **Operation details**

  This section contains additional information about the operation, including when and by whom the operation was requested, the target object of the operation, the current status of the operation, and the date and time that the record of the operation was last updated.

Customizing the Web Interface

Introduction

The Web Interface gives Active Roles administrators the ability to customize menus, commands, and forms that are used for managing directory objects. Active Roles administrators can add and remove commands or entire menus, assign tasks and forms to commands, modify forms used to perform tasks, and create new commands, tasks, and forms.

NOTE: The Active Roles administrators are members of the Active Roles Admin account, specified during configuration of the Active Roles Administration Service. By default, the Active Roles Admin account is the Administrators local group on the computer running the Administration Service.

Before you start customizing the Web Interface, you should consider the following:

- The customization settings are saved as part of the Active Roles configuration. When you customize a Web Interface site, your changes are in effect on all the other Web Interface sites that share the configuration you are changing.
- After you have performed any customization of a Web Interface site, you must publish the new configuration to the Web server. To do this, open the Web Interface site in your Web browser, expand **Customization** on the Navigation bar, and then click **Reload**. This operation must be performed on each of the Web Interface sites that share configuration with the site you have customized.
- The **Reload** command causes the Web Interface to retrieve the new configuration data from the Administration Service and update the local copy of the configuration data on the Web server that hosts the Web Interface site. When configuration data changes because of any customization-related actions the changes have no effect on

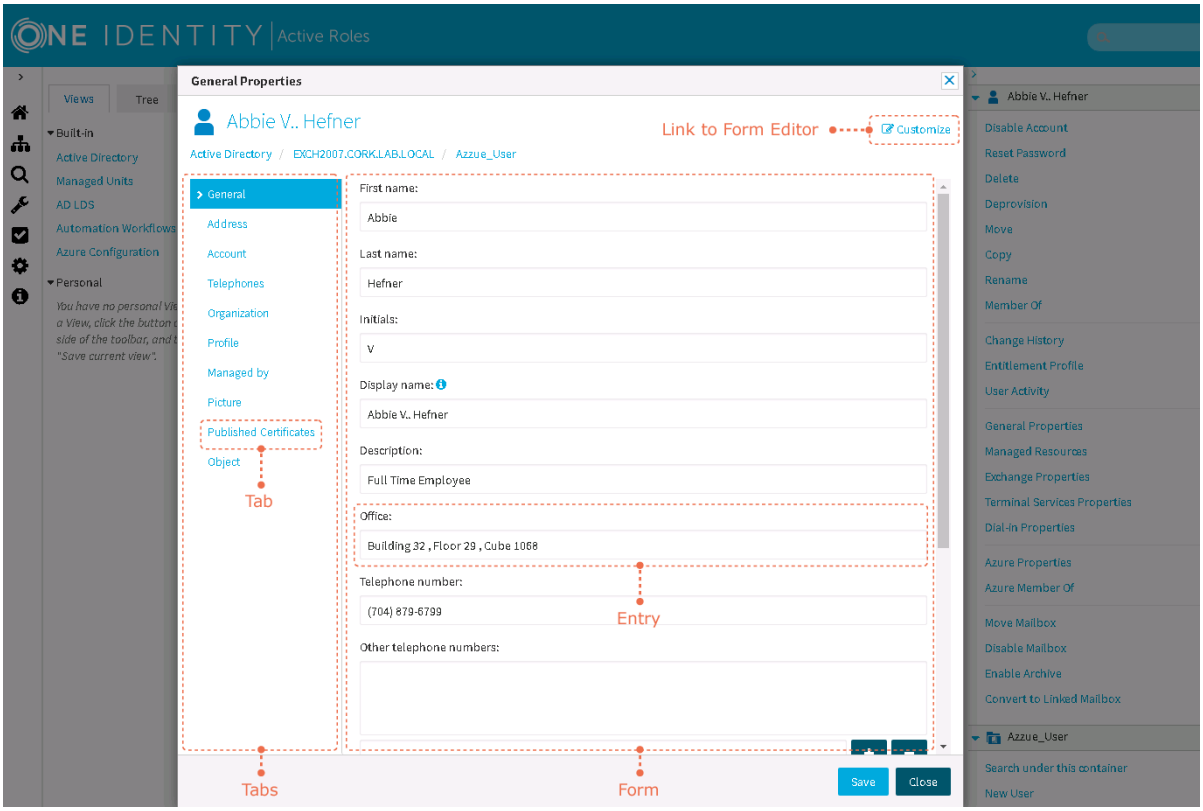
the Web Interface site until they are transferred to the local copy on the Web server. Use the **Reload** command to get the local copy properly updated.

- You can discard the customization of the Web Interface site, and restore the default menus, commands, and forms that were initially installed with the Web Interface. To do this, expand **Customization** on the Navigation bar and click **Restore Default**.

Terminology

This section briefly describes the items involved in customization of the Web Interface—menus, commands, forms, tabs, and entries. The following figure shows the items you can customize.

Figure 2: Terminology



Menu

A *menu* represents a set of commands (directives) associated with objects of a certain type, and used to manage those objects. Examples: the **User** menu, the **Group** menu, the **Contact** menu.

For each object type, such as User or Group, the Command pane displays a menu of commands. You can customize a menu by adding or removing commands.

Command

A *command* is an instruction that, when issued by a user, causes an action to be carried out. Web Interface users select commands from a menu in the Command pane. Some examples of commands are **New User** on the **Organizational Unit** menu, **General Properties** on the **User** menu and **Members** on the **Group** menu.

Each command is intended to perform a certain task, such as displaying property pages. You can customize pages associated with a command.

Form

A *form* is a structured page with predefined areas for entering and changing information. A form consists of elements such as text boxes, check boxes, option buttons, and command buttons. Form elements allow users to perform actions, make choices, and identify and enter information. A form is a set of pages (tabs) associated with a command that requires data entry. You can customize a form by adding or removing tabs and entries.

Tabs

Since an object normally has a large number of properties, it may be necessary to categorize and group properties within a form. A *tab* represents a group of properties located on a separate page, such as **General**, **Address** or **Account** on the **Properties** form for User objects. By clicking tabs, you can access pages to view or modify properties. You can add or remove tabs from a form, and change the order of tabs.

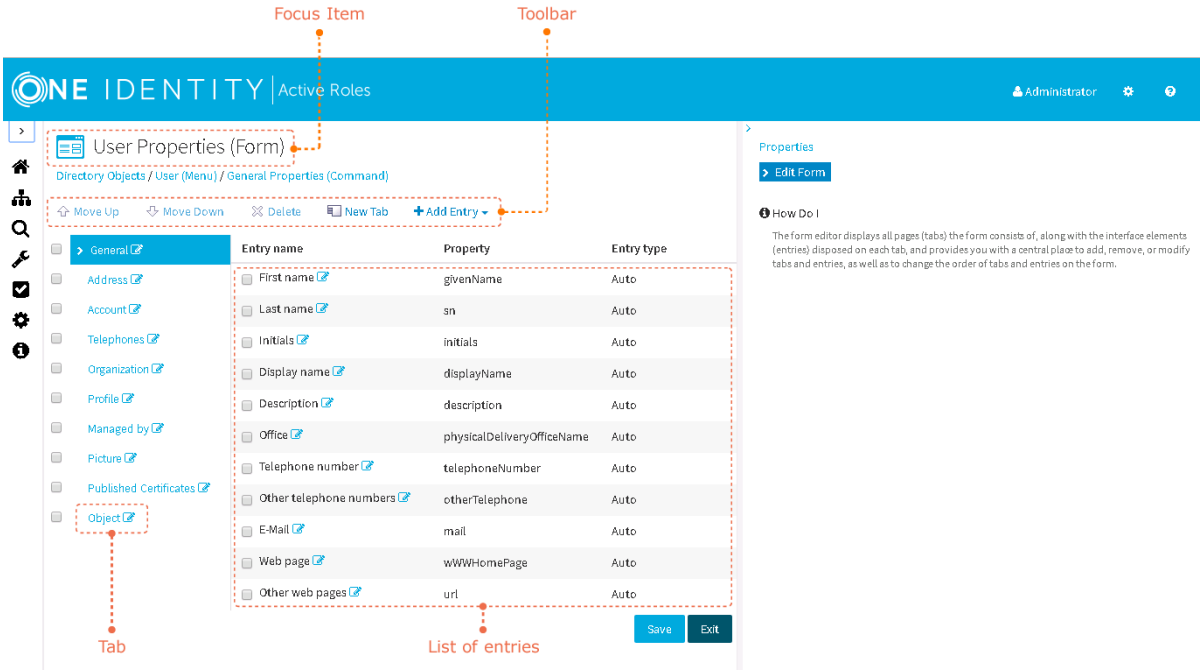
Entry

An *entry* is a group of elements on a form that are intended to view or modify a property of an object. For example, the **First name** entry is used to manage the value of the **givenName** property. You can add or remove entries from a form, and change the order of entries.

Link to Form Editor

The **Customize** link is used to open the form in the Form Editor:

Figure 3: Form Editor



The Form Editor displays all tabs that make up a form, along with the entries disposed on each tab, and provides a central place to add, remove, or modify tabs and entries, as well as to change the order of tabs and entries on the form. The main elements of the Form Editor are as follows.

Focus item

Focus item identifies the object you are customizing. A list of menus, a menu, a command, a form, a tab and an entry are the examples of focus items. To identify a focus item, the Web Interface displays the name of the item and an icon indicating the type of the item.

Toolbar

You can use the toolbar to make changes to the form. The toolbar includes the following buttons:

- **Move Up** Moves the selected items up one level in the list.
- **Move Down** Moves the selected items one level lower in the list.
- **Delete** Removes the selected items.
- **New Tab** Adds a tab to the form.
- **Add Entry** Adds an entry to the tab.

List of entries

You can change the order of entries on a tab by selecting check boxes in the list of entries, and then clicking **Move Up** or **Move Down** on the toolbar. You can also view or modify properties of an entry by clicking the Edit icon next to the name of the entry.

Tab

Click a tab to view or modify entries on that tab. You can change the order of tabs by selecting check boxes next to tab names, and then clicking **Move Up** or **Move Down** on the toolbar. You can also view or modify properties of a tab by clicking the Edit icon next to the name of the tab.

Configuring menus

For each object type, such as User, Group or Computer, the Command pane displays a menu that represents a list of commands associated with that object type. You can customize a menu by adding or removing commands. Use the following instructions to manage menus in the Web Interface.

To navigate to the List Existing Menus page

- On the Web Interface home page, click **Customization**, and then click **Customization Tasks**.

  - OR -

  On the Navigation bar, expand **Customization**, and then click **Directory Objects**.

The **List Existing Menus** page displays a list of menus. You can click the name of a menu in the list to view a list of commands included in the menu.

Creating a menu

To create a menu

1. Navigate to the **List Existing Menus** page: Expand **Customization** on the Navigation bar and then click **Directory Objects**.
2. In the right pane, click **Create New Menu**.
3. In the **Object type** list, click an object type. Then, click **Finish**.

   The Web Interface creates a menu for the object type you selected. The menu has the same name as the object type.

4. Click **Reload** to publish your changes.

Deleting a menu

To delete a menu

1. On the **List Existing Menus** page, click the name of the menu you want to delete.
2. In the right pane, click **Delete Menu**.
3. Click **Reload** to publish your changes.

Adding a command to a menu

To create a new command on a menu

1. On the **List Existing Menus** page, click the name of the menu to which want to add the command.
2. In the right pane, click **Create New Command**.
3. In the **Command type** list, click one of the following:
   - **Form Task** Create a command to open a form.
   - **Page View Task** Create a command to open a custom page.
   - **Search Task** Create a command to perform a search.
   - **Set Attribute Task** Create a command to assign a certain value to a certain attribute of directory objects.
4. Click **Next**.
5. Specify general properties of the command, such as the command name and description.
6. Specify command properties specific to the type of the command:
   - If you have selected **Page View Task**, specify the address (URL) of the resource, such as a Web page, that you want the command to open.
   - If you have selected **Search Task**, specify the parameters of the search you want the command to perform. You can also set up the configuration of the list of search results.
   - If you have selected **Set Attribute Task**, choose the attribute you want the command to set and specify the value you want the command to assign to that attribute.
7. Click **Finish**.
8. Click **Reload** to publish your changes.

To add an existing command to a menu

1. On the **List Existing Menus** page, click the name of the menu to which want to add the command.
2. In the right pane, click **Add Existing Command**.
3. In the list of existing commands, click the command you want to add to the menu.

   The list includes commands that exist in the configuration of the Web Interface site. Note that the list also includes the commands that were deleted from menus, so you can use the Add Existing Command function to restore a command on a menu.
4. Click **Save**.
5. Click **Reload** to publish your changes.

Removing commands from a menu

To remove commands from a menu

1. On the **List Existing Menus** page, click the name of the menu from which want to remove commands.
2. In the list of commands, select check boxes to mark the commands you want to remove.
3. On the toolbar at the top of the list, click **Delete**.
4. Click **Reload** to publish your changes.

Setting the default command on a menu

To set the default command on a menu

On the **List Existing Menus** page, click the name of the menu you want to modify.

1. In the right pane, click **Default Command**.
2. Click **Choose**.
3. Click the command you want to be used by default, and then click **OK**.
4. Click **Save**.
5. Click **Reload** to publish your changes.

NOTE: The Web Interface runs the default command for an object when the user clicks the name of that object in a list. For example, since **View Contents** is set as the default command for container objects, the Web Interface lists the objects held in the container when you click the name of a container in a list of objects.

Adding a separator to a menu

To add a separator to a menu

1. On the **List Existing Menus** page, click the name of the menu you want to modify.
2. In the right pane, click **Add Separator**.

   This adds the **<Separator>** item to the list of menu commands.
3. Adjust the position of the separator on the menu: Select the check box next to the separator in the list of commands and then click **Move Up** or **Move Down** on the toolbar at the top of the list.
4. Click **Reload** to publish your changes.

NOTE:

- Separators are used to group related commands on a menu, to make the menu easier to read.
- If necessary, you can remove separators: In the list of commands, select check boxes to mark the separators you want to remove, and then click **Delete** on the toolbar at the top of the list.

Changing the order of commands on a menu

To change the order of commands on a menu

1. On the **List Existing Menus** page, click the name of the menu you want to modify.
2. In the list of commands, select check boxes to mark the commands you want to move.
3. Click **Move Up** or **Move Down** on the toolbar at the top of the list.
4. Click **Reload** to publish your changes.

Configuring commands

Each command on a menu is intended to perform a certain task, such as displaying property pages for a directory object, searching for objects that meet certain conditions or assigning a certain value to a certain attribute of a directory object. You can select a command, and customize its action or associated pages.

To select a command

1. Do one of the following:
   - On the Web Interface home page, click **Customization**, and then click **Customization Tasks**.
   - On the Navigation bar, expand **Customization**, and then click **Directory Objects**.
2. In the list of menus on the **List Existing Menus** page, click the name of the menu that includes the command you want to select.
3. In the list of commands, click the name of the command.

Managing command properties

Active Roles administrators can modify command properties. The properties of a command depend upon the command type: Form Task, Page View Task, Search Task, or Set Attribute Task.

All commands have common properties, such as the name and description of the command. In addition, each command has a number of properties determined by the command type. Thus, the type-specific properties of a Page View Task command identify the page to display; a Search Task command's properties determine search criteria and configuration of the list of search results; the attribute to set and the value to assign are part of properties of a Set Attribute Task command. See Properties of a command for further information.

To view or modify the properties of a command

1. In the list of menus on the **List Existing Menus** page, click the name of the menu that includes the desired command.
2. In the list of commands found on the menu, click the name of the desired command.
3. Modify the properties of the command, if needed, and click **Save**.
4. Click **Reload** to publish your changes.

Creating or selecting a form for a command

A command of the Form Task type is associated with a form, and is used to open that form.

To create a new form and associate it with a command

1. Select a command of the Form Task type.
2. In the right pane, click **Link with New Form**.

3. Select the type of the form to create:
    - **Edit Properties** A form intended to view or modify object properties
    - **New Object** A form intended to create new objects
    - **Rename** A form intended to rename objects
4. Click **Next**.
5. Specify general properties of the form, such as the name and description.
6. If you have selected **New Object** as the type of the form, select the type of objects you want to create by using the form.
7. Click **Finish**.
8. Click **Reload** to publish your changes.

You can also associate a command with a form that already exists in the configuration of the Web Interface site.

To associate a command with an existing form

1. Select a command of the Form Task type.
2. In the right pane, click **Link with Existing Form**.
3. In the list of existing forms, click the form you want to link with the command.
4. Click **Save**. Then, click **Reload** to publish your changes.

The list of existing forms includes only the forms that are applicable to the object type the command is intended for. For example, when you select a command from the menu for the User object type, the list only includes the forms that are applicable to User objects.

NOTE:

- Instead of linking a different form to a command, you can modify the form that is already associated with the command.
- If necessary, you can configure a command so as to have no form associated with it: in the list on the **Link with Existing Form** page, click **<no assigned form>**, and then click **Save**.

Properties of a command

Every command has a number of properties that determine behavior of the command. The command properties vary depending upon the command type:

- **Form Task** This command type is intended to display forms. When you click a command of this type, the Web Interface opens the form that is associated with that command. Then, depending on the type of the form, you can view or change the data shown on the form for an existing object or enter data on the form for creating a new object. The identifier of the form is part of the command properties (see Form Task properties).

- **Search Task** This command type is intended to search for objects in the directory and display search results. When you click a command of this type, the Web Interface performs a search based on the conditions specified in the command's properties (see Search Task properties), and displays a list of search results. Then, you can click an object in the list to open the pages for managing that object.
- **Page View Task** Commands of this type are intended to display custom pages. When you click a Page View Task command, the Web Interface opens the page identified by the address (URL) that is part of the command properties (see Page View Task properties). For instructions on how to create custom pages, see Active Roles SDK documentation.
- **Set Attribute Task** A command of this type is intended to assign a certain value to a certain attribute of a directory object. The properties of the command specify the attribute and the value to assign to that attribute (see Set Attribute Task properties). The command can be configured to display a confirmation message prior to changing the attribute.

All commands have common properties, such as the name and description. In addition, each command has a number of properties determined by the command type.

Common properties

A command of any type has the following properties:

- **Name** The text that labels the command on the menu. This text is what Web Interface users view in the Command pane.
- **Description** Any text to help identify the command in a list of commands. An administrator can view this text in addition to the command name when selecting a command to add, remove, or modify.
- **ToolTip** The text that is displayed when the mouse pointer is positioned over the command in the Command pane.
- **Command Type** The type of the command is specified when the command is created, and cannot be changed.

Form Task properties

A command of the Form Task type has the **Form name** property in addition to the common properties. This property identifies the form that the command is intended to open. When a Form Task command is initially created, it is not associated with any form, so the **Form name** property is not set. When you associate the command with a certain form, the **Form name** property is set to the name of the form.

Search Task properties

A command of the Search Task type has a number of properties in addition to the common properties. You can specify search conditions (LDAP search filter), define where to search for directory objects (scope of the search), and choose the object properties to be displayed in the list of search results.

Base DN

The **Base DN** property specifies the distinguished name of the container where to begin the search. The search is performed only on this container and objects that exist below it in the directory tree. This property can be set to one of the following:

- **Currently selected object** When the user clicks the command on the menu for a given object, the Web Interface uses the distinguished name of that object as the **Based DN** property. For example, suppose the command is on the menu for the organizational unit object type. When the user selects an organizational unit and clicks the command, the Web Interface searches the selected organizational unit.
- **This DN** The command causes the Web Interface to search the object that has the specified distinguished name, regardless of what object is actually selected. For example, suppose the command is on the menu for the user object type, and the **Base DN** property is explicitly set to the distinguished name of a certain organizational unit. In this case, when a user account is selected in the Web Interface, the command appears on the menu and clicking the command begins the search in that organizational unit.

Search filters

The **Search filters** property specifies a search filter string in LDAP format. This part of the LDAP search syntax makes it possible to search for specific objects based on object attributes. Set up a filter string in accordance with LDAP syntax rules. The default filter string is "(objectClass=*)", which retrieves all objects. Another example is "(objectClass=user)", which causes the search to retrieve only user accounts.

When configuring a filter string, follow these guidelines:

- The string must be enclosed in parentheses.
- Expressions can use the relational operators: <, <=, =, >=, and >. An example is "(objectClass=user)" or "(givenName=Adam)".
- Compound expressions are formed with the prefix operators & and |. An example is (&(objectClass=user)(givenName=Adam)).

For more information about the filter string format, see the "Search Filter Syntax" topic in the MSDN Library (http://go.microsoft.com/fwlink/?LinkID=111710).

Displayed attributes

The **Displayed attributes** property specifies a list of the attributes to retrieve during the search. These are the attributes that will be displayed in the list of search results. Each attribute is identified by its LDAP display name. Type the names of the attributes you want to retrieve, or select attributes from a list. Separate attribute names by commas.

The default setting for this property is "name,objectClass,description", which displays a three-column list of search results. For every object returned by the search, the Web Interface lists the name, type, and description of the object.

Search scope

- The **Search scope** property specifies the depth of the search. The options for this property are:
- **Base** This option limits the search to the object specified by the **Base DN** property (base object). The search returns either one object or no objects, depending upon the search filter.
- **One-level** This option restricts the search to the immediate children of the base object, but excludes the base object itself. The search returns the immediate child objects that match the search filter.
- **Subtree** With this option, the search filter is applied to the base object as well as to all objects that exists below it in the directory tree. The search returns all child objects that match the search filter. If the base object matches the filter, the base object is also included in the search results.
- **Attribute scope query by this attribute** With this option, the command searches in a certain attribute of the base object (target attribute). The target attribute is identified by the LDAP display name specified as part of this option, and must be an attribute that stores distinguished names, such as the "member" or "managedBy" attribute. The search is performed against the objects that are identified by the distinguished names found in the target attribute. For example, if the base object is a group and the "member" attribute is specified as the target, then the search will be performed against all objects that are members of the group, and will return the members of the group that match the search filter.

Sort by

The **Sort by** property specifies the attribute based on which the list of search results should be sorted, to group similar attribute values together in an easy-to-read list. Type the LDAP display name of any attribute that is listed in the **Displayed attributes** property.

Page View Task properties

A command of the Page View Task type has the **URL** property in addition to the common properties. This property identifies the address of the resource, such as a Web page, that the command is intended to open. When the user clicks the command, the Web Interface navigates to the address specified by the **URL** property.

For more information and instructions on how to implement and use commands of this type, see "Developing Custom Web Pages" in the Active Roles SDK.

Set Attribute Task properties

A command of the Set Attribute Task type has the following properties in addition to the common properties:

- **Attribute to set** The LDAP Display Name of a certain attribute. The command assigns a value to that attribute. You can select the desired attribute from a list.
- **Value to assign** The command assigns this value to the attribute, or clears the attribute if no value specified. For a Boolean attribute, the value can be either **True** or **False**.
- **Enable confirmation message** When this option is selected, clicking the command displays a certain message to obtain the user's consent.
- **Confirmation message** Specifies the message to display when the user clicks the command. The user has the option to confirm or cancel the command.

Command visibility options

A command on an object in the Web Interface, such as **Delete** or **Rename**, can be either visible or hidden. If a command is visible, the user can click the command and have the Web Interface process the command accordingly. If a command is hidden, it is effectively disabled.

Normally, the Web Interface displays or hides a command depending on whether or not the user has sufficient rights to perform the respective operation on the object that the user has selected (for example, delete or rename the object). However, certain scenarios may require that a particular command be hidden or displayed depending on the properties of the selected object. Another requirement could be to hide or display a command depending on whether or not the user is authorized to make certain changes to the selected object.

To address these requirements, the Web Interface provides a number of options that control the visibility of a command to the user. The visibility options on a command take the form of conditions that are evaluated when a particular user selects a particular object in the Web Interface. Assuming the command is applicable to the type of the selected object, the command is displayed if each of the conditions evaluates to True.

By setting up the appropriate conditions on a command, the administrator can control the visibility of the command in the following ways:

- Show the command if the properties of the selected object meet certain requirements (for example, the description of the object is set to the text string specified); otherwise, hide the command. The conditions that control the command visibility in this way are referred to as *property-related conditions*.
- Show the command if the user is authorized to modify certain properties of the selected object (for example, the user is authorized to change the description of the object); otherwise, hide the command. The conditions that control the command visibility in this way are referred to as *access-related conditions*.

It is possible to set up only property-related conditions, only access-related conditions, or both. The command is displayed if all the specified conditions evaluate to True. If at least one of the specified conditions is not met, the command is hidden.

To configure visibility options on a command

1. In the **Customization** section of the Web Interface, select the command that you want to configure.
2. Click the **Visibility** tab on the page for managing the properties of the command.
3. Select the option to set up visibility conditions.
4. To set up property-related conditions, click **Configure**.
5. Do the following:
   - To add a condition, select a property, type in a value, and click **Add Requirement**.
   - To remove a condition, select it from the list and click **Remove**.
   - When finished, click **OK**.

   When you select a property and supply a value, either a new condition is added to the list or the supplied value is added to the existing condition that is based on the selected property. The latter occurs if the property is already in the list of the property-related conditions. This allows you to configure a condition that evaluates to True if the property has any one of the values specified. If only one value is supplied for a particular condition, then the condition evaluates to True if the property has exactly the value specified.
6. To set up access-related conditions, do the following:
   - If you want to add a condition, click **Add**, select a certain property, and click **OK**.
   - If you want to remove a condition, select it from the list and click **Remove**.

   When you select a property and click **OK**, a new condition is added that evaluates to True if the user has sufficient rights in Active Roles to make changes to that property of the object selected by the user in the Web Interface.
7. Click **Save**. Then, click **Reload** to publish your changes.

Configuring forms

A form is a set of pages associated with a command that requires data entry. You can customize a form by adding or removing entries.

Each entry is intended to view or modify certain portions of directory data referred to as object attributes or properties. You can rearrange entries or adjust their behavior as needed.

To start customizing a form, you must first open that form in the Form Editor.

To open a form in the Form Editor

1. On the Web Interface home page, click **Customization**, and then click **Customization Tasks**.

   - OR -

   On the Navigation bar, expand **Customization**, and then click **Directory Objects**.
2. In the list of menus, click the menu that contains the command linked with the form you want to configure.
3. In the list of commands, click the command that is linked with the form you want to configure.
4. In the right pane, click **Edit Form**.

   If no form is linked with the command you selected, the right pane does not contain the **Edit Form** command.

NOTE: Another way to open a form in the Form Editor is to navigate to the Web Interface page that you want to configure and then click the **Customize** link.

Managing properties of a form

To view or modify properties of a form

1. Open the form in the Form Editor.
2. In the right pane, click **Properties**.
3. Modify properties of the form, if needed, and click **Save**.
4. Click **Reload** to publish your changes.

You can view or modify the following properties of a form:

- **Name** The text that identifies the form. When a form is linked with a command, the **Form name** property of the command is set to the name of the form.
- **Description** Any text that helps identify the form in a list of forms (an administrator can view this text in addition to the form name when selecting a form to link with a command). Note that the name of a form is not required to be unique, so different

forms may have the same name. In such a case, the description text can help distinguish forms.

- **Object type** If the form is intended for creating objects, this property identifies the type of object that can be created by using the Web Interface page based on this form. The object type is set when the form is created, and cannot be modified.
- **Form type** This property is set on a form when the form is created, and cannot be modified. The form type can be one of the following:
  - **Edit Properties** The Web Interface page that is based on this form displays properties of existing objects and provides the ability to make changes to object properties. Each tab on the form represents the respective tab on the Web Interface page.
  - **New Object** The Web Interface page that is based on this form serves for creating objects in the directory. The page provides for one or more steps to collect user input, with each step being represented by a single tab on the form. Thus, with two tabs on the form, the Web Interface page displays the entries found on the first tab, allowing the user to enter data as required. When the user clicks **Next**, the page displays the entries from the second tab.
  - **Rename** This type is basically the same as Edit Properties. However, if a form includes entries for managing so-called "naming" attributes, such as the "name" attribute, the form type should be set to Rename rather than Edit Properties.
- **Show policy descriptions** This option specifies if the Web Interface page that is based on this form provides visual indication of Active Roles policies. For example, the "User logon name" attribute is normally controlled by a certain policy. When this option is selected, the Web Interface displays an icon next to the name of the "User logon name" field. Clicking the icon allows the user to view the policy rules that are in effect. If the option is not selected, all such icons are removed from the page, so the user cannot view policy rules.

Adding a tab to a form

To add a tab to a form

1. Open the form in the Form Editor.
2. On the toolbar in the Form Editor, click **New Tab**.
3. Specify a name for the new tab.

   The name of a tab is the text that labels the tab or step on the respective Web Interface page.
4. Click **Finish**; then, click **Reload** to publish your changes.

Deleting tabs from a form

To delete tabs from a form

1. Open the form in the Form Editor and select check boxes next to the tabs you want to delete.
2. On the toolbar in the Form Editor, click **Delete**.
3. Once the tabs are deleted, click **Reload** to publish your changes.

Managing properties of a tab

To view or modify properties of a tab on a form

Open the form in the Form Editor and click the Edit icon next to the name of the tab.

If needed, modify properties of the tab, click **Save**, and then click **Reload**.

NOTE: In this way, you can change the name of the tab.

Tab visibility options

A tab on a Web Interface page can be either visible or hidden. If a tab is visible, the Web Interface user can click the tab to access the user interface elements (entries) located on that tab. If a tab is hidden, it is inaccessible to the Web Interface user.

Normally, if a Web Interface user has sufficient rights to view the page that holds a given tab, the tab is visible to that user. However, certain scenarios may require a particular tab to be hidden or displayed on a page depending on the properties of the object selected by the user to access that page. For example, you may need to hide the **Membership Approval** tab on the group's **General Properties** page when the user selects a group whose properties meet certain conditions. Another requirement could be to hide or display a tab depending on whether the user is authorized to make certain changes to the selected object. For example, it may be required that the **Membership Approval** tab be hidden if the user does not have sufficient rights to change the members list of the group.

To address these requirements, the Web Interface provides a number of options that control the visibility of a tab to the user. The visibility options on a tab take the form of conditions that are evaluated when a particular user selects a particular object in the Web Interface to access a page containing that tab. The tab is displayed if each of the conditions evaluates to True.

By setting up the appropriate conditions on a tab, the administrator can control the visibility of the tab in the following ways:

- Show the tab if the properties of the selected object meet certain requirements (for example, the description of the object is set to the text string specified); otherwise,

hide the tab. The conditions that control the tab visibility in this way are referred to as *property-related conditions*.

- Show the tab if the user is authorized to modify certain properties of the selected object (for example, the user is authorized to change the description of the object); otherwise, hide the tab. The conditions that control the tab visibility in this way are referred to as *access-related conditions*.

It is possible to set up only property-related conditions, only access-related conditions, or both. The tab is displayed if all the specified conditions evaluate to True. If at least one of the specified conditions is not met, the tab is hidden.

To configure visibility options on a tab

1. In the Form Editor, click the Edit icon next to the name of the tab you want to configure.
2. Click **Visibility** on the page for managing the properties of the tab.
3. Select the option to set up visibility conditions.
4. To set up property-related conditions, click **Configure**.
5. Do the following:
   - To add a condition, select a property, type in a value, and click **Add Requirement**.
   - To remove a condition, select it from the list and click **Remove**.
   - When finished, click **OK**.

   When you select a property and supply a value, either a new condition is added to the list or the supplied value is added to the existing condition that is based on the selected property. The latter occurs if the property is already in the list of the property-related conditions. This allows you to configure a condition that evaluates to True if the property has any one of the values specified. If only one value is supplied for a particular condition, then the condition evaluates to True if the property has exactly the value specified.
6. To set up access-related conditions, do the following:
   - If you want to add a condition, click **Add**, select a certain property, and click **OK**.
   - If you want to remove a condition, select it from the list and click **Remove**.

   When you select a property and click OK, a new condition is added that evaluates to True if the user has sufficient rights in Active Roles to make changes to that property of the object selected by the user in the Web Interface.
7. Click **Save**.
8. Click **Reload** to publish your changes.

Adding an entry to a form

To create a new entry and add it to a form

Open the form in the Form Editor and click the tab to which you want to add the entry.

On the toolbar in the Form Editor, point to **Add Entry** and click **Create**.

In the **Property** list, click the attribute for which to add the entry, and then click **Next**.

Specify a name for the new entry, and then click **Finish**.

Click **Reload** to publish your changes.

NOTE: The name of an entry is the text that labels the control or group of controls on the respective Web Interface page. For example, if an entry appears as a check box on the page, the name of the entry is displayed next to the check box. If an entry appears as an edit box, the name of the entry is directly above the edit box.

A form can hold only one entry per attribute.

To add existing entries to a form

1. Open the form in the Form Editor and click the tab to which you want to add the entry.
2. On the toolbar in the Form Editor, point to **Add Entry** and click **Select**.
3. In the list of entries, select check boxes next to the names of the entries to add.
4. Click **Finish**. Then, click **Reload** to publish your changes.

   You may need to scroll down the list of entries in order to access the **Finish** button.

The list for selecting an entry contains the following information about each entry:

- **Entry name** The name of the entry.
- **Managed property** The attribute or attributes that are managed by using this entry. The attributes are identified by LDAP display name.
- **Forms that use this entry** The entry is added to each of the listed forms. The forms are identified by name. Clicking the name of a form opens the form in the Form Editor.
- **Entry type** This can be one of the following:
  - **Auto** An entry that was created by using the Form Editor.
  - **Custom** A predefined entry that came with the Web Interface, or an entry that was created by using tools other than the Form Editor (for example, by implementing and deploying custom code).
  - **Naming** An entry for managing a naming attribute, such as the "name" attribute. Setting a naming attribute requires some additional steps, which are not necessary with other attributes. The entries of this type are normally predefined and installed with the Web Interface.

When selecting an existing entry, consider the type of the entry. Entries of different type can have the same name and the same managed property. Since the behavior of an entry

depends upon the type of the entry, selecting an entry of inappropriate type can cause incorrect results. Thus, selecting an Auto entry instead of a Custom entry will normally result in the loss of the features that the Custom entry provides in addition to, or instead of, the default features of the Auto entry. For more information, see Type of entry later in this document.

Adding static text to a form

The Form Editor provides a special type of entry—text area—allowing you to add static text to a form. You can use text areas to have the form display descriptive text, such as titles, captions, or brief instructions. In the Web Interface, a text area entry only displays the text specified in the configuration of the entry. To change the text, you need to edit the entry from the Form Editor.

To add static text to a form

1. Open the form in the Form Editor and click the tab to which you want to add static text.
2. On the toolbar in the Form Editor, point to **Add Entry** and click **Text area**.
3. In the **Text to display** box, supply the text you want to be displayed on the tab.
4. Click **Finish**. Then, click **Reload** to publish your changes.

These steps add an entry named **Text area** in the Form Editor. You can select the check box next to the **Text area** name and use the **Move Up** and **Move Down** buttons on the toolbar to change the position of the text area. To change the text displayed by the text area, click the Edit icon next to the **Text area** name. When you are done, click **Save** and then click **Reload** to publish your changes.

Deleting entries from a form

To delete entries from a form

1. Open the form in the Form Editor and click the tab from which you want to delete entries.
2. In the list of entries, select check boxes to mark the entries you want to delete.
3. On the toolbar in the Form Editor, click **Delete**.
4. Once the entries are deleted from the form, click **Reload** to publish your changes.

Managing properties of an entry

To view or modify properties of an entry

Display the form in the Form Editor and click the tab that includes the entry to manage.

Click the Edit icon next to the name of the entry you want to manage.

If needed, modify properties of the entry, click **Save**, and then click **Reload**.

NOTE: The changes made to an entry are applied to the entry on every form containing the entry.

The properties of an entry that you can view or modify include the following (for more information, see Type of entry and Entry for an attribute of DN syntax later in this document):

- **Entry name** Text that labels the entry on the Web Interface page. For a check box, the name of the entry appears next to the check box. For an edit box, the name is displayed above the edit box.
- **Entry description** Any text that helps identify the entry.
- **Entry ToolTip** The text that is displayed when the mouse pointer is positioned over the entry on the Web Interface page.
- **Entry type** The type of the entry. For details, see Type of entry later in this document. This setting is defined when the entry is created, and cannot be changed.
- **Property** The list of attributes that are managed by this entry (managed attributes). Each attribute is identified by its LDAP display name. This setting is defined when the entry is created, and cannot be changed.
- **Treat as single-valued** This option applies to entries for multi-valued attributes. When selected, causes the entry to behave as if the managed attribute can store only one value.
- **Read only** When selected, prevents the user from changing the data displayed by the entry on the Web Interface page.
- **Syntax** Indicates the syntax of the attribute that is managed by this entry. The name of the syntax is retrieved from the directory schema and displayed for information purpose only.
- **Multivalued** Indicates whether the managed attribute is multi-valued. This information is retrieved from the directory schema and displayed for information purpose only.
- **Render as multiline** Applies to entries for managing string values. Specifies whether the entry can display multiple strings or only a single string.
- **Label next to entry** Specifies whether to display the entry name next to or above the entry on the form. When this check box selected, the name appears to the left of the entry. When this check box is cleared, the name appears above the entry.
- **Text to display** Applies to the text area entry type. Specifies the text to be displayed in the text area.

Type of entry

The Web Interface provides for these types of entry:

- **Auto** Default entries. This type is assigned to the entries created using the Form Editor.
- **Custom** Predefined entries that come with the Web Interface and use custom processing logic, or entries added by implementing and deploying custom code.
- **Naming** Entries for managing so-called naming attributes, such as the "name" attribute. Setting a naming attribute requires some additional steps, as compared with other attributes. The entries of this type are normally predefined and installed with the Web Interface.
- **StaticText** Entries for adding static text, also referred to as *text areas*. You can use text areas to display descriptive text, such as titles, captions, or brief instructions.

For each entry, certain logic is implemented that governs how to process the values of the managed attribute. When retrieving an attribute from the directory, the entry uses that logic to represent the attribute value in the appropriate format. When applying changes to an attribute value, the entry relies on that logic to transform the changes, if necessary, to meet the requirements imposed by the directory.

When you create an entry using the Form Editor, default processing logic is applied based on the syntax of the managed attribute according to the directory schema. Such default entries are referred to as Auto entries in the Web Interface.

For each of the syntaxes that are defined in Active Directory, certain default logic is defined in the Web Interface and applied to every Auto entry for managing any attribute of the respective syntax. Thus, an auto entry for an attribute of Boolean syntax takes the form of a check box. An auto entry for an attribute of String (Unicode) syntax is merely an edit box.

Default processing logic may not be suitable for all attributes. A typical example is userAccountControl.

In Active Directory, the userAccountControl attribute values are stored as integers, so the Auto entry for that attribute takes the form of an edit box that displays the integer value retrieved from the directory. This representation of attribute values is not helpful because a value of the userAccountControl attribute is, in fact, a 4-byte (32-bit) data structure that contains flags for configuring some user account settings, such as the flag that controls whether a user account is enabled or disabled.

A value of userAccountControl is a type of integer wherein each bit in the numeric value represents a unique setting. This type of integer is called a *bit field*. Because each bit in a bit field represents a different setting, simply examining the integer value as a whole number is of little use. You must examine the individual bit that corresponds to the setting you are interested in viewing or changing.

To help identify which bit to check in the userAccountControl value, the Web Interface provides a predefined entry that uses custom logic to represent each bit as a separate check box. The entries like this one, which use processing logic differing from default processing logic, are called Custom entries in the Web Interface (as opposed to the Auto entries that rely on default processing logic).

In the Web Interface, a lot of predefined custom entries are available out of the box. Each of the predefined custom entries, like the custom entry for the userAccountControl attribute, is designed to manage a single attribute or a group of related attributes in accord with the intended meaning of the attribute or attributes rather than only based on the

syntax of attribute values. If necessary, new custom entries can be added that use any suitable processing logic. For more information and instructions, see the Active Roles SDK.

Entry for an attribute of DN syntax

The auto entries for attributes of Object (DS-DN) syntax have certain features that are specific to only this category of entries. In this topic, for the sake of brevity, such entries are referred to as *DN entries*.

Values of an attribute of Object (DS-DN) syntax are strings, each specifying the distinguished name (DN) of a certain directory object. For attributes with this syntax, Active Directory handles attribute values as references to the object identified by the DN and automatically updates the value if the object is moved or renamed. Examples of such attributes are "member", "managedBy" and "manager".

A DN entry retrieves DN values from the attribute, looks up for the objects that are identified by the DN values, and displays a list of those objects. By default, the list contains the following information about each object:

- **Name** The value of the "name" attribute.
- **Description** The value of the "description" attribute.
- **Object type** The value of the "objectClass" attribute.

You can configure the list to display values of other attributes: open the **Properties** page for the entry (see Managing properties of an entry earlier in this document), and click the **Advanced** tab. Then, modify the list of names in the **Columns** box as required. You can type LDAP display names of attributes in the **Columns** box, separating them by commas, or you can click the button next to the **Columns** box and select attributes. The list provided by the entry will include one column per each attribute you specify, with each column showing the values of the respective attribute.

A DN entry provides the ability to make changes to the managed attribute, that is, to add or remove DN values from the attribute. For this purpose, a DN entry supplements the list of objects with the Add and Remove controls. The Remove control deletes list entries, consequently removing the respective DN values from the managed attribute. The Add control uses the **Select Object** dialog box for selecting objects. The entries representing the selected objects are then added to the list, with the DN of each object being eventually appended to the values in the managed attribute.

It is possible to customize the **Select Object** dialog box that is used by the Add control in a DN entry. For this purpose, a DN entry provides a number of options. These options can be found on the **Advanced** tab of the **Properties** page for a DN entry (for instructions on how to access the **Properties** page, see Managing properties of an entry earlier in this document):

- **Populate list view when the dialog box opens** When turned off, this option prevents a delay in opening the **Select Object** dialog box. Since populating the list view in the dialog box implies running a query against the directory service (which may be a lengthy operation), the ability to open the dialog box without initially

populating the list view increases responsiveness of the user interface. The user can type and check object names in the dialog box instead of selecting objects from the list. Alternatively, the user can manually start populating the list view by clicking a link in the **Select Object** dialog box.

- **Display the "Find in" field** When turned on, this option enables the users to view the **Find in** setting. With this option turned off, the **Find in** setting is not displayed in the **Select Object** dialog box.
- **Allow user to change the "Find in" setting** This option prevents the default **Find in** setting from being modified by the user. With this option turned off, the **Find in** setting cannot be changed in the **Select Object** dialog box.
- **Display the "Object name" field** When turned on, this option enables the user to type the names of objects to select instead of clicking objects in the list view in the **Select Object** dialog box. With this option turned off, the user is forced to make a selection from the list.
- **"Find in" default setting** You can specify a certain container as the default location of the objects for selecting. Click the button next to this option in order to select a container, or type in the distinguished name of a container. The **Select Object** dialog box will open with that container substituted in the **Find in** field.
- **LDAP search filter** When populating the list view, the **Select Object** dialog box applies this setting to the **Find in** container in order to retrieve the objects that match the filter specified. The list view then displays the objects returned by the query based on this search filter. You should set up a filter string in accordance with LDAP syntax rules.
- **Scope of query** When populating the list view, the **Select Object** dialog box uses this setting to qualify the query. Select one of the following:
  - **Base search** The search filter is applied to the **Find in** object only. When attribute scope query (ASQ) is used, the search filter is applied to the objects listed in a certain attribute of the **Find in** object.
  - **One-level search** The search filter is applied to the immediate children of the **Find in** object. The list view is populated with the immediate child objects that match the search filter.
  - **Subtree search** The search filter is applied to the **Find in** object as well as to all objects that exist below it in the directory tree. The list view is populated with all the objects that match the search filter.
- **Use attribute scope query (ASQ)** When turned on, this option causes the **Select Object** dialog box to populate the list view with objects that are listed in a certain attribute of the **Find in** object (target attribute). The LDAP display name of the target attribute must be supplied in the **Attribute to search by using ASQ** field.

  The target attribute must be an attribute that stores distinguished names, such as "member" or "managedBy". The search is performed against the objects that are identified by the distinguished names found in the target attribute. For example, if the **Find in** object is a group and "member" is specified as the target attribute, then the search will be performed against all objects that are members of the group and the list view will be populated with the members of the group that match the search filter.

Examples

This section discusses the following customization scenarios:

- Deleting the **New Shared Folder** command from the Container menu
- Adding the **Telephone number** entry to the form for creating user accounts

Deleting a command from a menu

By default, the **Container** menu includes the **New Shared Folder** command. After you complete the following steps, the menu no longer includes the **New Shared Folder** command.

To delete the command from the menu for Container object type

1. Open your Web browser and connect to the Web Interface for Administrators.
2. On the Navigation bar, expand **Customization** and then click **Directory Objects**.
3. In the **Menu for** column, click **Container**.
4. In the list of commands, select the check box next to the **New Shared Folder** command.
5. On the toolbar, click **Delete**. Then, click **OK** to confirm the deletion.
6. Click **Reload** to publish your changes.

Adding an entry to a form

By default, the forms for user account creation do not include a box where you could specify the user's telephone number. After you complete the following steps, a new box—**Telephone number**—is added to the form for user account creation. When you fill in that box, the number is saved in the user account.

To add the entry to the form for user account creation

1. Open your Web browser and connect to the Web Interface for Administrators.
2. On the Navigation bar, expand **Customization** and then click **Directory Objects**.
3. In the **Menu** column, click **Container**.

   When you modify the **New User** command on the **Container** menu, the command is also modified on the **Domain** and **Organizational Unit** menus.
4. In the list of commands, click **New User**.
5. In the right pane, click **Edit Form**.
6. In the Form Editor, click the **General** tab.

7. On the toolbar in the Form Editor, point to **Add Entry** and click **Create**.
8. In the **Property** list, click **Telephone Number**.
9. Click **Next**.
10. Specify **Telephone number** as the entry name.
11. Click **Finish**.
12. Click **Reload** to publish your changes.

Global settings

Customization of the Web interface includes the global settings that control the display of the Web Interface pages for all users. There are several areas of the Web Interface site where global settings are used by default. Some of these settings can be overridden by Web Interface users, whereas the others can only be viewed or changed by administrators.

The following settings are applied for all Web Interface users and can only be changed by Active Roles administrators:

- **Logo image** Use this option to replace the default logo image with a custom logo image on the Web Interface pages (see Customizing the logo image).
- **Web Interface site icon** Use this option to change the site icon, also known as favicon, that identifies the Web Interface site in the Web browser's address bar (see Customizing the Web Interface site icon).
- **Hide path to object** Select this check box to prevent the path to the current container ts from being displayed on the Web Interface pages.

  This option may be helpful in environments where Managed Units rather than Organizational Units are used to delegate administrative tasks.
- **Logged-on user name format** View or change the property used for the presentation of the Web Interface user (see Customizing the name of the Web Interface user).
- **Color scheme** Use the options in this area to customize the appearance of the Web Interface pages by configuring a custom color scheme. You can choose from the following options:
  - **Default** Applies the color scheme that is included with the Web Interface out of the box.
  - **Custom** Allows you to select the base color for your custom color scheme and specify the amount of color you want on the Web Interface pages.

If the administrator changes any of the above settings, the new settings affect any user who connects to the Web Interface site after the changes are applied.

The following settings are applied for all Web Interface users by default, and can be overridden on a per-user basis (a Web Interface user can choose different settings without affecting the other users):

- **User interface language** Choose the language for the Web Interface pages. Your selection determines the language of menus and dialogs, messages, and help pages.
- **Maximum number of objects to display in search results** Specify the maximum number of objects that can be displayed in single-page lists, such as lists of search results or lists that show contents of containers. Use this option carefully as displaying a large number of objects may cause performance degradation.
- **Number of items to display per page in paged lists** Specify the maximum number of list items that can be displayed on a single page in multi-page lists. This setting affects only the lists, such as lists of approval tasks, that are divided into pages, causing each page to display no more items than specified.
- **Number of page links to display for paged lists** Specify the maximum number of links to pages that can be displayed for multi-page lists. This setting affects only the lists, such as lists of approval tasks, that are divided into pages, allowing the user to page through list items by clicking page numbers beneath the list. This setting specifies how many page numbers are to be shown.

If the administrator changes any of the above settings, the new settings normally affect the users who connect to the Web Interface site for the first time. The changes to the global settings of this category do not affect the Web Interface users whose user profiles already contain user-specific, personal settings of the same category. For example, if a user has already selected the preferred language, changing the user interface language in Global Settings has no effect on that user.

To view or modify global settings

1. Log on as Active Roles Admin, and connect to the Web Interface site you want to customize.
2. On the Navigation bar (on the left side of the Web Interface page), click **Customization**.
3. On the **Customization** page, click **Global Settings**.
4. Use the **Global Settings** page to view or modify the settings.
5. When finished, click **Save**.
6. Click **Reload** for your changes to take effect for all users of the Web Interface site you are customizing.

Customizing the logo image

The Web Interface allows the administrator to customize the branding for the Web Interface sites by changing parts of the logo image that appears at the top of the Web Interface screen. The default parts of the logo image can be replaced by custom images, such as a company logo or a product logo. Separate images are used to identify the company and the product. The administrator can specify the desired image by selecting an appropriate graphic file. The supported file types are JPEG (.jpg or .jpeg file name extension), GIF, and PNG.

It is also possible to customize the hyperlinks on the parts of the logo image. Separate hyperlinks are available on the company logo and the product logo. Thus, the hyperlink on the company logo could be configured to navigate to the corporate Web site whereas the hyperlink on the product logo could open a custom page with instructions on how to use the product.

To view or modify the logo image settings

1. Open the Web Interface site in your Web browser, click **Customization** on the Navigation bar, and then click **Global Settings**.
2. In the **Product logo image** area, view or change the image that is used to identify the product:
    - To use a different image, click **Change** and select a graphic file containing the image you want.
    - To revert to the standard image, click **Restore Default**.
3. In the **Hyperlink on the product logo image** area, view or change the address (URL) of the Web page that opens when the user clicks the product logo image:
    - To use a different address, type the address in the edit box.
    - To remove the hyperlink from the product logo image, clear the edit box.
    - To revert to the standard address, click **Restore Default**.
4. In the **Company logo image** area, view or change the image that is used to identify the company:
    - To use a different image, click **Change** and select a graphic file containing the image you want.
    - To revert to the standard image, click **Restore Default**.
5. In the **Hyperlink on the company logo image** area, view or change the address (URL) of the Web page that opens when the user clicks the company logo image:
    - To use a different address, type the address in the edit box.
    - To remove the hyperlink from the company logo image, clear the edit box.
    - To revert to the standard address, click **Restore Default**.
6. Click **Save**.
7. Click **Reload** to publish your changes.

Customizing the Web Interface site icon

The Web Interface has the default site icon, and provides a means to change the site icon. A site icon, also called shortcut icon or favicon, is a small image that is associated with a particular Web Interface site. You can change the site icon for each site separately.

When you open a Web Interface site in your Web browser, the site icon appears in the browser’s address bar. The site icon also appears on the History and Favorites lists,

making it easier to identify the site. In addition, the site icon helps identify and differentiate the site on the Windows taskbar.

If you want to use a custom icon for your Web Interface site, consider the following. A site icon must be an image in the ICO file format, square in size, and at least 16x16 pixels. The recommended size of a site icon is 16x16 or 32x32 pixels as Windows uses site icons in the Web browser's address bar (16x16) and on the taskbar buttons (32x32). However, in case of larger icons on the desktop, Windows may stretch a site icon to 64x64 pixels and more. To achieve the best experience, consider creating an ICO file that contains your site icon in several sizes, including the 16x16, 32x32 and 64x64 pixel icons.

To change the site icon

1. Open the Web Interface site in your Web browser, click **Customization** on the Navigation bar, and then click **Global Settings**.
2. In the **Web Interface site icon** area, click **Change** and supply the ICO file containing the desired icon.
3. Click **Save**, and then click **Reload** for the changes to take effect.

You can revert to the default icon by clicking **Restore Default** in the **Web Interface site icon** area. To apply your changes, click **Save** and then click **Reload**.

Customizing the name of the Web Interface user

The Web Interface displays the name of the logged-on user in the area above the Navigation bar, retrieving that name from the "Display Name" property of the user account in Active Directory. In case of empty display name, the name is retrieved from the "name" property. This default behavior may not be suitable for all situations.

Suppose the Web Interface user has two accounts: a regular account and another account with elevated privileges ("admin" account). When logged on to the Web Interface, such a user needs to know which account is currently used, so as to be sure that inappropriate actions cannot be performed. If both the regular and admin accounts have the same display name, a different property should be used to identify the user. The Web Interface addresses this requirement by allowing a user property other than "Display Name" to be selected for the presentation of the Web Interface user.

To select a user property for the presentation of the Web Interface user

1. Open the Web Interface site in your Web browser, click **Customization** on the Navigation bar, and then click **Global Settings**.
2. Under **Logged-on user name format**, click the **Change** button, and then select the user property you want.
3. Click **Save**, and then click **Reload** for the changes to take effect.

To identify which property is currently used for the presentation of the Web Interface user, point to the user name under **Logged-on user name format** and review the tooltip that

appears. Thus, under default conditions, the tooltip reads “The 'Display Name' property is used as the name of the logged-on user in the Web Interface. Click 'Change' to use a different property.”

Customizing the Navigation bar

The left area on Web Interface pages, referred to as the Navigation bar, provides menu items for navigating between Web Interface sections. By default, it includes a number of top-level menu items. Expanding a top-level item on the Navigation bar may display subordinate items. In this section, the collection of the items that are subordinate to a given item is referred to as the menu group associated with that item.

You can add, modify, re-arrange, and remove menu items on menu groups and on the Navigation bar. A point-and-click interface helps you manage the menu items and their subordinate items, providing flexible options to customize the Navigation bar.

The changes you make to the Navigation bar affect every user of the Web Interface site. For example, when you remove a menu item, the item is not displayed to any user of the Web Interface site.

To customize the Navigation bar

1. On the Home page of the Web Interface site, click **Customization**.
2. Click **Customization Tasks**; then, click **Customize Navigation Bar** in the right pane.
3. In the hierarchical view of menu items, click to select the item you want to change, and then use command buttons to make changes.

The following table provides an overview of changes you can make.

Table 1: Navigation bar customization tasks

To	Do This
Add an item to the Navigation bar.	Click the **Menu Bar** entry, and then click **Add**. Type a name for the new item and the URL of the page you want the new item to open. Then, click **OK**.
Add an item to a menu group.	Click the item that the menu group is associated with, and then click **Add**. Type a name for the entry, and the URL of the page you want the new item to open or the name of the script function (command) you want the item to execute. Then, click **Add**.
Change the position of an item on the Navigation bar or within a menu group.	Select the item and click the **Up** or **Down** arrow button.

To	Do This
Change the name of an item.	Select the item and click **Properties**. Then, type the name you want, and click **OK**.
Move an item to the Navigation bar.	Select the item and click **Move**. Then, click the **Menu Bar** entry. Adjust the position of the item as needed by clicking arrow buttons and then click **OK**. (This also moves the entire menu group, if any, associated with the item being moved.)
Move an item to a menu group.	Select the item and click **Move**. Then, click the item that the destination menu group is associated with. Adjust the position of the item as needed by clicking arrow buttons and then click **OK**. (This also moves the entire menu group, if any, associated with the item being moved.)
Hide an item so that it does not appear on the Navigation bar.	Select the item and click **Hide**. (To display an item that is hidden, select the hidden item and click **Unhide**.)

Customizing the Home page

The Home page of the Web Interface site includes a number of items that serve as entry points to individual sections of the Web Interface. Each item occupies a clickable area on the Home page, and includes the caption (name of the item), text describing the item and a picture providing a graphical illustration of the item. Clicking an item displays a page that is identified by a certain property of the item (this property is referred to as "URL to open").

You can add, modify, re-arrange, and remove items on the Home page. A point-and-click interface helps you manage the items, providing flexible options to customize the Home page.

The changes you make to the Home page affect every user of the Web Interface site. For example, when you remove an item from the Home page, the item is not displayed to any user of the Web Interface site.

To customize the Home page

1. On the Home page of the Web Interface site, click **Customization**.
2. Click **Customization Tasks**; then, click **Customize Home Page** in the right pane.
3. In the list of items, click to select the item you want to change, and then use command buttons to make changes.

The following table provides an overview of changes you can make

Table 2: Home page customization tasks

To	Do This
Add an item to the Home page.	Click **Add**. Type a name for the new item and the URL of the page you want the new item to open. Optionally, type any text to display in the item area, and change the picture for the item. Then, click **OK**.
Change the position of an item on the Home page.	Select the item and click the **Up** or **Down** arrow button.
Change the name or description text of an item.	Select the item and click **Properties**. Then, type the name or description text you want, and click **OK**.
Change the picture to be displayed in the item area.	Select the item and click **Properties**. Under the **Picture to display** label, click **Change**. Type the path and name of the picture file, or click **Browse** to select and open the picture file. Then, click **OK**.
Hide an item so that it does not appear on the Web Interface pages.	Select the item and click **Hide**. (To display an item that is hidden, select the item and click **Unhide**.)

By adding a home page item, you can customize the Web Interface to integrate custom applications together with the Web Interface pages. The **Advanced properties** section in the dialog box for managing a home page item provides the **Open the URL in a frame** option for this purpose.

With the **Open the URL in a frame** option, a home page item can be configured to open a Web application so that the application's pages are embedded in a standard Web Interface page. When this option is selected, the page identified by the **URL to open** property of the home page item is embedded in a Web Interface page instead of being displayed in place of the Web Interface page in the Web browser window.

The **Advanced properties** section also provides the ability to configure a home page item so that a number of optional parameters are automatically appended to the query string of the URL when the user clicks the item. This enables the Web Interface to pass certain data to the Web application associated with the home page item. You can modify parameter names. The parameter values are generated by the Web Interface when the user clicks the home page item. The following table summarizes the available parameters.

Table 3: Query string parameters

Parameter Name	Parameter Value
DN	Distinguished Name (DN) of the user account of the Web Interface user. Example: DN=CN%3dAaron%20Beh%20Santos%2cOU%3dEmployees%2cDC%3dDomain%2cDC%3dCompany%2cDC%3dCom

Parameter Name	Parameter Value
IdentificationDomain	DNS name of the Active Directory domain that holds the user account of the Web Interface user. Example: IdentificationDomain=domain.company.com
IdentificationAccount	Pre-Windows 2000 name (sAMAccountName) of the user account of the Web Interface user. Example: IdentificationAccount=ASantos
LCID	Hex code of the locale identifier specific to the Web Interface language selected by the Web Interface user. Example: LCID=409
IsDsAdmin	"True" or "False" depending on whether or not the Web Interface user is assigned to the Active Roles Admin role and thus has administrative rights on Active Roles. Example: IsDsAdmin=False
CurrentLanguage	Locale name specific to the Web Interface language selected by the Web Interface user. Example: CurrentLanguage=en-US
PortalHomePage	URL of the Home page of the Web Interface site you are customizing. Example: PortalHomePage=http://Server/ARServerSelfService
TaskID	The identifier of the Web Interface command used to open the URL. Example: TaskID=d8371ae8-1215-40ac-b0c4-391c3225a426

Configuring Web interface for enhanced security

By default, Web Interface users connect to the Web Interface using an HTTP transport, which does not encrypt the data transferred from a Web browser to the Web Interface. To use a secure transport for transferring data to the Web interface, it is recommended to use an HTTPS transport.

The secure hypertext transfer protocol (HTTPS) uses Secure Sockets Layer (SSL) provided by the Web server for data encryption. For instructions on how to enable SSL on your Web server, see https://support.microsoft.com/en-in/help/324069/how-to-set-up-an-https-service-in-iis.

Any Web interface is prone to security issues such as Cross-Site Request Forgery (CSRF) and Cross-site Scripting (XSS) attacks. To prevent and protect against such attacks Active Roles can now be configured to enable CSRF and XSS for the Web interface.

Cross-Site Request Forgery (CSRF) attacks can force users to execute unwanted actions on the Active Roles web application in which they are currently authenticated. To prevent CSRF requests Active Roles must be enabled to use Anti Forgery protections.

Cross-Site Scripting (XSS) attacks are a type of injection, in which malicious scripts are injected into otherwise benign and trusted websites. Hence, any script that is sent to Active Roles must be validated for malicious content before accepting and executing the script. To perform the script validation XSS must be enabled for Active Roles.

To configure keys in the Web interface

1. From Windows Run, open IIS and Expand Default Website.
2. Click the Active Roles Application.

   NOTE: **ARWebAdmin** is the default Active Roles application.
3. In the right pane, in the Configuration Editor, from the Section drop-down menu, select <*Settings*>.
4. Click on the button corresponding (Count=*), and click **Add** in the right Pane.
5. Enter the following values:
   a. Key: "<*keyname*>"
   b. Value: "<*value*>"
6. Close the window and click **Apply** under Actions menu in the right pane.
7. Restart the App pool.

Working with Cross-Site Request Forgery for web interface

Current Active Roles Web Interface uses Anti Forgery protections to prevent Cross-Site Request Forgery (CSRF) request, by default.

To modify CSRF add the following scripts in **web.config | <appSettings>** section:

- `<add key ="EnableAntiForgery" value="true"/> <!--Key to enable or disable Antiforgery , Values= true or false -->`
- `<add key="IgnoreValidation" value="choosecolumns,savetofile,customizeform,default,2fauth,formmap"/>`

Working with Cross-Site Scripting validation for Web interface

The Cross-Site Scripting (XSS) option allows Active Roles to determine whether a request contains potentially dangerous content. The current Active Roles Web Interface validates XSS by default. You can either disable XSS or modify its behavior with the **IgnoreForValidation** script.

To disable XSS in web.config:

1. In the <appSettings> section, set the value of the following script to false:

   ```
   <add key="EnableRequestValidation" value="false"/>
   ```

2. In the <system.web> section, set the key in <pages />:

   ```
   validateRequest="false"
   ```

To modify XSS behavior in web.config:

1. In the <appSettings> section, find the following script:

   ```
   <add key="IgnoreForValidation"
   value="hiddenxml,homepagestruct,txtconditionsforoperationsinreadableform"/>
   ```

2. For environments having Lync Server or Skype for Business Server, add the following to the existing value:

   ```
   dialplanpolicytextbox,voicepolicytextbox,edsva-lync-conferencingpolicy,edsva-
   lync-clientversionpolicy,edsva-lync-pinpolicy,edsva-lync-
   externalaccesspolicy,edsva-lync-archivingpolicy,edsva-lync-
   locationpolicy,edsva-lync-mobilitypolicy,edsva-lync-
   persistentchatpolicy,edsva-lync-clientpolicy
   ```

Impact of updating CSRF setting

If you enable the CSRF settings, except the Home page, you can not copy the URLs of any other page and open them in a new tab or a new window on the browser. You can not open the bookmarked URLs also.

Default Commands

Web Interface for Administrators

The default configuration of the Web Interface site for Administrators includes the commands summarized in the following tables.

Domain menu

Table 4: Domain Menu

Command	Description
New Organizational Unit	Creates an Organizational Unit.
Properties	Lets you view or modify properties of a domain.
View Contents	Displays a list of objects that reside in a domain.
Change Operational DC	Lets you select a domain controller to use.
Change History	Lists the changes that were made to a domain.
View or Restore Deleted Objects	View or restore objects that were deleted from a domain.

Container or OU menu

Table 5: Container or OU menu

Command	Description
New User	Creates a user account in a container or Organizational Unit.

Command	Description
New Group	Creates a group in a container or Organizational Unit.
New Computer	Creates a computer in a container or Organizational Unit.
New Organizational Unit	Creates an Organizational Unit in an Organizational Unit.
New Shared Folder	Creates a shared folder in an Organizational Unit.
New Contact	Creates a contact in a container or Organizational Unit.
New Printer	Creates a printer (printQueue) object in a container or Organizational Unit.
New Room Mailbox	Creates a user account associated with a room mailbox in a container or Organizational Unit.
New Equipment Mailbox	Creates a user account associated with an equipment mailbox in a container or Organizational Unit.
New Linked Mailbox	Creates a user account associated with a linked mailbox in a container or Organizational Unit.
New Shared Mailbox	Creates a user account associated with a shared mailbox in a container or Organizational Unit.
Restore	Restores a deleted container or Organizational Unit in a domain where Active Directory Recycle Bin is enabled.
Delete	Deletes a container or Organization Unit.
Move	Moves a container or Organization Unit to a different location.
Rename	Renames a container or Organizational Unit.
Change History	Lists the changes that were made to a container or Organizational Unit.
Properties	Lets you view or modify properties of a container or Organizational Unit.
View Contents	Displays a list of objects that reside in a container or Organizational Unit.
View or Restore Deleted Objects	View or restore objects that were deleted from a container or organizational unit.

Managed Unit menu

Table 6: Managed Unit menu

Command	Description
Members	Displays a list of objects that are members of a Managed Unit.
View or Restore Deleted Objects	View or restore deleted objects that were direct members of a given Managed Unit at the time of deletion.

User menu

Table 7: User Menu

Command	Description
Deprovisioning Results	On a deprovisioned user account, lets you examine the changes that were made to the account by the deprovisioning policies.
Undo Deprovisioning	On a deprovisioned user account, rolls back the changes that were made to the account by the deprovisioning policies.
Disable Account / Enable Account	Disables a user account, or enables a disabled user account.
Reset Password	Resets the password for a user account.
Delete	Deletes a user account.
Restore	Restores a deleted user account in a domain where Active Directory Recycle Bin is enabled.
Deprovision	Performs all actions on a user account that are prescribed by the deprovisioning policies.
Move	Moves a user account to a different location.
Copy	Copies a user account.
Rename	Renames a user account.
Member Of	Lets you add or remove a user account from groups.
Change History	Lists the changes that were made to a user account.
User Activity	Lists the changes that were made by a user account.
General Properties	Lets you view or modify general properties of a user account.
Managed Resources	Lets you view objects for which a given user is assigned as the manager (primary owner) or a secondary owner.

Command	Description
Exchange Properties	Lets you view or modify Exchange-related properties of a user account.
Terminal Services Properties	Lets you view or modify Terminal Services-related properties of a user account.
Dial-in Properties	Lets you view or modify dial-in properties of a user account.
Name Mappings	Lets you add, edit, or remove certificates and Kerberos names to user accounts. This functionality is similar to the ADUC Name Mappings functionality that allows you to add certificates and Kerberos names to users .
Create User Mailbox	Creates a user mailbox associated with an existing user account.
Create Room Mailbox	Creates a room mailbox associated with an existing user account.
Create Equipment Mailbox	Creates an equipment mailbox associated with an existing user account.
Create Linked Mailbox	Creates a linked mailbox associated with an existing user account.
Create Shared Mailbox	Creates a shared mailbox associated with an existing user account.
Move Mailbox	Moves a mailbox.
Delete Mailbox	Deletes a mailbox.
Establish E-mail Address	Establishes an e-mail address for a user account.
Delete E-mail Address	Deletes an e-mail address for a user account.
Remove Exchange Attributes	Removes all Exchange attributes from a user account.

Group menu

Table 8: Group menu

Command	Description
Deprovisioning Results	On a deprovisioned group, lets you examine the changes that were made to the group by the deprovisioning policies.

Command	Description
Undo Deprovisioning	On a deprovisioned group, rolls back the changes that were made to the group by the deprovisioning policies.
Members	Lets you view or modify the list of members of a group. To view the total number of members of a group: 1. In the Web Interface, select the group, and then choose the **Members** option from the navigation bar. The Members page displays the number of members in the group. 2. Select **Show indirect members** and **Show pending members** check boxes. The Members page displays the number of members including the indirect members and pending members in the group.
Member Of	Lets you add or remove a group from another group or groups.
Controlled Groups	On a group that stores the configuration of a Group Family, this command lets you view the groups controlled by that Group Family.
Restore	Restores a deleted group in a domain where Active Directory Recycle Bin is enabled.
Delete	Deletes a group.
Deprovision	Performs all actions on a group that are prescribed by the deprovisioning policies.
Move	Moves a group to a different location.
Copy	Copies a group.
Rename	Renames a group.
Change History	Lists the changes that were made to a group.
General Properties	Lets you view or modify general properties of a group.
Exchange Properties	Lets you view or modify Exchange-related properties of a group.
Establish E-mail Address	Establishes an e-mail address for a group.
Delete E-mail Address	Deletes an e-mail address for a group.
Hide Membership / Unhide Membership	Hides / displays the members of a group in the Global Address List.

Command	Description
Remove Exchange Attributes	Removes all Exchange attributes from a group.

Computer menu

Table 9: Computer menu

Command	Description
Enable Account / Disable Account	Disables or enables a computer account.
Reset Account	Resets a computer account.
Restore	Restores a deleted computer account in a domain where Active Directory Recycle Bin is enabled.
Delete	Deletes a computer account.
Move	Moves a computer account to a different location.
Restart	Lets you restart the computer represented by a computer account.
Manage	Lets you managed computer resources, such as printers, services, devices, shares, local users, and local groups.
Member Of	Lets you add or remove a computer account from groups.
Change History	Lists the changes that were made to a computer account.
Properties	Lets you view or modify properties of a computer account.

Web Interface for Help Desk

The default configuration of the Web Interface site for Help Desk includes the commands summarized in the following tables.

Domain menu

Table 10: Domain menu

Command	Description
View Contents	Displays a list of objects that reside in a domain.
Change Operational DC	Lets you select a domain controller to use.

Container or OU menu

Table 11: Container or OU menu

Command	Description
View Contents	Displays a list of objects that reside in a container or Organizational Unit.
Change History	Lists the changes that were made to a container or Organizational Unit.

Managed Unit menu

Table 12: Managed Unit menu

Command	Description
Members	Displays a list of objects that are members of a Managed Unit.

User menu

Table 13: User menu

Command	Description
Deprovisioning Results	On a deprovisioned user account, lets you examine the changes that were made to the account by the deprovisioning policies.

Command	Description
Undo Deprovisioning	On a deprovisioned user account, rolls back the changes that were made to the account by the deprovisioning policies.
Disable Account / Enable Account	Disables a user account, or enables a disabled user account.
Reset Password	Resets the password for a user account.
Deprovision	Performs all actions on a user account that are prescribed by the deprovisioning policies.
Member Of	Lets you add or remove a user account from groups.
Change History	Lists the changes that were made to a user account.
General Properties	Lets you view or modify general properties of a user account.
Managed Resources	Lets you view objects for which a given user is assigned as the manager (primary owner) or a secondary owner.

Group menu

Table 14: Group menu

Command	Description
Deprovisioning Results	On a deprovisioned group, lets you examine the changes that were made to the group by the deprovisioning policies.
Undo Deprovisioning	On a deprovisioned group, rolls back the changes that were made to the group by the deprovisioning policies.
Members	Lets you view or modify the list of members of a group.
Member Of	Lets you add or remove a group from another group or groups.
Deprovision	Performs all actions on a group that are prescribed by the deprovisioning policies.
General Properties	Lets you view or modify general properties of a group.

About us

One Identity solutions eliminate the complexities and time-consuming processes often required to govern identities, manage privileged accounts and control access. Our solutions enhance business agility while addressing your IAM challenges with on-premises, cloud and hybrid environments.

Contacting us

For sales and other inquiries, such as licensing, support, and renewals, visit https://www.oneidentity.com/company/contact-us.aspx.

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