



# Creating and Managing Administrator User Accounts and Groups

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This chapter describes how to create user accounts and groups from the Cisco Wide Area Applications Services Central Manager GUI.



**Note**

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Throughout this chapter, the term Cisco WAAS device is used to refer collectively to the WAAS Central Managers and WAEs (Cisco Wide Area Application Engines) in your network. The term WAE refers to WAE appliances, and WAE Network Modules (the Cisco WAAS NME-WAE family of devices).

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This chapter contains the following sections:

- [Overview of Administrator User Accounts](#)
- [Creating and Managing User Accounts](#)

## Overview of Administrator User Accounts

Your WAAS system comes with an administrator account already created, which you can use to access the WAAS Central Manager GUI as well as the WAAS CLI. This account has the username of *admin* and the password *default*. You can use the WAAS Central Manager GUI to change the password of this account.

If you want to create additional administrator user accounts, see [Table 8-1](#) for a description of the two types of accounts you can create from the WAAS Central Manager GUI.

**Table 8-1** Account Type Descriptions

Account Type	Description
Roles-based account	<p>Allows you to create accounts that manage and configure specific WAAS services. For example, you may want to delegate the configuration of application acceleration to a specific administrator. In this case, you could create a roles-based account that only has access to the Acceleration pages in the WAAS Central Manager GUI.</p> <p>You can create a role-based account that also is a local user account.</p> <p>You create roles-based accounts from the Admin menu in the WAAS Central Manager GUI.</p>
Local account	<p>Provides CLI access to WAE devices. A user with this account type can log in to the WAAS Central Manager but they have the access rights assigned to the default account, which initially has no access to GUI functionality.</p> <p>We recommend that you create a local account if there is an administrator that only needs CLI access to WAE devices.</p> <p>You should create local accounts the same way as roles-based accounts, but you should check the <b>Local User</b> check box when creating the account.</p>

## Creating and Managing User Accounts

This section contains the following topics:

- [Overview for Creating an Account](#)
- [Working with Accounts](#)
- [Working with Passwords](#)
- [Working with Roles](#)
- [Working with Domains](#)
- [Working with User Groups](#)

## Overview for Creating an Account

[Table 8-2](#) provides an overview of the steps you must complete to create a new roles-based administrator account.

**Table 8-2** Checklist for Creating a Roles-based Administrator Account

Task	Additional Information and Instructions
1. Create a new account.	Creates an account on the system with a specific username, password, and privilege level. For more information, see <a href="#">Creating a New Account</a> .
2. Create a role for the new account.	Creates a role that specifies the services that an account can configure in your WAAS network. For more information, see <a href="#">Creating a New Role</a> . If you are using an external authentication server, you can define matching user groups that automatically assign roles to users.
3. Assign the role to the new account.	Assigns the new role to the new account. For more information, see <a href="#">Assigning a Role to a User Account</a> . If you are using an external authentication server, you can define matching user groups that automatically assign roles to users.

Table 8-2 Checklist for Creating a Roles-based Administrator Account (continued)

Task	Additional Information and Instructions
4. Create a domain.	Creates a domain that will specify the WAEs, device groups, or AppNav Clusters that the new account can manage. For more information, see <a href="#">Creating a New Domain</a> .
5. Add an entity to the domain.	Adds one or more WAEs, device groups, or AppNav Clusters to the domain. For more information, see <a href="#">Adding an Entity to a Domain</a> .
6. Assign a domain to a user account.	Assigns the domain to the new user account. For more information, see <a href="#">Assigning a Domain to a User Account</a> . If you are using an external authentication server, you can define matching user groups that automatically assign domains to users.

## Working with Accounts

When you create a user account, you enter information about the user, such as the username, the name of the individual who owns the account, contact information, job title, and department. All user account information is stored in an internal database on the WAAS Central Manager.

Each user account can then be assigned to a role. A *role* defines which WAAS Central Manager GUI configuration pages the user can access and which services the user has authority to configure or modify. The WAAS Central Manager provides one predefined role, known as the admin role. The admin role has access to all services. A *domain* defines the entities in the network that the user can access, configure, or modify. You can assign a user account to zero or more roles and to zero or more domains.

In addition to user accounts, you can create user groups if you are using external authentication of users on a TACACS+ or Windows domain server (not a RADIUS server). By creating user group names that match the user groups that you have defined on the external authentication server, WAAS can dynamically assign roles and domains to users based on their membership in a group as defined on the external authentication server. You do not have to define a role or domain for each user individually.

Two default user accounts are preconfigured in the WAAS Central Manager. The first account, called *admin*, is assigned the administrator role that allows access to all services, and access to all entities in the system. This account cannot be deleted from the system, but it can be modified. Only the username and the role for this account are unchangeable. Only an account that has been assigned the admin role can create other admin-level accounts.

The second preconfigured user account is called *default*. Any user account that is authenticated but has not been registered in the WAAS Central Manager obtains the access rights (role) assigned to the default account. This account is configurable by an administrator, but it cannot be deleted nor its username changed. Initially, the default account has no access to GUI functionality because it has no roles defined, although you can use the default account to log in to the WAAS Central Manager GUI.

This section contains the following topics:

- [Creating a New Account](#)
- [Modifying and Deleting a User Account](#)
- [Changing the Password for Your Own Account](#)
- [Changing the Password for Another Account](#)
- [Viewing a User Account](#)
- [Unlocking a User Account](#)

## Creating a New Account

The first step in setting up an account is to create the account by specifying a username and selecting whether a local CLI account is created at the same time. After the account is created, you can assign roles to the account, which determine the WAAS services and devices that the account can manage and configure.

Table 8-3 describes the outcome of creating a local CLI user when setting up an account.

**Table 8-3** Outcome of Creating a Local User

Action	Result
Creating a Local User	<ul style="list-style-type: none"> <li>The account can be used to access the WAAS CLI and the WAAS Central Manager GUI (with the default role).</li> <li>Users can change their own passwords, and the password change will propagate to standby WAAS Central Managers.</li> <li>The account is stored in the WAAS Central Manager database and is also propagated to the standby WAAS Central Managers.</li> </ul>
Not Creating a Local User	<ul style="list-style-type: none"> <li>The user account is created in the primary and standby WAAS Central Manager management databases.</li> <li>No user account is created in the CLI. Users will have to use another account to access the CLI.</li> <li>The new account can be used to log in to the WAAS Central Manager GUI if an external authentication server is set. The user is assigned the roles defined for the default user (initially none).</li> <li>Local users can change their passwords using the WAAS Central Manager GUI only if they have roles that allow access to the Admin &gt; AAA section.</li> </ul>



### Note

If a user account has been created from the CLI only, when you log in to the WAAS Central Manager GUI for the first time, the Centralized Management System (CMS) automatically creates a user account (with the same username as that configured in the CLI) with default authorization and access control. An account created from the CLI will initially be unable to access any configuration pages in the WAAS Central Manager GUI. You must use an admin account to give the account created from the CLI the roles it requires to perform configuration tasks from the WAAS Central Manager GUI.

To create a new account, follow these steps:

**Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Users**.

The User Accounts window displays all the user accounts on the system.

**Step 2** Click the **Create New User Accounts** icon.

The Creating New User Account window appears.



**Note** This window can be accessed only by users with administrator-level privileges.

- Step 3** In the Username field, enter the user account name.
- Step 4** Usernames are case sensitive and cannot contain characters other than letters, numbers, period, hyphen, and underscore. Complete the following steps to create a local CLI user account:
- Check the **Local User** check box. See [Table 8-3](#) for information about the benefits of creating a local CLI user. A local user is created on all WAE devices.



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**Note** Do not create a local user with a username that is identical to a username defined in an external authentication server that is authorizing access to the WAAS device.

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- In the Password field, enter a password for the local user account, and re-enter the same password in the Confirm Password field. Passwords are case-sensitive, must be 1 to 31 characters in length, and cannot contain the characters `'`, `"`, `|` (apostrophe, double quote, or pipe) or any control characters.
- From the CLI Privilege Level drop-down list, select one of the following options for the local user account:
  - 0 (normal user)**—Limits the CLI commands this user can use to only user-level EXEC commands. This is the default value.
  - 15 (super user)**—Allows this user to use privileged EXEC-level CLI commands, similar to the functions that a Central Manager GUI user with the admin role can perform.



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**Note** Use the WAAS CLI EXEC mode for setting, viewing, and testing system operations. It is divided into two access levels: user and privileged. A local user who has *normal* privileges can only access the user-level EXEC CLI mode. A local user who has *superuser* privileges can access the privileged EXEC mode as well as all other modes, for example, configuration mode and interface mode, to perform any administrative task. For more information about the user-level and privileged EXEC modes and CLI commands, see the [Cisco Wide Area Application Services Command Reference](#).

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- Step 5** (Optional) In the User Information fields, enter the following information about the user in the appropriate fields: first name, last name, phone number, e-mail address, job title, and department.
- Step 6** (Optional) In the Comments field, enter any additional information about this account.
- Step 7** Click **Submit**.  
A **Changes Submitted** message appears at the bottom of the window.
- Step 8** Assign roles to this new account, as described in [Working with Roles](#) and assign domains, as described in [Working with Domains](#).
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## Modifying and Deleting a User Account



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**Note** Modifying a user account from the CLI does not update the Centralized Management System (CMS) database and the change will not be reflected in the Central Manager GUI.

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To modify an existing user account, follow these steps:

**Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Users**.

The User Accounts window appears.

**Step 2** Click the **Edit** icon next to the user account that you want to modify.



**Note** This window can only be accessed by users with administrator-level privileges.

The Modifying User Account window appears. You can delete or edit user accounts as follows:

- To delete the user account, click the **Delete** icon in the taskbar, and then click **OK** to confirm the deletion.

If the local user account was created using the WAAS Central Manager GUI, the corresponding user account is removed from the CLI and is also deleted from all standby WAAS Central Managers.



**Note** Deleting a user account from the CLI does *not* disable the corresponding user account in the CMS database. Consequently, the user account remains active in the CMS database. User accounts created in the WAAS Central Manager GUI should always be deleted from the WAAS Central Manager GUI.

- To edit the user account, make the necessary changes to the username and account information, and click **Submit**.

## Changing the Password for Your Own Account

If you are logged in to the WAAS Central Manager GUI, you can change your own account's password if you meet the following requirements:

- Your account and password were created in the WAAS Central Manager GUI and not in the CLI.
- You are authorized to access the password window.



**Note** We do not recommend changing the local CLI user password from the CLI. Any changes to local CLI user passwords from the CLI are not updated in the management database and are not propagated to the standby WAAS Central Manager. Therefore, passwords in the management database will not match a new password configured in the CLI.



**Note** The advantage of initially setting passwords from the WAAS Central Manager GUI is that both the primary and the standby WAAS Central Managers will be synchronized, and GUI users will not have to access the CLI to change their password.

To change the password for your own account, follow these steps:

**Step 1** From the WAAS Central Manager menu, choose **Admin > Security > Password**.

The Changing Password for User Account window appears.

- Step 2** In the New Password field, enter the changed password. Passwords are case sensitive, must be 1 to 31 characters in length, and cannot contain the characters ` ` , ` " , ` | (apostrophe, double quote, or pipe) or any control characters.
- Step 3** In the Confirm New Password field, re-enter the password for confirmation.
- Step 4** Click **Submit**.
- The message **Changes Submitted** appears at the bottom of the window confirming that your password has been changed.
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When you change the password of an account by using the WAAS Central Manager GUI, it changes the password for all WAE devices managed by the Central Manager.

## Changing the Password for Another Account

If you log in to the WAAS Central Manager GUI using an account with admin privileges, you can change the password of any other account.



**Note** If you change a user password from the CLI, the password change applies only to the local device, will not be reflected in the Central Manager GUI, and is not propagated to any other devices.

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To change the password for another account, follow these steps:

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- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Users**.  
A list of roles-based user accounts appears.
- Step 2** Click the **Edit** icon next to the account that needs a new password.  
The Modifying User Account window appears.
- Step 3** In the Password field, enter the changed password. Passwords are case-sensitive, must be 1 to 31 characters in length, and cannot contain the characters ` ` , ` " , ` | (apostrophe, double quote, or pipe) or any control characters.
- Step 4** In the Confirm Password field, reenter the password for confirmation.
- Step 5** Click **Submit**.
- The message **Changes Submitted** appears at the bottom of the window confirming that your password has been changed.
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## Viewing a User Account

To view all user accounts, choose **Admin > AAA > Users** from the WAAS Central Manager GUI. The User Accounts window displays all the user accounts in the management database. From this window, you can also create new accounts, as described in [Creating a New Account](#).

To view user accounts for a specific device, choose **Devices > device-name** and then choose **device-name > Device Users** or **CM Users**, depending on the device mode. The Users for device window displays all the user accounts defined for the device.

To view the details of an account, click the **View** icon next to the account.

## Unlocking a User Account

When a user account is locked out, the user cannot log in to the WAAS device until an administrator unlocks the account. A user account will be locked out if the user unsuccessfully tries to log in three consecutive times.

To unlock an account, follow these steps:

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- Step 1** From the WAAS Central Manager GUI, choose **Admin > AAA > Users**.  
The User Accounts listing window appears and displays the status of each user account.



**Note** This window can only be accessed by users with administrator-level privileges.

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- Step 2** Click the **Edit** icon next to the user account that you want to modify.  
The Modifying User Account window appears and displays a list of devices on which this account is locked out.
- Step 3** Choose the device in which you want to unlock the account.  
The list of device users appears.
- Step 4** Choose the user or users to unlock, and click **unlock**.
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## Working with Passwords

The WAAS system features two levels of password policy: *standard* and *strong*. By default, the standard password policy is enabled.

To change the password policy, follow these steps:

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- Step 1** From the WAAS Central Manager menu, choose **Devices > device-name** (or **Device Groups > device-group-name**).
- Step 2** Choose **Configure > Security > AAA > Password Policy Settings**.
- Step 3** Check the **Enforce stringent password** check box to enable the strong password policy.
- Step 4** In the **Maximum login retries** field, enter the maximum number of login attempts to be allowed before a user is locked out. The user remains locked out until cleared by the administrator. For information about how to clear a locked-out account, see [Unlocking a User Account](#).
- Step 5** Click **Submit** to save your changes.
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To configure a password policy from the CLI, use the **authentication strict-password-policy** global configuration command.



When the standard password policy is enabled, user passwords must meet the following requirements:

- The password must be 1 to 31 characters long.
- The password can include both uppercase and lowercase letters (A-Z and a-z) and numbers (0 to 9).
- The password cannot contain the characters ` ` , ` ` , ` | ` (apostrophe, double quote, or pipe) or any control characters.

When the strong password policy is enabled, user passwords must meet the following requirements:

- The password must be 8 to 31 characters long. However, the minimum password length can vary depending on the following conditions:
  - The minimum password length must be 10 characters if all characters are the same type of characters: all lowercase letters, all uppercase letters, all numbers, or all special characters
  - The minimum password length must be 9 characters if you use any two different types of characters.
  - The minimum password length must be 8 characters if you use any three different types of characters.
  - The minimum password length must be 7 if you use any four different types of characters.
- The password can include both uppercase and lowercase letters (A-Z and a-z), numbers (0 to 9), and special characters including `~`,` ` , `!`,` ` , `@`,` ` , `#`,` ` , `\$`,` ` , `%`,` ` , `^`,` ` , `&`,` ` , `\*`,` ` , `(`,` ` , `.)`,` ` , `\_`,` ` , `+`,` ` , `-`,` ` , `=`,` ` , `[`,` ` , `]`,` ` , `\\`,` ` , `{`,` ` , `}` , `;`,` ` , `:`,` ` , `<`,` ` , `/`,` ` , `>`.
- The password cannot contain the characters ` ` ' ` ? ` | ` (apostrophe, double quote, or pipe) or any control characters.
- The password cannot contain all the same characters (for example, 99999).
- The password cannot contain consecutive characters (for example, 12345).
- The password cannot be the same as the username.
- Each new password must be different from the previous 12 passwords. User passwords expire within 90 days.
- The password cannot contain dictionary words.

**Note**

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When you enable the strong password policy, existing standard-policy passwords will still work. However, these passwords are subject to expiration under the strong password policy.

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A user account will be locked out after the configured number of failed login attempts (the default is three). The user remains locked-out until cleared by the administrator. For information on how to clear a locked-out account, see [Unlocking a User Account](#).

## Working with Roles

The WAAS Central Manager GUI allows you to create roles for your WAAS system administrators so that each administrator can focus on configuring and managing a specific WAAS service. For example, you can set up a role that allows an administrator to create and modify application policies, but does not allow the administrator to make any other changes to the system.

You can think of a role as a set of enabled services. Make sure you have a clear idea of the services that you want the role to be responsible for because you will select these services when you create the role. After you create a role, you can assign the role to existing accounts, as described later in this chapter.

A role can give read and write or read-only access to each enabled service.

Each user account or group can be assigned to zero or more roles. Roles are not inherited or embedded. The WAAS Central Manager provides a predefined role, known as the admin role. The admin role has access to all services, similar to a CLI user having privilege level 15. Without the admin role, a user will not be able to perform all the administrative tasks.

**Note**


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Assigning the admin role to a user does not change the user privilege level to 15. The user must also have privilege level 15 in order to perform administrative tasks.

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WAAS can dynamically assign a role to users based on their membership in a group as defined on an external TACACS+ or Windows domain authentication server. To take advantage of this feature, you must define user group names on the WAAS Central Manager that match the user groups defined on the external authentication server, and assign a role to the user groups on the WAAS Central Manager. For more information on user groups, see [Working with User Groups](#).

This section contains the following topics:

- [Creating a New Role](#)
- [Assigning a Role to a User Account](#)
- [Modifying and Deleting a Role](#)
- [Viewing Role Settings](#)

## Creating a New Role

To create a new role, follow these steps:

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- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Roles**.  
The Roles listing window appears.
- Step 2** Click the **Create New Role** icon from the taskbar.  
The Creating New Role window appears.
- Step 3** In the Name field, enter the name of the role.  
The name cannot contain characters other than letters, numbers, period, hyphen, underscore, and space.
- Step 4** Check the check box next to the services you want this role to manage.  
The check boxes in this window are tri-state check boxes. When there is a check in a check box, it means that the user will have read and write access to the listed service. Click the check box again to change the indicator to a square partially filling the check box. This indicator means that the user will have read-only access to the service. An empty square signifies no access to the service.  
To expand the listing of services under a category, click the folder icon, and then check the check box next to the services you want to enable for this role. To choose all the services under one category simultaneously, check the check box next to the top-level folder for those services.

[Table 8-4](#) lists the services that you can enable for a role.

**Table 8-4** Description of Cisco WAAS Services

Service	Description
Home	Allows a role to view, configure, and manage the system dashboard and settings in the Configure, Monitor, and Admin menus of the WAAS Central Manager GUI in the Home (global) context. Under each folder you can select the subpages that you want this role to manage.
Device Groups	Allows a role to view, configure, and manage the settings and subpages for the various device groups in the WAAS Central Manager GUI in the device group context.
Devices	Allows a role to view, configure, and manage the settings and subpages for various kinds of devices in the WAAS Central Manager GUI in the device context.
AppNav Clusters	Allows a role to view, configure, and manage the settings and subpages in the WAAS Central Manager GUI in the AppNav Cluster context.
Locations	Allows a role to view, configure, and manage the settings and subpages in the WAAS Central Manager GUI in the Location context.
All Devices	<p>Allows a role to access all the devices in your WAAS network. If this service is not enabled, the user account will only have access to the devices associated with the domain that you assign to the account.</p> <p>Selecting this service allows you to skip the following tasks when setting up a roles-based account:</p> <ul style="list-style-type: none"> <li>• Creating and maintaining a domain that contains all the devices in your network.</li> <li>• Assigning to the account the domain that contains all the devices.</li> </ul>
All Device Groups	<p>Allows a role to access all the device groups in your WAAS network. If this service is not enabled, the user account will only have access to the device groups associated with the domain that you assigned to the account.</p> <p>Selecting this service allows you to skip the following tasks when setting up a roles-based account:</p> <ul style="list-style-type: none"> <li>• Creating and maintaining a domain that contains all the device groups in your network.</li> <li>• Assigning to the account the domain that contains all the device groups.</li> </ul>
All AppNav Clusters	<p>Allows a role to access all the AppNav Clusters in your WAAS network. If this service is not enabled, the user account will only have access to the AppNav Clusters associated with the domain that you assign to the account.</p> <p>Selecting this service allows you to skip the following tasks when setting up a roles-based account:</p> <ul style="list-style-type: none"> <li>• Creating and maintaining a domain that contains all the AppNav Clusters in your network.</li> <li>• Assigning to the account the domain that contains all the AppNav Clusters.</li> </ul>

**Table 8-4** Description of Cisco WAAS Services (continued)

Service	Description
Monitoring API	Allows a role to access monitoring APIs through HTTPS requests. For more information, see <a href="#">Cisco Wide Area Application Services API Reference</a> .
System Status	Allows a role to access the device Alarms panel. For more information about device alarms, see <a href="#">Chapter 15, “Monitoring Your WAAS Network.”</a>

**Step 5** (Optional) Enter comments, if any, about this role in the Comments field.

**Step 6** Click **Submit** to save your settings.

## Assigning a Role to a User Account

After you create a role, you must assign the role to an account (or a user group). If you create an account, but do not assign a role to the account, the user for that account can log in to the WAAS Central Manager GUI but no data will be displayed and the configuration pages will not be available.



### Note

The admin user account, by default, is assigned to the role that allows access to all entities in the system. It is not possible to change the role for this user account.

To assign one or more roles to a user account group, follow these steps:

**Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Users** (or **Admin > AAA > User Groups**).

The User Accounts (or User Groups) window appears with all the configured user accounts listed.

**Step 2** Click the **Edit** icon next to the user account or group for which you want to assign roles.

The Modifying User Account (or Modifying User Group) window appears.

**Step 3** Click the **Role Management** tab.

The Role Management window appears with all the configured role names listed.

**Step 4** Click the **Assign** icon (blue cross mark) that appears next to the role name you want to assign to the selected user account or group.

**Step 5** Click the **Unassign icon** (green tick mark) next to the role name to unassign a previously assigned role.



### Note

Click the **Assign all Roles** icon in the taskbar to assign all the roles in the current window to a user account or group. Alternatively, click the **Remove all Roles** icon to unassign all the roles associated with a user account or group.

**Step 6** Click **Submit**.

The roles assigned to a user account or group will be listed in the Roles section in the Modifying User Account (or Modifying User Group) window.

## Modifying and Deleting a Role



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**Note** The admin user account, by default, is allowed access to all the services, and cannot be modified.

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To modify or delete a role, follow these steps:

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- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Roles**.  
The Roles window appears.
- Step 2** Click the **Edit** icon next to the name of the role you want to change or delete.  
The Modifying Role window appears. You can modify the role as follows:
- To delete this role, click the **Delete** icon in the taskbar.
  - To edit this role, make the necessary changes to the fields, and click **Submit**.
  - To enable a service for this role, check the check box next to the corresponding service. To disable a previously selected service, uncheck the check box next to the service you want to disable. To choose all the services under one category simultaneously, check the check box next to the top-level service.
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## Viewing Role Settings

You might want to view role settings before assigning a role to a particular user account or group.

To view role settings, follow these steps:

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- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Users** (or **Admin > AAA > User Groups**).  
The User Accounts (or User Groups) window appears with all the configured user accounts or groups listed.
- Step 2** Click the **Edit** icon next to the user account or group that you want to view.  
The Modifying User Account (or Modifying User Group) window appears.
- Step 3** Click the **Role Management** tab.  
The Role Management window appears.
- Step 4** Click the **View** icon next to the role that you want to view.  
The Viewing Role window appears, which displays the role name, comments about this role, and the services that are enabled for this role.
- Step 5** After you have finished viewing the settings, click **Close**.
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## Working with Domains

A WAAS *domain* is a collection of device groups or WAEs that make up the WAAS network. A role defines which services a user can manage in the WAAS network, but a domain defines the device groups, WAEs, or file server dynamic shares that are accessible and configurable by the user.



**Note**

A WAAS domain is not the same as a DNS domain or Windows domain.

When you create a domain, you choose the type of entities that can be associated with the domain. Entity types include Devices, Device Groups, or None (for file server dynamic shares). For file server dynamic shares, the dynamic shares are assigned in the dynamic shares configuration.

WAAS can dynamically assign a domain to a user based on their membership in a group as defined on an external TACACS+ or Windows domain authentication server. To take advantage of this feature, you must define user group names on the WAAS Central Manager that match the user groups defined on the external authentication server and you must assign a domain to the user groups on the WAAS Central Manager. For more information on user groups, see [Working with User Groups](#).

This section contains the following topics:

- [Creating a New Domain](#)
- [Adding an Entity to a Domain](#)
- [Assigning a Domain to a User Account](#)
- [Modifying and Deleting a Domain](#)
- [Viewing Domains](#)

## Creating a New Domain

To create a new domain, follow these steps:

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- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Domains**.  
The Domains listing window appears.
- Step 2** Click the **Create New Domain** icon in the taskbar.  
The Creating New Domain window appears.
- Step 3** In the Name field, enter the name of the domain.
- Step 4** From the Entity Type drop-down list, choose the entity type (Devices, Device Groups, or None) that you want to assign to the domain.



**Note**

Choose **None** if this domain is used for a file server dynamic share.

- Step 5** (Optional) In the Comments field, enter comments, if any, about this domain.
- Step 6** Click **Submit**.

If the entity type you chose has not been assigned to the domain, then a message indicating that the entity type has not been assigned appears.

**Step 7** Assign an entity to this domain, as described in [Adding an Entity to a Domain](#). If you chose None for the Entity Type, do not assign an entity to the domain, instead, the entity is used in a dynamic share configuration.

For a domain used in a dynamic share configuration, assign the domain to each user having to edit the dynamic share configuration, as described in [Assigning a Domain to a User Account](#). Only users assigned to the domain will be able to edit the dynamic share configuration.

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## Adding an Entity to a Domain

After you have created a domain, you can assign an entity to the domain. An entity is either a collection of devices or a collection of device groups. You do not have to assign an entity to a domain that is used for a file server dynamic share, where the entity type is None.

To add an entity to a domain, follow these steps:

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**Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Domains**.

**Step 2** Click the **Edit** icon next to the domain that you want to modify.

**Step 3** Click the **Entity Management** tab.

The *Entity\_name* Assignments for Domain window for the current domain appears.

You can filter your view of the items in the list. Filtering enables you to find items matching the criteria that you set, in the list.

You can add or remove entities from the domain as follows:

- To add an entity to the current domain, click the **Assign** icon (blue cross mark) next to the entity that you want to add. A green tick mark appears next to the selected entity when you submit the settings. Alternatively, to add all the entities to the selected domain, click the **Assign all** icon in the taskbar.
- To remove an entity from the current domain, click the **Unassign** icon (green tick mark) next to the name of the entity that you want to remove from the domain. A blue cross mark appears next to the unassigned entity after you submit the settings.

Alternatively, to remove all the entities from the domain, click the **Remove all** icon in the taskbar.

**Step 4** Click **Submit**.

Green check marks appear next to the entities that you assigned to the domain.

**Step 5** Assign the domain to an account, as described in [Assigning a Domain to a User Account](#).

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## Assigning a Domain to a User Account

Assigning a domain to an account or user group specifies the entities (devices or device groups) or file server dynamic shares that the account or user group can access.

When working with a domain of type None that is used for dynamic file shares, you will need a user account for every user having to edit the dynamic share configuration. If you are using external authentication of users on TACACS+ or Windows domain servers, you can use user groups to more easily assign WAAS domains to users. For more information, see [Working with User Groups](#).

**Note**

If the role that you assigned to an account or group has the All Devices or All Device Groups service enabled, you do not have to assign a domain to the account or group. The account or group can automatically access all the devices or device groups, or both, in the WAAS system. For more information, see [Table 8-4](#).

To assign a domain to a user account or group, follow these steps:

- 
- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Users** (or **Admin > AAA > User Groups**).
- The User Accounts (or User Groups) window appears with all the configured user accounts or groups listed.
- Step 2** Click the **Edit** icon next to the user account or group for which you want to assign domains.
- The Modifying User Account (or Modifying User Group) window appears.
- Step 3** Click the **Domain Management** tab.
- The Domain Management window appears with all configured domains and their entity types listed.
- Step 4** Click the **Assign** icon (blue cross mark) that appears next to the domain name that you want to assign to the selected user account or group.
- To dissociate a domain from the user account or group, click the **Unassign** (green tick mark) next to the domain name.

**Note**

To assign all the domains in the current window to a user account or group, click the **Assign all Domains** icon in the taskbar. Alternatively, to unassign all the domains associated with a user account or group, click the **Remove all Domains** icon.

- Step 5** Click **Submit**.
- The domains assigned to a user account or group are listed in the Domains section in the Modifying User Account (or Modifying User Group) window.
- 

## Modifying and Deleting a Domain

To modify or delete an existing domain, follow these steps:

- 
- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Domains**.
- The Domains window appears.
- Step 2** Click the **Edit** icon next to the domain that you want to modify.
- The Modifying Domain window appears. You can modify the domain as follows:
- To delete the domain, click the **Delete** icon in the taskbar and then click **OK** to confirm the deletion.
  - To modify a domain, make the necessary changes to the fields, and click **Submit**.
-



## Viewing Domains

To view the domain configuration for a particular user account or group, follow these steps:

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- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > Users** (or **Admin > AAA > User Groups**).
- The User Accounts (or User Groups) window appears with all the configured user accounts or groups listed.
- Step 2** Click the **Edit** icon next to the user account or group for which you want to view the domain configuration.
- The Modifying User Account (or Modifying User Group) window appears.
- Step 3** Click the **Domain Management** tab.
- The Domain Management window appears.
- Step 4** Click the **View** (eyeglass) icon next to the domain name to view details about the domain.
- The Viewing Domain window appears and displays the domain name, entity type, comments about this domain, and entities assigned to this domain.
- Step 5** After you have finished viewing the settings, click **Close**.
- 

## Working with User Groups

If you are using external authentication of users on TACACS+ or Windows domain servers (not RADIUS servers), you may want to create user groups. By creating user group names that match the user groups that you have defined on the external authentication server, WAAS can dynamically assign roles and WAAS domains to users, based on their membership in a group as defined on the external authentication server. You do not have to define a role or WAAS domain for each user individually; instead, you define roles and WAAS domains for the user groups, and a user is assigned the roles and WAAS domains that are defined for the groups to which they belong.



### Note

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The dynamic assignment of roles and WAAS domains based on external user groups requires a TACACS+ server that supports shell custom attributes. For example, these are supported in Cisco ACS (Access Control Server) 4.x and 5.1 and later.

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WAAS reads group membership information for each user from the external authentication server.

This section contains the following topics:

- [Creating a New User Group](#)
- [Assigning Roles to a User Group](#)
- [Assigning a Domain to a User Group](#)
- [Modifying and Deleting a User Group](#)
- [Viewing User Groups](#)

## Creating a New User Group


To create a new user group, follow these steps:

- 
- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > User Groups**.  
The User Groups listing window appears.
- Step 2** Click the **Create New User Groups** icon in the taskbar.  
The Creating New User Group window appears.
- Step 3** In the Name field, enter the name of the user group.  
Ensure that the name matches the name of a user group defined on the external authentication server that you are using.  
Name matching is case sensitive. A user group name cannot contain the following characters: # + " < > , (comma). A user group name cannot consist solely of numbers, periods (.), or spaces. Any leading periods, asterisks (\*), or spaces are cropped.
- Step 4** (Optional) In the Comments field, enter comments, if any, about this user group.
- Step 5** Click **Submit**.
- Step 6** Assign a role or WAAS domain to this user group, as described in [Assigning Roles to a User Group](#) and [Assigning a Domain to a User Group](#).
- 

## Assigning Roles to a User Group

After you create a user group, you have to assign a role to the group. If you create a user group but do not assign a role to the group, the users in that group can log in to the WAAS Central Manager GUI, but no data will be displayed and the configuration pages will not be available.

To assign one or more roles to a user group, follow these steps:

- 
- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > User Groups**.  
The User Groups window appears with all the configured user groups listed.
- Step 2** Click the **Edit** icon next to the user group for which you want to assign roles.  
The Modifying User Group window appears.
- Step 3** Click the **Role Management** tab.  
The Role Management for User Group window appears with all the configured role names listed.
- Step 4** Click the **Assign** icon (blue cross mark) that appears next to the role name that you want to assign to the selected user group.
- Step 5** Click the **Unassign** (green tick mark) next to the role name to unassign a previously assigned user group role.
-  **Note** Click the **Assign all Roles** icon in the taskbar to assign all the roles in the current window to a user group. Alternatively, click the **Remove all Roles** icon to unassign all the roles associated with a user group.
- 
- Step 6** Click **Submit**.

The roles assigned to a user group will be listed in the Roles section in the Modifying User Group window.

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## Assigning a Domain to a User Group

Assigning a WAAS domain to a user group specifies the entities (devices or device groups) that the users who are members of that user group can manage.

**Note**

If the role that you assigned to a user group has the All Devices or All Device Groups service enabled, you do not have to assign a domain to the user group. The users in that group can automatically access all the devices, or device groups, or both, in the WAAS system. For more information, see [Table 8-4](#).

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To assign a domain to a user group, follow these steps:

- 
- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > User Groups**.  
The User Groups window appears with all the configured user groups listed.
- Step 2** Click the **Edit** icon next to the user group for which you want to assign domains.  
The Modifying User Group window appears.
- Step 3** Choose the **Domain Management** tab.  
The Domain Management for User Group window appears with all the configured domains and their entity types listed.
- Step 4** Click the **Assign** icon (blue cross mark) that appears next to the domain name that you want to assign to the selected user group.  
To dissociate a domain from the user group, click the **Unassign** (green tick mark) next to the domain name.

**Note**

To assign all the domains in the current window to a user group, click the **Assign all Domains** icon in the taskbar. Alternatively, to unassign all the domains associated with a user group, click the **Remove all Domains** icon.

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- Step 5** Click **Submit**.  
The domains assigned to a user group are listed in the Domains section in the Modifying User Group window.
- 

## Modifying and Deleting a User Group

To modify an existing user group, follow these steps:

- 
- Step 1** From the WAAS Central Manager menu, choose **Admin > AAA > User Groups**.  
The User Groups window appears.
- Step 2** Click the **Edit** icon next to the user group that you want to modify.

The Modifying User Group window appears. You can delete or edit user groups as follows:



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**Note** This window can be accessed only by users with administrator-level privileges.

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- To delete the user group, click the **Delete** icon in the taskbar, and then click **OK** to confirm the deletion.
  - To edit the user group, make the necessary changes to the name and comment information, and click **Submit**.
  - To change the roles assigned to the user group, click the **Role Management** tab, make the necessary changes to the roles, and click **Submit**.
  - To change the domains assigned to the user group, click the **Domain Management** tab, make the necessary changes to the domains, and click **Submit**.
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## Viewing User Groups

To view all the user groups, choose **Admin > AAA > User Groups** from the WAAS Central Manager GUI. The User Groups window displays all the user groups in the management database. From this window, you can also create groups, as described in [Creating a New User Group](#).