

User Accounts for FMC

The FMC includes default **admin** accounts for web and CLI access. This chapter discusses how to create custom user accounts. See Logging into the Firepower System for detailed information about logging into the FMC with a user account.

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About User Accounts for FMC

You can add custom user accounts on the FMC, either as internal users or as external users on an LDAP or RADIUS server. The FMC maintains separate user accounts from managed devices. For example, when you add a user to the FMC, that user only has access to the FMC; you cannot then use that username to log directly into a managed device. You must separately add a user on the managed device.

Internal and External Users

The FMC supports two types of users:

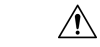
- Internal user—The FMC checks a local database for user authentication. For more information about internal users, see Add an Internal User, on page 7.
- External user—If the user is not present in the local database, the system queries an external LDAP or RADIUS authentication server. For more information about external users, see Configure External Authentication, on page 9 .

Web Interface and CLI Access

The FMC has a web interface, CLI (accessible from the console (either the serial port or the keyboard and monitor) or using SSH to the management interface), and Linux shell. For detailed information about the management UIs, see Firepower System User Interfaces.

See the following information about FMC user types, and which UI they can access:

- admin user—The FMC supports two different internal **admin** users: one for the web interface, and another with CLI access. The system initialization process synchronizes the passwords for these two **admin** accounts so they start out the same, but they are tracked by different internal mechanisms and may diverge after initial configuration. See the *Getting Started Guide* for your model for more information on system initialization. (To change the password for the web interface **admin**, use **System** > **Users** > **Users**. To change the password for the CLI **admin**, use the FMC CLI command **configure password**.)
- Internal users—Internal users added in the web interface have web interface access only.
- External users—External users have web interface access, and you can optionally configure CLI access.



Caution CLI users can access the Linux shell using the **expert** command. We strongly recommend that you do not use the Linux shell unless directed by Cisco TAC or explicit instructions in the FMC documentation. CLI users can obtain `sudoers` privileges in the Linux shell, which can present a security risk. For system security reasons, we strongly recommend that you:

- Restrict the list of external users with CLI access appropriately.
- Do not add users directly in the Linux shell; only use the procedures in this chapter.

User Roles

CLI User Role

CLI external users on the FMC do not have a user role; they can use all available commands.

Web Interface User Roles

User privileges are based on the assigned user role. For example, you can grant analysts predefined roles such as Security Analyst and Discovery Admin and reserve the Administrator role for the security administrator managing the device. You can also create custom user roles with access privileges tailored to your organization's needs.

The FMC includes the following predefined user roles:



Note Predefined user roles that the system considers read-only for the purposes of concurrent session limits, are labeled with **(Read Only)** in the role name under **System** > **Users** > **Users** and **System** > **Users** > **User Roles**. If a user role does not contain **(Read Only)** in the role name, the system considers the role to be read/write. For more information on concurrent session limits, see Global User Configuration Settings.

Access Admin

Provides access to access control policy and associated features in the **Policies** menu. Access Admins cannot deploy policies.

Administrator

Administrators have access to everything in the product; their sessions present a higher security risk if compromised, so you cannot make them exempt from login session timeouts.

You should limit use of the Administrator role for security reasons.

Discovery Admin

Provides access to network discovery, application detection, and correlation features in the **Policies** menu. Discovery Admins cannot deploy policies.

External Database User (Read Only)

Provides read-only access to the Firepower System database using an application that supports JDBC SSL connections. For the third-party application to authenticate to the Firepower System appliance, you must enable database access in the system settings. On the web interface, External Database Users have access only to online help-related options in the **Help** menu. Because this role's function does not involve the web interface, access is provided only for ease of support and password changes.

Intrusion Admin

Provides access to all intrusion policy, intrusion rule, and network analysis policy features in the **Policies** and **Objects** menus. Intrusion Admins cannot deploy policies.

Maintenance User

Provides access to monitoring and maintenance features. Maintenance Users have access to maintenance-related options in the **Health** and **System** menus.

Network Admin

Provides access to access control, SSL inspection, DNS policy, and identity policy features in the **Policies** menu, as well as device configuration features in the **Devices** menus. Network Admins can deploy configuration changes to devices.

Security Analyst

Provides access to security event analysis features, and read-only access to health events, in the **Overview**, **Analysis**, **Health**, and **System** menus.

Security Analyst (Read Only)

Provides read-only access to security event analysis features and health event features in the **Overview**, **Analysis**, **Health**, and **System** menus.

User with this role can also:

- From the health monitor pages for specific devices, generate and download troubleshooting files.
- Under user preferences, set file download preferences.
- Under user preferences, set the default time window for event views (with the exception of the **Audit Log Time Window**).

Security Approver

Provides limited access to access control and associated policies and network discovery policies in the **Policies** menu. Security Approvers can view and deploy these policies, but cannot make policy changes.

Threat Intelligence Director (TID) User

Provides access to Threat Intelligence Director configurations in the **Intelligence** menu. Threat Intelligence Director (TID) Users can view and configure TID.

User Passwords

The following rules apply to passwords for internal user accounts on the FMC, with Lights-Out Management (LOM) enabled or disabled. Different password requirements apply for externally authenticated accounts or in systems with security certifications compliance enabled. See Configure External Authentication and Security Certifications Compliance for more information.

During FMC initial configuration, the system requires the **admin** user to set the account password to comply with strong password requirements for LOM-enabled users as described in the table below. At this time the system synchronizes the passwords for the web interface **admin** and the CLI access **admin**. After initial configuation, the web interface **admin** can remove the strong password requirement, but the CLI access **admin** must always comply with strong password requirements.

	LOM Not Enabled	LOM Enabled, admin user
Password Strength Checking On	Passwords must include: • At least eight characters, or the number of characters configured for the user by the administrator, whichever is greater. • No more than two sequentially repeating characters • At least one lower case letter • At least one upper case letter • At least one digit • At least one special character such as ! @ # * - _ + The system checks passwords against a special dictionary containing not only many English dictionary words, but also other character strings that could be easily cracked with common password hacking techniques.	Passwords must include: • Between eight and twenty characters (On MC 1000, MC 2500, and MC 4500 the upper limit is fourteen characters rather than twenty.) • No more than two sequentially repeating characters • At least one lower case letter • At least one upper case letter • At least one digit • At least one special character such as ! @ # * - _ + The rules for special characters vary between different series of physical FMCs. We recommend restricting your choice of special characters to those listed in the final bullet above. Do not include the user name in the password. The system checks passwords against a special dictionary containing not only many English dictionary words, but also other character strings that could be easily cracked with common password hacking techniques.

	LOM Not Enabled	LOM Enabled, admin user

Password Strength Checking Off	Passwords must include the minimum number of characters configured for the user by the administrator. (See Add an Internal User, on page 7 for more information.)	Passwords must include:
		• Between eight and twenty characters (On MC 1000, MC 2500, and MC 4500 the upper limit is fourteen characters rather than twenty.)
		• Characters from at least three of the following four categories:
		  • Uppercase letters
		  • Lowercase letters
		  • Digits
		  • Special characters such as ! @ # * - _ +
		
		The rules for special characters vary between different series of physical FMCs. We recommend restricting your choice of special characters to those listed in the final bullet above.
		
		Do not include the user name in the password.

Guidelines and Limitations for User Accounts for FMC

- The FMC includes an **admin** user as a local user account for all forms of access; you cannot delete the **admin** user. The default initial password is **Admin123**; the system forces you to change this during the initialization process. See the *Getting Started Guide* for your model for more information about system initialization.
- By default the following settings apply to all user accounts on the FMC:
  - There are no limits on password reuse.
  - The system does not track successful logins.
  - The system does not enforce a timed temporary lockout for users who enter incorrect login credentials.
  - There are no user-defined limits on the number of read-only and read/write sessions that can be open at the same time.

  You can change these settings for all users as a system configuration. (**System** > **Configuration** > **User Configuration**) See Global User Configuration Settings.
- Ensure that you follow the principles of least privilege when assigning default access roles to users at initial setup. When a user first logs in to the system with their credentials, their account will be assigned this default access role. We recommend that the default access role be the lowest possible privilege

required for anyone to log in to the system. For example, common users can be given the Security Analyst (Read-Only) role as the default access role, and administrators can be added to a separate administrator's group to give them full administrator rights. If you do not follow the principles of least privilege while assigning the default access role, users may be assigned an unintended privilege level on subsequent logins. This could result in the users having privileges beyond their required access role. Note that this guideline applies to all users - internal, external, or CAC users.

If a user who has logged in with the default access role needs a temporary elevation of their privileges, a user with administrative privileges can temporarily provide that user the required higher level of access by assigning them a role with higher privilege. This privilege will be revoked after 24 hours of inactivity, and the user will return to their default access role.

If a user needs a permanent access role reassignment to a higher privilege level, such as System Admin, use the Group Controlled Access Roles method to provide admin access to the user. This method ensures that the provided access role persists beyond 24 hours and users will have the correct privilege level as per the group assignment. For more information on configuring Group Controlled Access Roles, see the Step 13 section.

Requirements and Prerequisites for User Accounts for FMC

Model Support

FMC

Supported Domains

Any

User Roles

- Any user with the Admin role.
- Configure Common Access Card Authentication with LDAP, on page 23 also supports the Network Admin role.

Add an Internal User

This procedure describes how to add custom internal user accounts for the FMC.

The **System** > **Users** > **Users** shows both internal users that you added manually and external users that were added automatically when a user logged in with LDAP or RADIUS authentication. For external users, you can modify the user role on this screen if you assign a role with higher privileges; you cannot modify the password settings.

In a multidomain deployment on the FMC, users are only visible in the domain in which they are created. Note that if you add a user in the Global domain, but then assign a user role for a leaf domain, then that user still shows on the Global **Users** page where it was added, even though the user "belongs" to a leaf domain.

If you enable security certifications compliance or Lights-Out Management (LOM) on a device, different password restrictions apply. For more information on security certifications compliance, see Security Certifications Compliance.

When you add a user in a leaf domain, that user is not visible from the global domain.



Note Avoid having multiple Admin users simultaneously creating new users on the FMC, as this may cause an error resulting from a conflict in user database access.

Step 1 Choose **System** > **Users**.

Step 2 Click **Create User**.

Step 3 Enter a **User Name**.

The username must comply with the following restrictions:

- Maximum 32 alphanumeric characters, plus hyphen (-), underscore (_) and period (.).
- Letters may be upper or lower case.
- Cannot include any punctuation or special characters other than hyphen (-), underscore (_) and period (.).

Step 4 **Real Name**: Enter descriptive information to identify the user or department to whom the account belongs.

Step 5 The **Use External Authentication Method** checkbox is checked for users that were added automatically when they logged in with LDAP or RADIUS. You do not need to pre-configure external users, so you can ignore this field. For an external user, you can revert this user to an internal user by *unchecking* the check box.

Step 6 Enter values in the **Password** and **Confirm Password** fields.

The values must conform to the password options you set for this user.

Step 7 Set the **Maximum Number of Failed Logins**.

Enter an integer, without spaces, that determines the maximum number of times each user can try to log in after a failed login attempt before the account is locked. The default setting is 5 tries; use `0` to allow an unlimited number of failed logins. The **admin** account is exempt from being locked out after a maximum number of failed logins unless you enabled security certification compliance.

Step 8 Set the **Minimum Password Length**.

Enter an integer, without spaces, that determines the minimum required length, in characters, of a user's password. The default setting is `8`. A value of `0` indicates that no minimum length is required.

Step 9 Set the **Days Until Password Expiration**.

Enter the number of days after which the user's password expires. The default setting is `0`, which indicates that the password never expires. If you change from the default, then the **Password Lifetime** column of the **Users** list indicates the days remaining on each user's password.

Step 10 Set the **Days Before Password Expiration Warning**.

Enter the number of warning days users have to change their password before their password actually expires. The default setting is `0` days.

Step 11 Set user **Options**.

- **Force Password Reset on Login**—Forces users to change their passwords the next time they log in.

- **Check Password Strength**—Requires strong passwords. When password strength checking is enabled, passwords must comply with the strong password requirements described in User Passwords, on page 4.
- **Exempt from Browser Session Timeout**—Exempts a user's login sessions from termination due to inactivity. Users with the Administrator role cannot be made exempt.

Step 12 In the **User Role Configuration** area, assign user role(s). For more information about user roles, see Customize User Roles for the Web Interface, on page 24.

For external users, if the user role is assigned through group membership (LDAP), or based on a user attribute (RADIUS), you cannot remove the minimum access rights. You can, however, assign additional rights. If the user role is the default user role that you set on the device, then you can modify the role in the user account without limitations. When you modify the user role, the **Authentication Method** column on the **Users** tab provides a status of **External - Locally Modified**.

The options you see depend on whether the device is in a single domain or multidomain deployment.

- Single domain—Check the user role(s) you want to assign the user.
- Multidomain—In a multidomain deployment, you can create user accounts in any domain in which you have been assigned Administrator access. Users can have different privileges in each domain. You can assign user roles in both ancestor and descendant domains. For example, you can assign read-only privileges to a user in the Global domain, but Administrator privileges in a descendant domain. See the following steps:
  a. Click **Add Domain**.
  b. Choose a domain from the **Domain** drop-down list.
  c. Check the user roles you want to assign the user.
  d. Click **Save**.

Step 13 (Optional, for physical FMCs only.) If you have assigned the user the Administrator role, the **Administrator Options** appear. You can select **Allow Lights-Out Management Access** to grant Lights-Out Management access to the user. See Lights-Out Management Overview for more information about Lights-Out Management.

Step 14 Click **Save**.

Configure External Authentication

To enable external authentication, you need to add one or more external authentication objects.

About External Authentication

When you enable external authentication, the FMC verifies the user credentials with an LDAP or RADIUS server as specified in an *external authentication object*.

You can configure multiple external authentication objects for web interface access. For example, if you have 5 external authentication objects, users from any of them can be authenticated to access the web interface. You can use only one external authentication object for CLI access. If you have more than one external authentication object enabled, then users can authenticate using only the first object in the list.

External authentication objects can be used by the FMC and Firepower Threat Defense devices. You can share the same object between the different appliance/device types, or create separate objects.



Note The timeout range is different for the FTD and the FMC, so if you share an object, be sure not to exceed the FTD's smaller timeout range (1-30 seconds for LDAP, and 1-300 seconds for RADIUS). If you set the timeout to a higher value, the FTD external authentication configuration will not work..

For the FMC, enable the external authentication objects directly on the **System** > **Users** > **External Authentication** tab; this setting only affects FMC usage, and it does not need to be enabled on this tab for managed device usage. For Firepower Threat Defense devices, you must enable the external authentication object in the platform settings that you deploy to the devices.

Web interface users are defined separately from CLI users in the external authentication object. For CLI users on RADIUS, you must pre-configure the list of RADIUS usernames in the external authentication object. For LDAP, you can specify a filter to match CLI users on the LDAP server.

You cannot use an LDAP object for CLI access that is also configured for CAC authentication.



Note Users with CLI access can gain Linux shell access with the **expert** command. Linux shell users can obtain root privileges, which can present a security risk. Make sure that you:

- Restrict the list of users with CLI or Linux shell access.
- Do not create Linux shell users.

About LDAP

The Lightweight Directory Access Protocol (LDAP) allows you to set up a directory on your network that organizes objects, such as user credentials, in a centralized location. Multiple applications can then access those credentials and the information used to describe them. If you ever need to change a user's credentials, you can change them in one place.

Microsoft has announced that Active Directory servers will start enforcing LDAP binding and LDAP signing in 2020. Microsoft is making these a requirement because when using default settings, an elevation of privilege vulnerability exists in Microsoft Windows that could allow a man-in-the-middle attacker to successfully forward an authentication request to a Windows LDAP server. For more information, see 2020 LDAP channel binding and LDAP signing requirement for Windows on the Microsoft support site.

If you have not done so already, we recommend you start using TLS/SSL encryption to authenticate with an Active Directory server.

About RADIUS

Remote Authentication Dial In User Service (RADIUS) is an authentication protocol used to authenticate, authorize, and account for user access to network resources. You can create an authentication object for any RADIUS server that conforms to RFC 2865.

Firepower devices support the use of SecurID tokens. When you configure authentication by a server using SecurID, users authenticated against that server append the SecurID token to the end of their SecurID PIN

and use that as their password when they log in. You do not need to configure anything extra on the Firepower device to support SecurID.

Add an LDAP External Authentication Object for FMC

Add an LDAP server to support external users for device management.

In a multidomain deployment, external authentication objects are only available in the domain in which they are created.

Before you begin

- You must specify DNS server(s) for domain name lookup on your device. Even if you specify an IP address and not a hostname for the LDAP server on this procedure, the LDAP server may return a URI for authentication that can include a hostname. A DNS lookup is required to resolve the hostname. See Modify FMC Management Interfaces to add DNS servers.
- If you are configuring an LDAP authentication object for use with CAC authentication, do not remove the CAC inserted in your computer. You must have a CAC inserted at all times after enabling user certificates.

Step 1 Choose **System** > **Users**.

Step 2 Click the **External Authentication** tab.

Step 3 Click **Add External Authentication Object**.

Step 4 Set the **Authentication Method** to **LDAP**.

Step 5 (Optional) Check the check box for **CAC** if you plan to use this authentication object for CAC authentication and authorization.

You must also follow the procedure in Configure Common Access Card Authentication with LDAP, on page 23 to fully configure CAC authentication and authorization. You cannot use this object for CLI users.

Step 6 Enter a **Name** and optional **Description**.

Step 7 Choose a **Server Type** from the drop-down list.

Tip If you click **Set Defaults**, the device populates the **User Name Template**, **UI Access Attribute**, **Shell Access Attribute**, **Group Member Attribute**, and **Group Member URL Attribute** fields with default values for the server type.

Step 8 For the **Primary Server**, enter a **Host Name/IP Address**.

If you are using a certificate to connect via TLS or SSL, the host name in the certificate must match the host name used in this field. In addition, IPv6 addresses are not supported for encrypted connections.

Step 9 (Optional) Change the **Port** from the default.

Step 10 (Optional) Enter the **Backup Server** parameters.

Step 11 Enter **LDAP-Specific Parameters**.

a) Enter the **Base DN** for the LDAP directory you want to access. For example, to authenticate names in the Security organization at the Example company, enter `ou=security,dc=example,dc=com`. Alternatively click **Fetch DNs**, and choose the appropriate base distinguished name from the drop-down list.

b) (Optional) Enter the **Base Filter**. For example, if the user objects in a directory tree have a `physicalDeliveryOfficeName` attribute and users in the New York office have an attribute value of `NewYork` for that attribute, to retrieve only users in the New York office, enter `(physicalDeliveryOfficeName=NewYork)`.

If you are using CAC authentication, to filter only active user accounts (excluding the disabled user accounts), enter `(!(userAccountControl:1.2.840.113556.1.4.803:=2))`. This criteria retrieves user accounts within AD belonging to `ldpgrp` group and with `userAccountControl` attribute value that is not `2` (disabled).

c) Enter a **User Name** for a user who has sufficient credentials to browse the LDAP server. For example, if you are connecting to an OpenLDAP server where user objects have a `uid` attribute, and the object for the administrator in the Security division at your example company has a `uid` value of `NetworkAdmin`, you might enter `uid=NetworkAdmin,ou=security,dc=example,dc=com`.

d) Enter the user password in the **Password** and the **Confirm Password** fields.

e) (Optional) Click **Show Advanced Options** to configure the following advanced options.

- **Encryption**—Click **None**, **TLS**, or **SSL**.

  If you change the encryption method after specifying a port, you reset the port to the default value for that method. For **None** or **TLS**, the port resets to the default value of 389. If you choose SSL encryption, the port resets to 636.

- **SSL Certificate Upload Path**—For SSL or TLS encryption, you must choose a certificate by clicking **Choose File**.

  If you previously uploaded a certificate and want to replace it, upload the new certificate and redeploy the configuration to your devices to copy over the new certificate.

  Note TLS encryption requires a certificate on all platforms. We recommend that you *always* upload a certificate for SSL to prevent man-in-the-middle attacks.

- **User Name Template**—Provide a template that corresponds with your **UI Access Attribute**. For example, to authenticate all users who work in the Security organization of the Example company by connecting to an OpenLDAP server where the UI access attribute is `uid`, you might enter `uid=%s,ou=security,dc=example,dc=com` in the **User Name Template** field. For a Microsoft Active Directory server, you could enter `%s@security.example.com`.

  This field is required for CAC authentication.

- **Timeout**—Enter the number of seconds before rolling over to the backup connection, between 1 and 1024. The default is 30.

  Note The timeout range is different for the FTD and the FMC, so if you share an object, be sure not to exceed the FTD's smaller timeout range (1-30 seconds). If you set the timeout to a higher value, the FTD LDAP configuration will not work.

Step 12 (Optional) Configure **Attribute Mapping** to retrieve users based on an attribute.

- Enter a **UI Access Attribute**, or click **Fetch Attrs** to retrieve a list of available attributes. For example, on a Microsoft Active Directory Server, you may want to use the UI access attribute to retrieve users, because there may not be a `uid` attribute on Active Directory Server user objects. Instead, you can search the `userPrincipalName` attribute by typing `userPrincipalName` in the **UI Access Attribute** field.

  This field is required for CAC authentication.

- Set the **Shell Access Attribute** if you want to use a shell access attribute other than the user distinguished type. For example, on a Microsoft Active Directory Server, use the `sAMAccountName` shell access attribute to retrieve CLI access users by typing `sAMAccountName`.

Step 13 (Optional) Configure **Group Controlled Access Roles**.

If you do not configure a user's privileges using group-controlled access roles, a user has only the privileges granted by default in the external authentication policy.

a) (Optional) In the fields that correspond to user roles, enter the distinguished name for the LDAP groups that contain users who should be assigned to those roles.

Any group you reference must exist on the LDAP server. You can reference static LDAP groups or dynamic LDAP groups. Static LDAP groups are groups where membership is determined by group object attributes that point to specific users, and dynamic LDAP groups are groups where membership is determined by creating an LDAP search that retrieves group users based on user object attributes. Group access rights for a role only affect users who are members of the group.

If you use a dynamic group, the LDAP query is used exactly as it is configured on the LDAP server. For this reason, the Firepower device limits the number of recursions of a search to 4 to prevent search syntax errors from causing infinite loops.

Example:

Enter the following in the **Administrator** field to authenticate names in the information technology organization at the Example company:

```
cn=itgroup,ou=groups, dc=example,dc=com
```

b) Choose a **Default User Role** for users that do not belong to any of the specified groups.

c) If you use static groups, enter a **Group Member Attribute**.

Example:

If the `member` attribute is used to indicate membership in the static group for default Security Analyst access, enter `member`.

d) If you use dynamic groups, enter a **Group Member URL Attribute**.

Example:

If the `memberURL` attribute contains the LDAP search that retrieves members for the dynamic group you specified for default Admin access, enter `memberURL`.

If you change a user's role, you must save/deploy the changed external authentication object and also remove the user from the **Users** screen. The user will be re-added automatically the next time they log in.

Step 14 (Optional) Set the **Shell Access Filter** to allow CLI users.

To prevent LDAP authentication of CLI access, leave this field blank. To specify CLI users, choose one of the following methods:

- To use the same filter you specified when configuring authentication settings, choose **Same as Base Filter**.
- To retrieve administrative user entries based on attribute value, enter the attribute name, a comparison operator, and the attribute value you want to use as a filter, enclosed in parentheses. For example, if all network administrators have a `manager` attribute which has an attribute value of `shell`, you can set a base filter of `(manager=shell)`.

The usernames must be Linux-valid:

- Maximum 32 alphanumeric characters, plus hyphen (-) and underscore (_)
- All lowercase
- Cannot start with hyphen (-); cannot be all numbers; cannot include a period (.), at sign (@), or slash (/)

Note Users with CLI access can gain Linux shell access with the **expert** command. Linux shell users can obtain root privileges, which can present a security risk. Make sure that you restrict the list of users with CLI or Linux shell access.

Note Do not create any internal users that have the same user name as users included in the **Shell Access Filter**. The only internal FMC user should be **admin**; do not include an **admin** user in the **Shell Access Filter**.

Step 15 (Optional) Click **Test** to test connectivity to the LDAP server.

The test output lists valid and invalid user names. Valid user names are unique, and can include underscores (_), periods (.), hyphens (-), and alphanumeric characters. Note that testing the connection to servers with more than 1000 users only returns 1000 users because of UI page size limitations. If the test fails, see Troubleshooting LDAP Authentication Connections, on page 29.

Step 16 (Optional) You can also enter **Additional Test Parameters** to test user credentials for a user who should be able to authenticate: enter a **User Name** `uid` and **Password**, and then click **Test**.

If you are connecting to a Microsoft Active Directory Server and supplied a UI access attribute in place of `uid`, use the value for that attribute as the user name. You can also specify a fully qualified distinguished name for the user.

Tip If you mistype the name or password of the test user, the test fails even if the server configuration is correct. To verify that the server configuration is correct, click **Test** without entering user information in the **Additional Test Parameters** field first. If that succeeds, supply a user name and password to test with the specific user.

Example:

To test if you can retrieve the `JSmith` user credentials at the Example company, enter `JSmith` and the correct password.

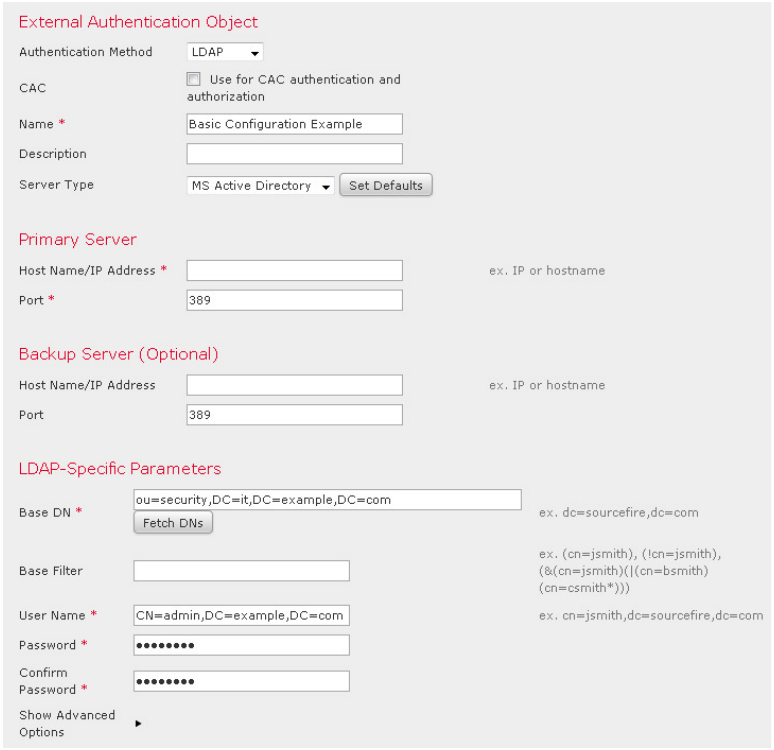
Step 17 Click **Save**.

Step 18 Enable use of this server. See Enable External Authentication for Users on the FMC, on page 22.

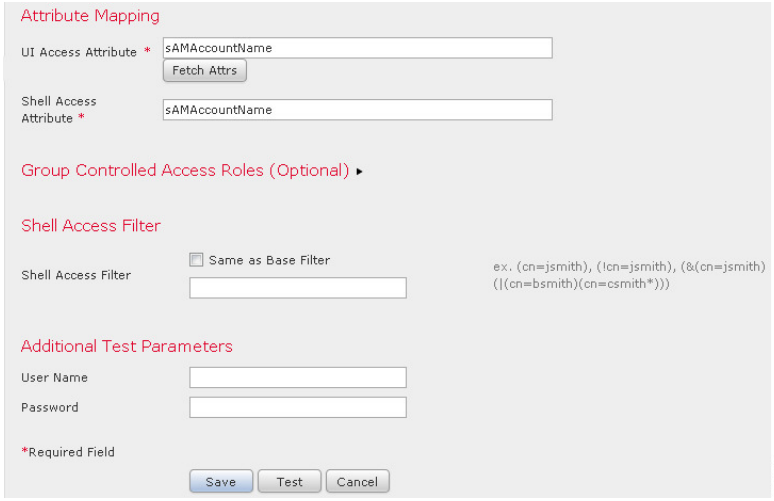
Examples

Basic Example

The following figures illustrate a basic configuration of an LDAP login authentication object for a Microsoft Active Directory Server. The LDAP server in this example has an IP address of 10.11.3.4. The connection uses port 389 for access.



This example shows a connection using a base distinguished name of `OU=security,DC=it,DC=example,DC=com` for the security organization in the information technology domain of the Example company.



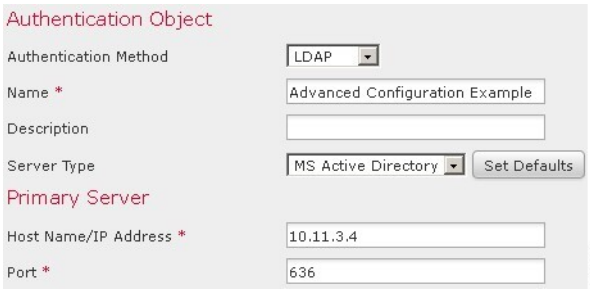
However, because this server is a Microsoft Active Directory server, it uses the `sAMAccountName` attribute to store user names rather than the `uid` attribute. Choosing the MS Active Directory server type and clicking **Set Defaults** sets the UI Access Attribute to `sAMAccountName`. As a result, the Firepower System checks the `sAMAccountName` attribute for each object for matching user names when a user attempts to log into the Firepower System.

In addition, a Shell Access Attribute of `sAMAccountName` causes each `sAMAccountName` attribute to be checked for all objects in the directory for matches when a user logs into a CLI account on the appliance.

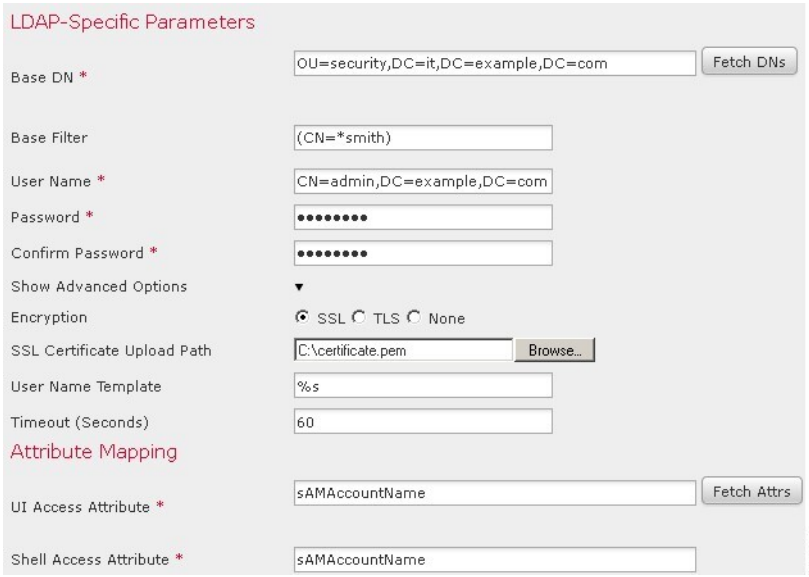
Note that because no base filter is applied to this server, the Firepower System checks attributes for all objects in the directory indicated by the base distinguished name. Connections to the server time out after the default time period (or the timeout period set on the LDAP server).

Advanced Example

This example illustrates an advanced configuration of an LDAP login authentication object for a Microsoft Active Directory Server. The LDAP server in this example has an IP address of 10.11.3.4. The connection uses port 636 for access.



This example shows a connection using a base distinguished name of `OU=security,DC=it,DC=example,DC=com` for the security organization in the information technology domain of the Example company. However, note that this server has a base filter of `(cn=*smith)`. The filter restricts the users retrieved from the server to those with a common name ending in `smith`.



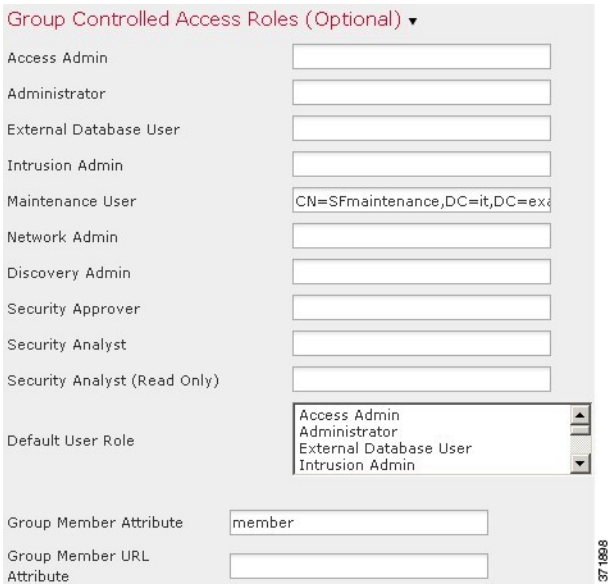
The connection to the server is encrypted using SSL and a certificate named `certificate.pem` is used for the connection. In addition, connections to the server time out after 60 seconds because of the **Timeout** setting.

Because this server is a Microsoft Active Directory server, it uses the `sAMAccountName` attribute to store user names rather than the `uid` attribute. Note that the configuration includes a **UI Access**

Attribute of `sAMAccountName`. As a result, the Firepower System checks the `sAMAccountName` attribute for each object for matching user names when a user attempts to log into the Firepower System.

In addition, a **Shell Access Attribute** of `sAMAccountName` causes each `sAMAccountName` attribute to be checked for all objects in the directory for matches when a user logs into a CLI account on the appliance.

This example also has group settings in place. The Maintenance User role is automatically assigned to all members of the group with a `member` group attribute and the base domain name of `CN=SFmaintenance,DC=it,DC=example,DC=com`.



The **Shell Access Filter** is set to be the same as the base filter, so the same users can access the appliance through the CLI as through the web interface.



Add a RADIUS External Authentication Object for FMC

Add a RADIUS server to support external users for device management.

In a multidomain deployment, external authentication objects are only available in the domain in which they are created.

Step 1 Choose **System** > **Users**.

Step 2 Click **External Authentication**.

Step 3 Click **Add External Authentication Object**.

Step 4 Set the **Authentication Method** to **RADIUS**.

Step 5 Enter a **Name** and optional **Description**.

Step 6 For the **Primary Server**, enter a **Host Name/IP Address**.

Step 7 (Optional) Change the **Port** from the default.

Step 8 Enter the **RADIUS Secret Key**.

Step 9 (Optional) Enter the **Backup Server** parameters.

Step 10 (Optional) Enter **RADIUS-Specific Parameters**.

a) Enter the **Timeout** in seconds before retrying the primary server, between 1 and 1024. The default is 30.

Note The timeout range is different for the FTD and the FMC, so if you share an object, be sure not to exceed the FTD's smaller timeout range (1-300 seconds). If you set the timeout to a higher value, the FTD RADIUS configuration will not work.

b) Enter the **Retries** before rolling over to the backup server. The default is 3.

c) In the fields that correspond to user roles, enter the name of each user or identifying attribute-value pair that should be assigned to those roles.

Separate usernames and attribute-value pairs with commas.

Example:

If you know all users who should be Security Analysts have the value `Analyst` for their `User-Category` attribute, you can enter `User-Category=Analyst` in the **Security Analyst** field to grant that role to those users.

Example:

To grant the Administrator role to the users `jsmith` and `jdoe`, enter `jsmith, jdoe` in the **Administrator** field.

Example:

To grant the Maintenance User role to all users with a `User-Category` value of `Maintenance`, enter `User-Category=Maintenance` in the **Maintenance User** field.

d) Select the **Default User Role** for users that do not belong to any of the specified groups.

If you change a user's role, you must save/deploy the changed external authentication object and also remove the user from the **Users** screen. The user will be re-added automatically the next time they log in.

Step 11 (Optional) **Define Custom RADIUS Attributes**.

If your RADIUS server returns values for attributes not included in the `dictionary` file in `/etc/radiusclient/`, and you plan to use those attributes to set roles for users with those attributes, you need to define those attributes. You can locate the attributes returned for a user by looking at the user's profile on your RADIUS server.

a) Enter an **Attribute Name**.

When you define an attribute, you provide the name of the attribute, which consists of alphanumeric characters. Note that words in an attribute name should be separated by dashes rather than spaces.

b) Enter the **Attribute ID** as an integer.

The attribute ID should be an integer and should not conflict with any existing attribute IDs in the `etc/radiusclient/dictionary` file.

c) Choose the **Attribute Type** from the drop-down list.

You also specify the type of attribute: string, IP address, integer, or date.

d) Click **Add** to add the custom attribute.

When you create a RADIUS authentication object, a new dictionary file for that object is created on the device in the `/var/sf/userauth` directory. Any custom attributes you add are added to the dictionary file.

Example:

If a RADIUS server is used on a network with a Cisco router, you might want to use the `Ascend-Assign-IP-Pool` attribute to grant a specific role to all users logging in from a specific IP address pool. `Ascend-Assign-IP-Pool` is an integer attribute that defines the address pool where the user is allowed to log in, with the integer indicating the number of the assigned IP address pool.

To declare that custom attribute, you create a custom attribute with an attribute name of `Ascend-IP-Pool-Definition`, an attribute ID of `218`, and an attribute type of `integer`.

You could then enter `Ascend-Assign-IP-Pool=2` in the **Security Analyst (Read Only)** field to grant read-only security analyst rights to all users with an `Ascend-IP-Pool-Definition` attribute value of `2`.

Step 12 (Optional) In the **Shell Access Filter** area **Administrator Shell Access User List** field, enter the user names that should have CLI access, separated by commas.

Make sure that these usernames match usernames on the RADIUS server. The names must be Linux-valid usernames:

- Maximum 32 alphanumeric characters, plus hyphen (-) and underscore (_)
- All lowercase
- Cannot start with hyphen (-); cannot be all numbers; cannot include a period (.), at sign (@), or slash (/)

To prevent RADIUS authentication of CLI access, leave the field blank.

Note Users with CLI access can gain Linux shell access with the **expert** command. Linux shell users can obtain root privileges, which can present a security risk. Make sure that you restrict the list of users with CLI or Linux shell access.

Note Remove any internal users that have the same user name as users included in the shell access filter. For the FMC, the only internal CLI user is **admin**, so do not also create an **admin** external user.

Step 13 (Optional) Click **Test** to test FMC connectivity to the RADIUS server.

Step 14 (Optional) You can also enter **Additional Test Parameters** to test user credentials for a user who should be able to authenticate: enter a **User Name** and **Password**, and then click **Test**.

Tip If you mistype the name or password of the test user, the test fails even if the server configuration is correct. To verify that the server configuration is correct, click **Test** without entering user information in the **Additional Test Parameters** field first. If that succeeds, supply a user name and password to test with the specific user.

Example:

To test if you can retrieve the `JSmith` user credentials at the Example company, enter `JSmith` and the correct password.

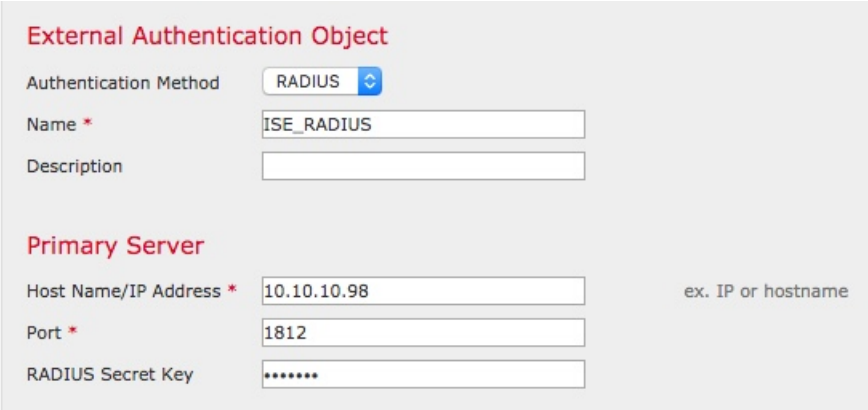
Step 15 Click **Save**.

Step 16 Enable use of this server. See Enable External Authentication for Users on the FMC, on page 22.

Examples

Simple User Role Assignments

The following figure illustrates a sample RADIUS login authentication object for a server running Cisco Identity Services Engine (ISE) with an IP address of 10.10.10.98 on port 1812. No backup server is defined.



The following example shows RADIUS-specific parameters, including the timeout (30 seconds) and number of failed retries before the Firepower System attempts to contact the backup server, if any.

This example illustrates important aspects of RADIUS user role configuration:

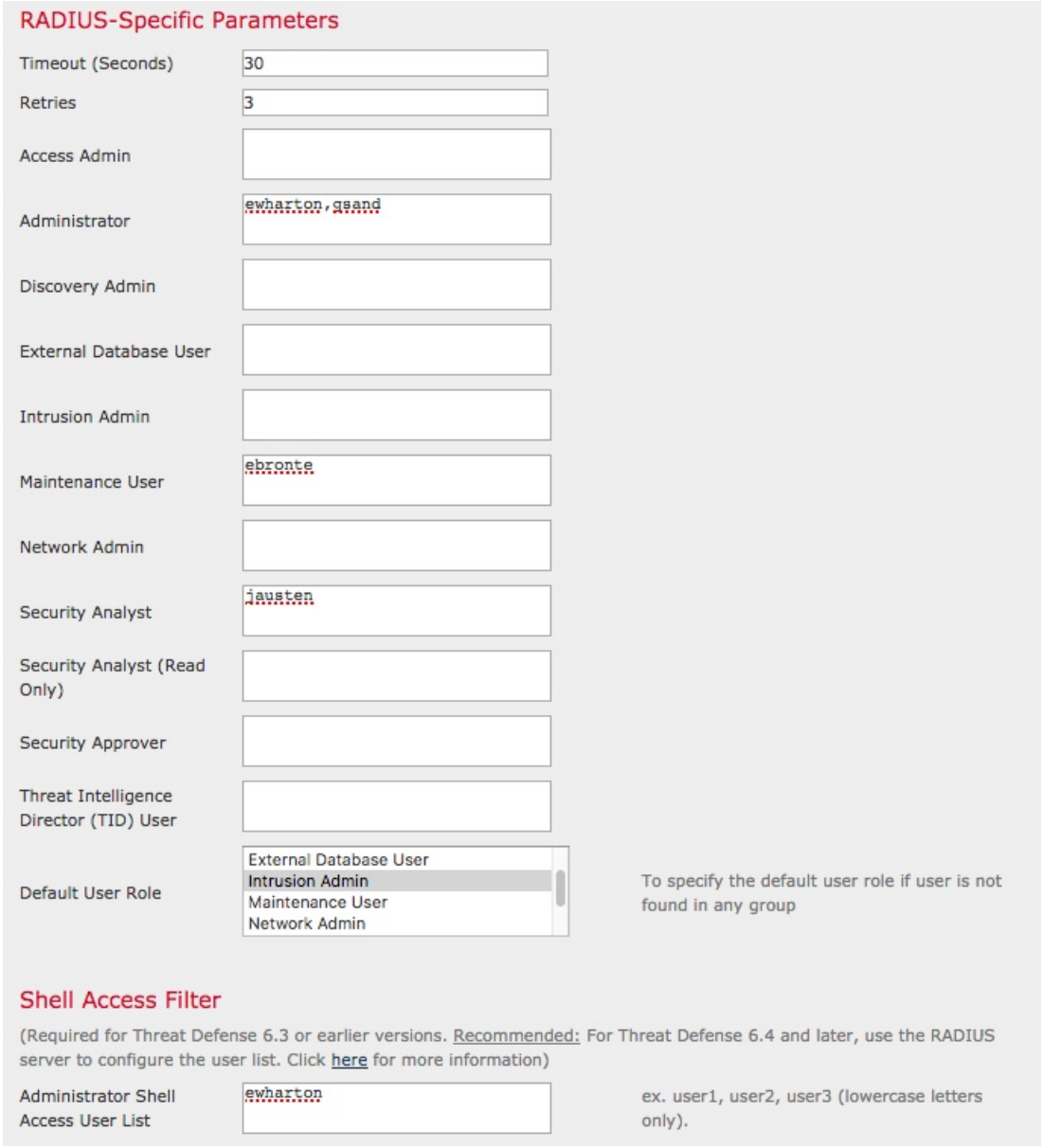
Users `ewharton` and `gsand` are granted web interface Administrative access.

The user `cbronte` is granted web interface Maintenance User access.

The user `jausten` is granted web interface Security Analyst access.

The user `ewharton` can log into the device using a CLI account.

The following graphic depicts the role configuration for the example:

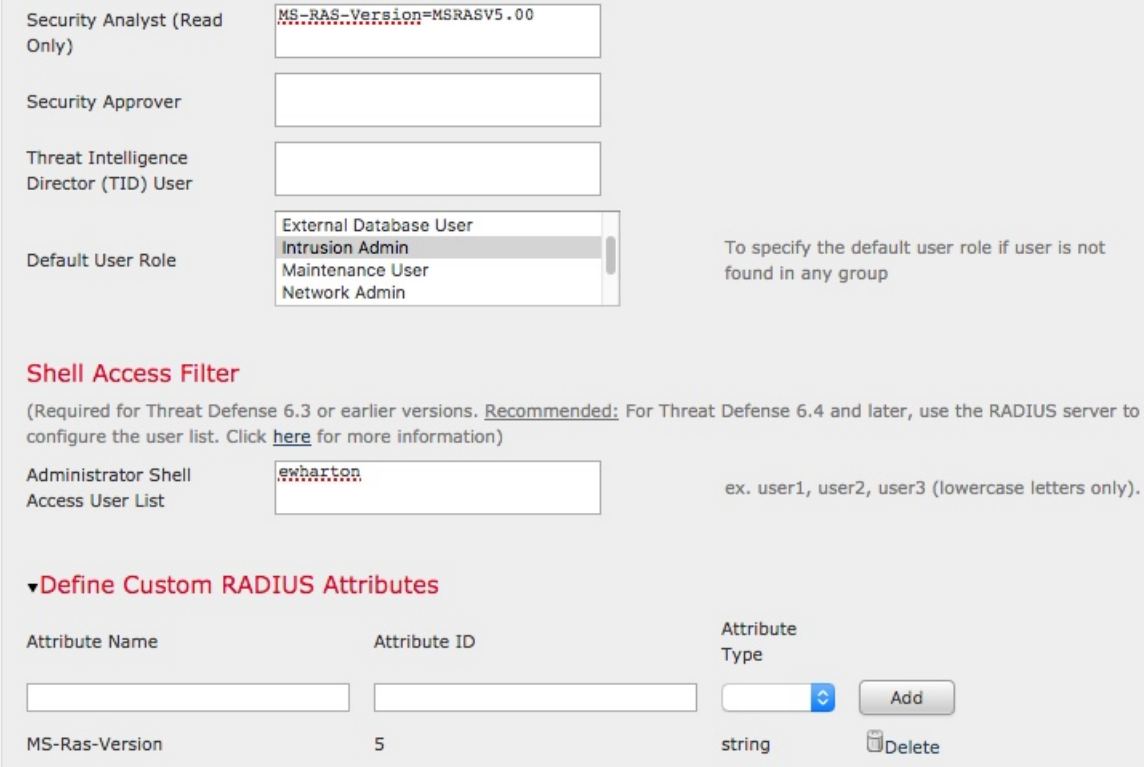


Roles for Users Matching an Attribute-Value Pair

You can use an attribute-value pair to identify users who should receive a particular user role. If the attribute you use is a custom attribute, you must define the custom attribute.

The following figure illustrates the role configuration and custom attribute definition in a sample RADIUS login authentication object for the same ISE server as in the previous example.

In this example, however, the `MS-RAS-Version` custom attribute is returned for one or more of the users because a Microsoft remote access server is in use. Note the `MS-RAS-Version` custom attribute is a string. In this example, all users logging in to RADIUS through a Microsoft v. 5.00 remote access server should receive the Security Analyst (Read Only) role, so you enter the attribute-value pair of `MS-RAS-Version=MSRASV5.00` in the **Security Analyst (Read Only)** field.



Enable External Authentication for Users on the FMC

When you enable external authentication for management users, the FMC verifies the user credentials with an LDAP or RADIUS server as specified in an External Authentication object.

Before you begin

Add one or more external authentication objects according to Add an LDAP External Authentication Object for FMC, on page 11 and Add a RADIUS External Authentication Object for FMC, on page 17.

Step 1 Choose **System** > **Users**.

Step 2 Click **External Authentication**.

Step 3 Set the default user role for external web interface users.

Users without a role cannot perform any actions. Any user roles defined in the external authentication object overrides this default user role.

a) Click the **Default User Roles** value (by default, none selected).

a) In the **Default User Role Configuration** dialog box, check the role(s) that you want to use.

b) Click **Save**.

Step 4 Click the **Slider enabled** ( ) next to the each external authentication object that you want to use. If you enable more than 1 object, then users are compared against servers in the order specified. See the next step to reorder servers.

If you enable shell authentication, you must enable an external authentication object that includes a **Shell Access Filter**. Also, CLI access users can only authenticate against the server whose authentication object is highest in the list.

Step 5 (Optional) Drag and drop servers to change the order in which authentication they are accessed when an authentication request occurs.

Step 6 Choose **Shell Authentication** > **Enabled** if you want to allow CLI access for external users.

The first external authentication object name is shown next to the **Enabled** option to remind you that only the first object is used for CLI.

Step 7 Click **Save and Apply**.

Configure Common Access Card Authentication with LDAP

If your organization uses Common Access Cards (CACs), you can configure LDAP authentication to authenticate FMC users logging into the web interface. With CAC authentication, users have the option to log in directly without providing a separate username and password for the device.

CAC-authenticated users are identified by their electronic data interchange personal identifier (EDIPI) numbers.

After 24 hours of inactivity, the device deletes CAC-authenticated users from the **Users** tab. The users are re-added after each subsequent login, but you must reconfigure any manual changes to their user roles.

Caution When configuring CAC authentication with LDAP, ensure that you follow the principles of least privilege while assigning a default access role to the users. When a user first logs in to the system with their CAC credentials, their account will be assigned this default access role.

If you do not follow the principles of least privilege while assigning the default access role, users may be assigned an unintended privilege level on subsequent logins. This could result in the users having privileges beyond their required access role.

If a user who has logged in with the default access role needs a temporary elevation of their privileges, a user with administrative privileges can temporarily provide that user the required higher level of access by assigning them a role with higher privilege. This privilege will be revoked after 24 hours of inactivity, and the user will return to their default access role.

If a user needs a permanent access role reassignment to a higher privilege level, such as System Admin, use the **Group Controlled Access Roles** method to provide admin access to the user. This method ensures that the provided access role persists beyond 24 hours and users will have the correct privilege level as per the group assignment. For more information on configuring Group Controlled Access Roles, see the Step 13 section.

Before you begin

You must have a valid user certificate present in your browser (in this case, a certificate passed to your browser via your CAC) to enable user certificates as part of the CAC configuration process. After you configure CAC authentication and authorization, users on your network must maintain the CAC connection for the duration of their browsing session. If you remove or replace a CAC during a session, your web browser terminates the session and the system logs you out of the web interface.

Step 1 Insert a CAC as directed by your organization.

Step 2 Direct your browser to **https://***ipaddress_or_hostname*/, where *ipaddress* or *hostname* corresponds to your device.

Step 3 If prompted, enter the PIN associated with the CAC you inserted in step 1.

Step 4 If prompted, choose the appropriate certificate from the drop-down list.

Step 5 On the Login page, in the **Username** and **Password** fields, log in as a user with Administrator privileges. You **cannot** yet log in using your CAC credentials.

Step 6 Choose **System** > **Users** > **External Authentication**.

Step 7 Create an LDAP authentication object exclusively for CAC, following the procedure in Add an LDAP External Authentication Object for FMC, on page 11. You must configure the following:

- **CAC** check box.
- **LDAP-Specific Parameters** > **Show Advanced Options** > **User Name Template**.
- **Attribute Mapping** > **UI Access Attribute**.

Step 8 Click **Save**.

Step 9 Enable external authentication and CAC authentication as described in Enable External Authentication for Users on the FMC, on page 22.

Step 10 Choose **System** > **Configuration**, and click **HTTPS Certificate**.

Step 11 Import a HTTPS server certificate, if necessary, following the procedure outlined in Importing HTTPS Server Certificates.

The same certificate authority (CA) must issue the HTTPS server certificate and the user certificates on the CACs you plan to use.

Step 12 Under **HTTPS User Certificate Settings**, choose **Enable User Certificates**. For more information, see Requiring Valid HTTPS Client Certificates.

Step 13 Log into the device according to Logging Into the Firepower Management Center with CAC Credentials.

Customize User Roles for the Web Interface

Each user account must be defined with a user role. This section describes how to manage user roles and how to configure a custom user role for web interface access. For default user roles, see User Roles, on page 2.

Create Custom User Roles

Custom user roles can have any set of menu-based and system permissions, and may be completely original, copied from a predefined or another custom user role, or imported from another device.

Note Custom user roles that the system considers read-only for the purposes of concurrent session limits, are automatically labeled by the system with **(Read Only)** in the role name on the **System** > **Users** > **Users** tab and the **System** > **Users** > **User Roles** tab. If a user role does not contain **(Read Only)** in the role name, the system considers the role to be read/write.

When you create a custom role or modify an existing custom role, the system automatically applies **(Read Only)** to the role name if all of the selected permissions for that role meet the required criteria for being read-only. You cannot make a role read-only by adding that text string manually to the role name. For more information on concurrent session limits, see Global User Configuration Settings.

Caution Users with menu-based User Management permissions have the ability to elevate their own privileges or create new user accounts with extensive privileges, including the Administrator user role. For system security reasons we strongly recommend you restrict the list of users with User Management permissions appropriately.

Step 1 Choose **System** > **Users**.

Step 2 Click **User Roles**.

Step 3 Add a new user role with one of the following methods:

- Click **Create User Role**.
- Click the **Copy** ( ) next to the user role you want to copy.
- Import a custom user role from another device:
  - **a.** On the old device, click the **Export** ( ) to save the role to your PC.
  - **b.** On the new device, choose **System** > **Tools** > **Import/Export**.
  - **c.** Click **Upload Package**, then follow the instructions to import the saved user role to the new device.

Step 4 Enter a **Name** for the new user role. User role names are case sensitive.

Step 5 (Optional) Add a **Description**.

Step 6 Choose **Menu-Based Permissions** for the new role.

When you choose a permission, all of its children are chosen, and the multi-value permissions use the first value. If you clear a high-level permission, all of its children are cleared also. If you choose a permission but not its children, it appears in italic text.

Copying a predefined user role to use as the base for your custom role preselects the permissions associated with that predefined role.

You can apply restrictive searches to a custom user role. These searches constrain the data a user can see in the tables on the pages available under the Analysis menu. You can configure a restrictive search by first creating a private saved search and selecting it from the **Restrictive Search** drop-down menu under the appropriate menu-based permission.

Step 7 (Optional) Check the **External Database Access** check box to set database access permissions for the new role.

This option provides read-only access to the database using an application that supports JDBC SSL connections. For the third-party application to authenticate to the device, you must enable database access in the system settings.

Step 8 (Optional) To set escalation permissions for the new user role, see Enable User Role Escalation, on page 27.

Step 9 Click **Save**.

Example

You can create custom user roles for access control-related features to designate whether users can view and modify access control and associated policies.

The following table lists custom roles that you could create and user permissions granted for each example. The table lists the privileges required for each custom role. In this example, Policy Approvers can view (but not modify) access control and intrusion policies. They can also deploy configuration changes to devices.

Table 1: Sample Access Control Custom Roles

Custom Role Permission	Example: Access Control Editor	Example: Intrusion & Network Analysis Editor	Example: Policy Approver
Access Control	yes	no	yes
Access Control Policy	yes	no	yes
Modify Access Control Policy	yes	no	no
Intrusion Policy	no	yes	yes
Modify Intrusion Policy	no	yes	no
Deploy Configuration to Devices	no	no	yes

Deactivate User Roles

Deactivating a role removes that role and all associated permissions from any user who is assigned that role. You cannot delete predefined user roles, but you can deactivate them.

In a multidomain deployment, the system displays custom user roles created in the current domain, which you can edit. It also displays custom user roles created in ancestor domains, which you cannot edit. To view and edit custom user roles in a lower domain, switch to that domain.

Step 1 Choose **System** > **Users**.

Step 2 Click **User Roles**.

Step 3 Click the slider next to the user role you want to activate or deactivate.

If the controls are dimmed, the configuration belongs to an ancestor domain, or you do not have permission to modify the configuration.

If you deactivate, then reactivate, a role with Lights-Out Management while a user with that role is logged in, or restore a user or user role from a backup during that user's login session, that user must log back into the web interface to regain access to IPMItool commands.

Enable User Role Escalation

You can give custom user roles the permission, with a password, to temporarily gain the privileges of another, targeted user role in addition to those of the base role. This feature allows you to easily substitute one user for another during an absence, or to more closely track the use of advanced user privileges. Default user roles do not support escalation.

For example, a user whose base role has very limited privileges can escalate to the Administrator role to perform administrative actions. You can configure this feature so that users can use their own passwords, or so they use the password of another user that you specify. The second option allows you to easily manage one escalation password for all applicable users.

To configure user role escalation, see the following workflow.

Step 1 Set the Escalation Target Role, on page 27. Only one user role at a time can be the escalation target role.

Step 2 Configure a Custom User Role for Escalation, on page 27.

Step 3 (For the logged in user) Escalate Your User Role, on page 28.

Set the Escalation Target Role

You can assign any of your user roles, predefined or custom, to act as the system-wide escalation target role. This is the role to which a custom role can escalate, if it has the ability. Only one user role at a time can be the escalation target role. Each escalation lasts for the duration of a login session and is recorded in the audit log.

Step 1 Choose **System** > **Users**.

Step 2 Click **User Roles**.

Step 3 Click **Configure Permission Escalation**.

Step 4 Choose a user role from the **Escalation Target** drop-down list.

Step 5 Click **OK** to save your changes.

Changing the escalation target role is effective immediately. Users in escalated sessions now have the permissions of the new escalation target.

Configure a Custom User Role for Escalation

Users for whom you want to enable escalation must belong to a custom user role with escalation enabled. This procedure describes how to enable escaltion for a custom user role.

Consider the needs of your organization when you configure the escalation password for a custom role. If you want to easily manage many escalating users, you might want to choose another user whose password serves as the escalation password. If you change that user's password or deactivate that user, all escalating users who require that password are affected. This action allows you to manage user role escalation more efficiently, especially if you choose an externally-authenticated user that you can manage centrally.

Before you begin

Set a target user role according to Set the Escalation Target Role, on page 27.

Step 1 Begin configuring your custom user role as described in Create Custom User Roles, on page 24.

Step 2 In **System Permissions**, choose the **Set this role to escalate to: Maintenance User** check box.

The current escalation target role is listed beside the check box.

Step 3 Choose the password that this role uses to escalate. You have two options:

- Choose **Authenticate with the assigned user's password** if you want users with this role to use their own passwords when they escalate, .
- Choose **Authenticate with the specified user's password** and enter that username if you want users with this role to use the password of another user.

Note When authenticating with another user's password, you can enter any username, even that of a deactivated or nonexistent user. Deactivating the user whose password is used for escalation makes escalation impossible for users with the role that requires it. You can use this feature to quickly remove escalation powers if necessary.

Step 4 Click **Save**.

Escalate Your User Role

When a user has an assigned custom user role with permission to escalate, that user can escalate to the target role's permissions at any time. Note that escalation has no effect on user preferences.

Step 1 From the drop-down list under your user name, choose **Escalate Permissions**.

If you do not see this option, your administrator did not enable escalation for your user role.

Step 2 Enter the authentication password.

Step 3 Click **Escalate**. You now have all permissions of the escalation target role in addition to your current role.

Escalation lasts for the remainder of your login session. To return to the privileges of your base role only, you must log out, then begin a new session.

Troubleshooting LDAP Authentication Connections

If you create an LDAP authentication object and it either does not succeed in connecting to the server you select, or does not retrieve the list of users you want, you can tune the settings in the object.

If the connection fails when you test it, try the following suggestions to troubleshoot your configuration:

- Use the messages displayed at the top of the web interface screen and in the test output to determine which areas of the object are causing the issue.
- Check that the user name and password you used for the object are valid:
  - Check that you have the rights to browse to the directory indicated in your base-distinguished name by connecting to the LDAP server using a third-party LDAP browser.
  - Check that the user name is unique to the directory information tree for the LDAP server.
  - If you see an LDAP bind error 49 in the test output, the user binding for the user failed. Try authenticating to the server through a third-party application to see if the binding fails through that connection as well.
- Check that you have correctly identified the server:
  - Check that the server IP address or host name is correct.
  - Check that you have TCP/IP access from your local appliance to the authentication server where you want to connect.
  - Check that access to the server is not blocked by a firewall and that the port you have configured in the object is open.
  - If you are using a certificate to connect via TLS or SSL, the host name in the certificate must match the host name used for the server.
  - Check that you have not used an IPv6 address for the server connection if you are authenticating CLI access.
  - If you used server type defaults, check that you have the correct server type and click **Set Defaults** again to reset the default values.
- If you typed in your base-distinguished name, click **Fetch DNs** to retrieve all the available base distinguished names on the server, and select the name from the list.
- If you are using any filters, access attributes, or advanced settings, check that each is valid and typed correctly.
- If you are using any filters, access attributes, or advanced settings, try removing each setting and testing the object without it.
- If you are using a base filter or a shell access filter, make sure that the filter is enclosed in parentheses and that you are using a valid comparison operator (maximum 450 characters, including the enclosing parentheses).
- To test a more restricted base filter, try setting it to the base distinguished name for the user to retrieve just that user.

- If you are using an encrypted connection:
  - Check that the name of the LDAP server in the certificate matches the host name that you use to connect.
  - Check that you have not used an IPv6 address with an encrypted server connection.
- If you are using a test user, make sure that the user name and password are typed correctly.
- If you are using a test user, remove the user credentials and test the object.
- Test the query that you are using by connecting to the LDAP server and using this syntax:

```
ldapsearch -x -b 'base_distinguished_name'
-h LDAPserver_ip_address -p port -v -D
'user_distinguished_name' -W 'base_filter'
```

For example, if you are trying to connect to the security domain on `myrtle.example.com` using the `domainadmin@myrtle.example.com` user and a base filter of (`cn=*`), you could test the connection using this statement:

```
ldapsearch -x -b 'CN=security,DC=myrtle,DC=example,DC=com'
-h myrtle.example.com -p 389 -v -D
'domainadmin@myrtle.example.com' -W '(cn=*)'
```

If you can test your connection successfully but authentication does not work after you deploy a platform settings policy, check that authentication and the object you want to use are both enabled in the platform settings policy that is applied to the device.

If you connect successfully but want to adjust the list of users retrieved by your connection, you can add or change a base filter or shell access filter or use a more restrictive or less restrictive base DN.

While authenticating a connection to Active Directory (AD) server, rarely the connection event log indicates blocked LDAP traffic although the connection to AD server is successful. This incorrect connection log occurs when the AD server sends a duplicate reset packet. The Firepower Threat Defense device identifies the second reset packet as part of a new connection request and logs the connection with Block action.

History for User Accounts for FMC

Feature	Version	Details
Added a new field for name in user accounts	6.6	Added a field that can identify the user or department responsible for an internal user account. New/Modified screens: **System** > **Users** > **Users> Real Name** field
Cisco Security Manager Single Sign-on no longer supported	6.5	Single Sign-on between the FMC and Cisco Security Manager is no longer supported as of Firepower 6.5. New/Modified screens: **System** > **Users> CSM Single Sign-on**

Feature	Version	Details
Enhanced password security	6.5	New requirements for strong passwords now appear in a single place in this chapter and are cross-referenced from other chapters. No modified screens Supported Platforms: FMC