

Password Management

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Guidelines for Cisco UCS Passwords

Each locally authenticated user account requires a password. A user with admin or an privileges can configure Cisco UCS Manager to perform a password strength check on user passwords. Listed in Table 1: ASCII Table of Allowed Characters for UCS Passwords, on page 1 are the allowed ASCII characters for UCS passwords.

Table 1: ASCII Table of Allowed Characters for UCS Passwords

ASCII Printable Characters	Description
A-Z	uppercase letters A to Z
a-z	lowercase letters a to z
0-9	digits 0 to 9
!	exclamation mark
"	quotation mark
%	percent sign
&	ampersand
1	apostrophe
(left parenthesis

ASCII Printable Characters	Description
)	right parenthesis
*	asterisk
+	plus sign
,	comma
-	hyphen
	period
/	slash
:	colon
;	semicolon
<	less-than
>	greater-than
@	at sign
[left square bracket
\	backslash
]	right square bracket
٨	caret
_	underscore
,	grave accent
{	left curly brace
	vertical bar
}	right curly brace
~	tilde

Cisco recommends using a strong password; otherwise, the password strength check for locally authenticated users, Cisco UCS Manager rejects any password that does not meet the following requirements:

- Must contain a minimum of eight characters and a maximum of 80 characters.
- If the password strength check is turned on, the minimum password length is variable and can be set from a minimum of 6 to a maximum of 80 characters.



Note

The default is 8 characters.

- Must contain at least three of the following:
 - Lower case letters
 - Upper case letters
 - Digits
 - Special characters
- Must not contain a character that is repeated more than three times consecutively, such as aaabbb.
- Must not be identical to the username or the reverse of the username.
- Must pass a password dictionary check. For example, the password must not be based on a standard dictionary word.
- Must not contain the following symbols: \$ (dollar sign), ? (question mark), and = (equals sign).
- Should not be blank for local user and admin accounts.

Guidelines for Cisco UCS Usernames

The username is also used as the login ID for Cisco UCS Manager. When you assign login IDs to Cisco UCS user accounts, consider the following guidelines and restrictions:

- The login ID can contain between 1 and 32 characters, including the following:
 - · Any alphabetic character
 - · Any digit
 - _ (underscore)
 - - (dash)
 - . (dot)
- The login ID must be unique within Cisco UCS Manager.
- The login ID must start with an alphabetic character. It cannot start with a number or a special character, such as an underscore.
- The login ID is case-sensitive.
- You cannot create an all-numeric login ID.
- After you create a user account, you cannot change the login ID. You must delete the user account and create a new one.

Configuring the Maximum Number of Password Changes for a Change Interval

You must have admin or aaa privileges to change the password profile properties. Except for password history, these properties do not apply to users with admin or aaa privileges.

Procedure

- **Step 1** In the **Navigation** pane, click **Admin**.
- **Step 2** Expand All > User Management > User Services.
- **Step 3** Click the **Locally Authenticated Users** node.
- **Step 4** In the **Password Profile** area, do the following:
 - a) In the Change During Interval field, click Enable.
 - b) In the **Change Count** field, enter the maximum number of times a locally authenticated user can change his or her password during the Change Interval.
 - This value can be anywhere from 0 to 10.
 - c) In the Change Interval field, enter the maximum number of hours over which the number of password changes specified in the Change Count field are enforced.
 - This value can be anywhere from 1 to 745 hours.
 - For example, if this field is set to 48 and the **Change Count** field is set to 2, a locally authenticated user can make no more than 2 password changes within a 48 hour period.
- Step 5 Click Save Changes.

Configuring a No Change Interval for Passwords

You must have admin or aaa privileges to change the password profile properties. Except for password history, these properties do not apply to users with admin or aaa privileges.

- **Step 1** In the **Navigation** pane, click **Admin**.
- **Step 2** Expand All > User Management > User Services.
- **Step 3** Click the **Locally Authenticated Users** node.
- **Step 4** In the **Password Profile** area, do the following:
 - a) In the Change During Interval field, click Enable.
 - b) In the **No Change Interval** field, enter the minimum number of hours that a locally authenticated user must wait before changing a newly created password.

This value can be anywhere from 1 to 745 hours.

This interval is ignored if the **Change During Interval** property is set to **Disable**.

Step 5 Click Save Changes.

Configuring the Password Expiration for a Locally Authenticated User

The password expiration feature enables the admin or AAA privileged user to enforce the password reset for all the locally authenticated users at a defined time interval. The password reset interval is calculated based on the last password change date and time and the password expiry duration.

The following tables provide different scenarios of password expiration for a new and an existing locally authenticated user.

The following table explains how the password expiry date is calculated when the password expiry option is enabled for the first time. For instance, the password expiry is enabled on 1st Dec, the password expiry duration is set as 9 days, and the password warning notification is 4 days.

User Scenarios	Effective Last Password change date	Notification	Effective Password Expiration date
New user is created on the same day that password expiry is enabled	me day that password		10 th Dec
Existing user's first login happens on the same day that password expiry is enabled		5 th Dec	10 th Dec
New user is created four days after password expiry is enabled	5 th Dec	10 th Dec	15 th Dec
Existing user's first login happens four days after password expiry is enabled	5 th Dec	10 th Dec	15 th Dec
New user changes the password on 2nd Dec	2 nd Dec	7 th Dec	12 th Dec
Existing user changes the password on 2nd Dec	2 nd Dec	7 th Dec	12 th Dec

The following table explains how the password expiry date is calculated when the password expiry option is disabled. For instance, the password expiry option is disabled on 1st Dec.

User Scenarios	Effective Last Password change date	Notification	Effective Password Expiration date		
New user is created on the same day that password expiry is disabled	•		NA		
Existing user logs in on the same day that password expiry is disabled	same day that sword expiry is		NA		
New user is created four days after password expiry is disabled	5 th Dec	NA	NA		
Existing user's first login happens four days after password expiry is disabled		NA	NA		
New user changes the password on 2nd Dec	2 nd Dec	NA	NA		
Existing user changes the password on 2nd Dec	2 nd Dec	NA	NA		

The following table explains how the password expiry date is calculated when the password expiry option is re-enabled. For instance, the password expiry option is re-enabled on 10th Dec, the password expiry duration is set as 9 days, and the password warning notification is 4 days.

User Scenarios	Effective Last Password change date	Notification	Effective Password Expiration date	Password Status
New user is created on the same day that password expiry is re-enabled	10 th Dec	15 th Dec	20 th Dec	Active
Existing user logs in on the same day that password expiry is re-enabled	1 st Dec	5 th Dec	10 th Dec	Expired
New user is created four days after password expiry is re-enabled	15 th Dec	20 th Dec	25 th Dec	Active

User Scenarios	Effective Last Password change date	Notification	Effective Password Expiration date	Password Status
Existing user logs in for the first time four days after password expiry is re-enabled	15 th Dec	20 th Dec	25 th Dec	Active
Existing user logs in for the second time four days after password expiry is re-enabled	5 th Dec	10 th Dec	15 th Dec	Active

The following table explains how the password expiry date is calculated when the system date is modified by the admin. For instance, the actual system date when the last password was changed is 10th Dec, the password expiry duration is set as 9 days, and the password warning notification is 4 days.

System modified date	Effective Password Expiration date	Password Status			
System date modified backward	System date modified backward				
8 th Dec 2020	17 th Dec 2020	Active			
2 nd Dec 2020	2020 11 th Dec 2020				
Any date prior to 1st Dec 2020 (the duration from actual date as zero)	Expired				
System date modified forward					
14 th Dec 2020	Dec 2020 19 th Dec 2020				
19 th Dec 2020	th Dec 2020 19 th Dec 2020				
Any date after 19 th Dec 2020		Expired			

After the password expiry, the user must reset the password using the **Reset Password** link in the Cisco UCS Manager Login page.

Procedure

- **Step 1** In the Navigation pane, click **Admin**.
- Step 2 Expand All > User Management > User Services
- **Step 3** Click the **Locally Authenticated Users** node.
- **Step 4** In the **Password Profile** area, do the following:
 - a) Check the **Password Expiry** check box to enable the password expiration feature for the locally authenticated user.

By default, the **Password Expiry** field is disabled.

b) In the **Password Expiration Period** field, enter the number of days after which the password expires for the locally authenticated user.

This value can be anywhere from 1 to 180 days. By default, the password is set to expire in 90 days.

For example, if this field is set to 60 days, the locally authenticated user's password will expire after 60 days from the last password changed date.

c) In the **Password Expiration Warning Time** field, enter the number of days by when the locally authenticated user must start to receive the password expiry notification.

This value can be anywhere from 0 to 30 days. By default, the warning is set to 15 days.

For example, if this field is set to eight, the locally authenticated user will receive a warning notification eight days before the password expiry.

Note The **Password Expiration Period** value must be always greater than the value in the **Password Expiration Warning Time** field.

Step 5 Click Save Changes.

Configuring the Password History Count

You must have admin or aaa privileges to change the password profile properties.

Procedure

- **Step 1** In the **Navigation** pane, click **Admin**.
- **Step 2** Expand All > User Management > User Services.
- **Step 3** Click the **Locally Authenticated Users** node.
- **Step 4** In the **Password Profile** area, enter the number of unique passwords that a locally authenticated user must create before that user can reuse a previously used password in the **History Count** field.

This value can be anywhere from 0 to 15.

By default, the **History Count** field is set to 0, which disables the history count and allows users to reuse previously used passwords at any time.

Step 5 Click Save Changes.

Password Profile for Locally Authenticated Users

The password profile contains the password history and the password change interval properties for all locally authenticated users of Cisco UCS Manager. You cannot specify a different password profile for locally authenticated users.



Note

You must have admin or an privileges to change the password profile properties. Except for password history, these properties do not apply to users with admin or an aprivileges.

Password History Count

The password history count prevents locally authenticated users from reusing the same password. When you configure the password history count, Cisco UCS Manager stores up to a maximum of 15 previously used passwords. The password history count stores the passwords in reverse chronological order with the most recent password first. This ensures that the user can only reuse the oldest password when the history count reaches its threshold.

A user can create and use the number of passwords configured in the password history count before reusing a password. For example, if you set the password history count to 8, a user cannot reuse the first password until the ninth password expires.

By default, the password history is set to 0. This value disables the history count and allows users to reuse previously used passwords at any time.

You can clear the password history count for a locally authenticated user and enable reuse of previous passwords.

Password Change Interval

The password change interval restricts the number of password changes that a locally authenticated user can make within a specific number of hours. The following table describes the two interval configuration options for the password change interval.

Interval Configuration	Description	Example
No password change allowed	Does not allow changing passwords for locally authenticated user within a specified number of hours after a password change. You can specify a no change interval between 1 and 745 hours. By default, the no change interval is 24 hours.	To prevent the user from changing passwords within 48 hours after a password change: • Set Change during interval to disable • Set No change interval to 48
Password changes allowed within change interval	Specifies the maximum number of times that a locally authenticated user password change can occur within a pre-defined interval. You can specify a change interval between 1 and 745 hours and a maximum number of password changes between 0 and 10. By default, a locally authenticated user is permitted a maximum of two password changes within a 48-hour interval.	To allow a password change for a maximum of one time within 24 hours after a password change: • Set Change during interval to enable • Set Change count to 1 • Set Change interval to 24

Clearing the Password History for a Locally Authenticated User

Procedure

Step 1	In the	Navigation	nane	click	Admin
oten i	in the	Navigation	nane.	CHCK	Aamin.

- **Step 2** Expand All > User Management > User Services > Locally Authenticated Users.
- **Step 3** Click the user for whom you want to clear the password history.
- **Step 4** In the Actions area, click Clear Password History.
- **Step 5** If a confirmation dialog box displays, click **Yes**.

Recovering a Lost Password

Password Recovery for the Admin Account

The admin account is the system administrator or superuser account. If an administrator loses the password to this account, you can have a serious security issue. The procedure to recover the password for the admin account requires you to power cycle all fabric interconnects and will lead to a temporary data transmission outage.

When you recover the password for the admin account, you actually change the password for that account. You cannot retrieve the original password for that account.

You can reset the password for all other local accounts through Cisco UCS Manager. However, you must log in to Cisco UCS Manager with an account that includes aaa or admin privileges.



Caution

For Cisco UCS Mini, this procedure requires you to pull all the fabric interconnects in a Cisco UCS domain out of their chassis slots. As a result, all data transmission in the Cisco UCS domain is stopped until you slide the fabric interconnects back into their chassis slots.

For other Cisco UCS configurations, this procedure requires you to power down all fabric interconnects. As a result, all data transmission in the Cisco UCS domain is stopped until you restart the fabric interconnects.



Note

Cisco UCS 6400 Series Fabric Interconnect does not have separate kernel and system images. It has a single unified image.

Determining the Leadership Role of a Fabric Interconnect



Important

To determine the role of the fabric interconnects in a cluster when the admin password is lost, open the Cisco UCS Manager GUI from the IP addresses of both fabric interconnects. The subordinate fabric interconnect fails with the following message:

UCSM GUI is not available on secondary node.

Procedure

- Step 1 In the Navigation pane, click Equipment.
- Step 2 In the Equipment tab, expand Equipment > Fabric Interconnects.
- **Step 3** Click the fabric interconnect for which you want to identify the role.
- **Step 4** In the **Work** pane, click the **General** tab.
- Step 5 In the General tab, click the down arrows on the High Availability Details bar to expand that area.
- **Step 6** View the **Leadership** field to determine whether the fabric interconnect is the primary or subordinate.

Verifying the Firmware Versions on a Fabric Interconnect

You can use the following procedure to verify the firmware versions on all fabric interconnects in a Cisco UCS domain. You can verify the firmware for a single fabric interconnect through the **Installed Firmware** tab for that fabric interconnect.

- **Step 1** In the **Navigation** pane, click **Equipment**.
- **Step 2** In the **Equipment** tab, click the **Equipment** node.
- Step 3 In the Work pane, click the Firmware Management tab.
- Step 4 In the Installed Firmware tab, verify that the following firmware versions for each fabric interconnect match the version to which you updated the firmware:
 - · Kernel version
 - System version

Recovering the Admin Account Password in a Standalone Configuration in 6200 and 6300 FI Series

This procedure will help you to recover the password that you set for the admin account when you performed an initial system setup on the fabric interconnect. The admin account is the system administrator or superuser account.

Before you begin

- 1. Physically connect the console port on the fabric interconnect to a computer terminal or console server
- **2.** Determine the running versions of the following firmware:
 - The firmware kernel version on the fabric interconnect
 - The firmware system version



Гір

To find this information, you can log in with any user account on the Cisco UCS domain.

Procedure

- **Step 1** Connect to the console port.
- **Step 2** Power cycle the fabric interconnect:
 - a) For Cisco UCS Mini, pull the fabric interconnect out of its chassis slot. For all other configurations, turn off the power to the fabric interconnect.
 - b) For Cisco UCS Mini, slide the fabric interconnect back into its chassis slot. For all other configurations, turn on the power to the fabric interconnect.
- **Step 3** In the console, press one of the following key combinations as it boots to get the loader prompt:
 - Ctrl+l
 - Ctrl+Shift+r

You may need to press the selected key combination multiple times before your screen displays the loader prompt.

Step 4 Boot the kernel firmware version on the fabric interconnect.

loader >

boot /installables/switch/

kernel firmware version

Example:

loader > boot /installables/switch/ucs-6100-k9-kickstart.4.1.3.N2.1.0.11.gbin

loader > boot /installables/switch/ucs-mini-k9-kickstart.5.0.3.N2.3.01a.bin

Step 5 Enter config terminal mode.

Fabric(boot)#
config terminal

Step 6 Reset the admin password.

Fabric(boot)(config)#
admin-password

password

Choose a strong password that includes at least one capital letter and one number. The password cannot be blank

The new password displays in clear text mode.

Step 7 Exit config terminal mode and return to the boot prompt.

Step 8 Boot the system firmware version on the fabric interconnect.

```
Fabric(boot)#
load /installables/switch/
system_firmware_version
```

Example:

```
Fabric(boot)# load
/installables/switch/ucs-6100-k9-system.4.1.3.N2.1.0.211.bin
```

Fabric (boot) # load /installables/switch/ucs-mini-k9-system.5.0.3.N2.3.01a.bin

Step 9 After the system image loads, log in to Cisco UCS Manager.

Step 10 Sync the new password with Cisco UCS Manager.

```
UCS-B # scope security
UCS-B/security # set password
Enter new password: New_password
Confirm new password: New_password
UCS-B/security* # commit-buffer
```

Recovering the Admin Account Password in a Standalone Configuration for Cisco UCS 6400 Series Fabric Interconnect

This procedure will help you to recover the password that you set for the admin account when you performed an initial system setup on the fabric interconnect. The admin account is the system administrator or superuser account.

Before you begin

- 1. Physically connect the console port on the fabric interconnect to a computer terminal or console server.
- 2. Determine the running versions of the Cisco UCS 6400 Series Fabric Interconnect image.



Note

Cisco UCS 6400 Series Fabric Interconnect does not have separate kernel and system images. It has a single unified image.



Tip

To find this information, you can log in with any user account on the Cisco UCS domain.

Procedure

- **Step 1** Connect to the console port.
- Step 2 UCS-A(local-mgmt)# reboot

This reboots the fabric interconnect.

You can also power cycle the fabric interconnect.

Step 3 In the console, press Ctrl+c key combinations as it boots to get the loader prompt:

Ctrl+c

You may need to press the selected key combination multiple times before your screen displays the loader prompt.

Step 4 At the loader prompt, run the following command:

loader > cmdline recoverymode=1

Step 5 Boot the Cisco UCS 6400 Series Fabric Interconnect image on the fabric interconnect.

loader > boot /installables/switch/Cisco UCS 6400 FI Image

Example:

loader > boot /installables/switch/ucs-6400-k9-system.7.0.3.N2.3.40.173.gbin

Step 6 Enter the config terminal mode.

switch(boot)# config terminal

Step 7 Reset the admin password.

switch(boot)(config)# admin-password New password

Choose a strong password that includes at least one capital letter and one number. The password cannot be blank.

The new password displays in clear text mode.

Step 8 Exit the config terminal mode to reboot the FI.

```
switch(boot) (config) # exit
switch(boot) # exit
```

Step 9 Wait for the login prompt and use the new password to login.

Cisco UCS 6400 Series Fabric Interconnect login: admin Password: New password

Step 10 Sync the new password with Cisco UCS Manager.

UCS-A # scope security
UCS-A/security # set password
Enter new password: New_password
Confirm new password: New_password
UCS-A/security* # commit-buffer

Recovering the Admin Account Password in a Cluster Configuration for 6200 and 6300 FI Series

This procedure will help you to recover the password that you set for the admin account when you performed an initial system setup on the fabric interconnects. The admin account is the system administrator or superuser account.

Before you begin

- Physically connect a console port on one of the fabric interconnects to a computer terminal or console server
- **2.** Obtain the following information:
 - The firmware kernel version on the fabric interconnect
 - The firmware system version
 - Which fabric interconnect has the primary leadership role and which is the subordinate



Tip

To find this information, you can log in with any user account on the Cisco UCS domain.

- **Step 1** Connect to the console port of the subordinate fabric interconnect.
- **Step 2** For the subordinate fabric interconnect:
 - a) For Cisco UCS Mini, pull the fabric interconnect out of its chassis slot. For all other configurations, turn off the power to the fabric interconnect.
 - b) For Cisco UCS Mini, slide the fabric interconnect back into its chassis slot. For all other configurations, turn on the power to the fabric interconnect.
 - c) In the console, press one of the following key combinations as it boots to get the loader prompt:
 - Ctrl+l
 - Ctrl+Shift+r

You may need to press the selected key combination multiple times before your screen displays the loader prompt.

- **Step 3** Power cycle the primary fabric interconnect:
 - a) For Cisco UCS Mini, pull the fabric interconnect out of its chassis slot. For all other configurations, turn off the power to the fabric interconnect.
 - b) For Cisco UCS Mini, slide the fabric interconnect back into its chassis slot. For all other configurations, turn on the power to the fabric interconnect.
- **Step 4** In the console, press one of the following key combinations as it boots to get the loader prompt:
 - Ctrl+l
 - Ctrl+Shift+r

You may need to press the selected key combination multiple times before your screen displays the loader prompt.

Step 5 Boot the kernel firmware version on the primary fabric interconnect.

```
loader > boot /installables/switch/
kernel firmware version
```

Example:

loader > boot /installables/switch/ucs-6100-k9-kickstart.4.1.3.N2.1.0.11.gbin

loader > boot /installables/switch/ucs-mini-k9-kickstart.5.0.3.N2.3.01a.bin

Step 6 Enter config terminal mode.

Fabric(boot) # config terminal

Step 7 Reset the admin password.

Fabric (boot) (config) # admin-password password

Choose a strong password that includes at least one capital letter and one number. The password cannot be blank.

The new password displays in clear text mode.

- **Step 8** Exit config terminal mode and return to the boot prompt.
- **Step 9** Boot the system firmware version on the primary fabric interconnect.

```
Fabric(boot)# load /installables/switch/
system_firmware_version
```

Example:

```
Fabric(boot) # load
```

/installables/switch/ucs-6100-k9-system.4.1.3.N2.1.0.211.bin

Fabric (boot) # load /installables/switch/ucs-mini-k9-system.5.0.3.N2.3.01a.bin

Step 10 After the system image loads, log in to Cisco UCS Manager.

Step 11 In the console for the subordinate fabric interconnect, do the following to bring it up:

a) Boot the kernel firmware version on the subordinate fabric interconnect.

```
loader > boot /installables/switch/
kernel firmware version
```

b) Boot the system firmware version on the subordinate fabric interconnect.

```
Fabric(boot)# load /installables/switch/
system_firmware_version
```

Step 12 Sync the new password with Cisco UCS Manager and other FI.

```
UCS-B # scope security
UCS-B/security # set password
Enter new password: New_password
Confirm new password: New_password
UCS-B/security* # commit-buffer
```

Recovering the Admin Account Password in a Cluster Configuration for Cisco UCS 6400 Series Fabric Interconnect

This procedure will help you to recover the password that you set for the admin account when you performed an initial system setup on the fabric interconnects. The admin account is the system administrator or superuser account.

Before you begin

- Physically connect a console port on one of the fabric interconnects to a computer terminal or console server
- **2.** Obtain the following information:
 - The Cisco UCS 6400 Series Fabric Interconnect image



Note

Cisco UCS 6400 Series Fabric Interconnect does not have separate kernel and system images. It has a single unified image.

• Which fabric interconnect has the primary leadership role and which is the subordinate



Tip

To find this information, you can log in with any user account on the Cisco UCS domain.

- **Step 1** Connect to the console port of the subordinate fabric interconnect.
- Step 2 UCS-B(local-mgmt)# reboot

This reboots the subordinate fabric interconnect.

You can also power cycle the subordinate fabric interconnect.

Step 3 In the console, press Ctrl+c key combinations as it boots to get the loader prompt:

Ctrl+c

You may need to press the selected key combination multiple times before your screen displays the loader prompt.

Step 4 At the loader prompt, run the following command:

loader > cmdline recoverymode=1

Step 5 Boot the Cisco UCS 6400 Series Fabric Interconnect image on the fabric interconnect.

loader > boot /installables/switch/Cisco UCS 6400 Series FI Image

Example

loader > boot /installables/switch/ucs-6400-k9-system.7.0.3.N2.3.40.173.gbin

Step 6 Enter the config terminal mode.

switch (boot) # config terminal

Step 7 Reset the admin password.

```
switch(boot)(config)# admin-password New password
```

Choose a strong password that includes at least one capital letter and one number. The password cannot be blank.

The new password displays in clear text mode.

Step 8 Exit the config terminal mode to reboot the FI.

```
switch(boot) (config) # exit
switch(boot) # exit
```

Step 9 Wait for the login prompt and use the new password to login.

```
Cisco UCS 6400 Series Fabric Interconnect login: admin Password: New_password
```

Step 10 Sync the new password with Cisco UCS Manager and other FI.

```
UCS-B # scope security
UCS-B/security # set password
Enter new password: New_password
Confirm new password: New_password
UCS-B/security* # commit-buffer
```