



# FortiExtender Cloud - Administration Guide

Version 20.3

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Email: [techdoc@fortinet.com](mailto:techdoc@fortinet.com)



Sep 29, 2020

FortiExtender Cloud 20.3 Administration Guide

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## Change Log

Date	Change Description
2020-07-31	FortiExtender Cloud 20.3 Administration Guide initial release.
2020-09-29	Update <a href="#">Manage users on page 47</a> with more information on assigning user roles.

# Introduction

FortiExtender Cloud is a Cloud-based Web application for deploying and managing FortiExtender devices over distributed LTE networks. With FortiExtender Cloud, you can remotely deploy and manage your devices. FortiExtender Cloud helps you improve productivity, reduce cost of ownership, and ensure the reliability and intelligence of your business operations.

## Main features and benefits

FortiExtender Cloud offers the following features and benefits:

### **Support for unlimited number of devices**

FortiExtender Cloud can support an unlimited number of devices across the globe, making it easy to scale up or down based on your business needs.

### **Centralized management**

You can deploy or undeploy your devices as well as create and update configuration profiles, device groups, and mobile service plans anywhere, all from a single console.

### **Zero-touch deployment**

You can remotely configure and deploy your devices from anywhere.

### **SSO authentication**

FortiExtender Cloud provides single sign-on (SSO) authentication for all applications running on its platform, not only ensuring the security and integrity of your devices on the Cloud but also enhancing user experience. We monitor each and every log in and access attempt to prevent malicious actors from gaining access to your devices using compromised credentials.

### **Device access control**

FortiExtender Cloud lets you manage user access by assigning either a "user" or a "viewer" role to user accounts. This ensures that only authorized users can access your devices through FortiExtender Cloud. For more information, see [Manage users on page 47](#).

### **Automatic SIM switching**

Each FortiExtender Cloud unit can support up to two or four SIM cards depending on the model. While one card is in use, the other stands by as a backup. If a certain event happens such as the SIM card disconnecting multiple times or the plan data capacity is hit, the system automatically switches over to the other card to ensure uninterrupted service.

### **Configuration profile**

Profiles are configurations templates that can be applied to devices. FortiExtender Cloud makes it easy to create, update, and apply profiles to devices. For more information, see [Profile on page 9](#).

### **Device group**

Grouping devices together can greatly improve your operational efficiency because it lets you apply or update the same configuration profile to all devices in a group. For more information, see [Group on page 8](#).

### **Carrier plan management**

FortiExtender Cloud makes it easy to view and monitor the usage of your existing mobile service plans. You can continue to add new carrier plans as your business evolves. For more information, see [Plan on page 9](#).

### **Remote OS and modem firmware update**

You can easily update the OS or modem firmware on your device from FortiExtender Cloud.

### **Event logs**

FortiExtender Cloud captures user, device, and system events in the Log page. This lets you keep track of device activities and device status 24/7. For more information, see [View event logs on page 65](#).

### **Dashboard**

The Dashboard page provides an overview of user activity and device status data critical to your business operations. For more information, see [The Dashboard on page 19](#).




## **Key concepts**

This section discusses the key product concepts used in FortiExtender Cloud.

- [Group](#)
- [In Service](#)
- [Inventory](#)
- [Offline](#)
- [Online](#)
- [Plan](#)
- [Profile](#)

## **Device State**

Once a device is deployed and In Service, they are sorted into one of the following states:

Device States	Description
 Deploying	The device is in the process of being deployed.
 Deployed	The device is fully installed and synced with the firmware configurations from FortiExtender Cloud.
 Syncing	The device is currently syncing its configurations with FortiExtender Cloud. The device will reboot during the syncing process.

## Group

A *group* is a virtual container that contains one or more devices. You can add up to two profiles for each group, one profile per device model category. Each device can join only one group. When adding a device to a group, you can decide whether to keep the device's own profile or override it with that of the group. If you elect to keep the device's profile, it will take priority over the group profile.

Grouping makes it easy to keep track of and manage your devices by letting you upgrade the device firmware by group. For more information, see [Manage device groups on page 28](#).

## In Service

A device is categorized as *In Service* when it is deployed on FortiExtender Cloud. When a device is In Service, you can edit its configurations and manage it remotely from FortiExtender Cloud.

In Service devices all have a device state. For more information, see [Device State on page 7](#).

## Inventory

A device is categorized as *Inventory* after it is registered in FortiCare, but before it is deployed.


## Offline

An In Service device has an *offline*  availability status when it is not connected to FortiExtender Cloud.

A device can be offline for the following reasons:

- The device is down.
- The SIM card has been removed from its slot or has exceeded its subscribed data plan (if it connects to FortiExtender Cloud through a SIM card).
- The device has been unplugged from the LAN (if it connects to FortiExtender Cloud through an Ethernet connection).

## Online

An In Service device has an *online*  availability status when it is deployed and connected to FortiExtender Cloud.



## Plan

A *plan* refers to a service plan that you have signed up or subscribed from a mobile phone service provider or carrier. It identifies your mobile phone service provider, and contains information such as your allowed data usage and billing cycle.

## Profile

A *profile* is a configuration object that specifies the various settings that can be applied to a device or group of devices. Before you can deploy a device, you must first choose a profile and apply it to the device. No device can be deployed without a profile. Because profiles are associated with devices, any change made to a profile will affect the associated devices and cause them to reboot. After a profile is applied to a FortiExtender, it will overwrite any existing configuration on the device.

A profile contains all configuration information except the OS and modem firmware, which must be installed or updated either through FortiExtender Cloud or your LAN.

**Note:** The Device Detail page (under the In Service page) lets you change a device's configuration. Changes made on that page will override both the individual profile or group profile (see [Group on page 8](#)) associated with the device.

## Supported devices and OS firmware versions

FortiExtender Cloud supports the following FortiExtender models and OS firmware versions:

Supported Models	Supported OS firmware versions
FEXT-40D-AMEU, FEXT-40D-NAM, FEXT-40D-INTL	<ul style="list-style-type: none"> <li>• 3.3.0, 3.3.1, 3.3.2</li> <li>• 4.0.0*, 4.0.1</li> </ul>
FEXT-201E, FEXT-202E, FEXT-212E	<ul style="list-style-type: none"> <li>• 4.1.1, 4.1.2, 4.1.3, 4.1.4</li> <li>• 4.2.0</li> </ul>



While OS 4.0.0 is supported by FortiExtender Cloud, it is not recommended. Avoid upgrading or downgrading your devices to 4.0.0.

## Licensing

As of March 29, 2020, the FortiExtender Cloud free tier licenses are no longer offered. This service allowed you to register and manage 3 FortiExtender units, free of charge, in FortiExtender Cloud. The units that have been managed for free previously will continue to work with their last uploaded configurations.

To add more devices, you must purchase a license for each new device through authorized Fortinet resellers and distributors. For licensing information, contact your primary Fortinet service provider.

# Getting started

This section gets you started with instructions on how to register your FortiExtender device, access and navigate FortiExtender Cloud, and push configurations from FortiExtender Cloud to your devices.

- [Step 1: Register and add your devices](#)
- [Step 2: Access FortiExtender Cloud](#)
- [Step 3: Configure device profiles or groups](#)
- [Step 4: Select a device to deploy](#)
- [Step 5: Synchronize and install your device](#)

## Step 1: Register and add your devices

To add devices to FortiExtender Cloud, you must first register your FortiExtender devices through your FortiCare account. After your devices are registered, they are automatically added to FortiExtender Cloud.

### To register and add your FortiExtender devices

1. Log into your account at <https://support.fortinet.com>.  
If you do not have an existing FortiCare account, click **REGISTER** and complete the registration process.
2. Navigate to **Asset > Register/Activate** to register your FortiExtender to the FortiExtender Cloud platform.  
The Registration Wizard loads.
3. In the **Specify Registration Code** field, enter your device's FortiCloud Key or serial number.
4. Select your end user type, and then click **Next**.
5. Follow the on-screen instructions and complete the appropriate fields to finish registering your device.  
Once your device is registered, it is automatically added into FortiExtender Cloud.

## Step 2: Access FortiExtender Cloud

Before you can access FortiExtender Cloud, you must have either:

- A FortiCare/FortiCloud account, or
- A FortiGate account.

### To access FortiExtender Cloud

1. Log into your account at <https://fortiextender.forticloud.com>.
2. Enter your Account ID/Email and password, and then click **LOGIN**.  
The FortiExtender Cloud home page opens.



We recommend that you use the following browsers to access FortiExtender Cloud:

- Google Chrome
- Firefox
- Microsoft Edge

## FortiExtender Cloud UI

The FortiExtender Cloud UI has two main parts:

- A navigation bar
- An information pane

### Navigation bar

The navigation bar is located on the left of each page and contains links to the main pages of FortiExtender Cloud.

Navigation bar links	Link description
Dashboard (home page)	Monitor device usage statistics.
Device	Expand to manage your devices. <ul style="list-style-type: none"> <li>• <b>In Service:</b> Manage your active devices.</li> <li>• <b>Inventory:</b> Deploy registered devices.</li> </ul>
Group	Manage your groups.
Plan	Manage your carrier plans.
Profile	Manage your device profiles.
Log	See user, device, and system event logs.
Feedback	Leave feedback about FortiExtender Cloud.
Questions	Links to the FortiExtender Cloud documentation page.
Account	Expand to access account settings. <ul style="list-style-type: none"> <li>• Settings: Manage email notifications for users.</li> <li>• License Information: View license status and subscription information.</li> <li>• API Token: Opens a window containing your API token.</li> <li>• Users: Manage user access to FortiExtender Cloud.</li> <li>• Switch Account: Switch between multiple account.</li> </ul>

### Information pane

The information pane displays the contents of the selected page.

## Step 3: Configure device profiles or groups

Before you can deploy a device, you must first configure a profile or group for your device. There are two steps to the configuration process:

1. **(Optional)** [Create a carrier plan for the profile.](#)
2. [Create a device profile or device group.](#)

### Configuring a carrier plan

Before you configure your profile's general settings, you have the option to create a plan to add to the profile.

A *plan* refers to a service plan that you have signed up or subscribed from a mobile phone service provider or carrier. It identifies your mobile phone service provider, and contains information such as your allowed data usage and billing cycle.

- If you do not want to create a plan for your profile, skip to [Create a device profile or device group on page 14.](#)



Before creating your plan, you must know:

- The name of your carrier company
- Your Access Point Name (APN)
- Your Authentication type (None, CHAP, PAP)
- Your plan's billing date
- Your plan's total capacity (in MB)
- If your plan is an individual plan or a pooled plan
- Your plan's overage limits (if any)
- Your plan's security mode (NAT or IP PASS)

1. In the navigation bar, click **Plan**.  
The Plan page loads.
2. In the upper-left corner of the page, click **Add Plan**.  
The Add Plan window loads.
3. In the Plan Name field, enter a plan name.  
**Note:** Valid characters are: lower case (a - z), upper case (A - Z), and special characters (@ . - \_). Spaces are not permitted.
4. Click **Add**.  
The Plan Detail page loads.
5. Make the required entries or selections as described in the following table:

Field Name	Description
<b>General Plan Settings</b>	
Plan Name	Enter a name for the plan.
Mode	Select how your modem chooses a wireless network standard: <ul style="list-style-type: none"> <li>• <b>AUTO</b> — Automatically select the wireless network standard.</li> </ul>

Field Name	Description
	<ul style="list-style-type: none"> <li>• <b>AUTO_3G</b> — Automatically select the wireless network standard with 3G having the highest priority.</li> <li>• <b>FORCE_2G</b> — Select the 2G wireless network standard.</li> <li>• <b>FORCE_3G</b> — Select the 3G wireless network standard.</li> <li>• <b>FORCE_LTE</b> — Select the LTE wireless network standard.</li> </ul>
Modem	Select the number of modems on the device that this plan will be associated with.
Slot	Select which SIM slot you want to apply the plan to.
Type	<p>Select how a plan applies configurations to a SIM:</p> <ul style="list-style-type: none"> <li>• <b>By-default</b> — This plan will apply to any SIM card inserted.</li> <li>• <b>By-carrier</b> — This plan will apply to the SIM card with the plan's specified carrier.</li> <li>• <b>By-slot</b> — This plan will apply to the SIM inserted the plan's specified slot.</li> </ul> <p><b>Note:</b> Assigning a type only applies to devices running OS 4.2.0 and later.</p>
<b>Carrier Settings</b>	
Type	<p>Select a carrier setting type:</p> <ul style="list-style-type: none"> <li>• <b>Built-In</b> — Select from a list of commonly used mobile phone service carriers.</li> <li>• <b>Customized</b> — Lets you add your own carrier.</li> </ul> <p>To add your own carrier, click the <b>+ Add New Carrier</b> button and complete the fields, and then click <b>APPLY</b>.</p>
Region	Select the region where your device is to be deployed.
Carrier	If you selected the Built-In type, select your carrier.
<b>Authentication Settings</b>	
APN	Enter the Access Point Name of your plan.
Type	<p>Select your plan's authentication type:</p> <ul style="list-style-type: none"> <li>• <b>CHAP</b> — Challenge-Handshake Authentication Protocol, authenticated with a unique challenge phrase.</li> <li>• <b>PAP</b> — Password Authentication Protocol, authenticated with a static user name and password combination.</li> <li>• <b>None</b> — No authentication.</li> </ul>
Username	<p>Enter your username.</p> <p><b>Note:</b> This field is only enabled if you have CHAP or PAP authentication selected.</p>
Password	<p>Enter your authentication password.</p> <p><b>Note:</b> This field is only enabled if you have CHAP or PAP authentication selected.</p>
<b>Billing Settings</b>	
Billing Date	Enter the plan's monthly billing date.
Pooled	Enable if your plan is a group plan.

Field Name	Description
Monthly Fee	Enter how much the plan costs per month
Overage	Enable if you want to allow your plan to exceed its data usage limit. <b>Note:</b> Enabling the overage function prevents Smart Switch from automatically switching to the secondary SIM card after the first card hits its data limit
<b>Auto Switch</b>	
Capacity	Enter your plan's data capacity in MB.
Signal Threshold	Enter a threshold for an allowable Received Signal Strength Indicator (RSSI) value. If the RSSI value drops below this amount for a specified time period, this can trigger Automatic SIM switching.
Signal Period	Enter the allowable length of time in seconds in which an RSSI value can drop below the specified threshold. If the RSSI value is below the threshold for more than this time period, this can trigger Automatic SIM switching.

6. Click **Save**.

The new plan is created. You can return to the Plan page to see it.

## Create a device profile or device group

Before you can deploy a device, you must create a profile or group.

- Profiles contain configuration specifications that you can apply to multiple devices.
- Groups are a way to manage and group together different devices under one profile.

For more information on device profiles and groups, see [Key concepts on page 7](#).

Before deploying a device, consider the following:



- How many SIM cards will you use? Depending on your FortiExtender model, it can support either two or four SIM cards.
- If you have multiple SIM cards, do you want to automatically switch between the cards to maintain connection quality?
- Do your SIM cards have a PIN code?
- How do you want to organize your devices? By group or by profiles? For more information on the differences between groups and profiles, see [Group on page 8](#) and [Profile on page 9](#).
- What is your data plan?

### To create a device profile

1. From the Navigation bar, go to **Profile**.
2. Click **Add Profile** to create a new profile.  
The Add Profile window loads.
3. Complete the following fields:

Field Name	Description
Profile Name	Enter a name for the profile. <b>Note:</b> Valid characters are: lower case (a - z), upper case (A - Z), and special characters (@ . - _). Spaces are not permitted.
Hardware Platform	Select the hardware platform/model you want to apply the profile to.

4. Click **Add**.

The Profile Settings page loads.

5. Configure the following fields:

Field Name	Description
<b>General Settings</b>	
Work Mode	Select a work mode. <ul style="list-style-type: none"> <li><b>NAT</b> — The FortiExtender device works as a gateway of the subnet behind it, forwarding all the traffic between the LAN and LTE WAN. Note that NAT mode is not supported in devices running OS version 3.3.</li> <li><b>IP PASS</b> — The FortiExtender distributes the WAN IP address provided by the Network Service Provider to the device behind it.</li> </ul>
<b>Modem1 Settings and Modem2 Settings</b>	
Sim1 PIN	Enter a pin code for your Sim1 card (if applicable).
Sim2 PIN	Enter a pin code for your Sim2 card (if applicable).
Report Interval	Specify a desired report interval in seconds.
Default SIM	If there are two SIM cards, select how you want to define the default SIM card: <ul style="list-style-type: none"> <li><b>By Carrier</b> — Select the SIM card with the preferred carrier. You can define the preferred carrier by arranging the order of plans under the <a href="#">Add Plan</a> section in the Profile page.</li> <li><b>By Cost</b> — Select the SIM card with the lowest Monthly fee. You can specify the Monthly fee from the <a href="#">Plan page</a>.</li> <li><b>SIM 1</b> — Select the SIM card in the SIM1 slot.</li> <li><b>SIM 2</b> — Select the SIM card in the SIM2 slot.</li> </ul>
Auto Switch	Select which event triggers automatic switching between SIM cards. You can select more than one event: <ul style="list-style-type: none"> <li><b>Plan Capacity</b> — Switch when your data plan hits your specified data limit and overage is disabled. You can specify data limit from the <a href="#">Plan page</a>.</li> <li><b>SIM Signal</b> — Switch when the Received Signal Strength Indicator (RSSI) value drops below -100 for 600 seconds. You can configure the default values from the <a href="#">Plan page</a>.</li> <li><b>SIM Disconnect</b> — Switch when a SIM card disconnects a certain number of times in a specified time period. <ul style="list-style-type: none"> <li>SIM Disconnect Threshold: Enter the number of times a SIM card can</li> </ul> </li> </ul>

Field Name	Description																					
	<p>disconnect.</p> <ul style="list-style-type: none"> <li>◦ SIM Disconnect Period: Enter the time period in seconds.</li> <li>• <b>Switch Back by Time</b> — Switch at a certain time of the day. <ul style="list-style-type: none"> <li>◦ Switch Back Time: Enter the time (hh:mm) for when you want to switch SIM cards.</li> </ul> </li> <li>• <b>Switch Back By Period</b> — Switch after a certain amount of time has elapsed. <ul style="list-style-type: none"> <li>◦ Switch Back Period: Enter the time in seconds.</li> </ul> </li> </ul> <p><b>Note:</b> Automatic switching will not occur if you enable the overage function under Plan configuration and also exceed the specified data limit.</p>																					
<b>Plan Settings</b>																						
Add Plan	<p>Add existing carrier plans to your profile.</p> <p><b>Note:</b> If you select the By Carrier option for defining a Default SIM, you can define the preferred carrier by rearranging the Plans in this section. Plans are prioritized based on their order, with the top plan being the most preferred.</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Carrier</th> <th>Capacity</th> <th>Modem</th> <th>Slot</th> <th>Type</th> <th>Delete</th> </tr> </thead> <tbody> <tr> <td>☰ ExamplePlan2</td> <td>AT&amp;TINAM</td> <td>1024 MB</td> <td>modem1</td> <td>sim1</td> <td>by-default</td> <td>✖</td> </tr> <tr> <td>☰ ExamplePlan</td> <td>A1MobilKom EU</td> <td>1024 MB</td> <td>modem1</td> <td>sim1</td> <td>by-default</td> <td>✖</td> </tr> </tbody> </table> <p style="text-align: center;"><a href="#">+ Add Plan</a></p> <p>Drag each drop each plan in the preferred order.</p>	Name	Carrier	Capacity	Modem	Slot	Type	Delete	☰ ExamplePlan2	AT&TINAM	1024 MB	modem1	sim1	by-default	✖	☰ ExamplePlan	A1MobilKom EU	1024 MB	modem1	sim1	by-default	✖
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☰ ExamplePlan2	AT&TINAM	1024 MB	modem1	sim1	by-default	✖																
☰ ExamplePlan	A1MobilKom EU	1024 MB	modem1	sim1	by-default	✖																

**6.** Click **Save** to save the profile.

The new profile is created. You can return to the Profile page to see it.

### To create a group

**1.** From the Navigation bar, go to **Group**.

The Group page loads.

**2.** Click **Add Group** to create a new group

The Add Group window loads.

**3.** Complete the following fields:

Field Name	Description
Group Name	<p>Enter a name for the group.</p> <p><b>Note:</b> Valid characters are: lower case (a - z), upper case (A - Z), and special characters (@ . - _). Spaces are not permitted.</p>
Profile for Single Modem	Select a profile that applies to devices with a single modem.
Profile for Dual Modem	Select a profile that applies to devices with a dual modem.

**4.** Click **Apply**.



The Group Settings page loads.

5. Verify that your group settings are correct.

## Step 4: Select a device to deploy

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### Adding devices

You cannot add devices into FortiExtender Cloud directly. Your registered devices are automatically pulled from your FortiCare account and listed in the Inventory page.

If you do not see your devices in the Inventory page, log into your FortiCare account at <https://support.fortinet.com> and go to **Asset > Register/Activate** to register your FortiExtender devices. After your devices are registered, refresh your FortiExtender Cloud session to update your device list.

For more information, see [Step 1: Register and add your devices on page 10](#).

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FortiExtender Cloud automatically pulls your devices from your FortiCare account and lists them in the Inventory page. When you log into FortiExtender Cloud, you can view all your registered FortiExtender devices and select which device to deploy. After you deploy a device, you can push configurations to it and manage it from FortiExtender Cloud.

### To find and select a device to deploy

1. From the navigation bar, go to **Device > Inventory**.

The Inventory page loads, showing all your registered devices.

**Note:** If you do not see your devices, log into your FortiCare account at <https://support.fortinet.com> and make sure your FortiExtender devices are registered. After your devices are registered, refresh your FortiExtender Cloud session to update your device list.

2. From the list of devices, select the device you want to deploy.
3. From the top of the page, click either **Deploy with Profile** or **Deploy with Group**.
4. Select the Profile or Group you want, and then click **Apply**.

The system deploys your device and consumes a license. During the deployment process, FortiExtender Cloud moves the device from the Inventory page to In Service page, and begins applying your configurations.

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You can see the current state of your devices in the In Service page. All devices fall into one of the following states:

- **Deploying:** The device is in the process of being deployed.
  - **Deployed:** The device is fully installed and synced with the firmware configurations from FortiExtender Cloud.
  - **Syncing:** The device is currently syncing its configurations with FortiExtender Cloud. The device will reboot during the syncing process.
-

## Step 5: Synchronize and install your device

After you deploy your device in FortiExtender Cloud, you must synchronize the configurations from FortiExtender Cloud to the physical device.

### To synchronize device configurations

1. Ensure the FortiExtender device is assembled and set up according to the QuickStart Guide.
  2. Connect the FortiExtender device to the internet using its Ethernet port.  
This triggers zero-touch provision (ZTP), enabling the device to synchronize with its assigned profile from FortiExtender Cloud.
  3. When the device state changes from deploying to deployed, the device is fully synchronized.
- 



The deployment process causes the device to reboot.

---

4. Disconnect the device and install it on-site.  
After the device is connected and activated, it will provide cellular internet access over its Ethernet port, enabling it to be managed from FortiExtender Cloud.
- 



When installing your device on-site, place the device near windows and away from metal and solid objects to reduce signal obstructions.

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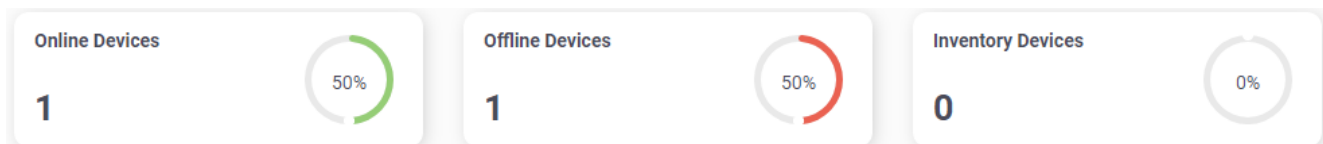
# The Dashboard

The Dashboard is default home page of FortiExtender Cloud and has multiple widgets that provide an overview of your FortiExtenders data usage.

The Dashboard contains the following widgets:

## Device summary

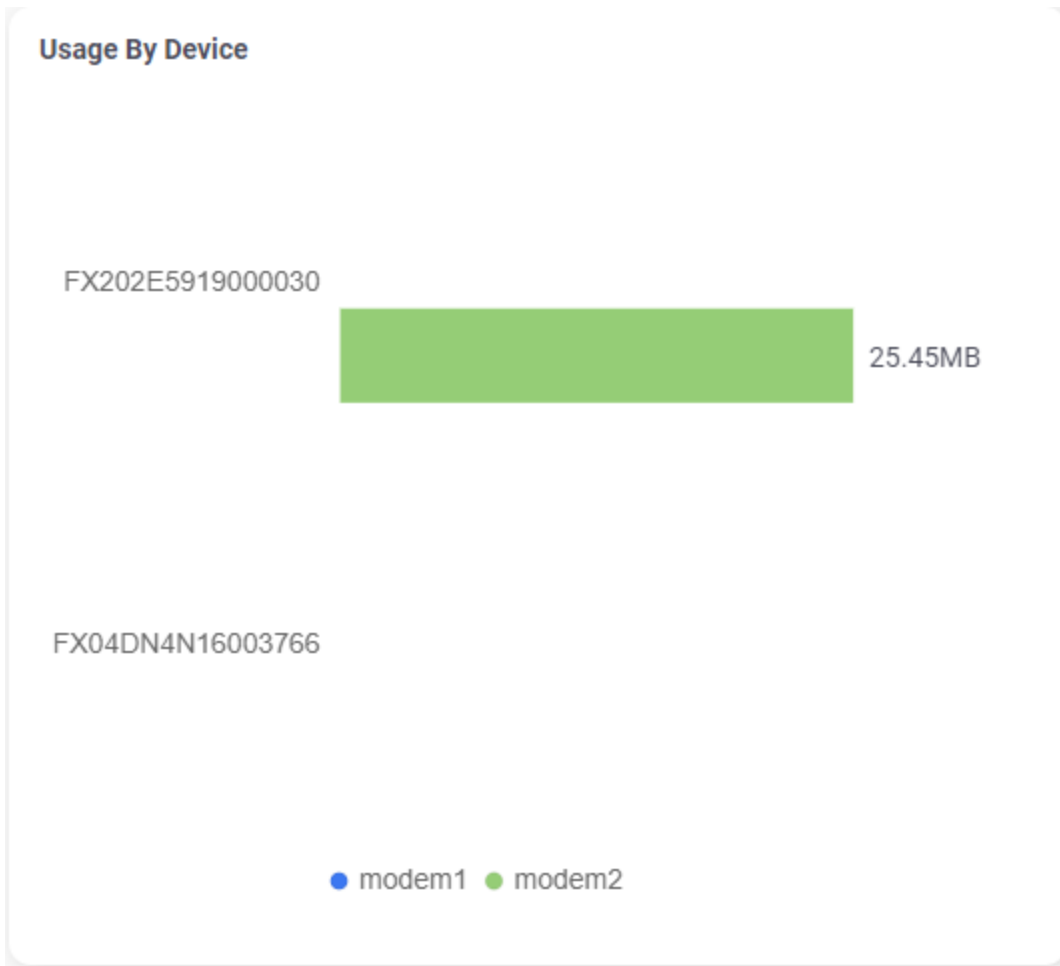
The top of the Dashboard page shows the number of devices under each availability status.



Device Status	Description
Online Devices	The device is connected to FortiExtender Cloud.
Offline Devices	The device is deployed but not connected to FortiExtender Cloud.
Inventory Devices	The device is registered in FortiCare but not deployed in FortiExtender Cloud.

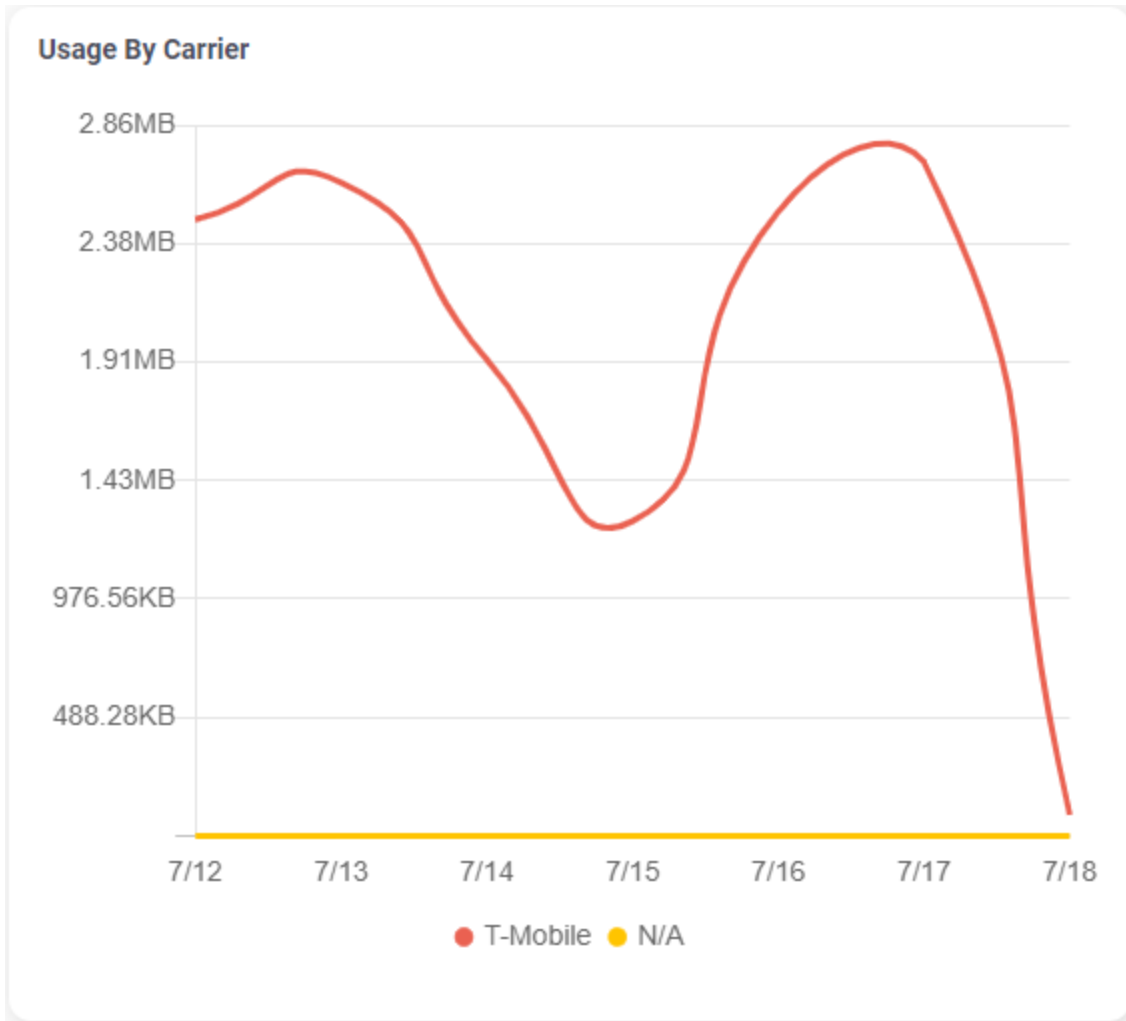
## Usage by Device

This bar graph shows the top 10 devices that have consumed the most data in terms of MB.



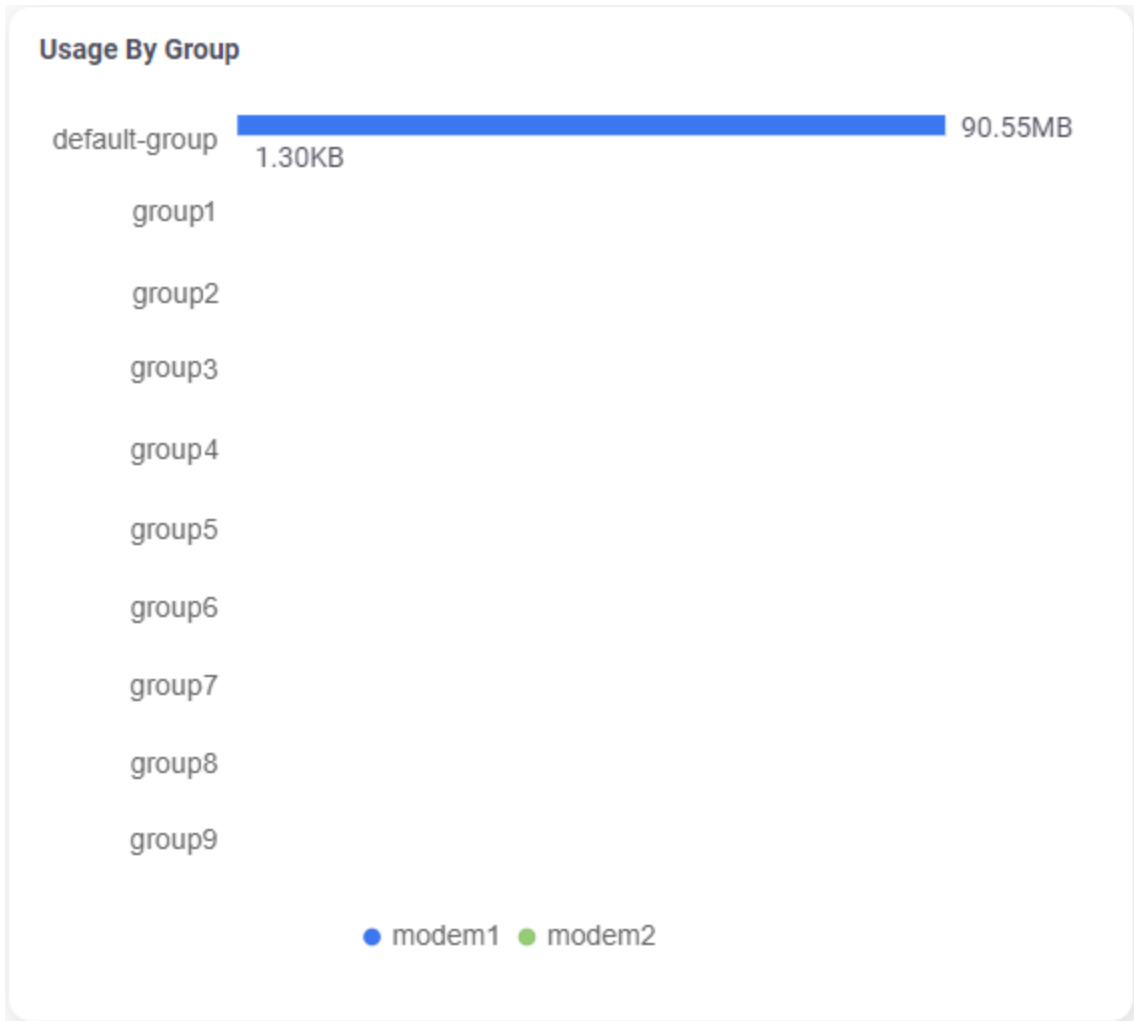
### Usage by Carrier

This line graph shows the amount of data used by each carrier over time. Hold the pointer over a specific day to see the exact amount of data used by each carrier on that day.



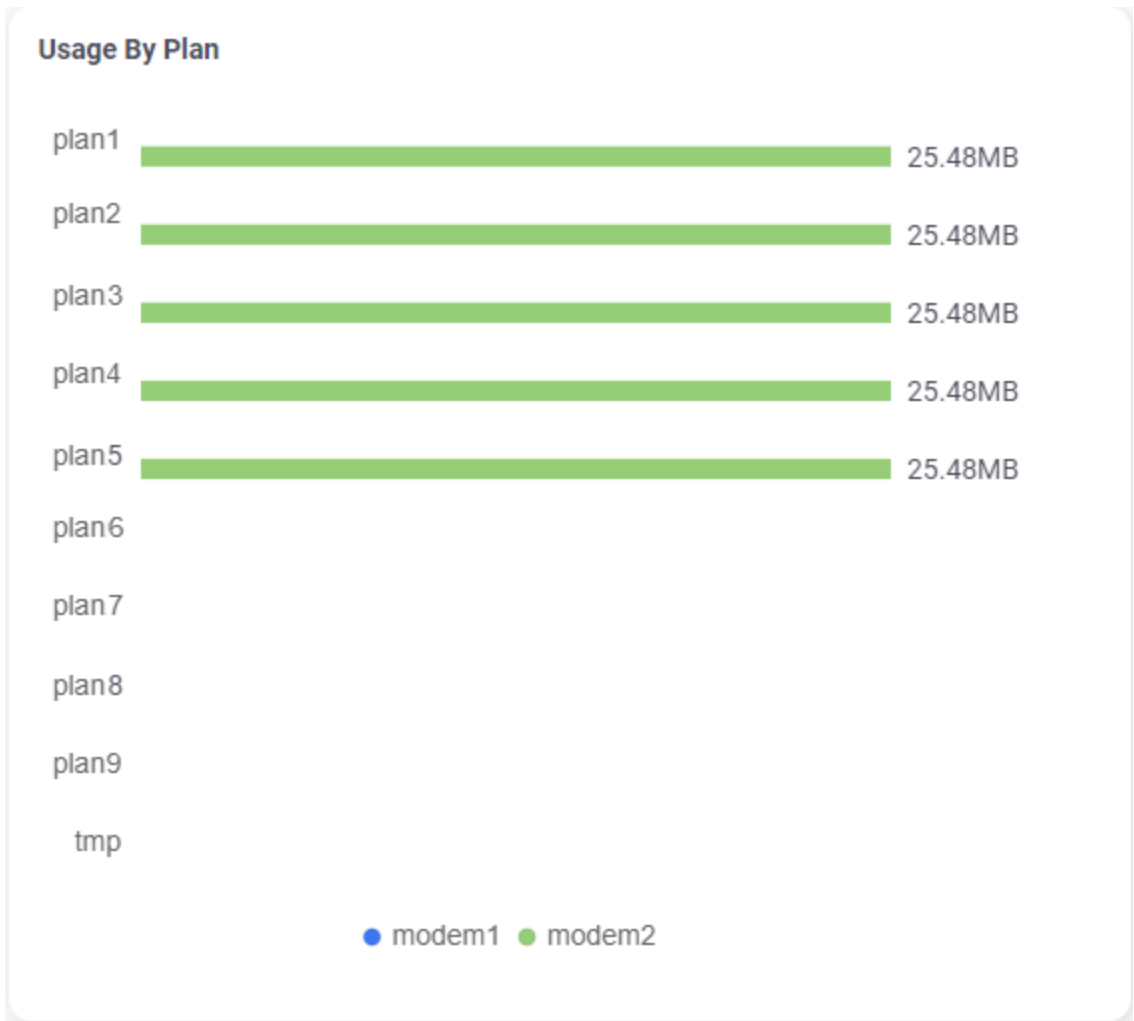
### Usage by Group

This bar graph shows the amount of data used by the devices in each device group.



### Usage by Plan

This bar graph shows the amount of data used by each plan.



# Manage profiles

Profiles are templates that contain general configuration settings and carrier plans that can be applied to multiple devices. All devices must be associated with a profile before they can be deployed.

The Profile page lets you:

- [Create profiles](#)
- [View and modify profile configurations](#)
- [Delete profiles](#)

## Create profiles

You must create and apply profiles to devices before you can deploy them.

### To create a profile

1. From the Navigation bar, go to **Profile**.
2. Click **Add Profile** to create a new profile.  
The Add Profile window loads.
3. Complete the following fields:

Field Name	Description
Profile Name	Enter a name for the profile. <b>Note:</b> Valid characters are: lower case (a - z), upper case (A - Z), and special characters (@ . - _). Spaces are not permitted.
Hardware Platform	Select the hardware platform/model you want to apply the profile to.

4. Click **Add**.  
The Profile Settings page loads.
5. Configure the following fields:

Field Name	Description
<b>General Settings</b>	
Work Mode	Select a work mode. <ul style="list-style-type: none"> <li>• <b>NAT</b> — The FortiExtender device works as a gateway of the subnet behind it, forwarding all the traffic between the LAN and LTE WAN. Note that NAT mode is not supported in devices running OS version 3.3.</li> <li>• <b>IP PASS</b> — The FortiExtender distributes the WAN IP address provided by the Network Service Provider to the device behind it.</li> </ul>



Field Name	Description
<b>Modem1 Settings and Modem2 Settings</b>	
Sim1 PIN	Enter a pin code for your Sim1 card (if applicable).
Sim2 PIN	Enter a pin code for your Sim2 card (if applicable).
Report Interval	Specify a desired report interval in seconds.
Default SIM	<p>If there are two SIM cards, select how you want to define the default SIM card:</p> <ul style="list-style-type: none"> <li>• <b>By Carrier</b> — Select the SIM card with the preferred carrier. You can define the preferred carrier by arranging the order of plans under the <a href="#">Add Plan</a> section in the Profile page.</li> <li>• <b>By Cost</b> — Select the SIM card with the lowest Monthly fee. You can specify the Monthly fee from the <a href="#">Plan page</a>.</li> <li>• <b>SIM 1</b> — Select the SIM card in the SIM1 slot.</li> <li>• <b>SIM 2</b> — Select the SIM card in the SIM2 slot.</li> </ul>
Auto Switch	<p>Select which event triggers automatic switching between SIM cards. You can select more than one event:</p> <ul style="list-style-type: none"> <li>• <b>Plan Capacity</b> — Switch when your data plan hits your specified data limit and overage is disabled. You can specify data limit from the <a href="#">Plan page</a>.</li> <li>• <b>SIM Signal</b> — Switch when the Received Signal Strength Indicator (RSSI) value drops below -100 for 600 seconds. You can configure the default values from the <a href="#">Plan page</a>.</li> <li>• <b>SIM Disconnect</b> — Switch when a SIM card disconnects a certain number of times in a specified time period. <ul style="list-style-type: none"> <li>◦ SIM Disconnect Threshold: Enter the number of times a SIM card can disconnect.</li> <li>◦ SIM Disconnect Period: Enter the time period in seconds.</li> </ul> </li> <li>• <b>Switch Back by Time</b> — Switch at a certain time of the day. <ul style="list-style-type: none"> <li>◦ Switch Back Time: Enter the time (hh:mm) for when you want to switch SIM cards.</li> </ul> </li> <li>• <b>Switch Back By Period</b> — Switch after a certain amount of time has elapsed. <ul style="list-style-type: none"> <li>◦ Switch Back Period: Enter the time in seconds.</li> </ul> </li> </ul> <p><b>Note:</b> Automatic switching will not occur if you enable the overage function under Plan configuration and also exceed the specified data limit.</p>
<b>Plan Settings</b>	
Add Plan	<p>Add existing carrier plans to your profile.</p> <p><b>Note:</b> If you select the By Carrier option for defining a Default SIM, you can define the preferred carrier by rearranging the Plans in this section. Plans are prioritized based on their order, with the top plan being the most preferred.</p>

Field Name	Description						
	Name	Carrier	Capacity	Modem	Slot	Type	Delete
☰	ExamplePlan2	AT&TINAM	1024 MB	modem1	sim1	by-default	✖
☰	ExamplePlan	A1MobilKomjEU	1024 MB	modem1	sim1	by-default	✖

[+ Add Plan](#)

Drag each drop each plan in the preferred order.

- Click **Save** to save the profile.  
The new profile is created. You can return to the Profile page to see it.

## View and modify profile configurations

After you create a profile, you can view the profile's configurations and modify them if necessary. You can also see which devices or groups your profile is applied to.

### To modify a profile's configurations

- In the navigation bar, click **Profile**.  
The Profile page loads.
- In the list of profiles, locate and click the profile you want to view.  
The Profile Settings page loads, letting you see and modify the profile's configurations.
- Click Save to confirm your changes.  
FortiExtender Cloud saves the profile changes.



Modifying a profile causes the devices associated with it to reboot.

1.

## Delete profiles

FortiExtender Cloud lets you delete profiles you no longer need.



You cannot delete profiles that are associated with a device or group. You must first reassign each device or group to a new profile before you can delete the old profile (for more information, see [Change a device's profile on page 37](#) and [Change a group's profile on page 29](#)).

### To delete a profile

1. In the navigation bar, click **Profile**.  
The Profile page loads.
2. In the list of profiles, locate and click the profile you want to delete.  
The Profile General Settings page loads.
3. At the bottom of the page, check to ensure there are no devices or groups associated with the profile.

Status	State	Serial Number	Hostname	Model
📶	✔️	FX202E5919000082	FX202E5919000082	FX202E

If there are devices or groups associated with the profile, you must reassign each device/group to a new profile. You cannot delete a profile until all affected devices/groups have a new profile (for more information, see [Change a device's profile on page 37](#) and [Change a group's profile on page 29](#)).

4. In the upper-left of the page, click **Remove Profile**.  
A Confirm Template Deletion window loads.
5. Click **Yes**.  
FortiExtender Cloud deletes the profile.

# Manage device groups

FortiExtender Cloud lets you sort devices into groups. You can use groups to organize your devices by department, region, data plan, wireless carrier, or in any other category. After grouping them, you can choose to upgrade the firmware for the devices in each group. A device can only be placed into one group at a time and each group must have at least one profile.

The Group page lets you:

- [Create groups](#)
- [Add a device to a group](#)
- [View group details](#)
- [Change a group's profile](#)
- [Upgrade device firmware by groups](#)
- [Export grouped devices](#)
- [Delete a group](#)

## Create groups

FortiExtender Cloud lets you create groups before you deploy your devices.

### To create a group

1. From the Navigation bar, go to **Group**.  
The Group page loads.
2. Click **Add Group** to create a new group.  
The Add Group window loads.
3. Complete the following fields:

Field Name	Description
Group Name	Enter a name for the group. <b>Note:</b> Valid characters are: lower case (a - z), upper case (A - Z), and special characters (@ . - _). Spaces are not permitted.
Profile for Single Modem	Select a profile that applies to devices with a single modem.
Profile for Dual Modem	Select a profile that applies to devices with a dual modem.

4. Click **Apply**.  
The Group Settings page loads.
5. Verify that your group settings are correct.

## Add a device to a group

After creating a group, you can add devices to it.


### To add a device to a group

1. In the navigation bar, click **Group**.  
The Group page loads.
2. In the list of groups, click the group that you want to add a device to.  
The Group Detail page loads.
3. At the top of the page, click **Add Devices**.  
The Add devices to group window loads.
4. In the Device SN field, enter the serial number of the device you want to add.  
You can add multiple devices to the group by separating the device serial numbers with a comma.
5. Click **Add**.  
FortiExtender Cloud adds the device to the group.

## View group details

You can view information about a group from the Group page. The Group page lists all your groups, displays the number of devices in each group, the profile of each group, and enables you to export a list of devices in each group (see [Export grouped devices on page 31](#)). You can also use the search field to search for a specific group.

### To view a group's details

1. In the navigation bar, click **Group**.  
The Group page loads.  
**Note:** You can search for specific groups by entering the group name into the search field, and then clicking **Search** .
2. In the list of groups, locate and click the group you want to view.  
The Group Details page loads, displaying all the devices in that group, their status, state, serial number, hostname, and device model. You can see and change the profile for that group (see [Change a group's profile on page 29](#)), as well as upgrade the firmware for devices in that group (see [Upgrade device firmware by groups on page 30](#)).

## Change a group's profile

After you create a group, you can check the group's current profile or profiles, and change them if necessary.

### To change a group's profile

1. In the navigation bar, click **Group**.  
The Group page loads.
  2. In the list of groups, click the group you want to change profiles for.  
The Group Detail page loads.
  3. Click **Edit Group**.  
The Edit Group window loads.
  4. Select the profile you want to apply to the group.
  5. Click **Apply**.  
The new profile is applied to the group.
- 



Modifying a group's profile causes the devices associated with the group to reboot.

---

## Upgrade device firmware by groups

You can use groups to organize devices and determine which devices need firmware upgrades. This gives you more insight and control when managing a large number of devices.

### To upgrade the firmware for a grouped device

1. In the navigation bar, click **Group**.  
The Group page loads.
  2. In the list of groups, click the group you want to upgrade the device firmware for.  
The Group Detail page loads.
  3. From the list of devices in the group, select the checkbox for each device you want to upgrade.  
You can select multiple devices at once.
  4. At the top of the page, click **Upgrade**.  
The Upgrade Firmware window loads.
  5. From the drop-down list, select which OS or modem firmware you want to upgrade the device to. You can also upload a firmware file from your local machine.
- 



Check the [FortiExtender Upgrade Guide](#) before upgrading your firmware. Upgrading the OS firmware before you upgrade the modem firmware can cause connection issues.

---

6. Click **Upgrade**.  
FortiExtender Cloud upgrades the selected devices.
- 



Upgrading a device's OS or modem firmware causes the device to reboot.

---

## Export grouped devices

Using the Export Groups option, you can export a list of grouped devices in a CSV file.

### To export your grouped devices

1. In the navigation bar, click **Group**.  
The Group page loads.
2. Click **Export Groups**.
3. Save the CSV file.

## Delete a group

FortiExtender Cloud lets you delete groups you no longer need.



You cannot delete groups that contain devices. You must first remove all the devices before you can delete the group.

---

### To delete a group

1. In the navigation bar, click **Group**.  
The Group page loads.
2. In the list of groups, locate and click the group you want to delete.  
The Group Detail page loads.
3. Ensure that there are no devices in the group.  
**Note:** You cannot delete a group until all associated devices are removed from the group.
  - If there are devices in the group, select the checkbox by each device and click **Remove Devices**, and then confirm.
4. At the top of the page, click **Remove Group**.  
A Confirm Group Deletion window loads.
5. Click **Yes**.  
FortiExtender Cloud deletes the group and reloads the Group page.

## Manage carrier plans

The FortiExtender Cloud Plan page lets you create data plans and apply them to profiles and individual devices.

The Plan page displays information about each plan's carrier company, data capacity, as well as the plan fee and billing date. You can also see which plans have permission to exceed your allotted data limits.

The Plan page lets you:

- [Add plans](#)
- [View and modify plan configurations](#)
- [Delete plans](#)

## Add plans

FortiExtender Cloud lets you create plans to specify your carrier and the limits of your data plan. After creating a plan, you can add it to a profile to push it onto a device.



Before creating your plan, you must have the following information ready:

- The name of your carrier
  - Your Access Point Name (APN)
  - Your authentication type (None, CHAP, PAP)
  - Your plan's billing date
  - Your plan's total capacity (in MB)
  - If your plan is an individual plan or a pooled plan
  - Your plan's overage limits (if any)
  - Your plan's security mode (NAT or IP PASS)
- 

### To add a plan

1. In the navigation bar, click **Plan**.

The Plan page loads.

2. In the upper-left corner of the page, click **Add Plan**.

The Add Plan window loads.

3. In the Plan Name field, enter a plan name.

**Note:** Valid characters are: lower case (a - z), upper case (A - Z), and special characters (@ . - \_). Spaces are not permitted.

4. Click **Add**.

The Plan Detail page loads.

5. Make the required entries or selections as described in the following table:



Field Name	Description
<b>General Plan Settings</b>	
Plan Name	Enter a name for the plan.
Mode	Select how your modem chooses a wireless network standard: <ul style="list-style-type: none"> <li>• <b>AUTO</b> — Automatically select the wireless network standard.</li> <li>• <b>AUTO_3G</b> — Automatically select the wireless network standard with 3G having the highest priority.</li> <li>• <b>FORCE_2G</b> — Select the 2G wireless network standard.</li> <li>• <b>FORCE_3G</b> — Select the 3G wireless network standard.</li> <li>• <b>FORCE_LTE</b> — Select the LTE wireless network standard.</li> </ul>
Modem	Select the number of modems on the device that this plan will be associated with.
Slot	Select which SIM slot you want to apply the plan to.
Type	Select how a plan applies configurations to a SIM: <ul style="list-style-type: none"> <li>• <b>By-default</b> — This plan will apply to any SIM card inserted.</li> <li>• <b>By-carrier</b> — This plan will apply to the SIM card with the plan's specified carrier.</li> <li>• <b>By-slot</b> — This plan will apply to the SIM inserted the plan's specified slot.</li> </ul> <p><b>Note:</b> Assigning a type only applies to devices running OS 4.2.0 and later.</p>
<b>Carrier Settings</b>	
Type	Select a carrier setting type: <ul style="list-style-type: none"> <li>• <b>Built-In</b> — Select from a list of commonly used mobile phone service carriers.</li> <li>• <b>Customized</b> — Lets you add your own carrier.</li> </ul> <p>To add your own carrier, click the <b>+ Add New Carrier</b> button and complete the fields, and then click <b>APPLY</b>.</p>
Region	Select the region where your device is to be deployed.
Carrier	If you selected the Built-In type, select your carrier.
<b>Authentication Settings</b>	
APN	Enter the Access Point Name of your plan.
Type	Select your plan's authentication type: <ul style="list-style-type: none"> <li>• <b>CHAP</b> — Challenge-Handshake Authentication Protocol, authenticated with a unique challenge phrase.</li> <li>• <b>PAP</b> — Password Authentication Protocol, authenticated with a static user name and password combination.</li> <li>• <b>None</b> — No authentication.</li> </ul>
Username	Enter your username. <b>Note:</b> This field is only enabled if you have CHAP or PAP authentication selected.
Password	Enter your authentication password. <b>Note:</b> This field is only enabled if you have CHAP or PAP authentication selected.

Field Name	Description
<b>Billing Settings</b>	
Billing Date	Enter the plan's monthly billing date.
Pooled	Enable if your plan is a group plan.
Monthly Fee	Enter how much the plan costs per month
Overage	Enable if you want to allow your plan to exceed its data usage limit. <b>Note:</b> Enabling the overage function prevents Smart Switch from automatically switching to the secondary SIM card after the first card hits its data limit
<b>Auto Switch</b>	
Capacity	Enter your plan's data capacity in MB.
Signal Threshold	Enter a threshold for an allowable Received Signal Strength Indicator (RSSI) value. If the RSSI value drops below this amount for a specified time period, this can trigger Automatic SIM switching.
Signal Period	Enter the allowable length of time in seconds in which an RSSI value can drop below the specified threshold. If the RSSI value is below the threshold for more than this time period, this can trigger Automatic SIM switching.

6. Click **Save**.

The new plan is created. You can return to the Plan page to see it.

## View and modify plan configurations

After you create a plan, you can view the plan's configurations and modify them if necessary. You can also see which devices or profiles your plan is applied to.

### To modify a plan's configurations

- In the navigation bar, click **Plan**.  
The Plan page loads.
- In the list of plans, locate and click the plan you want to view.  
The Plan Detail page loads, letting you see and modify the plan's configurations
- Click **Save** to confirm your changes.  
A Confirm Plan Changes window loads.
- Click **Close**.  
FortiExtender Cloud saves the modified plan.



Modifying a plan causes the devices associated with it to reboot.

## Delete plans

FortiExtender Cloud lets you delete plans you no longer need.

---



You cannot delete plans that are associated with a device or profile. You must first reassign each device or profile to a new plan before you can delete the old plan.

---

### To delete a plan

1. In the navigation bar, click **Plan**.  
The Plan page loads.
2. In the list of plans, locate and click the plan you want to delete.  
The Plan Detail page loads.
3. At the bottom of the page, check the Affected Devices and Affected Profiles section to ensure there are no profiles or devices associated with the plan.  
If there are profiles or devices associated with the plan, you must reassign each profile/device to a new plan. You cannot delete a plan until all affected profiles and devices have a new plan.
4. At the top of the page, click **Remove Plan**.  
A Confirm Plan Deletion window loads.
5. Click **Yes**.  
FortiExtender Cloud deletes the plan and reloads the Plan page.

# Manage devices

Undeployed devices are listed in the Inventory page while deployed devices are listed in the In Service page.

From the In Service page, you can see your device's availability status and deployment state, and manage your device configurations. Through the In Service page, you can change your device groups and profiles, modify individual device configurations, undeploy active devices, and sync device configurations with the cloud.

From the In Service page, you can:

- [View your devices](#)
- [Change a device's profile](#)
- [Change a device's group](#)
- [Undeploy devices](#)
- [Remove a device](#)
- [Upgrade OS and modem firmware](#)
- [Monitor and manage a deployed device](#)
- [Edit a device's configuration](#)
- [Sync devices](#)

## View your devices

The In Service page and Inventory page contains all the FortiExtender devices associated with your account.




## In Service devices

The In Service page contains FortiExtenders that have been deployed, but not necessarily fully installed or synced.

### To access the In Service page

1. From the navigation bar, go to **Device > In Service**.  
The In Service page loads with all your deployed devices.

These devices are categorized into the following states:

Device States	Description
 Deploying	The device is in the process of being deployed.
 Deployed	The device is fully installed and synced with the firmware configurations from FortiExtender Cloud.
 Syncing	The device is currently syncing its configurations with FortiExtender Cloud. The device will reboot during the syncing process.

You can use **Filters** to filter your deployed devices by their availability status, device state, carrier, model, profile, group, modem version, and OS version.

Under the Data Usage column, you can see the amount of data used by each device over the past month.

## Inventory devices

The Inventory page contains FortiExtenders that are registered in FortiCare, but not yet deployed.

### To access the Inventory page

1. From the navigation bar, go to **Device > Inventory**.

The Inventory page loads with all your undeployed devices.

From the Inventory page, you can see when your devices were first shipped out, when they were registered, and how they were registered.

---

### Adding devices



You cannot add devices into FortiExtender Cloud directly. Your registered devices are automatically pulled from your FortiCare account and listed in the Inventory page.

If you do not see your devices in the Inventory page, log into your FortiCare account at <https://support.fortinet.com> and go to **Asset > Register/Activate** to register your FortiExtender devices. After your devices are registered, refresh your FortiExtender Cloud session to update your device list.

For more information, see [Step 1: Register and add your devices on page 10](#).

---

## Change a device's profile

The In Service page lets you change the profile of deployed devices.

### To change a device's profile

1. From the navigation bar, click **Device > In Service**.  
The In Service page loads.
2. From the list of In Service devices, locate the device that you want to change profiles for.
3. Select the checkbox for your device, and click **Swap Profile**.



You can select multiple checkboxes to change the profile of multiple devices.

---

The Swap Profile window loads.

4. From the list of profiles, select the profile you want to swap to, and click **Apply**.  
FortiExtender Cloud applies the new profile to the device.



Changing a device's profile causes the device to reboot.

---

## Change a device's group

The In Service page lets you change the group of deployed devices.

### To change a device's group

1. From the navigation bar, click **Device > In Service**.  
The In Service page loads.
  2. From the list of In Service devices, locate the device that you want to change groups for.
  3. Check the checkbox for your device, and click **Re-Group**.
- 



You can select multiple checkboxes to change the group of multiple devices.

---

The Re-Group window loads.

4. From the list of groups, select the group you want to change to, and click **Apply**.  
A Confirm Discard Profile window loads, asking if you want to keep or discard the existing device's profile.
  5. Select the profile option you want for your device.
    - **Keep** — Keep your device's current profile.
    - **Discard** — Discard your device's current profile and apply the profile from the selected group.
- 



Device profiles are given precedence over group profiles.

---

FortiExtender Cloud assigns your device to the new group.

---



Modifying a device's group causes the devices associated with it to reboot.

---

## Undeploy devices

When a device is no longer needed, you can undeploy the device and move it to the Inventory page.

### To undeploy a device

1. From the navigation bar, click **Device > In Service**.  
The In Service page loads.
2. From the list of In Service devices, locate the device that you want to undeploy.
3. Check the checkbox for your selected device, and click **Un-Deploy**.



You can check multiple checkboxes to undeploy multiple devices.

---

A Confirm Undeployment window loads.

4. Click **Yes**.  
FortiExtender Cloud begins the undeployment process and moves the device to the Inventory page.

## Remove a device

You can remove devices from the Inventory page if they were added to FortiExtender Cloud with a Cloud Key. You cannot remove the devices that have been pulled from your FortiCare account. If you have accidentally added a device to the wrong FortiCare account, contact support at <https://support.fortinet.com>.

### To remove a device

1. From the navigation bar, click **Device > Inventory**.  
The Inventory page loads.
2. Locate the device that you want to remove.
3. Check the checkbox for the device, and click **Remove Device**.



You can select multiple checkboxes to remove multiple devices.

---

A Confirm Remove window loads.

4. Click **Yes**.  
FortiExtender Cloud removes the device from your account.

## Upgrade OS and modem firmware

Once you deploy a device, you can upgrade the device OS and modem firmware from (1) the In Service page, and (2) from the device's details page. You can also update the OS and modem firmware from the Group page (see [Upgrade device firmware by groups on page 30](#)).

### To upgrade a device's firmware from the In Service page

1. From the navigation bar, click **Device > In Service**.  
The In Service page loads.
2. From the list of In Service devices, locate the device that you want to upgrade.  
You can select multiple devices at once.
3. Check the checkbox for your selected device, and click **Upgrade**.  
An Upgrade Firmware window loads.
4. From the drop-down menus, select which OS or modem firmware you want to upgrade the device to. You can also upload a firmware file from your local machine.



Check the [FortiExtender Upgrade Guide](#) before upgrading your firmware. Upgrading the OS firmware before you upgrade the modem firmware can cause connection issues.

5. Click **Upgrade**.  
FortiExtender Cloud upgrades the device.



Upgrading a device's OS or modem firmware causes the device to reboot.

## Monitor and manage a deployed device

After you deploy a device, you can access the Device details page to monitor its usage statistics and status information, and remotely manage the device.

### Device details

Each device has a details page containing information specific to that device.

#### To view device details

1. From the navigation bar, click **Device > In Service**.  
The In Service page loads.
2. From the list of In Service devices, click the device that you want to view.  
The Device Detail page loads, displaying details about the device.

Device Details Section	Content
General Information	Contains the following general information about the device: <ul style="list-style-type: none"> <li>• Availability Status</li> <li>• Device State</li> <li>• Serial number</li> </ul>




Device Details Section	Content
	<ul style="list-style-type: none"> <li>• Hardware model</li> <li>• Hostname</li> <li>• Profile</li> <li>• Group</li> </ul>
System Information	Contains the following information about the device's system: <ul style="list-style-type: none"> <li>• Work Mode</li> <li>• OS firmware version</li> <li>• Modem firmware version</li> <li>• Carrier plans</li> <li>• IP Address</li> <li>• Latitude and Longitude</li> </ul>
Modem1 and Modem2 Information	Contains the following information about the device Modem(s): <ul style="list-style-type: none"> <li>• Report Interval in seconds</li> <li>• Data used for the month</li> <li>• IMEI</li> <li>• Default SIM</li> <li>• Auto Switch configurations</li> <li>• ICCID: Integrated Circuit Card Identifier</li> <li>• IMSI: International Mobile Subscriber Identity</li> <li>• Carrier: SIM card carrier company</li> <li>• Signal: Current signal strength</li> </ul>
Device usage statistics	An interactive chart of your device's SIM signal strength and throughput history. See <a href="#">Monitor and manage a deployed device on page 40</a>

## Manage a remote device

From the Device Detail page, you can remotely access the FortiExtender command-line interface (CLI) as well as edit, upgrade, reboot, and reset the device.

At the top of the Device Detail page, there are several ways to manage your deployed device:

Button Name	Description
Upgrade	Upgrade the OS and modem firmware of the device. You can choose from a list of recommended firmware versions, or upload a firmware file from your computer. <hr/> <div style="display: flex; align-items: center;">  <p>Check the <a href="#">FortiExtender Upgrade Guide</a> before upgrading your firmware. Upgrading the OS firmware before you upgrade the modem firmware can cause connection issues.</p> </div> <hr/> <p><b>Note:</b> Upgrading a device's OS or modem firmware causes the device to reboot.</p>
Reboot	Reboot the device.
Edit	Edit the configurations of the device. See <a href="#">Edit a device's configuration on page 44</a>

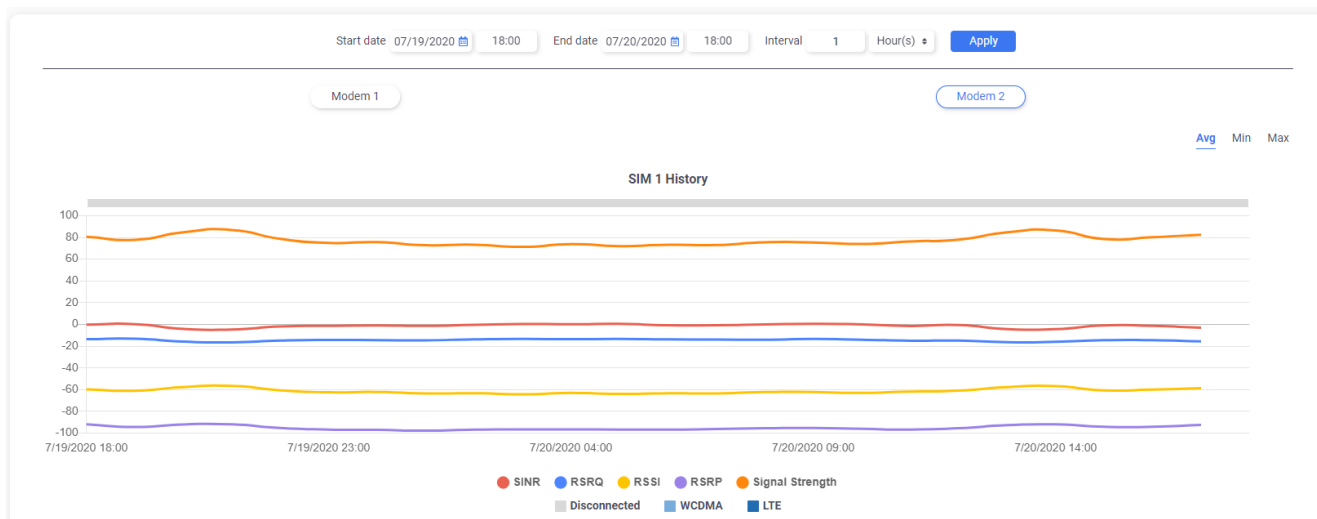
Button Name	Description
Factory Reset	Reset the device to default factory settings.
Console	Access the CLI of the device. <b>Note:</b> The default login is "admin", with no password. We recommend that you immediately change your password to secure your device. For instructions on changing your password, see <a href="#">Changing the administrative password on page 43</a> .

## SIM History graph

The Device Detail page contains an interactive chart of your SIM signal strength and throughput history, allowing you to monitor your device's usage statistics. You can sort the graph by date and time as well as set a time interval to breakdown the data.

You can use the Avg, Min, and Max filters to display data based the average, maximum, or minimum values in that set time interval.

If your device has multiple modems, you can toggle between Modem 1 and Modem 2.



## SIM History key

Acronym	Definition	Signal Quality values*
SINR	Signal-to-Interference-plus-Noise Ratio <ul style="list-style-type: none"> <li>Used to measure 4G (LTE) services.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; 12.5 dB: Excellent</li> <li>10 dB to 12.5 dB: Good</li> <li>7 dB to 10 dB: Fair</li> <li>&lt; 7 dB: Poor</li> <li>0 dB: No Signal</li> </ul>
RSRQ	Reference Signal Received Quality <ul style="list-style-type: none"> <li>Used to measure 4G (LTE) services.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; -5 dB: Excellent</li> <li>-5 dB to -9 dB: Good</li> <li>-9 dB to -12 dB: Fair</li> <li>&lt; -12 dB: Poor</li> </ul>

Acronym	Definition	Signal Quality values*
RSSI	Received Signal Strength Indicator <ul style="list-style-type: none"> <li>Used to measure both 3G and 4G (LTE) services.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; -65 dBm: Excellent</li> <li>-65 dBm to -75 dBm: Good</li> <li>-75 dBm to -85 dBm: Fair</li> <li>&lt; -85 dBm: Poor</li> <li>-110 dBm: No signal</li> </ul>
RSRP	Reference Signal Received Power <ul style="list-style-type: none"> <li>Used to measure 4G (LTE) services.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; -84 dBm: Excellent</li> <li>-84 dBm to -102 dBm: Good</li> <li>-102 dBm to -111 dBm: Fair</li> <li>&lt; -111 dBm: Poor</li> </ul>



\*These Signal Quality values are Fortinet approximations; your actual quality will vary depending on your carrier. Contact your carrier for more accurate measurements.

### Throughput key

Acronym	Definition
RX	Received data
TX	Transmitted data
RX+TX	Received and Transmitted data

## Common CLI commands

This section contains a list of common CLI commands for your FortiExtender device. For a full list of CLI commands, refer to the [FortiExtender Administration Guide](#).

### Changing the administrative password

When you first access the CLI of your FortiExtender device, the default password is blank. We strongly recommend that you create a new password to secure your FortiExtender.

```
execute shell
~ passwd
```

Execute the device shell and enter "passwd" to change the password on your FortiExtender.

**Note:** This is the only way to change the password on a FortiExtender running OS firmware 4.0 and earlier.

```
execute change-password
```

Change the password on a FortiExtender running OS firmware 4.1 and later.

### Troubleshooting commands

You can use the following status and debug commands to check the device status and debug accordingly.

### Status CLI Commands

<code>get system version</code>	Shows the device's hardware and software versions.
<code>get extender status</code>	Displays the device's synchronization status with FortiExtender Cloud.
<code>get cpm status</code>	Provides the device's SSL tunnel information and connectivity status.
<code>get modem status</code>	Details the cellular modem's status.

### Logging and Debugging

<code>execute debug log-to-console on</code>	Displays logs on telnet or the cloud console terminal.
<code>execute debug log-to-console off</code>	Turns off logs on telnet or the cloud console terminal.
<code>execute debug clear</code>	Turns off all enabled logging.
<code>execute debug EXTD info on</code>	Turns on extender information logging.
<code>execute debug EXTD info off</code>	Turns off extender information logging.
<code>execute debug CPM info on</code>	Turns on cpm information logging.
<code>execute debug CPM info off</code>	Turns off cpm information logging.
<code>execute debug CONNMGR info on</code>	Turns on modem's information logging.
<code>execute debug CONNMGR info off</code>	Turns off modem's information logging.



Log-to-console commands are not required while accessing the device over the serial console port. They are only applicable to telnet or cloud console terminals.

## Edit a device's configuration

After you deploy a device, you can override the set configurations through the Device Detail page. The configurations made directly to an individual device take higher priority over the configurations set by a profile or group.

### To edit a device's configuration

1. From the navigation bar, click **Device > In service**.  
The In Service page loads.
2. From the list of deployed devices, click the device that you want to view.  
The Device Detail page loads.
3. On the upper-left corner of the page, click **Edit**.  
The Edit Device Configuration window loads, letting you override existing settings.

Field Name	Description
<b>General Settings</b>	
Host Name	Change the host name of the device.
Location	Select to override the current location of your device. Then enter in the latitude and longitude to specify the device's location.
Work Mode	Select to override the Work Mode applied to your device. Then select the work mode you want.
<b>LTE Settings</b>	
Plans	Select to override the Carrier plan applied to your device. Then add or remove the carrier plan applied to your device. You can sort the carrier plan by your desired order.
<b>Modem1 and Modem 2 Settings</b>	
Report Interval	Select to override the Report Interval applied to your device. Then enter in the report interval in seconds for your device.
Sim1 PIN	Select to override the current PIN code of your Sim1 card. Then enter a pin code for your Sim1 card.
Sim2 PIN	Select to override the current PIN code of your Sim2 card. Then enter a pin code for your Sim2 card.
Default SIM	If there are two SIM cards, select how you want to define the default SIM card.
Auto Switch	Select to override the current Smart Switch configuration applied to your device. Then select the Smart Switch setting you want.

- When you finish editing the device's configuration, click **Apply**. FortiExtender Cloud applies the new configurations to the device.



Editing a device's configuration causes the device to reboot.

## Sync devices

If you have made local modifications to your device and want to overwrite those local changes, you can manually push configurations from FortiExtender Cloud to your devices to sync them.

### To sync devices

- From the navigation bar, click **Device > In Service**.  
The In Service page loads.
- From the list of In Service devices, locate the device that you want to sync.

3. Check the checkbox for your selected device, and click **Sync**.  
A Confirm Sync Device window loads.
4. Click **Yes** to confirm.  
FortiExtender Cloud syncs the device.



Syncing a device causes the device to reboot.

---

# Manage users

FortiExtender Cloud features Role Based Access Control (RBAC), which lets administrators add users to FortiExtender Cloud and assign them permission roles.

Administrators cannot add users into FortiExtender Cloud directly; new users must be added through the administrator's FortiCare account. When users are added to FortiCare, they are also automatically added into FortiExtender Cloud where administrators can assign them permission roles.



This topic contains instructions for:

- [Adding a new user](#)
- [Assigning a user role](#)
- [Removing a user](#)
- [Managing email notifications](#)

## Add a user

FortiExtender Cloud administrators can add new users to FortiExtender Cloud via FortiCare.


### To add a new user to your FortiExtender Cloud account

1. Log into <https://support.fortinet.com>.
2. In the top-right corner of the Home page, click the **Account**  icon.  
The Account Profile page loads.
3. In the side bar, click **Manage User**.  
The Manage User view loads.
4. Click the **Add New User**  icon.  
The Add User view loads.
5. Enter the user's information into the required fields.
6. Select the desired permissions for your user.  
You can select if the user has access to Customer Service support, begin an RMA process, accesses Technical Assistance, and more.
7. Select the Access level you want the user to have.
  - To grant the user Admin privileges, select **Full Access**.
  - To limit a user's privileges, select **Limit Access**. You can assign either a User or Viewer role to the user from FortiExtender Cloud, see [Assigning a user role on page 48](#). You can also specify which FortiExtender devices you want to limit your user to seeing.
8. When you are finished, click **Save**  
The user will automatically be added into FortiExtender Cloud.

## Assigning a user role

After you add a user with limited access levels from FortiCare (see [Add a user on page 47](#)), you must assign a role to the user. You can assign either a User (read-write) or a Viewer (read only) role to each user.



### To assign a user role

1. From the navigation bar, go to **Account > Users**.  
The Users page loads, displaying a table with all your users.
2. Locate the limited access user you want to assign a role to.
3. Under the Action column, click the **Edit**  icon for the selected user.  
The Edit Role window loads.
4. In the Role drop-down, select either Viewer or User.
  - Users have read-write access.
  - Viewers have read only access.
5. Click **Save**.  
FortiExtender Cloud assigns the role to the user.

## Remove a user

When a user no longer requires access to your FortiExtender Cloud account, you can remove their access via FortiCare.

### To remove a user

1. Log into <https://support.fortinet.com>.
2. In the top-right corner of the Home page, click the **Account**  icon.  
The Account Profile page loads.
3. In the side bar, click **Manage User**.  
The Manage User view loads, loading all your current users.
4. In the Current Users table, locate the user that you want to remove.
5. In the Action column, click the **Delete**  icon for the selected user.  
A delete user confirmation window loads.
6. Click **OK**.  
FortiCare removes the user.



# API

FortiExtender Cloud provides public APIs that allow you access event logs, device information, and the devices in each group. To access the APIs, you must present your FortiExtender Cloud API token.

## To view your API token

1. From the navigation bar, click **Account > API Token**.  
A window loads with your specific API token.



Keep your API token confidential.

## Using the API

### Example of a GET call in Python

```
response = requests.get(url, headers={'Authorization': 'token {}'.format(<your_api_token>)})
```

The body is in Python dictionary format.

### Response status codes

Status Code	Description
200	The request is successful.
403	The server understood the request but refuses to authorize it.
404	Unable to find the specified resource.
500	Internal server error.

If you are unable to connect, contact support at <https://support.fortinet.com>.

## Gather logs

This API is used to gather all device event, user event, and system event logs.

### Request

**Protocol:** HTTPS

**Method:** GET**URL:** [fortiextender.forticloud.com/fext/api/public/v1](https://fortiextender.forticloud.com/fext/api/public/v1)**Path:** /logging/fcld\_event

Response item	Description	Data type	Options	Default
any	A keyword used to search logs.	String		None
category	A specific value for the 'category' field.	String	<ul style="list-style-type: none"> <li>"device"</li> <li>"notification-email"</li> <li>"notification-sms"</li> <li>"profile"</li> <li>"group"</li> <li>"widget"</li> <li>"search"</li> <li>"carrier_plan"</li> <li>"network_plan"</li> <li>"firmware"</li> <li>"role"</li> </ul>	None
event	A specific value for the 'event' field.	String	<ul style="list-style-type: none"> <li>"online"</li> <li>"offline"</li> <li>"delete"</li> <li>"add"</li> <li>"undeploy"</li> <li>"deploy"</li> <li>"update"</li> <li>"create"</li> <li>"remove_device"</li> <li>"reboot"</li> <li>"reset"</li> <li>"factory_reset"</li> <li>"manual_sync"</li> <li>"system_sync"</li> <li>"upgrade firmware"</li> <li>"upload"</li> <li>"license expiration"</li> <li>"admin kickout"</li> <li>"admin notify"</li> </ul>	None
event_source	A specific value for the 'event_source' field.	String	<ul style="list-style-type: none"> <li>"device"</li> <li>"user"</li> <li>"system"</li> </ul>	None

Response item	Description	Data type	Options	Default
level	A specific value for the 'level' field.	String	<ul style="list-style-type: none"> <li>"emergency"</li> <li>"alert"</li> <li>"critical"</li> <li>"error"</li> <li>"warning"</li> <li>"notice"</li> <li>"info"</li> <li>"debug"</li> </ul>	None
size	The number of logs to be retrieved.	Integer		20
sort_by	The specific field by which retrieved logs are sorted. <b>Note:</b> If no options are given, retrieved logs sorts by time in a descending order.	String	<ul style="list-style-type: none"> <li>"time"</li> <li>"level"</li> <li>"event"</li> <li>"event_source"</li> <li>"category"</li> <li>"sn"</li> </ul>	None
sort_order	Sort in ascending or descending order.	String		asc
start	The starting position of logs to be retrieved.	Integer		0

### Example Request

```
https://fortiextender.forticloud.com/fext/api/public/v1/logging/fcld_event?start=0&size=20
```

If successful, the request returns a 200 status code, as well as device information. If unsuccessful, the request returns a 500 status code.

### Example Response

Example user event type logs:

```
{
  "payload": {
    "count": 566,
    "results": [
      {
        "index": 1,
        "time": "2020-02-20 20:44:42",
        "timestamp": 1582260282,
        "level": "info",
        "event": "offline",
        "event_source": "device",
        "category": "device",
        "object": "",
        "user": null,
        "sn": "FX202E5919000030",
        "detail": "",
        "result": null,
        "sort": [
```

```

    1582260282318
  ],
},
...
]
}
}

```

## Export device information

Contains information about the devices in your FortiExtender Cloud account. FortiExtender Cloud retrieves all device information from the account associated with the provided API token. You can specify which group you want to return a device information for.

### Request

**Protocol:** HTTPS

**Method:** GET

**URL:** `fortiextender.forticloud.com/fext/api/public/v1`

**Path:** `/devices`

### Parameters:

Query	Description	Data type	Example
any	A string to search devices. It matches either part of a device's sn or part of device's hostname	String	• <code>?any=621</code>
blueprint_name	A string used as a key to filter devices by profile name.	String	• <code>?blueprint_name=example_profile</code>
carrier	A string used as a key to filter devices by carrier.	String	• <code>?carrier=AT&amp;T</code>
firmware	A string used as a key to filter devices by OS firmware.	String	• <code>?firmware=FX04DA-4.0.1.44.GA</code>
group_name	A string used as a key to filter devices by group name.	String	• <code>?group_name=example_group</code>
model	A string used as key to filter devices by model. Items Enum: <ul style="list-style-type: none"> <li>• "FX04DA"</li> <li>• "FX04DN"</li> <li>• "FX04DI"</li> <li>• "FX201E"</li> </ul>	String	• <code>?model=FX202E</code>

Query	Description	Data type	Example
	<ul style="list-style-type: none"> <li>"FX211E"</li> <li>"FX202E"</li> <li>"FX212E"</li> </ul>		
modem_firmware	A string used as a key to filter devices by modem firmware.	String	<ul style="list-style-type: none"> <li>?modem_firmware=FEM_40D_AMEU-19-0-0-AMERICA</li> </ul>
size	<p>An integer that works with start param to get a range of querying objects.</p> <ul style="list-style-type: none"> <li>objects[start:start + size]</li> </ul> <p>Default: 65536</p>	Integer	<ul style="list-style-type: none"> <li>?size=1000</li> <li>start = 1 size = 2 <ul style="list-style-type: none"> <li>[1: 3]</li> </ul> </li> </ul>
sort_by	<p>A string of field names to get a sorted device list.</p> <p>Items Enum:</p> <ul style="list-style-type: none"> <li>"state"</li> <li>"status" (Default)</li> <li>"model"</li> <li>"blueprint_name"</li> <li>"group_name"</li> <li>"carrier"</li> <li>"firmware"</li> <li>"modem_firmware"</li> </ul> <p>Default: status</p>	String	<ul style="list-style-type: none"> <li>?sort_by=status&amp;sort_by=state</li> <li>sort_by = 'status', 'state', 'sn'; sort_order = 1, -1, 1 <ul style="list-style-type: none"> <li>order by status ascending, by state descending and by sn ascending.</li> </ul> </li> </ul>
sort_order	<p>An integer used as a sorting order, either 1 (ascending) or -1(descending).</p> <p>Items Enum:</p> <ul style="list-style-type: none"> <li>-1 (Default)</li> <li>1</li> </ul>	Integer	<ul style="list-style-type: none"> <li>?sort_order=-1&amp;sort_order=1</li> <li>sort_by = 'status', 'state', 'sn'; sort_order = 1, -1, 1 <ul style="list-style-type: none"> <li>order by status ascending, by state descending and by sn ascending.</li> </ul> </li> </ul>
start	<p>An integer that works with size param to get a range of querying objects.</p> <ul style="list-style-type: none"> <li>objects[start:start + size]</li> </ul> <p>Default: 0</p>	Integer	<ul style="list-style-type: none"> <li>?start=0</li> <li>start = 1 size = 2 <ul style="list-style-type: none"> <li>[1: 3]</li> </ul> </li> </ul>
state	<p>A string used as a key to filter devices by state.</p> <p>Items Enum:</p> <ul style="list-style-type: none"> <li>"inventory"</li> <li>"deploying"</li> <li>"deployed"</li> <li>"syncing"</li> <li>"unsynced"</li> </ul>	String	<ul style="list-style-type: none"> <li>?state=deployed</li> </ul>

Query	Description	Data type	Example
status	A string used as a key to filter devices by status. Items Enum: <ul style="list-style-type: none"> <li>"online"</li> <li>"offline"</li> </ul>	String	<ul style="list-style-type: none"> <li>?status=offline</li> </ul>

### Example Request

```
https://fortiextender.forticloud.com/fext/api/public/v1/devices?state=deployed&state=deploying&state=syncing&state=unsynced&start=0&size=20
```

If successful, the request returns a 200 status code, as well as device information. If unsuccessful, the request returns a 500 status code.

### Example Response

```
{
  "payload": {
    "devices": [
      {
        "_id": "FX04DN4N12345678",
        "sn": "FX04DN4N12345678",
        "hwplatform_group": 0,
        "hostname": "FX04DN4N12345678",
        "model": "FX04DN",
        "state": "deploying",
        "syncing_stage": {
          "cloud_info_updated": true
        },
        "status": "offline",
        "blueprint_name": "N/A",
        "group_name": "group2",
        "firmware": "N/A",
        "modem_firmware": "N/A",
        "default_location": false,
        "ip": "0.0.0.0",
        "location": "N/A",
        "modems": {
          "modem1": {
            "latitude": 0.0,
            "longitude": 0.0,
            "carrier": "N/A",
            "carrier_active": "N/A",
            "imei": "N/A",
            "data_usage": "N/A",
            "sim1": {
              "iccid": "N/A",
              "imsi": "N/A",
              "carrier": "N/A",
              "status": "disconnected",
              "signal": "N/A"
            }
          }
        }
      }
    ]
  }
}
```

```

    },
    "sim2": {
      "iccid": "N/A",
      "imsi": "N/A",
      "carrier": "N/A",
      "status": "disconnected",
      "signal": "N/A"
    }
  }
}
],
"device_count": 1
}
}

```

## View individual device information

View information about individual devices. You can specify which device you want to view by entering their serial number.

- [device/{sn}/statistics](#)
- [device/{sn}/statistics\\_logs](#)

### device/{sn}/statistics

#### Request

**Protocol:** HTTPS

**Method:** GET

**URL:** [fortiextender.forticloud.com/fext/api/public/v1](https://fortiextender.forticloud.com/fext/api/public/v1)

**Path:** /device/<device\_serial\_number>/statistics

**Description:** Get s specific device's statistics in a time range. The time range is divided into equal time intervals to calculate statistics.

#### Parameters:

Query	Description	Data type	Example
t_to	An integer for a timestamp (in seconds, typically 10 digits) that works with the t_diff_unit parameter to establish a select range of time. Default: now	Integer	• t_to = 1576197917, t_diff_unit = 100s -> [1576197917 - 100: 1576197917
t_diff_unit	A string that represents a number followed by literal units to trace back from t_to.	String	• t_to = 1576197917, t_diff_unit = 1w -> [1576197917 - 1w(in

Query	Description	Data type	Example
	<p>Available units:</p> <ul style="list-style-type: none"> <li>'y': year</li> <li>'M': month</li> <li>'w': week</li> <li>'d': day</li> <li>'h': hour</li> <li>'m': minute</li> <li>'s': second</li> </ul> <p>Default: 1d</p>	non-empty	<p>seconds): 1576197917]</p> <ul style="list-style-type: none"> <li>t_to is not provided, t_diff_unit = 1d -&gt; [now - 1d: now]</li> </ul>
t_zone	<p>A timezone ID as specified in the IANA timezone database which represents the client(browser)'s current timezone.</p> <p>Default: America/Los_Angeles</p>	String non-empty	<ul style="list-style-type: none"> <li>t_zone = America/Los_Angeles</li> </ul>
t_interval	<p>A string that defines the size of an interval, represented by a number followed by literal units.</p> <p>Available units:</p> <ul style="list-style-type: none"> <li>'y': year</li> <li>'M': month</li> <li>'w': week</li> <li>'d': day</li> <li>'h': hour</li> <li>'m': minute</li> <li>'s': second</li> </ul> <p>Default: 5m</p> <p><b>Note:</b> If the time range is more than 2M, the interval should be at least 1d. If the time range is more than 1w, the interval should be at least 1h. Otherwise the default minimum interval will be used.</p>	String non-empty	<ul style="list-style-type: none"> <li>t_interval = 1d</li> </ul>
item	<p>An array of strings.</p> <p>Default: ["rx", "rsrq", "rssi", "sinr", "signalstrength", "rsrp", "tx"]</p> <p>Items Enum:</p> <ul style="list-style-type: none"> <li>"sinr"</li> <li>"rsrq"</li> <li>"rssi"</li> <li>"rsrp"</li> <li>"signalstrength"</li> <li>"rx"</li> <li>"tx"</li> </ul>	Array of strings	



## Example Request

```
https://fortiextender.forticloud.com/fext/api/public/v1/device/<device_serial_number>/statistics
```

If successful, the request returns a 200 status code, as well as device information. If unsuccessful, the request returns a 500 status code.

## Example Response

```
{
  "payload": [
    {
      "key_as_string": "2020-04-02T00:00:00.000-07:00",
      "key": "1585810800000",
      "modem1": {
        "all": {
          "rsrp": {
            "max": 0,
            "min": 0,
            "avg": 0
          },
          "rsrq": {
            ...
          },
          "rssi": {
            ...
          },
          "sinr": {
            ...
          },
          "signalstrength": {
            ...
          },
          "rx": {
            "sum": 0
          },
          "tx": {
            ...
          },
        },
        "sim1": {
          ...
        },
        "sim2": {
          ...
        },
      },
      "modem2": {
        ...
      },
    }
  ]
}
```

## device/{sn}/statistics\_logs

### Request

**Protocol:** HTTPS

**Method:** GET

**URL:** fortixtender.forticloud.com/fext/api/public/v1

**Path:** /device/<device\_serial\_number>/statistics\_logs

**Description:** Get the statistics log reported from a specific device within a time range.

### Parameters:

Query	Description	Data type	Example
item	An array of strings. Default: ["modem", "system"] Items Enum: <ul style="list-style-type: none"> <li>"modem"</li> <li>"system"</li> </ul>	Array of strings	
t_to	An integer for a timestamp (in seconds, typically 10 digits) that works with the t_diff_unit parameter to establish a select range of time. Default: now	Integer	<ul style="list-style-type: none"> <li>t_to = 1576197917, t_diff_unit = 100s -&gt; [1576197917 - 100: 1576197917]</li> </ul>
t_diff_unit	A string that represents a number followed by literal units to trace back from t_to. Available units: <ul style="list-style-type: none"> <li>'y': year</li> <li>'M': month</li> <li>'w': week</li> <li>'d': day</li> <li>'h': hour</li> <li>'m': minute</li> <li>'s': second</li> </ul> Default: 1d	String non-empty	<ul style="list-style-type: none"> <li>t_to = 1576197917, t_diff_unit = 1w -&gt; [1576197917 - 1w(in seconds): 1576197917]</li> <li>t_to is not provided, t_diff_unit = 1d -&gt; [now - 1d: now]</li> </ul>
t_zone	A timezone ID as specified in the IANA timezone database which represents the client(browser)'s current timezone. Default: America/Los_Angeles	String non-empty	<ul style="list-style-type: none"> <li>t_zone = America/Los_Angeles</li> </ul>
start	An integer that defines the offset from the first result you want to fetch; mainly for pagination purposes. Default: 0	Integer >=0	

Query	Description	Data type	Example
size	An integer that defines the total number of response data by a single request; mainly for pagination purposes. Default: 100	Integer [0...1000]	

### Example Request

```
https://fortiextender.forticloud.com/fext/api/public/v1/device/<device_serial_number>/statistics_logs
```

If successful, the request returns a 200 status code, as well as device information. If unsuccessful, the request returns a 500 status code.

### Example Response

```
{
  "payload": {
    "count": 1,
    "data": [
      {
        "key": "2020-04-16T00:19:14Z",
        "ip": "192.168.0.1",
        "host": "192.168.0.1",
        "sn": "string",
        "system": {
        },
        "modem1": {
          "imei": "string",
          "plan-name": "string",
          "active-sim": 0,
          "cellid": "string",
          "connection": "string",
          "latitude": 0,
          "longitude": 0,
          "model": "string",
          "rssi": 0,
          "sinr": 0,
          "rsrp": 0,
          "rsrq": 0,
          "signalstrength": 0,
          "rx": 0,
          "tx": 0,
          "sim1": {
            "iccid": "string",
            "imsi": "string",
            "carrier": "string",
            "connection": "string"
          },
          "sim2": {
            ...
          }
        }
      }
    ]
  }
}
```

```

    },
    "modem2": {
      ...
    }
  ]
}
}

```

## Export group mapping

Contains information about the devices in each group. You can specify which group you want to return a device list for.

### Request

**Protocol:** HTTPS

**Method:** GET

**URL:** `fortiextender.forticloud.com/fext/api/public/v1`

**Path:** `/groups/device_list`

### Parameters:

Query	Description	Data type	Example
name	A string to search devices by group name.	String	?name=example_group

### Example Request

```

https://fortiextender.forticloud.com/fext/api/public/v1/groups/device_
list?name=g1&start=0&size=20

```

If successful, the request returns a list of devices for each group. If unsuccessful, the request returns a 500 status code.

### Example Response

```

{
  "payload": {
    "affected_device_list": [
      {
        "_id": "FX202E5919000030",
        "sn": "FX202E5919000030",
        "hwplatform_group": 1,
        "hostname": "FEX_DUEL_MODEM",
        "model": "FX202E",
        "state": "deployed",
        "syncing_stage": {
          "device_info_received": 809,
          "device_cloud_diff": {
            "update_os_firmware": false,
            "update_modem_firmware": false,

```

```
        "update_config": true,
        "update_carrier": false,
        "update_simmap": true
    }
},
"status": "offline",
"blueprint_name": "N/A",
"group_name": "g1",
"firmware": "FX202E-4.0.0.400.Dev",
"modem_firmware": "FEM_06-19-1-0-AMEU",
"default_location": false,
"ip": "0.0.0.0",
"location": "N/A",
"modems": {
    "modem1": {
        "latitude": 0,
        "longitude": 0,
        "carrier": "N/A",
        "carrier_active": "N/A",
        "imei": "N/A",
        "data_usage": "N/A",
        "sim1": {
            "iccid": "N/A",
            "imsi": "N/A",
            "carrier": "N/A",
            "status": "disconnected",
            "signal": "N/A"
        },
        "sim2": {
            "iccid": "N/A",
            "imsi": "N/A",
            "carrier": "N/A",
            "status": "disconnected",
            "signal": "N/A"
        }
    },
    "modem2": {
        "latitude": 0,
        "longitude": 0,
        "carrier": "N/A",
        "carrier_active": "N/A",
        "imei": "N/A",
        "data_usage": "N/A",
        "sim1": {
            "iccid": "N/A",
            "imsi": "N/A",
            "carrier": "N/A",
            "status": "disconnected",
            "signal": "N/A"
        },
        "sim2": {
            "iccid": "N/A",
            "imsi": "N/A",
            "carrier": "N/A",
            "status": "disconnected",
            "signal": "N/A"
        }
    }
}
```

```
    }
    },
    "carrier": "N/A,N/A",
    "data_usage": "N/A,N/A",
    "latitude": 0,
    "longitude": 0,
    "imei": "N/A",
    "sim1": {
      "iccid": "N/A",
      "imsi": "N/A",
      "carrier": "N/A",
      "status": "disconnected",
      "signal": "N/A"
    },
    "sim2": {
      "iccid": "N/A",
      "imsi": "N/A",
      "carrier": "N/A",
      "status": "disconnected",
      "signal": "N/A"
    },
    "blueprint_id": "N/A",
    "group_id": 1500,
    "fortiguard_service": "trial"
  }
],
"affected_device_count": 1
}
```

## Manage email notifications

Administrators can add users to notification lists so they can receive notifications for when a device is deployed, goes online, becomes undeployed, or when licenses are about to expire. Users must be added in your FortiCare account to receive notifications (see [Add a user on page 47](#)).

### To add users to a notification list

1. From the navigation bar, go to **Account > Settings**.  
The Settings page loads.
2. Select which notification list you want to add a user to and click the **Recipients** field.
3. Select the user you want to add to the notification list.
4. When you finish adding your users, click **Save**.

## View license information

From the License Information page, you can view the number of FortiExtender Cloud Management subscriptions associated with your account. You can see the total number of license you have, the number of licenses used, and the number of licenses available.

### To view license information

1. From the navigation bar, go to **Account > License Information**.

The License Information page loads with a list of your devices, their current subscription status, as well as their license start and end date.



## View event logs

FortiExtender Cloud logs user, device, and system events so you know what is happening within FortiExtender Cloud. These events can be viewed from the Log page and sorted by event types.

From the logs page, you can:

- [Filter by event types](#)
- [Search for specific events](#)

### To access the Log page

1. In the navigation bar, click **Log**.  
The Log page loads with all logged events displayed in a table.



The logs table truncates longer text with ellipses to prevent overflow. To see the full text, hold your pointer over each cell until a tooltip containing the full text appears.

## Filtering by event types

FortiExtender Cloud categorizes each event into one of three event types:

Event Type	Description
User	Events made by users on FortiExtender Cloud. These user events include: <ul style="list-style-type: none"> <li>• Adding and deleting plans and profiles</li> <li>• Updating device firmware</li> <li>• Deploying and undeploying devices</li> </ul>
Device	Events associated with devices. These device events include: <ul style="list-style-type: none"> <li>• Connection attempts and failures</li> <li>• SIM card insertions</li> <li>• Successful connections</li> </ul>
System	Events associated with the FortiCare system. These system events include: <ul style="list-style-type: none"> <li>• Removing a device from FortiCare</li> <li>• Upgrading the firmware of a FortiExtender device</li> <li>• Pushing new configurations from FortiCare to a FortiExtender device.</li> </ul>



### To filter by event types

1. At the top of the Log page, click **Filters**.
2. Select the event type checkbox you want to filter for and click **Apply Filters**.  
The logs table reloads and displays only the event type you selected.

## Searching for specific events


You can search the Log page for specific events by using the search tool.

### To search for specific events

1. At the top of the Log page, locate the search field.
2. Enter a keyword into the search field and click **Search**  .  
The logs table reloads and displays results containing the keyword.
3. To redisplay all log entries, delete all text from the search field, and then click **Search**  again.

# Troubleshooting

This section contains troubleshooting tips for issues you might encounter when deploying and managing your devices in FortiExtender Cloud.

Issue	Troubleshooting tip
<p>I cannot deploy my FortiExtender; it is stuck in the deploying state.</p>	<p>Make sure your FortiExtender device is running a supported OS firmware version.</p> <ul style="list-style-type: none"> <li>To find out which versions are supported, see <a href="#">Supported devices and OS firmware versions on page 9</a>.</li> <li>For instructions on finding your version number and upgrading firmware, see the <a href="#">FortiExtender Administration Guide</a>.</li> </ul> <hr/> <div style="display: flex; align-items: center;">  <p>Check the <a href="#">FortiExtender Upgrade Guide</a> before upgrading your firmware. Upgrading the OS firmware before you upgrade the modem firmware can cause connection issues.</p> </div> <hr/> <p>Note that it can take several hours for a FortiExtender to deploy. If the device has not successfully deployed after 24 hours, contact support at <a href="https://support.fortinet.com">https://support.fortinet.com</a>.</p>
<p>My FortiExtender cannot detect the SIM card.</p>	<ol style="list-style-type: none"> <li>Check that the SIM card is properly inserted in the SIM slot.</li> <li>Ensure the SIM card works by testing it in a known working device.</li> <li>If the SIM card is working and the device is still unable to detect the SIM card, contact support at <a href="https://support.fortinet.com">https://support.fortinet.com</a>.</li> </ol>



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