

A solid green circle.

AmpCon-DC Quick Deployment Guide

This guide walks you through the steps required for getting your PicOS® data center switches ready to be deployed with the AmpCon-DC automation solution. The main tasks are to install device system agents on devices, then bring those devices under AmpCon-DC control, Importing Switches or Deploying Switches. We'll cover both methods. Once you've onboarded your devices, they become *Managed Devices*, ready to be assigned in one of the AmpCon-DC server's blueprints.

NOTE: • Before you begin, you must install and configure the AmpCon-DC server. For more information, see the [AmpCon-DC-Management-Platform-210-User-Manual](#)

STEP1 : Begin

1.1 Deploying or Importing Switches

To manage switches with AmpCon-DC, you need to deploy switches or import switches.

1.1.1 Importing Switches

For switches that are deployed but not deployed with AmpCon-DC, you can import these switches so that they can be managed by AmpCon-DC. For more information, see "1.9 Importing Switches".

1.1.2 Deploying Switches

For switches that are not deployed, you can deploy these switches with AmpCon-DC. Then, these switches can be managed by AmpCon-DC.

- Deploying a white-box switch (switch on which PicOS is not installed) includes registering with the AmpCon-DC server, obtaining a PicOS image from the AmpCon-DC server, installing PicOS, configuring the switch based on system configurations and switch configurations, and installing a valid license on the switch.
- Deploying an integrated hardware and software switch (switch that has PicOS installed) includes registering with the AmpCon-DC server, configuring the switch based on system configurations and switch configurations, and installing a valid license on the switch.

1.1.3 Deploying White-Box Switches

To deploy white-box switches, follow these steps:

1. Ensure that the system configuration for each switch contains the default username and password of the switch. For more information, see [Adding System Configurations](#).
2. Click **Service > Switch Model** in the AmpCon-DC UI, and check whether the PicOS image that you want to install for each switch model is listed in the **Deployed ONIE Image** drop-down list.
 - If the images are not listed there, upload these PicOS images and their MD5 files to AmpCon-DC. For more information, see "1.2 Uploading Images".
 - If the images are listed there, you don't need to upload PicOS images and their MD5 files.
3. Configure each switch model that you want to manage with AmpCon-DC. For more information, see "1.3 Configuring Switch Models".
 - If not, the default port number ranges and built-in PicOS images are used to deploy switches with these switch models.
4. Prepare the global configurations that you want to push to each switch. For more information, see "1.4 Configuring Global Configurations".
5. Prepare the configuration templates that you want to use. For more information, see "1.5 Configuring Configuration Templates".
6. Add a switch configuration for each switch. For more information, see "1.6 Adding Switch Configurations".

After you add a switch configuration, the switch is listed on the "Switch" page with the **Configured** status.

NOTE: • If you provision a switch without adding a switch configuration beforehand, the switch will be in **Parking** status. The switch in **Parking** status is not listed on the "Switch" page and can't be staged. In the AmpCon-DC UI, click **Service > Switch**. On the "Switch" page, click **Parking Lot**, and then you can see all switches in **Parking** status. Locate a parking switch, and then click **Create Config** to add a switch configuration. After you add the switch configuration, the switch will be listed on the "Switch" page with the **Configured** status.

7. Stage each switch to make them ready for Zero Touch Provisioning (ZTP). For more information, see "1.7 Staging Switches". After you stage a switch, the switch is shown as **Staged** on the "Switch" page.

8. Provision new switches with ZTP to complete the PicOS installation and configuration without manual intervention. For more information, see "**1.8 Provisioning New Switches with ZTP**".

After you provision a switch, the switch is shown as **Provisioning Success** on the "Switch" page. On the "Switch View" page, it's shown as **Deployed**.

1.1.4 Deploying Integrated Hardware and Software Switches

To deploy integrated hardware and software switches, follow these steps:

1. Ensure that the system configuration for each switch contains the default username and password of the switch to be deployed. For more information, see [Adding System Configurations](#).
2. Prepare the global configurations that you want to push to each switch. For more information, see "**1.4 Configuring Global Configurations**".
3. Prepare the configuration templates that you want to use. For more information, see "**1.5 Configuring Configuration Templates**".
4. Add a switch configuration for each switch. For more information, see "**1.6 Adding Switch Configurations**".

After you add a switch configuration, the switch is listed on the "Switch" page with the **Configured** status.

- NOTE**
- If you provision a switch without adding a switch configuration beforehand, the switch will be in **Parking** status. The switch in **Parking** status is not listed on the "Switch" page and can't be staged.
 - In the AmpCon-DC UI, click **Service > Switch**. On the "Switch" page, click **Parking Lot**, and then you can see all switches in **Parking** status. Locate a parking switch, and then click **Create Config** to add a switch configuration. After you add the switch configuration, the switch will be listed on the "Switch" page with the **Configured** status.

5. Stage each switch to make them ready for Zero Touch Provisioning (ZTP) deployment. For more information, see "**1.7 Staging Switches**".

After you stage a switch, the switch is shown as **Staged** on the "Switch" page.

6. Provision new switches with ZTP to complete the PicOS installation and configuration without manual intervention. For more information, see "**1.8 Provisioning New Switches with ZTP**".

After you provision a switch, the switch is shown as **Provisioning Success** on the "Switch" page. On the "Switch View" page, it's shown as **Deployed**.

1.2 Uploading and Pushing Images

AmpCon-DC provides multiple built-in PicOS images, which you can use to deploy switches.

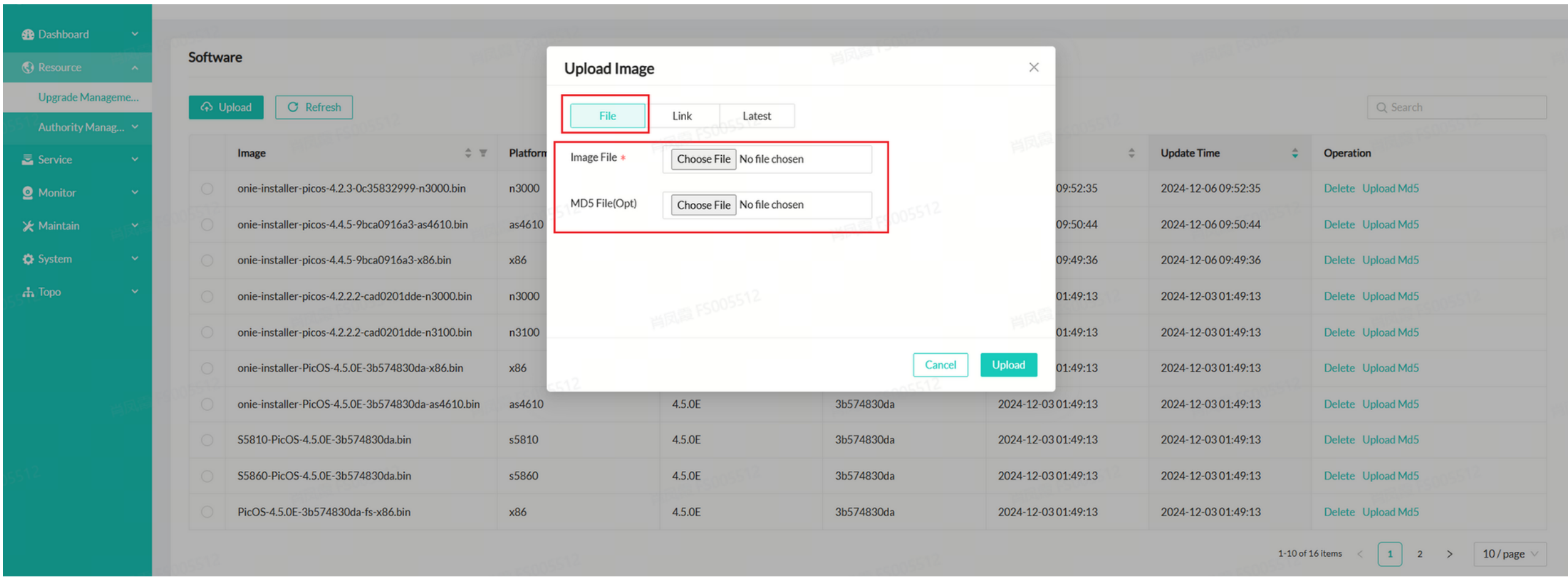
To deploy a switch with a PicOS image that is not built in AmpCon-DC, upload the image and its MD5 file first before you deploy the switch.

1.2.1 Uploading Images

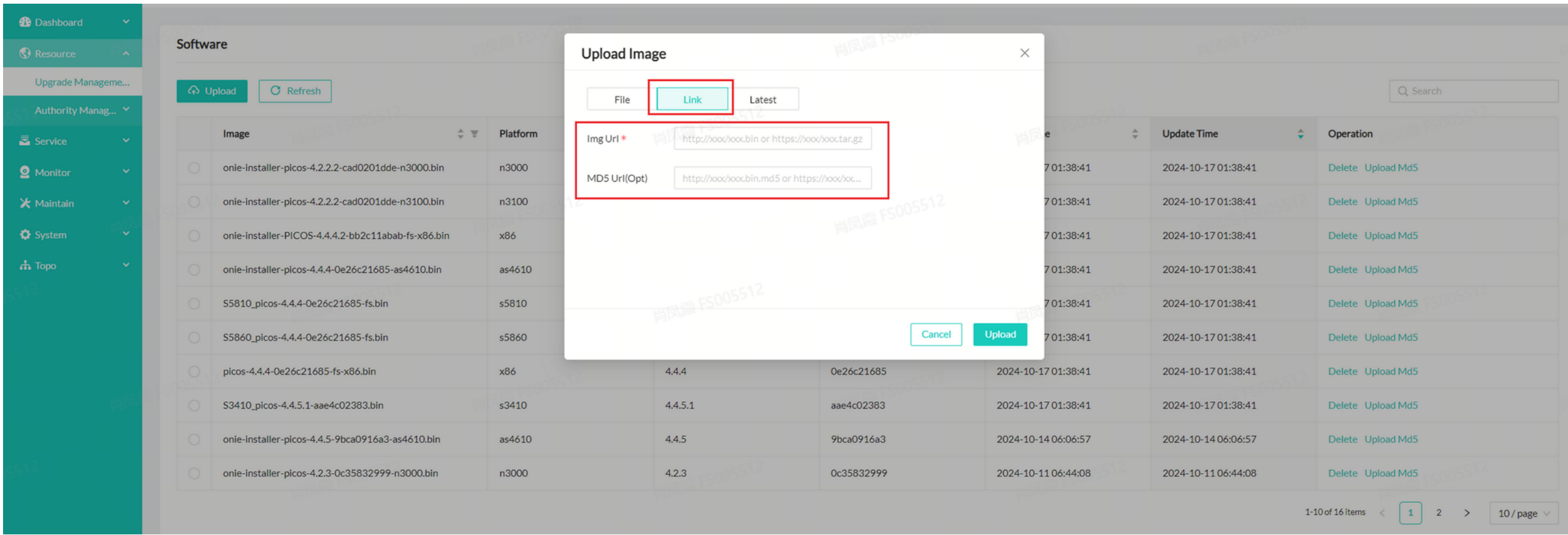
To upload a PicOS image, follow these steps:

In the AmpCon-DC UI, click **Resource > Upgrade Management**.

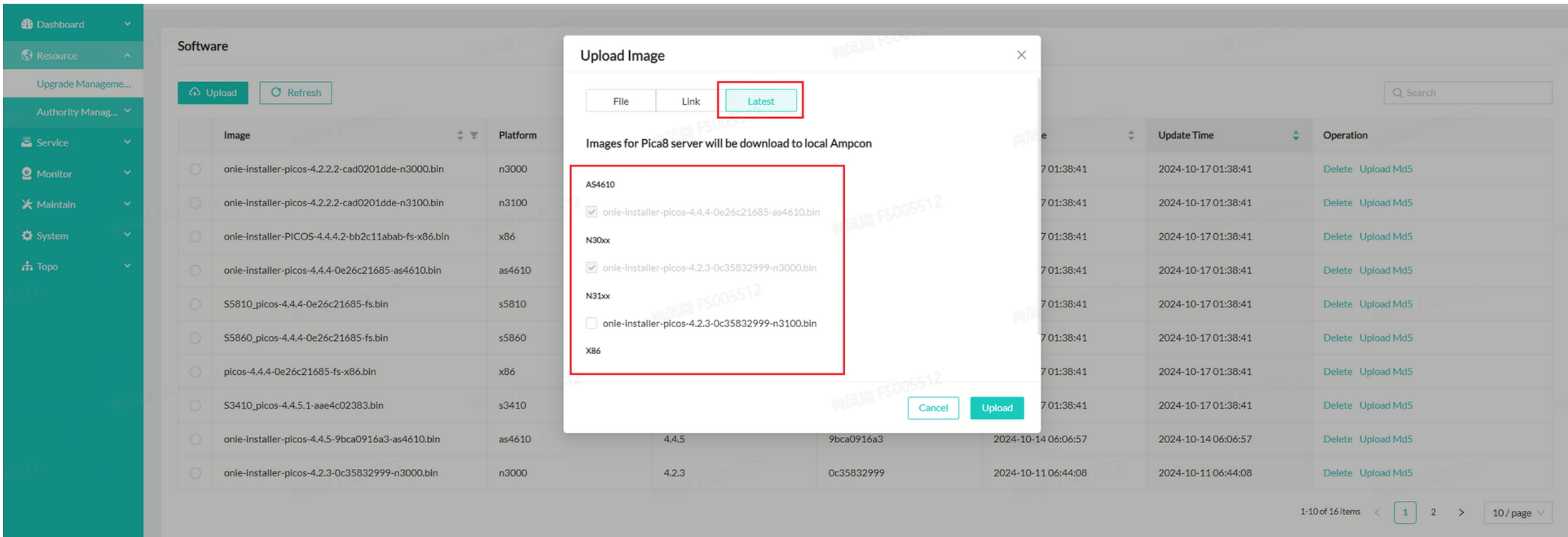
1. Click **Upload**.
2. In the pop-up window, upload an image by using one of the following ways:
 - Click **File**, and select a local image file (required) and its MD5 file (optional).



- Click **Link**, and enter the image URL (required) and the MD5 file URL (optional).



- Click **Latest**, and check the image files that you want to upload.



- 3. Click **Upload**.

1.2.2 Optional: Uploading MD5 Files

An MD5 file is used to verify the completeness of the corresponding PicOS image. If the MD5 file is not uploaded when you upload the PicOS image, AmpCon-DC will not verify the completeness of the PicOS image when it installs the PicOS image.

To upload an MD5 file for a PicOS image, follow these steps:

1. In the AmpCon-DC UI, click **Resource > Upgrade Management**.
2. In the **Software** list, locate the PicOS image, and then click **Upload Md5**.

3. Upload the MD5 file by using either of the following ways:

- Click **File**, and select the MD5 file.
- Click **Link**, and enter the URL of the MD5 file.

4. Click **Upload**.

1.2.3 Optional: Removing Images

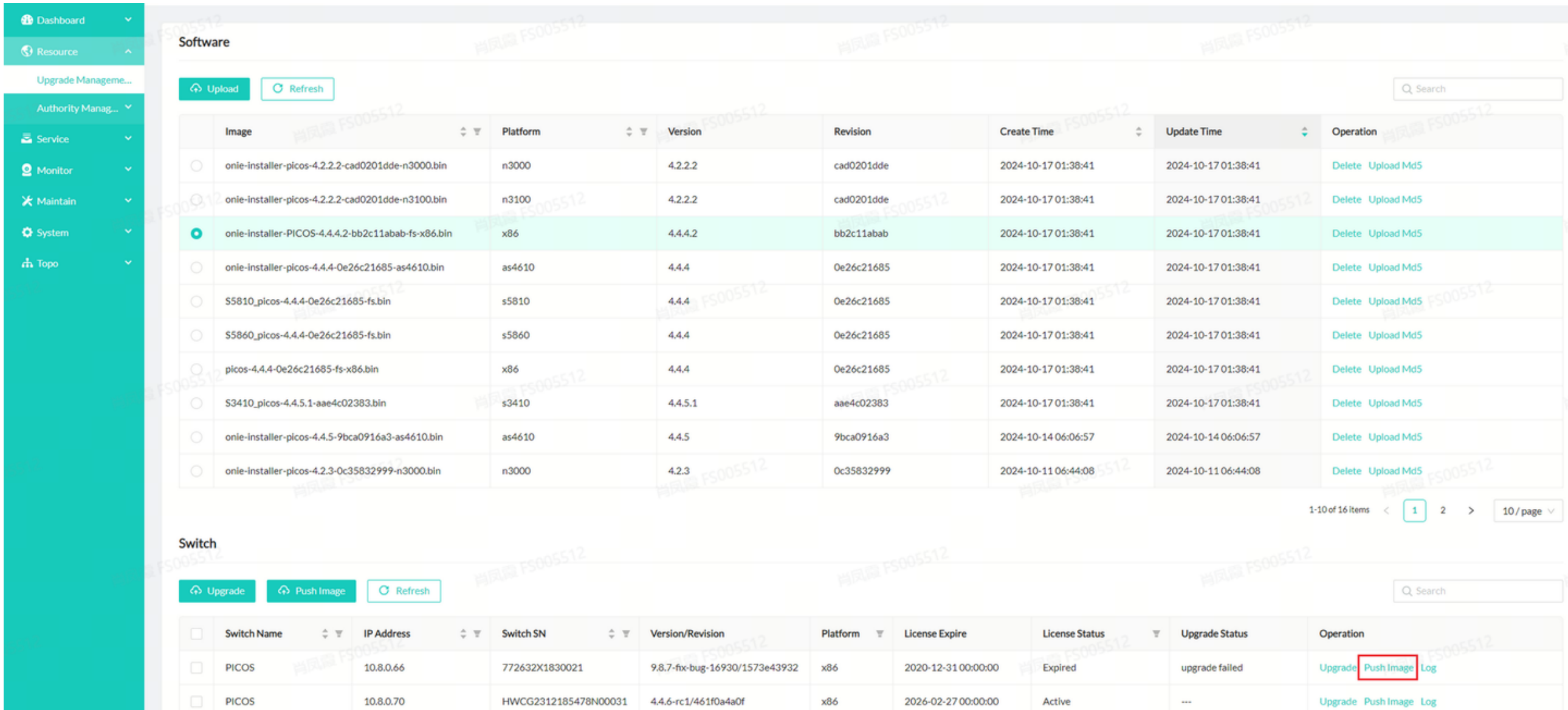
1. In the AmpCon-DC UI, click **Resource > Upgrade Management**.
2. In the **Software** list, locate an image, and then click **Delete**.
3. Click **Yes** to confirm the deletion.

1.2.4 Optional: Pushing Images

You can push PicOS images to one or multiple switches. The pushed images are located in the /home/automation directory.

To push a PicOS image to a single switch, follow these steps:

1. In the AmpCon-DC UI, click **Resource > Upgrade Management**.
2. In the **Software** list, select the PicOS image that you want to push.
3. In the **Switch** list, locate the switch, and then click **Push Image**.



To push a PicOS image to multiple switches, follow these steps:

1. In the AmpCon-DC UI, click **Resource > Upgrade Management**.
2. In the **Software** list, select the PicOS image that you want to push.
3. In the **Switch** list, select the corresponding switches, and then click **Push Image**.

Dashboard

Resource

Upgrade Manage...

Authority Manag...

Service

Monitor

Maintain

System

Topo

| | | | | | | | |
|-------------------------------------|--|--------|---------|------------|---------------------|---------------------|-------------------|
| <input checked="" type="checkbox"/> | onie-installer-PICOS-4.4.4-2-bb2c11abab-fs-x86.bin | x86 | 4.4.4.2 | bb2c11abab | 2024-10-17 01:38:41 | 2024-10-17 01:38:41 | Delete Upload Md5 |
| <input type="checkbox"/> | onie-installer-picos-4.4.4-0e26c21685-as4610.bin | as4610 | 4.4.4 | 0e26c21685 | 2024-10-17 01:38:41 | 2024-10-17 01:38:41 | Delete Upload Md5 |
| <input type="checkbox"/> | S5810_picos-4.4.4-0e26c21685-fs.bin | s5810 | 4.4.4 | 0e26c21685 | 2024-10-17 01:38:41 | 2024-10-17 01:38:41 | Delete Upload Md5 |
| <input type="checkbox"/> | S5860_picos-4.4.4-0e26c21685-fs.bin | s5860 | 4.4.4 | 0e26c21685 | 2024-10-17 01:38:41 | 2024-10-17 01:38:41 | Delete Upload Md5 |
| <input type="checkbox"/> | picos-4.4.4-0e26c21685-fs-x86.bin | x86 | 4.4.4 | 0e26c21685 | 2024-10-17 01:38:41 | 2024-10-17 01:38:41 | Delete Upload Md5 |
| <input type="checkbox"/> | S3410_picos-4.4.5.1-aae4c02383.bin | s3410 | 4.4.5.1 | aae4c02383 | 2024-10-17 01:38:41 | 2024-10-17 01:38:41 | Delete Upload Md5 |
| <input type="checkbox"/> | onie-installer-picos-4.4.5-9bca0916a3-as4610.bin | as4610 | 4.4.5 | 9bca0916a3 | 2024-10-14 06:06:57 | 2024-10-14 06:06:57 | Delete Upload Md5 |
| <input type="checkbox"/> | onie-installer-picos-4.2.3-0c35832999-n3000.bin | n3000 | 4.2.3 | 0c35832999 | 2024-10-11 06:44:08 | 2024-10-11 06:44:08 | Delete Upload Md5 |

1-10 of 16 items1210 / page

Switch

UpgradePush ImageRefresh

Search

| <input checked="" type="checkbox"/> | Switch Name | IP Address | Switch SN | Version/Revision | Platform | License Expire | License Status | Upgrade Status | Operation |
|-------------------------------------|-------------|------------|----------------------|-------------------------------|----------|---------------------|----------------|----------------|------------------------|
| <input checked="" type="checkbox"/> | PICOS | 10.8.0.66 | 772632X1830021 | 9.8.7-fx-bug-16930/1573e43932 | x86 | 2020-12-31 00:00:00 | Expired | upgrade failed | Upgrade Push Image Log |
| <input checked="" type="checkbox"/> | PICOS | 10.8.0.70 | HWCG2312185478N00031 | 4.4.6-rc1/461f0a4a0f | x86 | 2026-02-27 00:00:00 | Active | --- | Upgrade Push Image Log |
| <input checked="" type="checkbox"/> | PICOS | 10.8.0.46 | 6E5F8G0H4LYX | 9.8.7-plm/76272a61eb | x86 | | | --- | Upgrade Push Image Log |
| <input checked="" type="checkbox"/> | PICOS | 10.8.0.86 | 731254X1633002 | 4.4.5/9bca0916a3 | x86 | | Unknown | --- | Upgrade Push Image Log |
| <input type="checkbox"/> | | 10.8.0.14 | 65FDC8D34376 | | other | | | --- | Log |
| <input type="checkbox"/> | PICOS | 10.8.0.10 | G1RUBR1000297 | 4.4.5.4/aae4c02383 | s3410 | 2026-02-27 00:00:00 | Active | upgraded | Log |
| <input type="checkbox"/> | PICOS | 10.8.0.90 | G1R71E100095A | 4.4.6-rc1/a8b30bb609 | x86-fs | | | --- | Log |

1.3 Configuring Switch Models

Before you deploy switches, configure each switch model that you want to manage with AmpCon-DC. If not, the default port number ranges and built-in PicOS images are used to deploy switches with these switch models.

1.3.1 Configuring a Switch Model

To configure a switch model, follow these steps:

1. In the AmpCon-DC UI, click **Service > Switch Model**.
2. Optional: Refresh the supported switch model list:

a. Click **Update Switch Model**.

b. Click **Yes** to confirm the update.

Dashboard

Resource

Service

Switch

Global Configuration

Switch Configuration

Config Files View

Switch Model

System Config

Config Template

Monitor

Maintain

System

Topo

Switch Model

Switch Model ?as4610_30t

GE Port Num Range ?124

TE Port Num Range ?16

QE Port Num Range ?00

XE Port Num Range ?00

Deployed ONIE Imageonie-installer-picos-4.4.4-0e26c216...

Update Switch Model

SaveReset

3. In the **Switch Model** drop-down list, select the switch model that you want to configure.
4. Configure the port number range for each speed.

5. In the **Deployed ONIE Image** drop-down list, select the PicOS image that you want to install for this switch model.

NOTE • If the PicOS image to install is not listed here, upload the PicOS image and its MD5 file to AmpCon-DC. For more information, see "1.2 Uploading Images".

Dashboard

Resource

Service

Switch

Global Configuration

Switch Configuration

Config Files View

Switch Model

System Config

Config Template

Monitor

Maintain

System

Topo

Switch Model

Switch Model ?S5870-48T6S-U

GE Port Num Range ?1 - 48

TE Port Num Range ?1 - 6

QE Port Num Range ?0 - 0

XE Port Num Range ?0 - 0

Deployed ONIE Image

PicOS-4.5.1E-6ec07153d8-fs-x86h.bin

x86

onie-installer-PICOS-4.4.4.2-bb2c11...

picos-4.4.4-0e26c21685-fs-x86.bin

onie-installer-PicOS-4.5.0E-3b5748...

PicOS-4.5.0E-3b574830da-fs-x86.bin

PicOS-4.5.1E-6ec07153d8-fs-x86h....

Click **Save**.

1.3.2 Optional: Resetting a Switch Model

To reset a switch model, follow these steps:

- 1. In the AmpCon-DC UI, click **Service > Switch Model**.
- 2. Click **Reset**.
- 3. Click **Save**.

After you reset a switch model, the port number range for each speed is set to zero, and the PicOS image in the **Deployed ONIE Image** drop-down list is reset to the built-in image.

1.4 Configuring Global Configurations

Global configurations are configurations that you push to switches during the switch deployment process. When you add a switch configuration, you need to select a global configuration file.

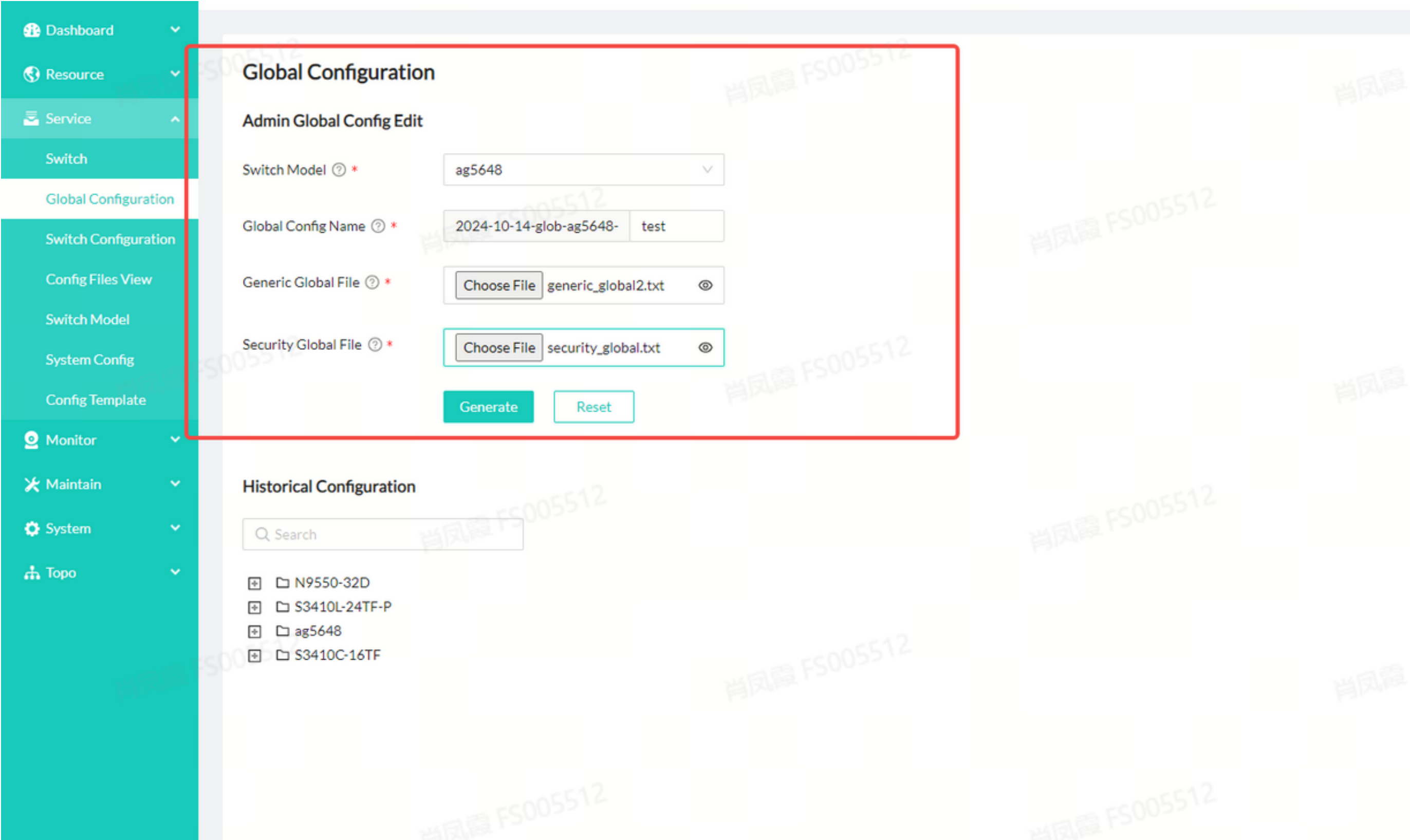
Prepare the global configuration before you add a switch configuration.

1.4.1 Adding a Global Configuration

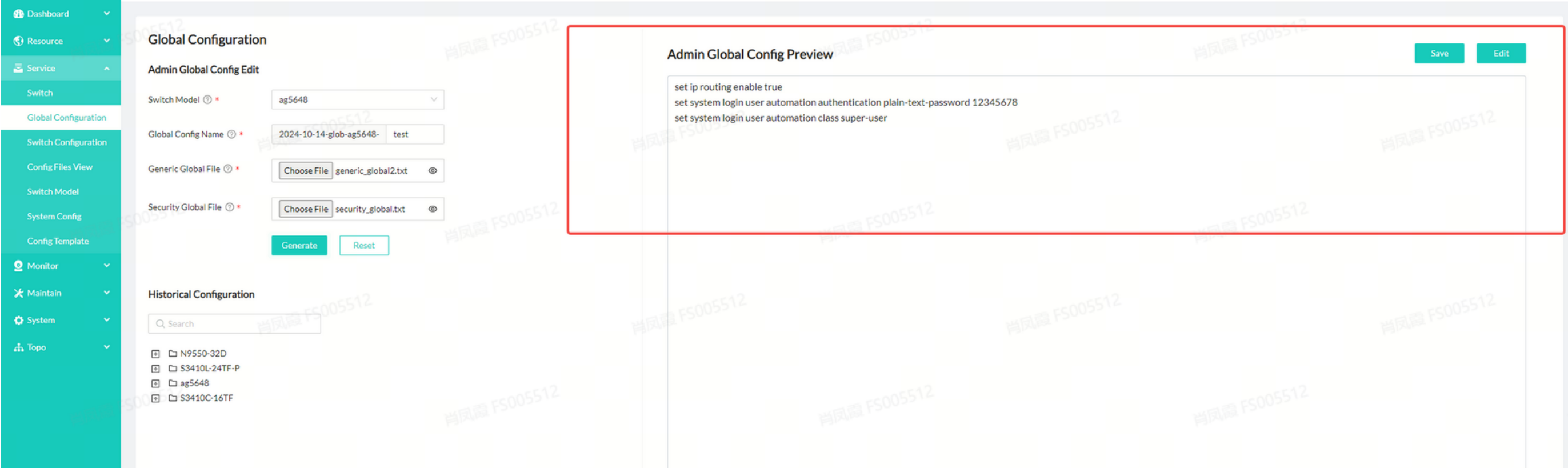
To add a global configuration, follow these steps:

- 1. In the AmpCon-DC UI, click **Service > Global Configuration**.
- 2. Input the following information:
 - **Switch Model:** The model of the switch.
 - **Global Config Name:** The name of the global configuration.
 - **Generic Global File:** Select a .txt file with general configurations to push to the switch.

- **Security Global File:** Select a .txt file with security-related configurations to push to the switch.



- 3. Click **Generate**.
- 4. In the **Admin Global Config Preview** section, confirm or edit the configurations that are retrieved from the **Generic Global File** and the **Security Global File**.



- 5. Click **Save**.

1.4.2 Viewing a Global Configuration

In the **Historical Configuration** section, you can see all global configurations, which are grouped by switch models. To search for a global configuration, enter the global configuration name in the search box (supports fuzzy matching).

1.4.3 Editing a Global Configuration

- To edit a global configuration, follow these steps:
- 1. In the **Historical Configuration** section, locate the global configuration, and then click it.
 - 2. In the **Admin Global Config Preview** section, click **Edit**.

3. Edit the configurations as needed.

Global Configuration

Admin Global Config Edit

Switch Model ⓘ *

ag5648

Global Config Name ⓘ *

2024-12-24-glob-ag5648-

Enter Glo...

Generic Global File ⓘ *

浏览... 未选择文件。

Security Global File ⓘ *

浏览... 未选择文件。

Generate

Reset

Historical Configuration

Q Search

ag5648

S3410-24TS-P

2024-12-7-glob-S3410-24TS-P-global_1

Admin Global Config Preview

Save

Cancel Edit

set ip routing enable true

set system login user automation authentication plain-text-password ***

set system login user automation class super-user

4. Click **Save**.

1.5 Configuring Configuration Templates

AmpCon-DC provides powerful configuration templates to help you simplify the configuration writing process:

- When you add a switch configuration during the switch deployment process, you must select a configuration template.
- When you push configurations to a switch after the switch is deployed or imported, you can use one or multiple configuration templates.

Prepare configuration templates before you add a switch configuration or push configurations to a switch.

1.5.1 Adding a Configuration Template

To add a configuration template, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **New Template** tab, input the following information:
 - **Name:** The name of the configuration template.
 - **Descr:** The description of the configuration template.
 - **Model:** Select the switch model that is applicable to the configuration template.
 - **Version:** Select the PicOS version that is applicable to the configuration template.
 - **Action:** Select **Config** or **Delete**.
3. Optional: Click **Update CLI Tree** to refresh the CLI tree.

New Template

Template ListPush ConfigTemplate VerifyConfig Snapshot DiffConfig Backup

Name *

Descr

Model

as4610_30p

Version

4.5.0E

Action

Delete

CLI Tree

Q Search

▼ protocols

▼ Ildp

▼ med-tlv-select

▼ extended-power-via-mdi

param:boolean +

▶ inventory-management

▶ network-policy

▶ enable

▶ advertisement-interval

▶ reinit-delay

Save

Update CLI Tree

protocols Ildp med-tlv-select extended-power-via-mdi extended_power_via_mdi:boolean X

4. In the CLI Tree section, add one or multiple template configurations by clicking the plus icon. The selected template configurations appear on the right.

Service > Config Template > New Template

Descr

This is template_1

Model

as4610_30p

Version

4.4.4.2

Action

Delete

CLI Tree

Q Search

▶ protocols

▶ system

▶ interface

▶ poe

▶ alias

▶ class-of-service

▶ firewall

▼ ip

▼ routing

▼ enable

param:boolean +

▶ vrf

Save

Update CLI Tree

vlangs vlan-id vlan_id:str vlan-name vlan_name:str X

ip routing enable enable:boolean X

5. Click Save.

1.5.2 Viewing or Editing a Configuration Template

To view or edit a configuration template, follow these steps:

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In the AmpCon-DC UI, click **Service > Config Template**. In the **Template List** tab, locate a switch, and then click **View Template**.

- To view a configuration template, select the format for viewing the template in the pop-up window. Then, you can see the template configurations.

View/Edit Template

Name

ZTP-20241223

Description

Template Files

Jinja2 Template

Jinja2 Template

Template Variable

set vlans vlan-id {{ vlan_id }} vlan-name {{ vlan_name }}

Edit

Save

- To edit a configuration template, click **Edit** in the pop-up window, and then click **Save**.

1.5.3 Optional: Removing a Configuration Template

To remove a configuration template, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Template List** tab, locate a switch, and then click **Remove Template**.
3. Click **Yes** to confirm the deletion.

1.5.4 Optional: Viewing or Updating Pre-Built Templates

To view or update pre-built configuration templates, follow these steps:

In the AmpCon-DC UI, click **Service > Config Template**, and then click the **Template List** tab.

- To view the pre-built templates, click **Show Pre-built Template**.
- To refresh the pre-built template list, click **Update Pre-built Template**.

1.5.5 Optional: Copying a Configuration Template

To copy a configuration template, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Template List** tab, locate a switch, and then click **Copy**.
3. Enter the name for the copied template and a description (optional).
4. Click **Save**.

1.5.6 Optional: Exporting a Configuration Template

To export a configuration template, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Template List** tab, locate a switch, and then click **Export**.

1.5.7 Optional: Exporting All Configuration Template

To export all configuration templates, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Template List** tab, click **Export All Template**.

1.5.8 Optional: Adding a Label to a Configuration Template

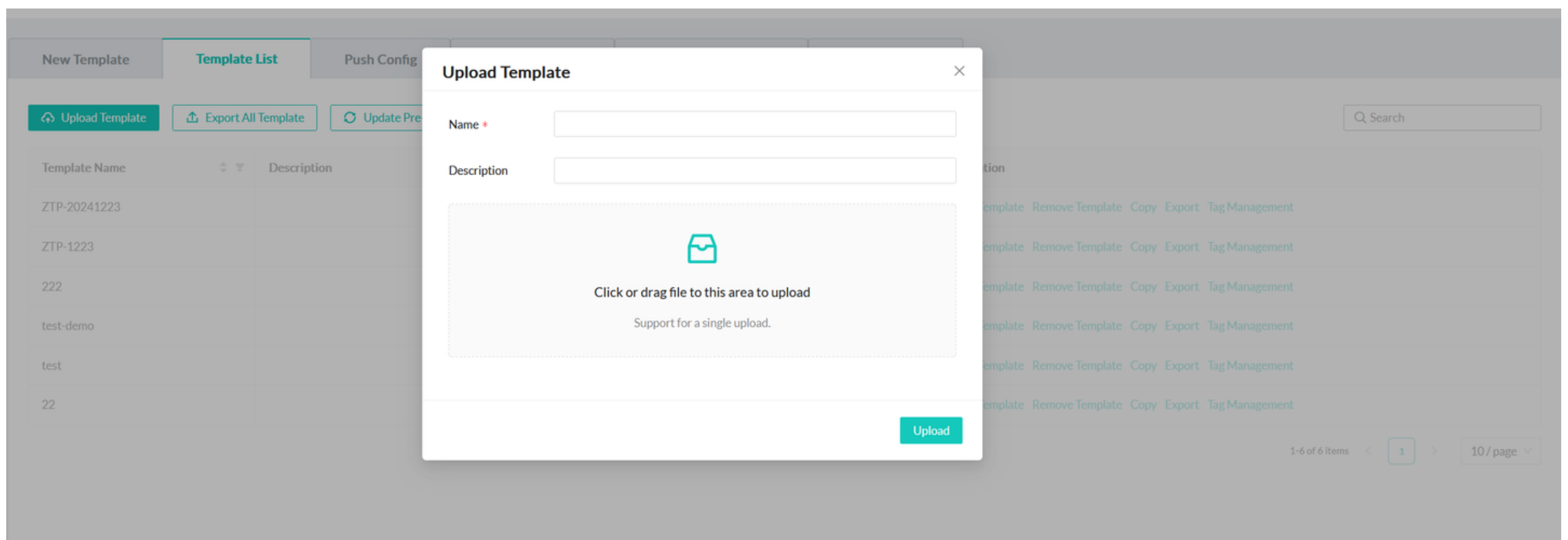
To add a label to a configuration template, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Template List** tab, locate a switch, and then click **Tag Management**.
3. In the pop-up window, enter the name of the tag.
4. Click **Add**.
5. Click **Save**.

1.5.9 Optional: Uploading a Local Configuration Template

To upload a local configuration template, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Template List** tab, click **Upload Template**.
3. In the pop-up window, enter the name of the configuration template and the template description (optional).
4. Click or drag a .txt template file to upload it.
5. Click **Upload**.



1.6 Adding Switch Configurations

Before you provision a switch as described in Provisioning New Switches with ZTP, add a switch configuration. You can also add multiple switch configurations by using a JSON file.

1.6.1 Before You Begin

- If you provision a switch without adding a switch configuration beforehand, the switch will be in **Parking** status. The switch in **Parking** status is not listed on the “Switch” page and can’t be staged.

In the AmpCon-DC UI, click **Service > Switch**. On the “Switch” page, click **Parking Lot**, and then you can see all switches in **Parking** status. Locate a parking switch, and then click **Create Config** to add a switch configuration. After you add the switch configuration, the switch will be listed on the “Switch” page with the **Configured** status.

- Ensure that the global configuration file and configuration template for the switch to deploy have been created. For more information, see "1.4.1 Adding a Global Configuration" and "1.5.1 Adding Switch Configuration Templates".

1.6.2 Adding a Switch Configuration

1. In the AmpCon-DC UI, click **Services > Switch Configuration**.
2. Input the following information:

- **Switch SN/Service Tag:** The SN or service tag of the switch.
- **Switch Model:** Select the switch model of the switch.
- **Deployment Location:** The location where the switch exists, such as Beijing.
- **Fabric:** Select the fabric that the switch belongs to. The **default** fabric is selected by default.
- **Select Global Config:** Select the global configuration file with configurations to push to the switch.
- **Select Site Template:** Select the configuration template to use.
- **Option Post-Deployed:** Select whether to back up the switch configuration.

The screenshot shows the 'Switch Configuration' page in the AmpCon-DC interface. The left sidebar contains navigation options: Dashboard, Resource, Service, Switch, Global Configuration, Switch Configuration, Config Files View, Switch Model, System Config, Config Template, Monitor, Maintain, System, and Topo. The main content area is titled 'Switch Configuration' and 'Switch Config Edit'. A red box highlights the configuration form, which includes the following fields and values:

- Switch SN / Service Tag: EC1631000063
- Switch Model: as4610_54t_b
- Deployment Location: wuhan
- Fabric: default
- Select Global Config: 2024-12-16-glob-as4610_54t_b-test
- Select Site Template: test
- Option Post-Deployed: ☒ Backup Config

Buttons for 'System config', 'Agent', and 'Next' are located below the form. The 'Historical Switch Config Edit' section below the form shows a search bar and a 'No Data' message.

3. Click **Next**. You can see an input section, which is related to the selected configuration template. Enter the relevant information.

Service > Switch Configuration

5

28

10

admin

Switch Configuration

Switch Config Edit

Upload by JSON

Switch SN / Service Tag

1111

Switch Model

ag5648

Deployment Location

11

Fabric

default

Select Global Config

2024-12-11-glob-as4610_54t_b-test1

Select Site Template

22

Option Post-Deployed

☒ Backup Config

System config

Agent

Historical Switch Config Edit

Next

1111_site_config

Save

Reset

22

vlan id

VLAN tag identifier, range 1-4094, e.g...

vlan name

default

4. Click **Save**.
5. In the **Preview Config** pop-up window, preview or edit the global configurations.

Dashboard

Resource

Service

Switch

Global Configuration

Switch Configuration

Config Files View

Switch Model

System Config

Config Template

Monitor

Maintain

System

Topo

Switch Configuration

Switch Config Edit

Upload by

Switch SN / Service Tag

123454

Switch Model

S5860-24XB-U

Deployment Location

Beijing

Site

default

Select Global Config

2024-12-7-glob-S3410-24TS-P-glob...

Select Site Template

template_1

Option Post-Deployed

☒ Backup Config

System config

Agent

Historical Switch Config Edit

Search

ag5648

123454_site_config

S5860-20SQ

G1R626U000313_DECOM_site_config

Preview Config

Global Config

set ip routing enable true
set system login user automation authentication plain-text-password ***
set system login user automation class super-user

Generated Template Config

set vlans vlan-id 11111 vlan-name default

Export

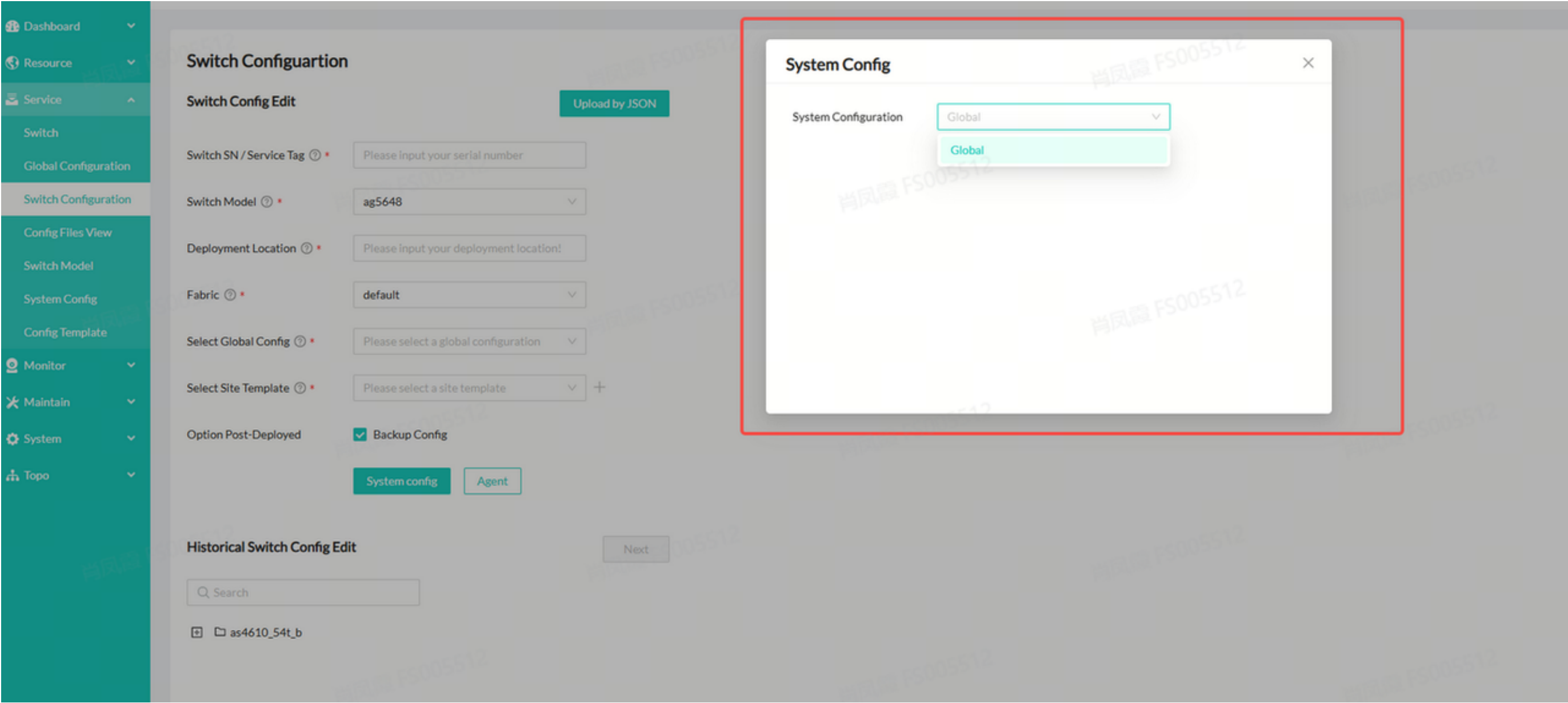
Cancel

Save

6. Click **Save**. The switch configuration is added now. On the “Switch List” page, you can see the switch status is shown as **Configured**.
7. Click **System Config** to select the system configuration that is applicable to the switch.

NOTE

The selected system configuration needs to contain the default username and password of the switch.



8. Optional: Click **Agent** to edit the **Pushing Agent Configuration** information.

1.6.3 Adding Multiple Switch Configurations with a JSON file

You can add multiple switch configurations by uploading a JSON file. In this way, you don't need to add each switch configuration one by one. Follow these steps:

- 1. Prepare a JSON file with switch configurations. See the following example:

```
{
  "sn": [ "EC1631000063","EC1806001292","732656X2007017"],
  "hardware_model": "ag5648",
  "location": "Beijing",
  "global_config_name": "2024-8-2-glob-ag5648-test1",
  "site_template_name": ["test1"],
  "agent_config": {
    "enable": true,
    "vpn_enable": true,
    "server_domain": "http://pica8.com ",
    "inband_native_vlan": "4094",
    "server_vpn_host": "vpn.pica8.com",
    "inband_vlan": "4094",
    "server_hostname_prefix": "ac",
    "inband_lacp": true,
    "uplink_ports": "te-1/1/49,te-1/1/50",
    "uplink_speed": "1000"
  },
  "vpn": true,
  "retrieve_config": true,
  "default_config_param": {
    "test1": {
      "vlan_id": "12",
      "vlan_name": "23"
    }
  },
  "unique_config_param": {
  }
}
```

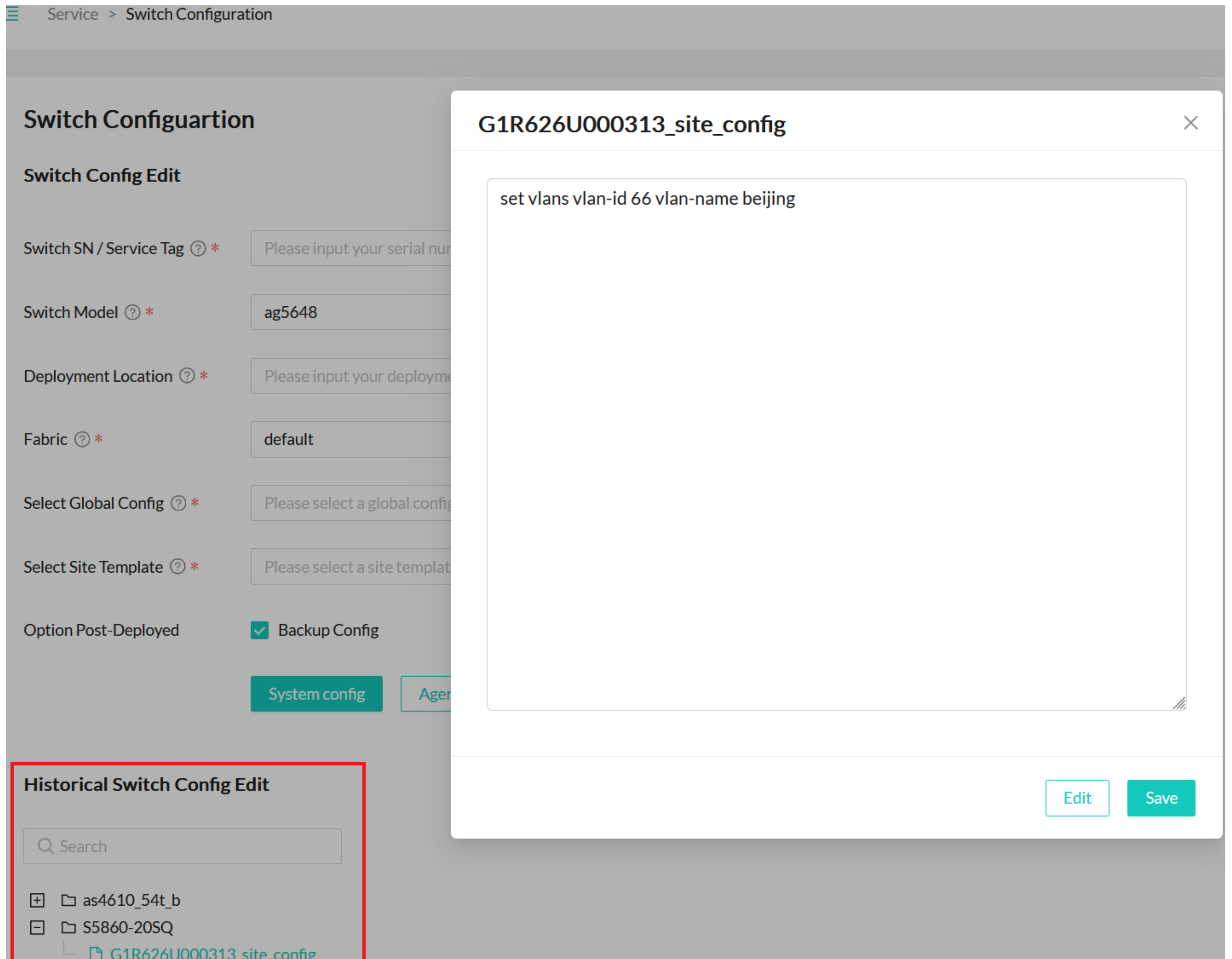
2. In the AmpCon-DC UI, click **Services > Switch Configuration**.
3. Click **Upload by JSON**.
4. Click or drag a file to upload the JSON file.
5. Click **Upload**.

1.6.4 Viewing or Editing Switch Configurations

In the **Historical Switch Config Edit** section, you can see all the added switch configurations, which are grouped by switch models.

To edit a switch configuration, follow these steps:

1. Locate the global configuration, and then click it.



2. In the pop-up window, click **Edit**.
3. Edit the configurations as you need.
4. Click **Save**.

1.6.5 Optional: Checking the Switch Status

After you add a switch configuration, check whether the switch status is shown as **Configured**.

If not, locate the switch, and click **Log** to see more details.

Dashboard

Resource

Service

Switch

Global Configuration

Switch Configuration

Config Files View

Switch Model

System Config

Config Template

Monitor

Maintain

System

Topo

Switch

Import Actions Lifecycle Actions Parking Lot

Search

| Switch Name | SN/Service Tag | Model | Version | Status | Mgmt IP | Operation |
|-------------|---------------------|--------------|---------|----------------------|----------------|---|
| PICOS | EC1631000063 | as4610_54t_b | 4.5.0E | Provisioning Success | 10.8.0.18 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | G1R626U000313_DECOM | S5860-205Q | 4.5.0E | DECOM | 10.8.0.6_DECOM | UnStage Log Configuration Config View Lifecycle Actions |
| | 123454 | ag5648 | | Configured | | Stage Log Configuration Config View Lifecycle Actions |
| | 1234541 | S5860-24XB-U | | Configured | | Stage Log Configuration Config View Lifecycle Actions |

1-4 of 4 items110 / page

1.7 Staging Switches

After you add a switch configuration, you must stage the switch to make it ready for Zero Touch Provisioning (ZTP).

1.7.1 Procedure

1. In the AmpCon-DC UI, click **Service** > **Switch**.
2. In the **Switch** list, locate the switch, and then click **Stage**.

Dashboard

Resource

Service

Switch

Global Configuration

Switch Configuration

Config Files View

Switch Model

System Config

Config Template

Monitor

Maintain

System

Topo

Switch

Import Actions Lifecycle Actions Parking Lot

Search

| Switch Name | SN/Service Tag | Model | Version | Status | Mgmt IP | Operation |
|-------------|---------------------|--------------|---------|----------------------|----------------|---|
| PICOS | EC1631000063 | as4610_54t_b | 4.5.0E | Provisioning Success | 10.8.0.18 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | G1R626U000313_DECOM | S5860-205Q | 4.5.0E | DECOM | 10.8.0.6_DECOM | UnStage Log Configuration Config View Lifecycle Actions |
| | 123454 | ag5648 | | Configured | | Stage Log Configuration Config View Lifecycle Actions |
| | 1234541 | S5860-24XB-U | | Configured | | Stage Log Configuration Config View Lifecycle Actions |

1-4 of 4 items110 / page

3. Check whether the switch status is shown as **Staged**.

Dashboard

Resource

Service

Switch

Global Configuration

Switch Configuration

Config Files View

Switch Model

System Config

Config Template

Monitor

Maintain

System

Topo

Switch

Import Actions Lifecycle Actions Parking Lot

Search

| Switch Name | SN/Service Tag | Model | Version | Status | Mgmt IP | Operation |
|-------------|---------------------|--------------|---------|----------------------|----------------|---|
| PICOS | EC1631000063 | as4610_54t_b | 4.5.0E | Provisioning Success | 10.8.0.18 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | G1R626U000313_DECOM | S5860-205Q | 4.5.0E | DECOM | 10.8.0.6_DECOM | UnStage Log Configuration Config View Lifecycle Actions |
| | 123454 | ag5648 | | Configured | | Stage Log Configuration Config View Lifecycle Actions |
| | 1234541 | S5860-24XB-U | | Staged | | UnStage Log Configuration Config View Lifecycle Actions |

1-4 of 4 items110 / page

After you stage the switch, you can continue to provision new switches with ZTP.

1.8 Provisioning New Switches with ZTP

Zero Touch Provisioning (ZTP) is a technology for automated deployment and configuration of network devices. AmpCon-DC supports using ZTP to provision new switches.

ZTP relies on the DHCP service, and thus you need to configure DHCP first. After you plug in and reboot a switch, DHCP automatically provides the switch with an IP address and the address of a provision shell script that is obtained from AmpCon-DC server. Then, the switch automatically runs the shell script to complete the ZTP deployment:

- The white-box switch runs the shell script to download a PicOS image, install PicOS and its license, register with the AmpCon-DC server, update switch configurations, and reboot the switch.
- The integrated hardware and software switch runs the shell script to register with the AmpCon-DC server, install a PicOS license on the switch, update switch configurations, and reboot the switch.

1.8.1 Prerequisites


Ensure that the following prerequisites are met:

- The Hardware ID of the switch to provision are added to the AmpCon-DC license. For more information, see [Preparing Licenses](#).
- For white-box switches, step 1 to 7 in Deploying White-Box Switches are completed.
- For integrated hardware and software switches, step 1 to 5 in Deploying Integrated Hardware and Software Switches are completed.
- You have installed a DHCP server and added configurations as follows to the DHCP configuration file (/etc/dhcp/dhcpd.conf):
- For white-box switches, refer to the following configuration example:

```
host 4610_54t_02 {
  hardware ethernet C4:39:3A:FF:2C:C0;
  fixed-address 10.10.51.198;
  option default-url "http://10.56.20.184/onie";
}
```

The assigned IP address of the switch is "10.10.51.198".

The IP address of the AmpCon-DC server is "10.56.20.184".

 NOTE


• The following DHCP option is used: Option default-url: 114

For integrated hardware and software switches, refer to the following configuration example:

```
host S5860-200-9-8 {
  hardware ethernet 64:9d:99:d2:56:54;
  fixed-address 10.10.51.4;
  option bootfile-name "system ztp_start.sh";
  option tftp-server-name "10.56.20.180";
}
```

The assigned IP address of the switch is "10.10.51.4".

The IP address of the AmpCon-DC server is "10.56.20.180".

 NOTE

The following DHCP options are used:

- Option bootfile-name: 67
- Option tftp-server-name: 66

1.8.2 Provisioning a White-Box Switch

1. Download and install MobaXterm.
2. Open MobaXterm, and then create a session to connect with the switch.
3. Reboot the switch by running the following command:

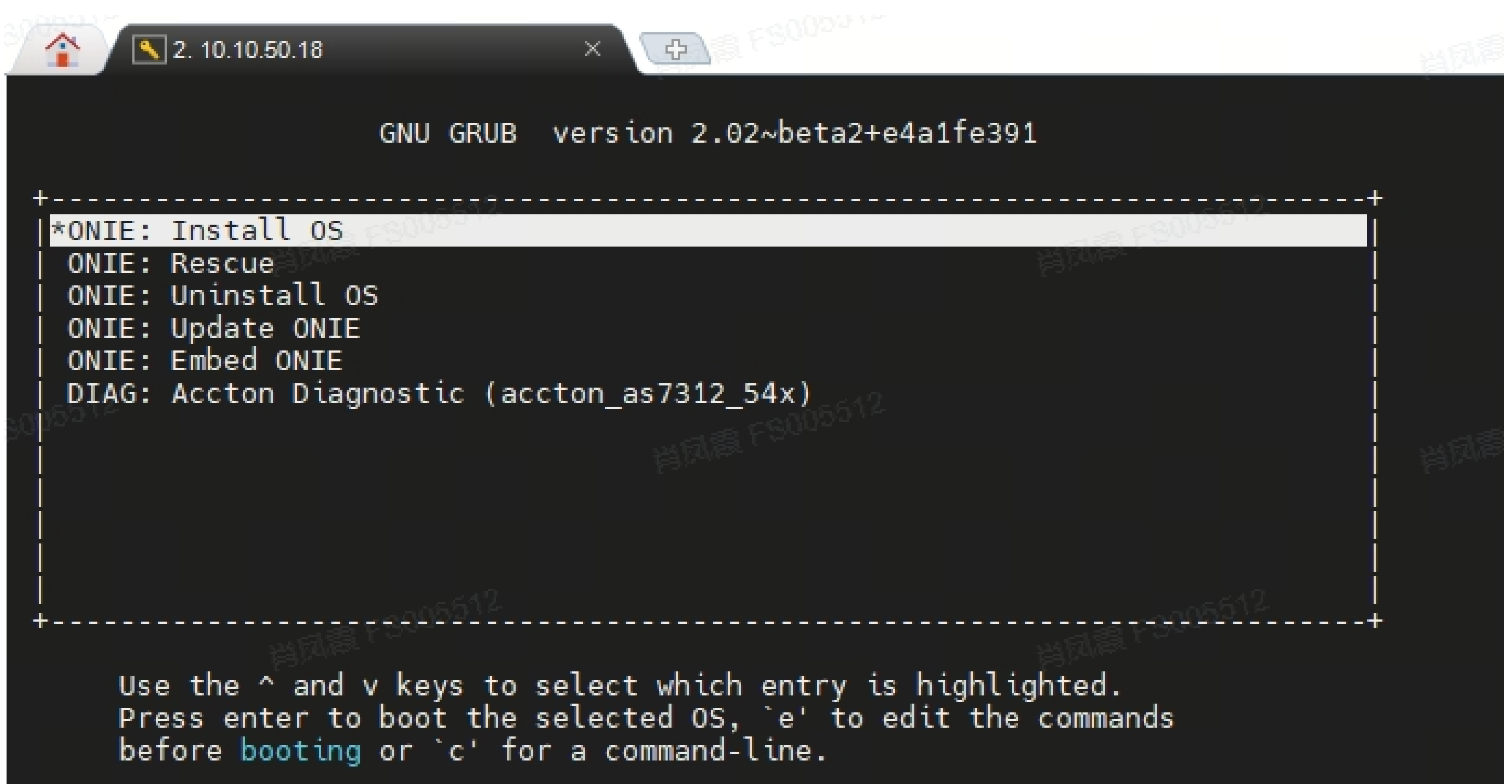
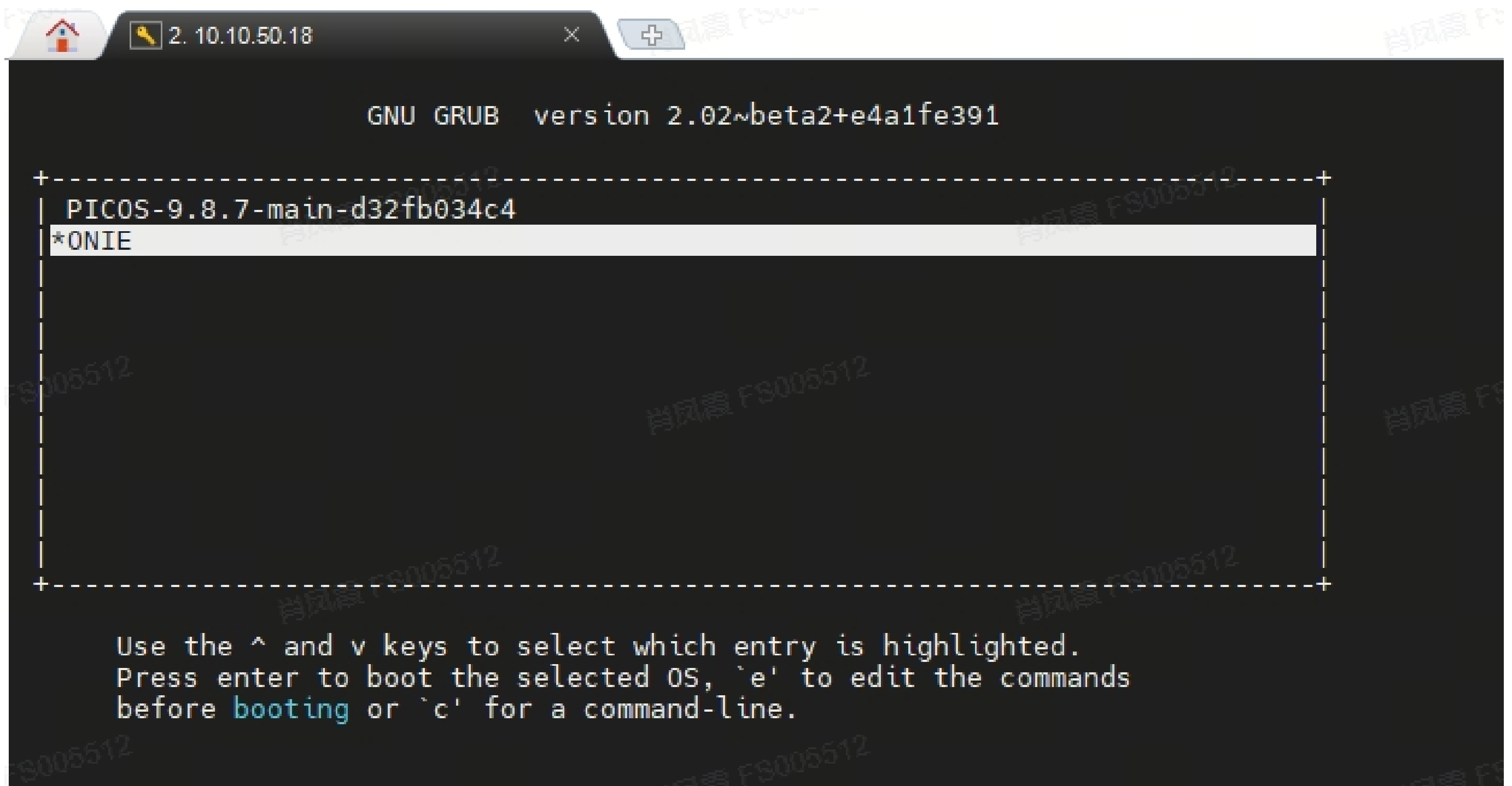
```
sudo reboot -f
```

4. If you see the "Hit any key to stop autoboot" message, press the **Enter** key to exit the autoboot mode.

If you don't see this message, go to step 5 directly.

5. Reboot the switch.

- For switches with the ONIE menu, select **ONIE**, and then select **ONIE: Install OS**.

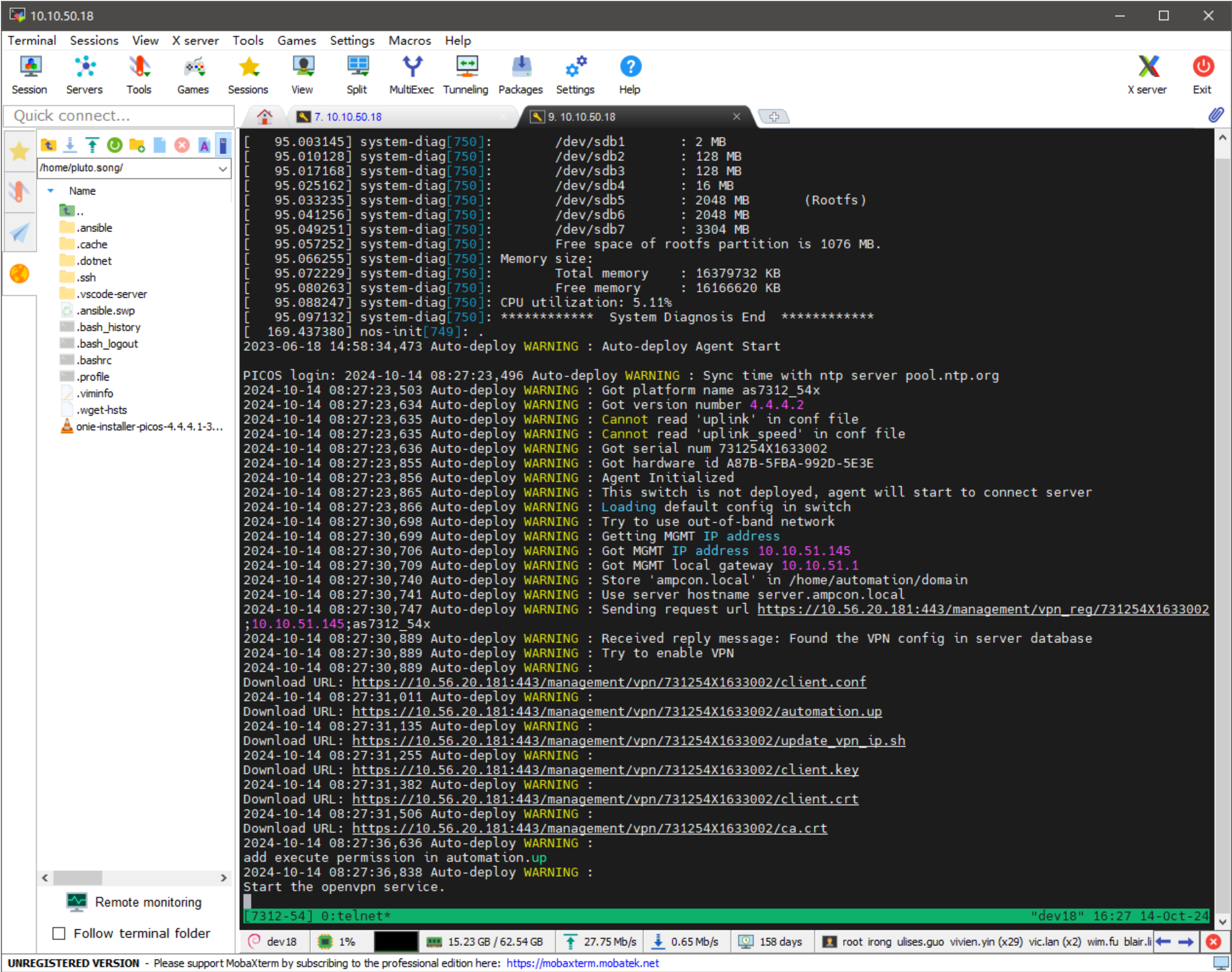


- For AS4610 switches, reboot from ONIE by running the following command:

```
run onie bootcmd
```

Then, the switch will be restarted and automatically register with the AmpCon-DC server.

6. Wait for the registration process to be completed.



7. In the AmpCon-DC UI, click **Service > Switch**. Check whether the switch status is shown as **Provisioning Success**.

Service > Switch

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Switch

Import Actions Lifecycle Actions Parking Lot

| SwitchName | SN/Service Tag | Model | Version | Status | Mgmt IP | Operation |
|------------|----------------------|---------------|---------------------|----------------------|-----------|---|
| PICOS | G1RUBR1000297 | S3410C-16TF | 4.4.5.4 | Provisioning Success | 10.8.0.10 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 772632X1830021 | as7726_32x | 9.8.7-fix-bug-16930 | Imported | 10.8.0.66 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | HWCG2312185478N00031 | N9550-32D | 4.4.6-rc1 | Provisioning Success | 10.8.0.70 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| | EC1631000063 | as4610_54t_b | | Staged | | UnStage Log Configuration Config View Lifecycle Actions |
| | 123 | N9550-32D | | Staged | | UnStage Log Configuration Config View Lifecycle Actions |
| PICOS | 6E5F8G0H4LYX | as5812_54x | 9.8.7-pim | Imported | 10.8.0.46 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 731254X1633002 | as7312_54x | 4.4.4.2 | Provisioning Success | 10.8.0.86 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| | G1SRC2W000058 | S3410L-24TF-P | | Configured | | Stage Log Configuration Config View Lifecycle Actions |

1.8.3 Provisioning an Integrated Hardware and Software Switch

- 1. Download and install MobaXterm.
- 2. Open MobaXterm, and then create a session to connect with the switch.
- 3. Reboot the switch by running the following command.


```
sudo reboot
```

```

10.10.50.18 (pluto.song)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...
/home/pluto.song/
Name
..
.vscode-server
.ssh
.dotnet
.cache
.ansible
onie-installer-picos-4.4.4.1-385f
.wget-hsts
.viminfo
.profile
.bashrc
.bash_logout
.bash_history
.ansible.swp

admin@PICOS:~$ sudo reboot
admin@PICOS:~$ [ 1451.427033] reboot: Restarting system

U-Boot 1.4.39--g7c55aac (Jan 10 2024 - 10:42:10 +0800)

I2C: ready
DRAM: 1 GiB
NAND: 1024 MiB
Loading Environment from SPI Flash... SF: Detected s25fl128s_64k with page size 256 Bytes, erase size 64 KiB, total 16 MiB
OK
Boot: Master
Press Ctrl+B to enter Boot Menu, Press Ctrl+C to enter Rboot 0
ubi0: attaching mtd2
ubi0: scanning is finished
ubi0: attached mtd2 (name "mtd=10", size 986 MiB)
ubi0: PEB size: 131072 bytes (128 KiB), LEB size: 126976 bytes
ubi0: min./max. I/O unit sizes: 2048/2048, sub-page size 2048
ubi0: VID header offset: 2048 (aligned 2048), data offset: 4096
ubi0: good PEBs: 7888, bad PEBs: 0, corrupted PEBs: 0
ubi0: user volume: 1, internal volumes: 1, max. volumes count: 128
ubi0: max/mean erase counter: 91/64, WL threshold: 4096, image sequence number: 1468444733
ubi0: available PEBs: 0, total reserved PEBs: 7888, PEBs reserved for bad PEB handling: 160
Loading file '/picos/uImage2.itb' to addr 0x64000000...
Done

```

Then, the switch will be restarted and automatically register with the AmpCon-DC server.

4. Wait for the registration process to be completed.

```

10.10.50.18 (pluto.song)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...
/home/pluto.song/
Name
..
.vscode-server
.ssh
.dotnet
.cache
.ansible
onie-installer-picos-4.4.4.1-385f
.wget-hsts
.viminfo
.profile
.bashrc
.bash_logout
.bash_history
.ansible.swp

OK
Boot: Master
Press Ctrl+B to enter Boot Menu, Press Ctrl+C to enter Rboot 0
ubi0: attaching mtd2
ubi0: scanning is finished
ubi0: attached mtd2 (name "mtd=10", size 986 MiB)
ubi0: PEB size: 131072 bytes (128 KiB), LEB size: 126976 bytes
ubi0: min./max. I/O unit sizes: 2048/2048, sub-page size 2048
ubi0: VID header offset: 2048 (aligned 2048), data offset: 4096
ubi0: good PEBs: 7888, bad PEBs: 0, corrupted PEBs: 0
ubi0: user volume: 1, internal volumes: 1, max. volumes count: 128
ubi0: max/mean erase counter: 91/64, WL threshold: 4096, image sequence number: 1468444733
ubi0: available PEBs: 0, total reserved PEBs: 7888, PEBs reserved for bad PEB handling: 160
Loading file '/picos/uImage2.itb' to addr 0x64000000...
Done
Loading, please wait...
UBI device number 1, total 7888 LEBs (1001586688 bytes, 955.2 MiB), available 0 LEBs (0 bytes), LEB size 126976 bytes (124.0 KiB)
Restore backup files (config2's latest.tar.gz)...
[ 97.774576] system-init[422]: Auto Provisioning Tool: checking updates ....
[ 98.734522] system-init[422]: Tftp Server found: 10.56.20.180
[ 98.759582] system-init[422]: Script file name found: system_ztp_start.sh
[ 103.224183] system-diag[703]: ***** System Diagnosis Start *****
[ 103.259545] system-diag[703]:
[ 103.289484] system-diag[703]: Date: Thu Oct 31 08:36:06 UTC 2024
[ 103.319415] system-diag[703]: Version:
[ 103.349466] system-diag[703]: Copyright (C) 2009-2024 Pica8, Inc.
[ 103.381353] system-diag[703]:
[ 103.435154] system-diag[703]: Base ethernet MAC Address : 64:9d:99:d2:56:55
[ 103.469459] system-diag[703]: Hardware Model : S5860-20S0
[ 103.499455] system-diag[703]: Linux System Version/Revision : 9.8.7-main/fc48f6d2ea
[ 103.529455] system-diag[703]: Linux System Released Date : 10/30/2024
[ 103.559439] system-diag[703]: L2/L3 Version/Revision : 9.8.7-main/fc48f6d2ea
[ 103.589881] system-diag[703]: L2/L3 Released Date : 10/30/2024
[ 103.619494] system-diag[703]: OVS/OF Version/Revision : 9.8.7-main/fc48f6d2ea
[ 103.649422] system-diag[703]: OVS/OF Released Date : 10/30/2024
[ 103.697470] system-diag[703]: ONIE version : N/A
[ 103.729426] system-diag[703]: CPLD version : 18.10.22
[ 103.759577] system-diag[703]: Hardware information:
[ 103.789448] system-diag[703]: MAC address : 64:9D:99:D2:56:55
[ 103.819443] system-diag[703]: Serial number : G1R626U000313
[ 103.859571] system-diag[703]: Product name : S5860-20S0
[ 103.889441] system-diag[703]: PSU:
[ 103.920337] system-diag[703]: PSU 1 status : present but powered off
[ 103.969032] system-diag[703]: PSU 2 status : powered on
[ 104.022790] system-diag[703]: System FAN:
[ 104.059723] system-diag[703]: Fan 1 OK, fan speed is 4605

```

5. In the AmpCon-DC UI, click **Services > Switch**. Check whether the switch status is shown as **Provisioning Success**.

Service > Switch

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Switch

Import Actions Lifecycle Actions Parking Lot

| SwitchName | SN/Service Tag | Model | Version | Status | Mgmt IP | Operation |
|------------|----------------------|---------------|---------------------|----------------------|-----------|---|
| PICOS | G1RUBR1000297 | S3410C-16TF | 4.4.5.4 | Provisioning Success | 10.8.0.10 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 772632X1830021 | as7726_32x | 9.8.7-fix-bug-16930 | Imported | 10.8.0.66 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | HWCG2312185478N00031 | N9550-32D | 4.4.6-rc1 | Provisioning Success | 10.8.0.70 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| | EC1631000063 | as4610_54t_b | | Staged | | UnStage Log Configuration Config View Lifecycle Actions |
| | 123 | N9550-32D | | Staged | | UnStage Log Configuration Config View Lifecycle Actions |
| PICOS | 6ESF8G0H4LYX | as5812_54x | 9.8.7-pim | Imported | 10.8.0.46 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 731254X1633002 | as7312_54x | 4.4.4.2 | Provisioning Success | 10.8.0.86 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| | G1SRC2W000058 | S3410L-24TF-P | | Configured | | Stage Log Configuration Config View Lifecycle Actions |

1.9 Importing Switches

For switches that are deployed but not deployed with AmpCon-DC, you can import these switches so that they can be managed by AmpCon-DC.

1.9.1 Prerequisites

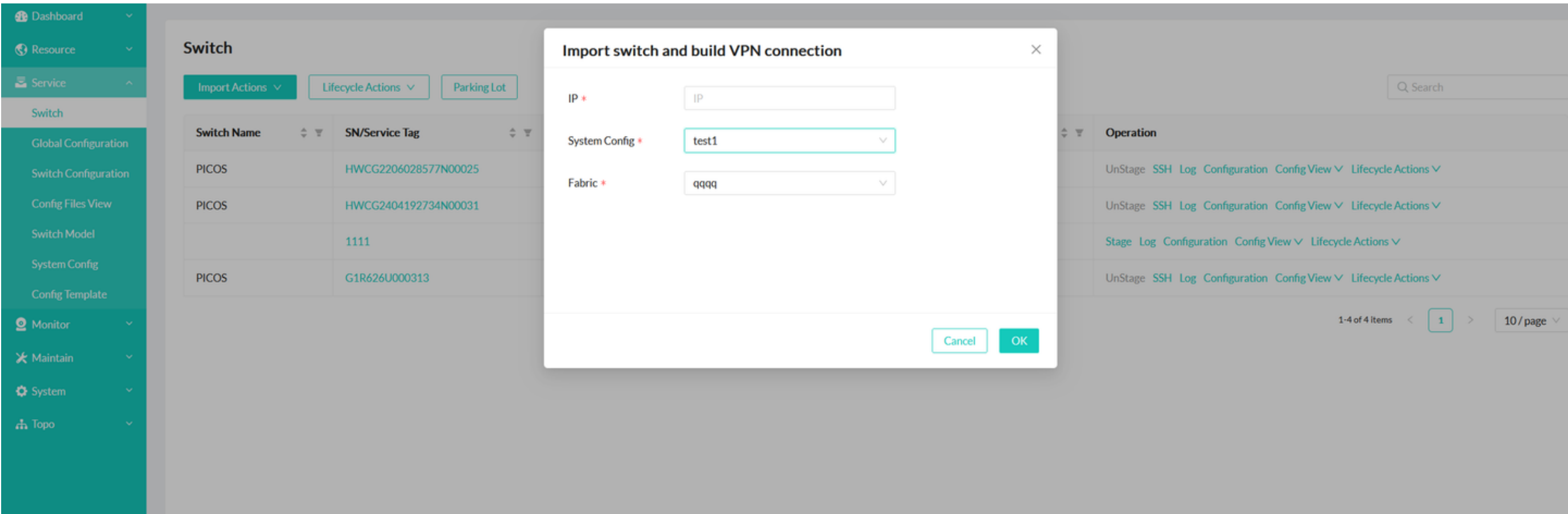
- The switches to be imported haven't been managed by AmpCon-DC.
- The Hardware IDs of the switches to be imported have been added to the AmpCon-DC license. For more information, see [Preparing Licenses](#).

1.9.2 Importing a Switch with a Global User

1. In the AmpCon-DC UI, click **Service > Switch**.
2. Click **Import Actions**, and then select **Import**.
3. In the **IP** field, enter the IP address of the switch.
4. In the **System Config** drop-down list, select the appropriate system configuration.

NOTE

- The selected system configuration needs to contain the default username and password of the switch.



5. In the **Fabric** drop-down list, select a fabric. To add a fabric, see [Managing Fabrics](#).
6. Click **OK**.
7. In the AmpCon-DC UI, click **Service > Switch**. Check whether the switch status is shown as **Imported**.

1.9.3 Importing a Switch with a Group User

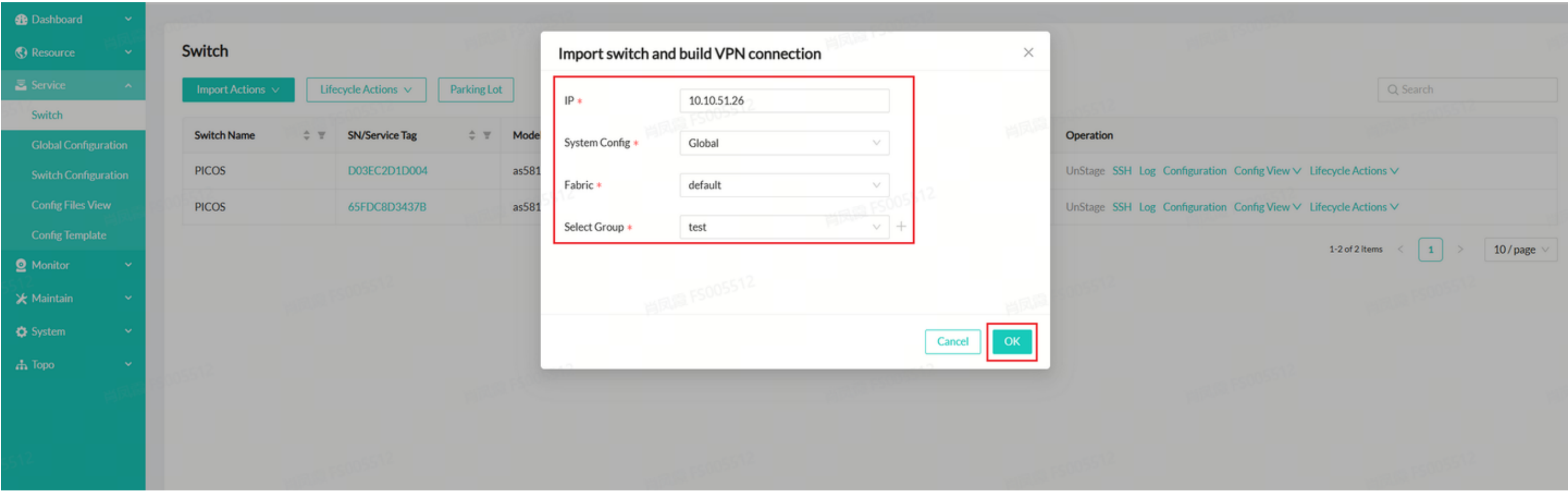
1. In the AmpCon-DC UI, click **Service > Switch**.
2. Click **Import Actions**, and then select **Import**.
3. In the **IP** field, enter the IP address of the switch.

4. In the **System Config** drop-down list, select the appropriate system configuration.

NOTE • The selected system configuration needs to contain the default username and password of the switch.

5. In the **Fabric** drop-down list, select a fabric. To add a fabric, see [Managing Fabrics](#).

6. In the **Group** drop-down list, select a group. To add a group, see [Managing Groups](#).



7. Click **OK**.

8. In the AmpCon-DC UI, click **Service > Switch**. Check whether the switch status is shown as **Imported**.

STEP2 : Up and Running

After you deploy or import a switch with AmpCon-DC, you can push configurations to the switch, manage configurations, back up and restore configurations for disaster recovery, or compare configurations for troubleshooting or auditing.

2.1 Pushing Configurations to Switches

After switches are successfully deployed or imported with AmpCon-DC, you can push configurations to these switches as needed.

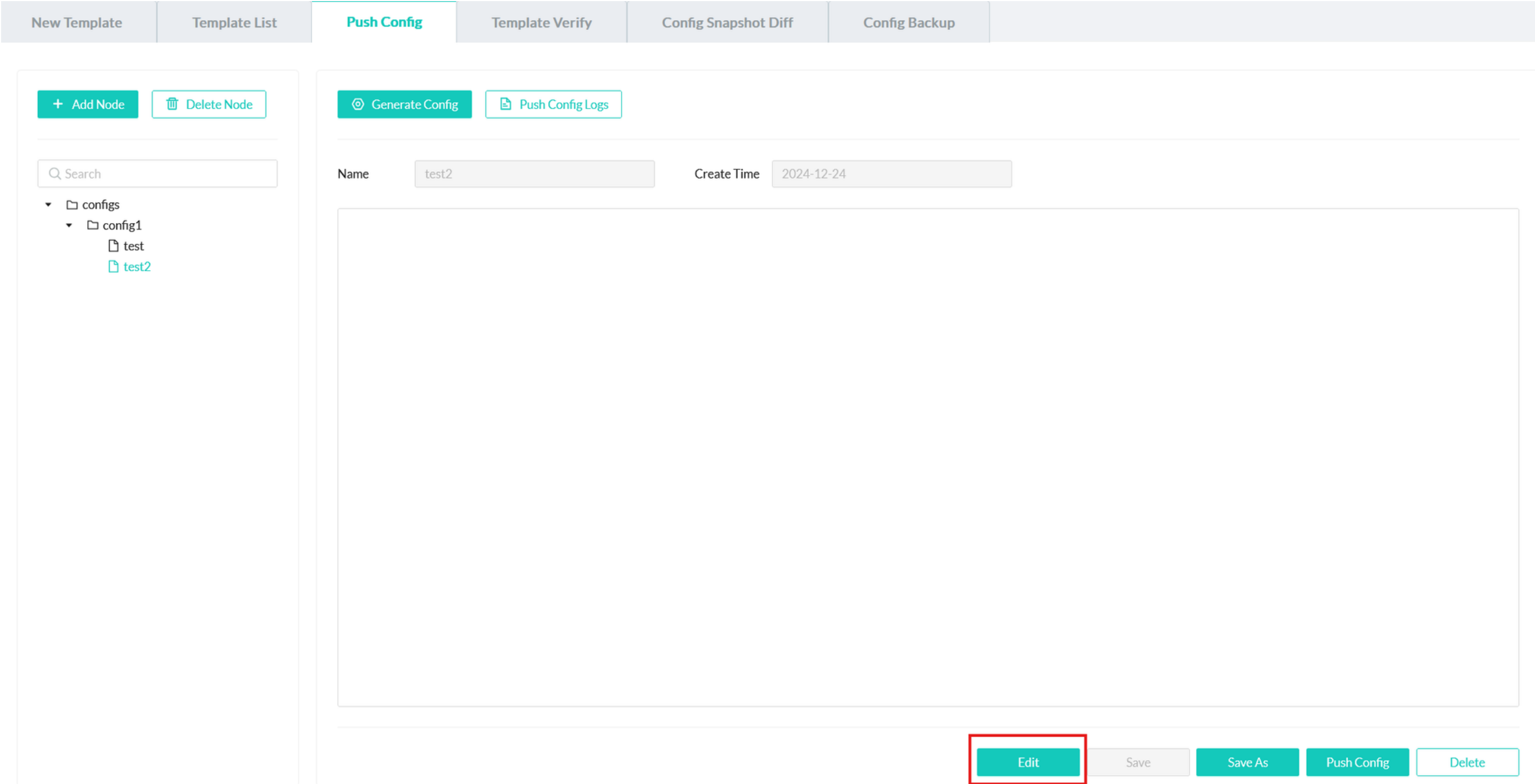
2.1.1 Prerequisite

Ensure that you have created the configuration templates to push to each switch. For more information, see "1.5 Configuring Configuration Templates".

2.1.2 Procedure

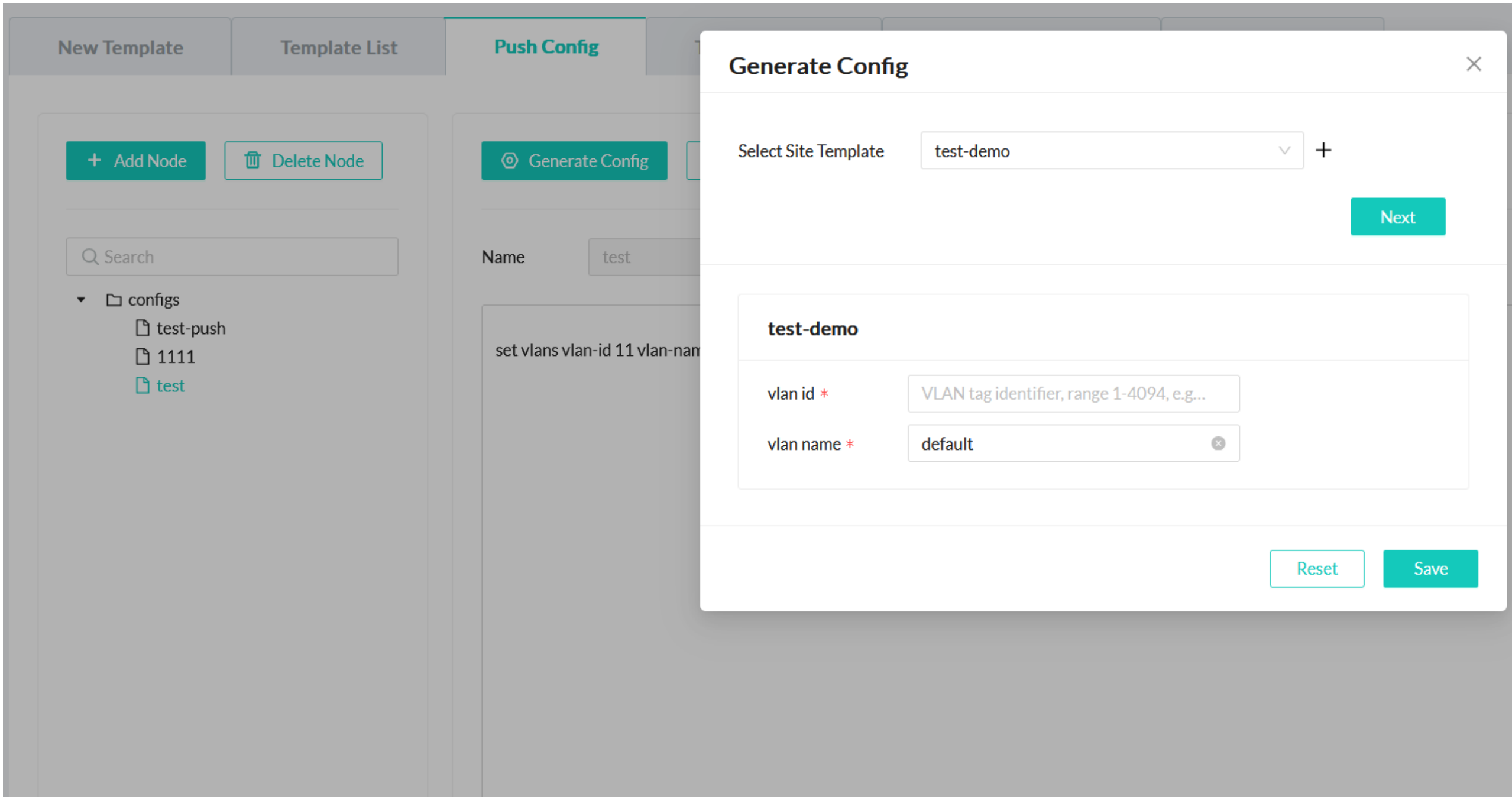
To push configurations to one or multiple switches, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Push Config** tab, select a folder, and then click **Add Node**. A node represents a configuration file.
3. Enter the node name and its description (optional).
4. Click **OK** to save the node.
5. Click the node that you just created, and click **Edit**.



6. Add configurations to push to switches by using either of the following ways:

- Enter the configurations manually.
- Using the configuration templates that you created before:
 - a. Click **Generate Config**.
 - b. Select a configuration template file from the drop-down list.
 - c. Click **Next**, and enter the value for each variable.
 - d. Click **Save**.



7. Click **Push Config**, and then select the switches to apply these configurations.

You can select specific switches in the **Config Switch** tab or select a group in the **Config Group** tab. For how to add a group or manage switches in a group, see [Managing Groups](#).

Choose Devices

Config Switch

Config Group

Q Search

| <div><input type="checkbox"/></div> | Group Name | Group Description |
|-------------------------------------|------------|-------------------|
| <input checked="" type="checkbox"/> | test | |
| <input type="checkbox"/> | 1222 | |
| <input type="checkbox"/> | test_160 | |

1-3 of 3 items

<1>

>

10 / page

Cancel

OK

8. Click **OK** to start the configuration pushing.

2.1.3 Optional: Verifying the Pushing Status and Log

To verify whether the configuration is pushed to each switch successfully, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Push Config** tab, click **Push Config Logs**.
3. Click **Task List**, check whether the pushing status is **success**.
4. If the pushing status is not **success**, click **Push Log** to check more pushing details for troubleshooting.

2.2 Viewing, Editing, or Deleting Configurations

On the “Config Files Views” page, you can manage all global configurations and site configurations. In the **Push Config** tab of the “Config Template” page, you can manage all general configurations.

• Global configurations

Configurations that you created as described in "1.4.1 Adding a Global Configuration"

• Site configurations

Configurations that you created as described in "1.6 Adding Switch Configurations"

• General configurations

Configurations that you pushed to switches as described in "2.1 Pushing Configurations to Switches"

2.2.1 Managing Global Configurations and Site Configurations

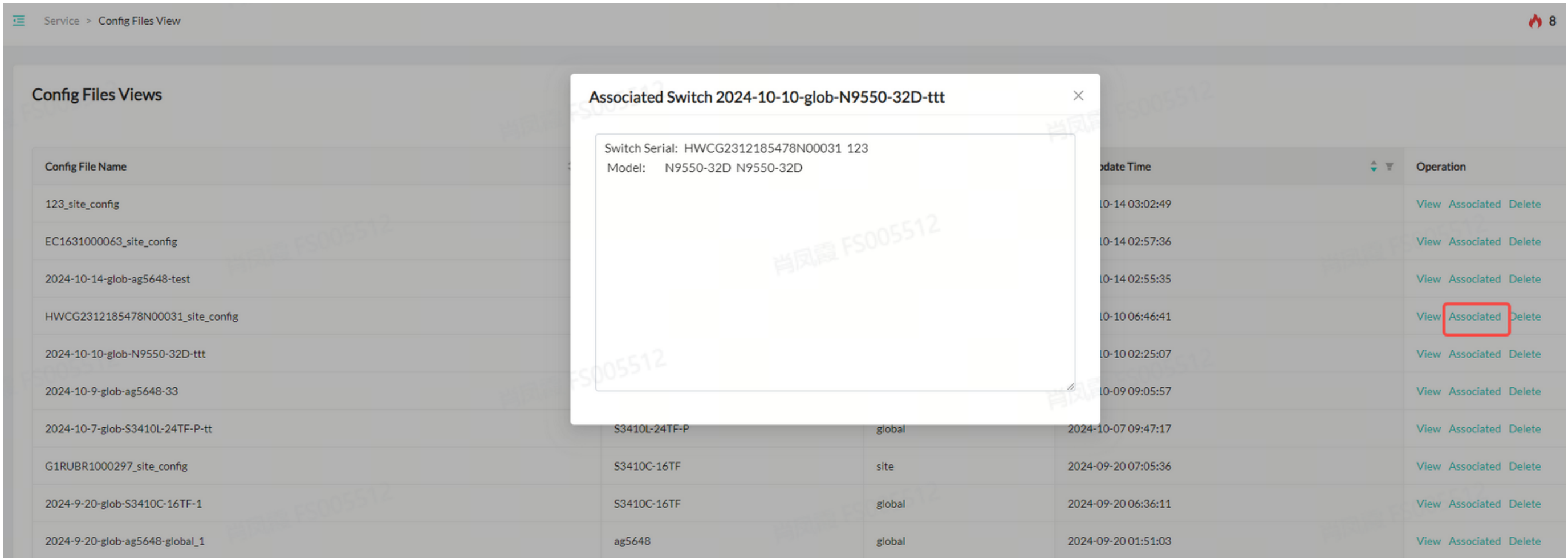
2.2.1.1 Viewing or Editing Global and Site Configuration Files

1. In the AmpCon-DC UI, click **Service > Config Files Views**.
2. On the “Config Files Views” page, locate the configuration file, and then click **View**. You can see a pop-up window with detailed configurations.
3. To close the pop-up window, click the close icon.
4. To edit the configurations, click **Edit**, modify configurations, and then click **Save**.



2.2.1.2 Checking Switches Associated with a Configuration File

- 1. In the AmpCon-DC UI, click **Service > Config Files Views**.
- 2. Locate the configuration file, and then click **Associated**. You can see the switches that are associated with the configuration file.



- 3. To close the pop-up window, click the close icon.

2.2.1.3 Deleting a Configuration File

NOTE

- If a configuration file is still associated with one or multiple switches, the configuration file can't be deleted.

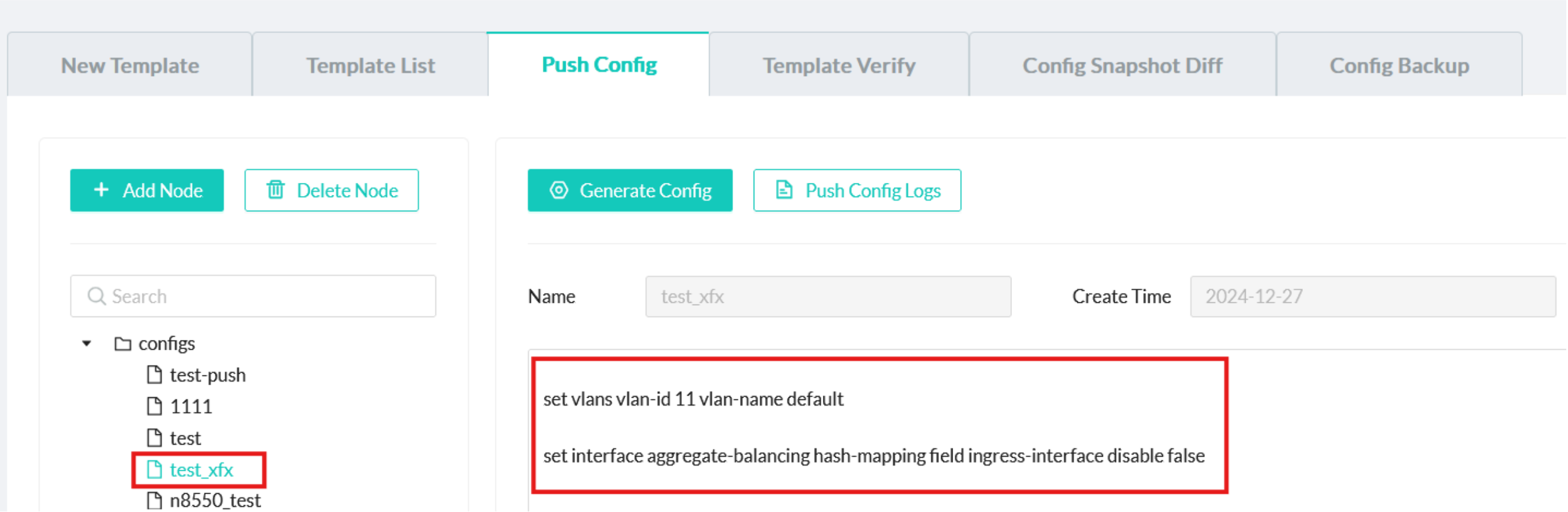
- 1. In the AmpCon-DC UI, click **Service > Config Files Views**.
- 2. Locate the configuration file, and then click **Delete**.
- 3. Click **Yes** to confirm the deletion.

2.2.2 Managing General Configurations

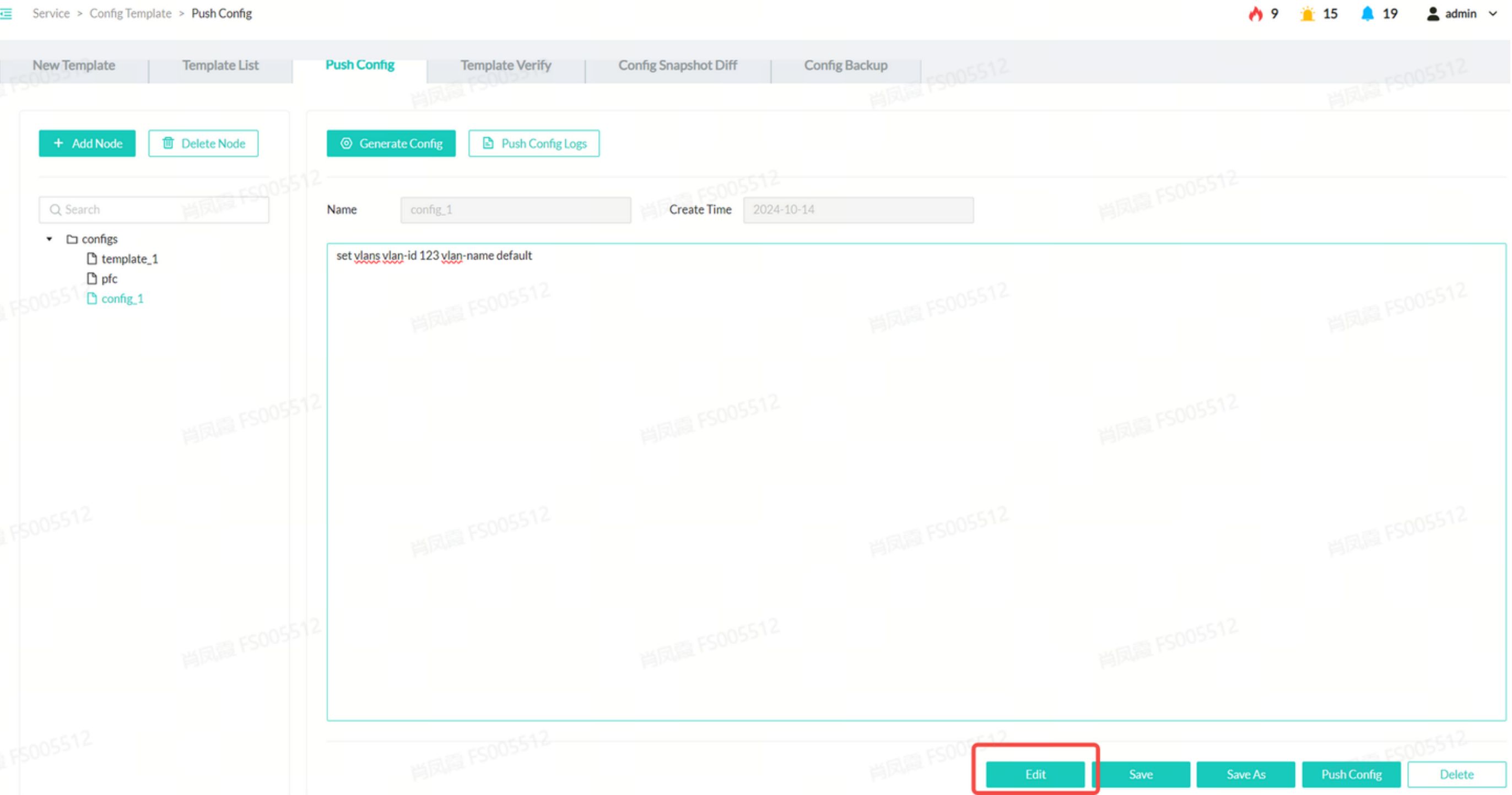
2.2.2.1 Viewing or Editing a General Configuration File

- 1. In the AmpCon-DC UI, click **Service > Config Template**.
- 2. In the **Push Config** tab of the “Config Template” page, click the node that you want to view. Each node represents a general configuration file.

Service > Config Template > Push Config



3. To edit a configuration file, click **Edit**, modify configurations, and then click **Save**.



2.2.1.2 Deleting a General Configuration File

- 1. In the AmpCon-DC UI, click **Service > Config Template**.
- 2. In the **Push Config** tab, click the node that you want to delete.
- 3. Click **Delete Node**.
- 4. Click **Yes** to confirm the deletion.

2.3 Backing up and Restoring Configurations

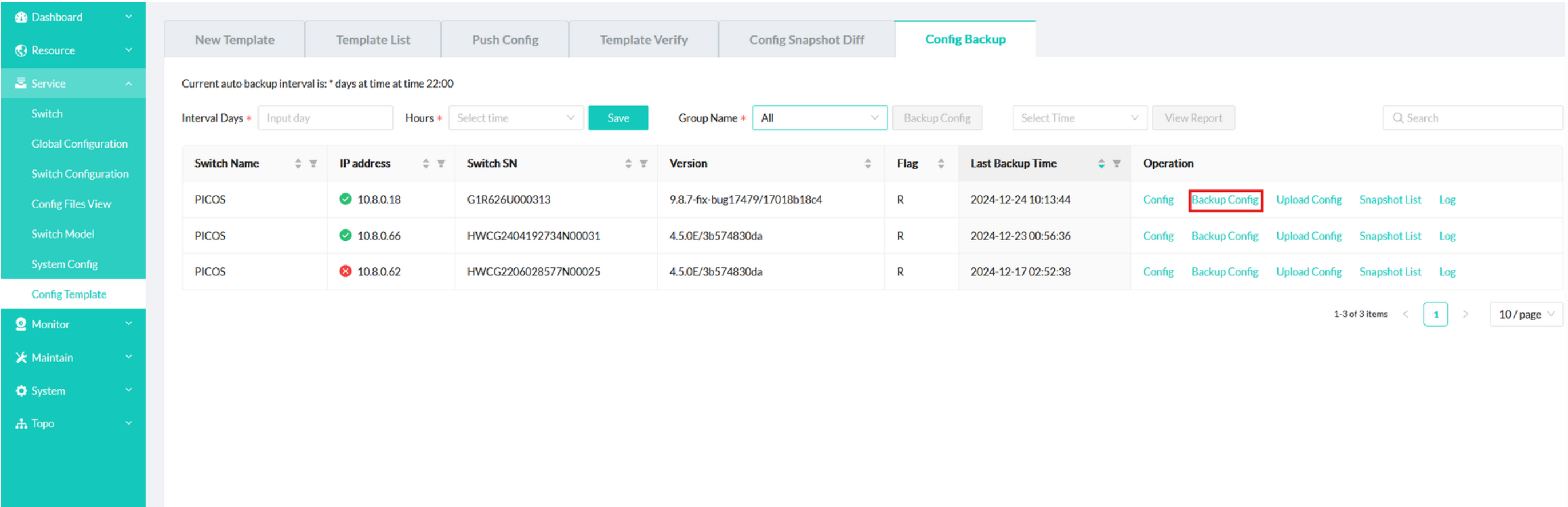
You can manually back up switch configurations or automatically back up configurations at a specific interval. In addition, you can restore configurations based on a backup configuration file for disaster recovery.

2.3.1 Backing up Switch Configurations

2.3.1.1 Backing up Configurations for a Single Device

To back up configurations for a single switch, follow these steps:

1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Config Backup** tab, locate a switch, and then click **Backup Config**.



Optional: Check whether the backup file is created successfully.

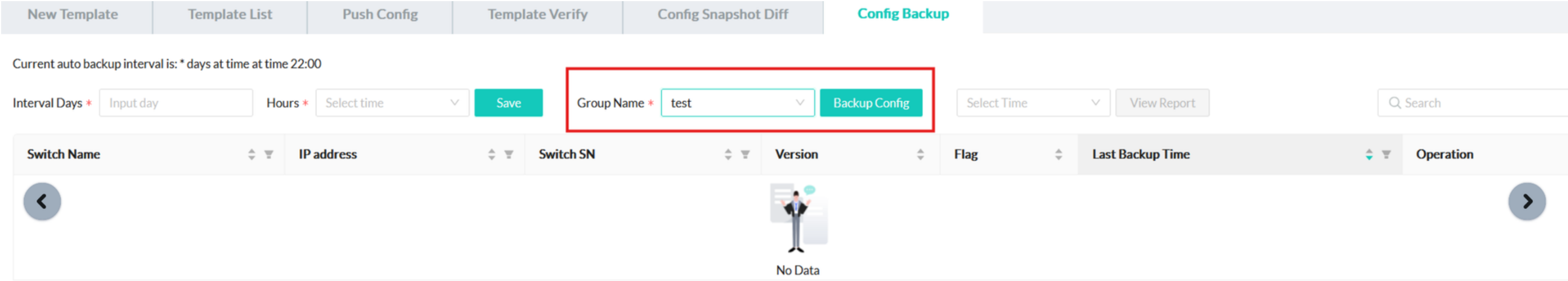
- a. Locate a switch, and then click **Snapshot List**.
- b. Check whether the backup file is in the snapshot list.
- c. To see the configuration details, click **Snapshot**.

2.3.1.2 Backing up Configurations for a Group of Switches

To back up configurations for a group of switches, follow these steps:

In the AmpCon-DC UI, click **Service > Config Template**.

In the **Config Backup** tab, select the group, and then click **Backup Config**.



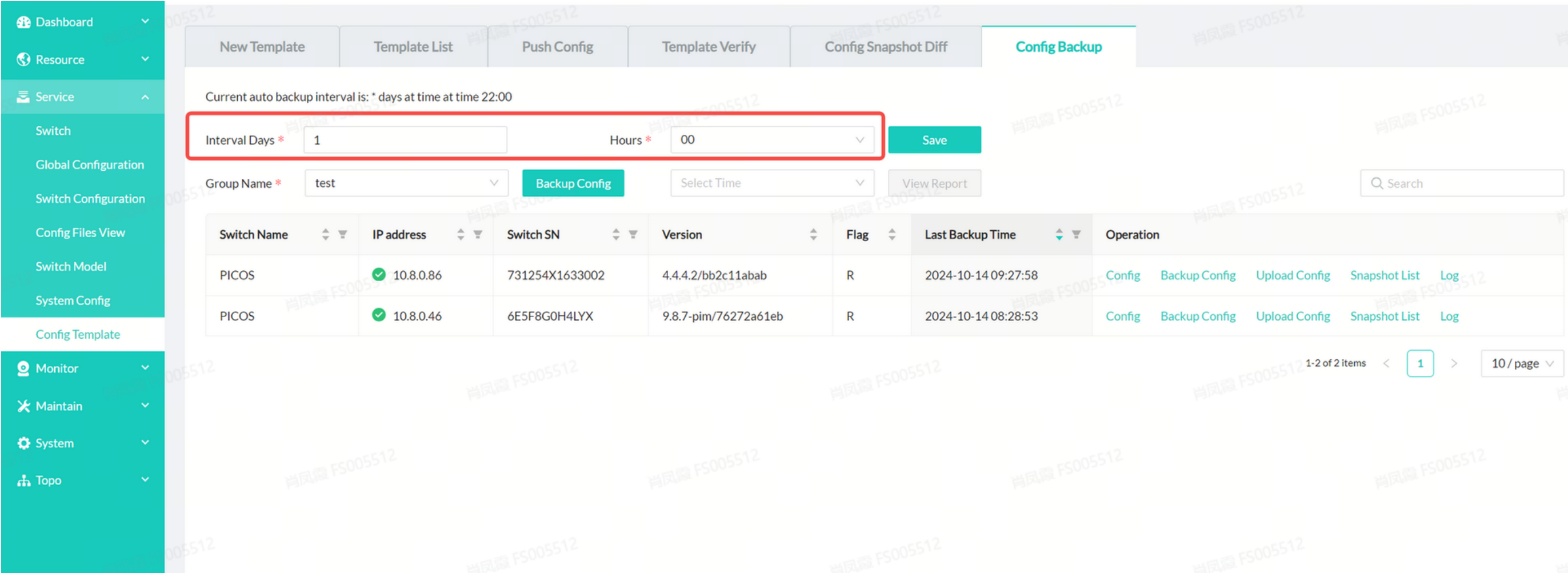
Optional: Check whether the backup file for each switch is created successfully.

- a. Locate a switch, and then click **Snapshot List**.
- b. Check whether the backup file is in the snapshot list.
- c. To see the configuration details, click **Snapshot**.

2.3.1.3 Backing up Configurations Automatically

To back up configurations periodically and automatically, follow these steps:

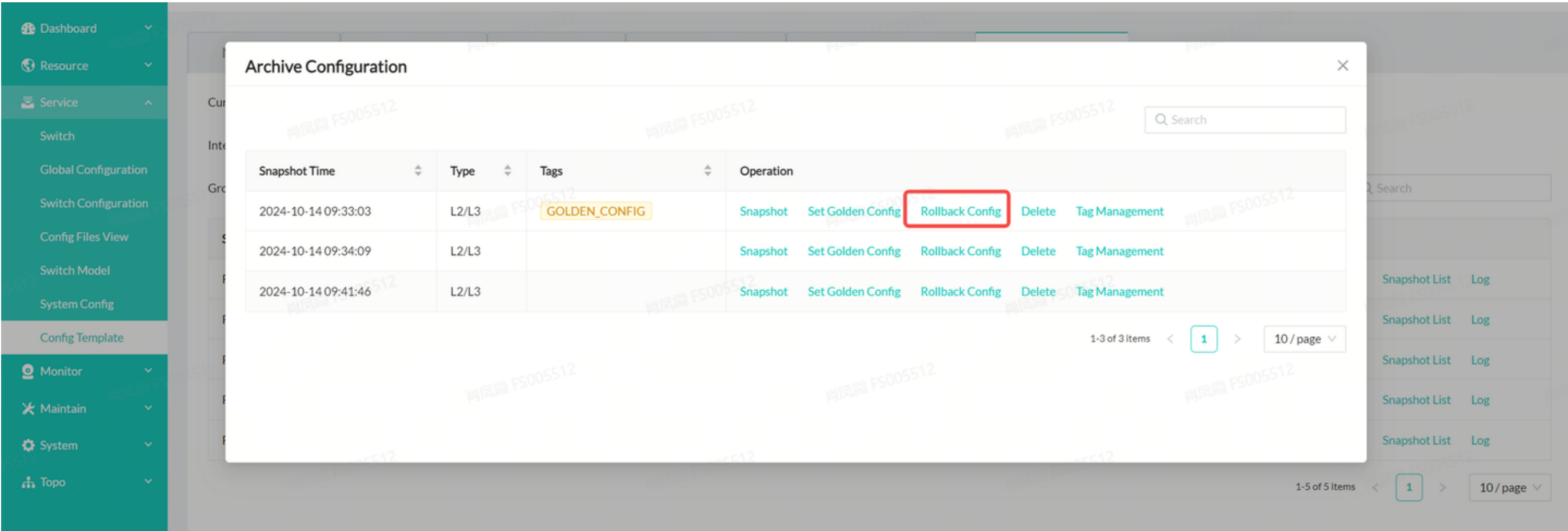
1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the **Config Backup** tab, set the backup interval and time:
 - **Interval Days:** The interval in days between each backup
 - **Hours:** The time in hour to do the backup
3. Click **Save**. Then, AmpCon-DC will automatically back up configurations at a specific interval.



2.3.2 Rolling Back Configurations

To restore configurations based on a backup configuration file, follow these steps:

- 1. In the AmpCon-DC UI, click **Service > Config Template**.
- 2. In the **Config Backup** tab, locate a switch, and then click **Snapshot List**.
- 3. Locate the configuration to roll back, and then click **Rollback Config**.

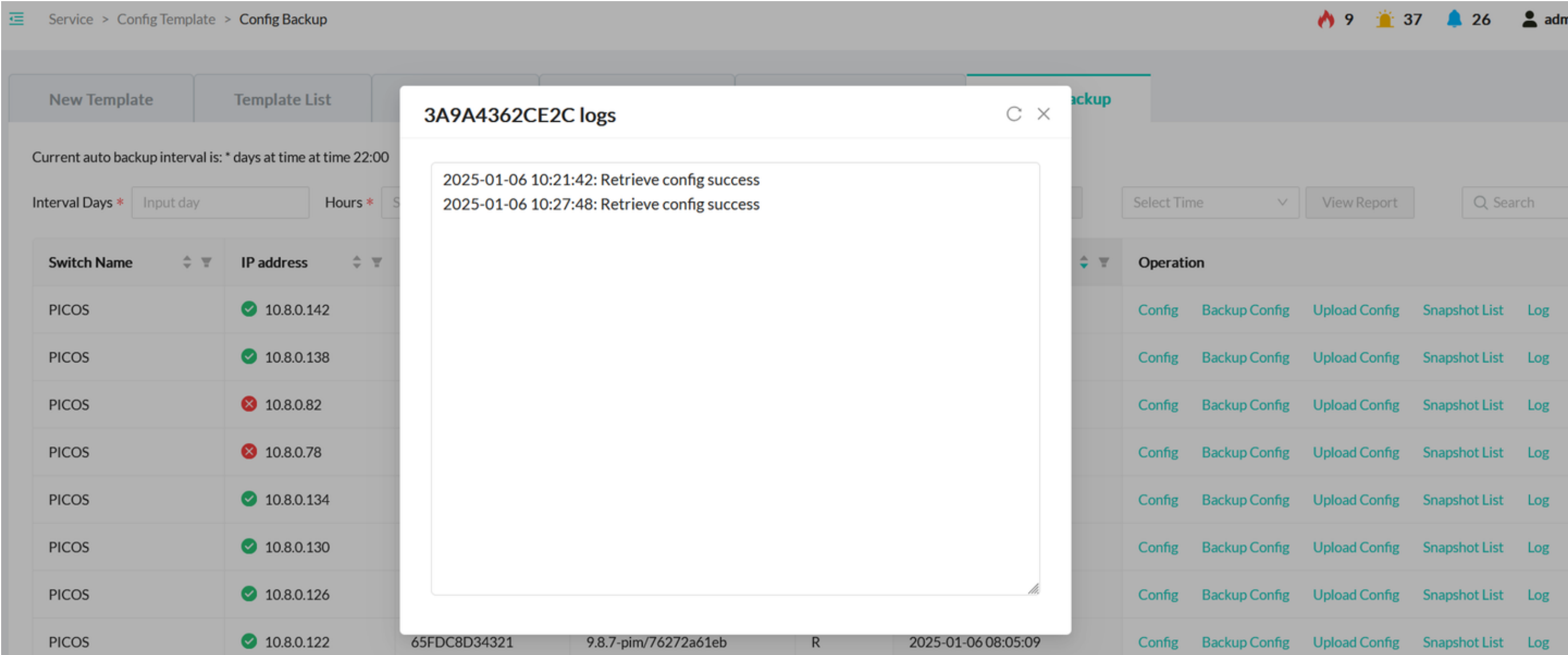


- 4. Set the wait time in seconds. The default value is 10.
- 5. Click **Save**.

2.3.3 Optional: Viewing Backup Logs

To view configuration backup logs on a switch, follow these steps:

- 1. In the AmpCon-DC UI, click **Service > Config Template**.
- 2. In the **Config Backup** tab, locate a switch, and then click **Log**.



2.3.4 Optional: Viewing All Configurations on a Switch

To view detailed configurations on a switch, follow these steps:

- 1. In the AmpCon-DC UI, click **Service > Config Template**.
- 2. In the **Config Backup** tab, locate a switch, and then click **Config**.

2.3.5 Optional: Viewing or Deleting Backup Configuration Files

To view or delete backup configuration files, follow these steps:

In the AmpCon-DC UI, click **Service > Config Template**. In the **Config Backup** tab, locate a switch, and then click **Snapshot List**. You can see all available backup configuration files for the switch.

- To view configuration details, click **Snapshot**.
- To delete a backup configuration file, click **Delete**.

Archive Configuration

Q Search

| Snapshot Time | Type | Tags | Operation |
|---------------------|-------|------|--|
| 2025-01-06 10:21:43 | L2/L3 | | Snapshot Set Golden Config Rollback Config Delete Tag Management |
| 2025-01-06 10:27:49 | L2/L3 | | Snapshot Set Golden Config Rollback Config Delete Tag Management |

1-2 of 2 items

1

10 / page

2.3.6 Optional: Uploading Local Configuration Files

You can upload a local switch configuration file to AmpCon-DC. After you upload the configuration file, the uploaded configurations can't be pushed to the switch directly but can be pushed to the new switch during the [Returning Merchandise Authorization \(RMA\)](#) process.

- If you didn't back up configurations but uploaded a local configuration file before, when you RMA, the uploaded configurations will be pushed to the new switch.
- If you backed up configurations and also uploaded a local configuration file before, when you RMA, the backup configurations will be pushed to the new switch.

To upload a local configuration file, follow these steps:

- 1. In the AmpCon-DC UI, click **Service > Config Template**.
- 2. In the **Config Backup** tab, locate a switch, and then click **Upload Config**.

Service > Config Template > Config Backup

8

14

18

admin

New TemplateTemplate ListPush ConfigTemplate VerifyConfig Snapshot DiffConfig Backup

Current auto backup interval is: * days at time at time 22:00

Interval Days *Input day

Hours *Select time

Save

Group Name *

Backup Config

Select Time

View Report

Search

| Switch Name | IP address | Switch SN | Version | Flag | Last Backup Time | Operation |
|-------------|------------|----------------------|--------------------------------|------|---------------------|--|
| PICOS | 10.8.0.86 | 731254X1633002 | 4.4.4.2/bb2c11abab | R | 2024-10-14 09:22:10 | ConfigBackup ConfigUpload ConfigSnapshot ListLog |
| PICOS | 10.8.0.46 | 6E5F8G0H4LYX | 9.8.7-pim/76272a61eb | R | 2024-10-14 08:28:53 | ConfigBackup ConfigUpload ConfigSnapshot ListLog |
| PICOS | 10.8.0.66 | 772632X1830021 | 9.8.7-fix-bug-16930/1573e43932 | R | 2024-10-10 22:01:02 | ConfigBackup ConfigUpload ConfigSnapshot ListLog |
| PICOS | 10.8.0.70 | HWCG2312185478N00031 | 4.4.6-rc1/461f0a4a0f | R | 2024-10-10 07:02:46 | ConfigBackup ConfigUpload ConfigSnapshot ListLog |
| PICOS | 10.8.0.10 | G1RUBR1000297 | 4.4.5.4/aae4c02383 | R | 2024-09-20 07:15:59 | ConfigBackup ConfigUpload ConfigSnapshot ListLog |

3. Select a .boot file with switch configurations and upload it.

```
/*XORP Configuration File, v1.0*/
/*Last commit   : Tue Sep 24 07:40:34 2024 by admin*/
/*PICOS Version   : 9.8.7-pim*/
/*Version Checksum : a573c6aad5354a7e4b7ddc3e81030e3e*/
/*Has Deprecated Node: 0*/
class-of-service {
}
firewall {
  filter copp {
    description: ""
    input {
      interface "inbound-control-plane"
    }
  }
}
```

4. Click **Config**. In the pop-up window, check whether the uploaded configurations are added.

Service > Config Template > Config Backup

New TemplateTemplate ListPush ConfigTemplate VerifyConfig Snapshot DiffConfig Backup

Current auto backup interval is: * days at time at time 22:00

Interval Days *

Input day

Hours *

Select time

Save

Group Name *

Backup Config

Select Time

View Report

| Switch Name | IP address | Switch SN | Version | Flag | Last Backup Time | Operation |
|-------------|------------|----------------|----------------------|------|---------------------|---|
| PICOS | 10.8.0.74 | 731254X1627005 | 4.5.0E/3b574830da | U | 2025-01-07 01:14:26 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.142 | 3A9A4362CE2C | 4.5.0E/39262f1041 | R | 2025-01-06 10:21:42 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.138 | 16D728633CA3 | 4.4.4/0e26c21685 | R | 2025-01-06 09:40:32 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.82 | AS7892735869 | 9.8.7-plm/76272a61eb | R | 2025-01-06 09:26:35 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.78 | 65FDC8D34376 | 9.8.7-plm/76272a61eb | R | 2025-01-06 09:26:22 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.134 | 62A544ABC112 | 9.8.7-plm/76272a61eb | R | 2025-01-06 08:08:05 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.130 | 62A544ABC115 | 9.8.7-plm/76272a61eb | R | 2025-01-06 08:07:23 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.126 | 62A544A8C520 | 9.8.7-plm/76272a61eb | R | 2025-01-06 08:05:32 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.122 | 65FDC8D34321 | 9.8.7-plm/76272a61eb | R | 2025-01-06 08:05:09 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |
| PICOS | 10.8.0.118 | 62A544ABC111 | 9.8.7-plm/76272a61eb | R | 2025-01-06 08:04:56 | <div>ConfigBackup ConfigUpload ConfigSnapshot ListLog</div> |

2.3.7 Optional: Setting Golden Config

The backup file with Golden Config will never be deleted. When the switch operation is compromised, the backup file with Golden Config is used to roll back a switch. You can also check whether the switch is operating as designed by comparing running configurations with the backup configuration file with Golden Config.

To set Golden Config, follow these steps:

- 1. In the AmpCon-DC UI, click **Service > Config Template**.
- 2. In the **Config Backup** tab, locate a switch, and then click **Snapshot List**.
- 3. Locate a backup file, and then click **Set Golden Config**.

2.3.8 Optional: Adding or Deleting Configuration File Tags

You can add or delete tags for a backup configuration file. Follow these steps:

In the AmpCon-DC UI, click **Service > Config Template**. In the **Config Backup** tab, locate a switch, and then click **Snapshot List**. Locate a backup snapshot, and then click **Tag Management**.

- To add a tag, enter the tag name, and then click **Add > Save**.

DashboardResourceServiceSwitchGlobal ConfigurationSwitch ConfigurationConfig Files ViewSwitch ModelSystem ConfigConfig TemplateMonitorMaintainSystemTopo

Archive Configuration

| Snapshot Time | Type |
|---------------------|-------|
| 2024-10-14 09:33:03 | L2/L3 |
| 2024-10-14 09:34:09 | L2/L3 |

Tag Management

Snapshot Time2024-10-14 09:33:03

Snapshot TypeL2/L3

Template TagGOLDEN_CONFIG

Tag name

tag_1

Add

Save

- To delete a tag, locate the tag, click the deletion icon, and then click **Save**.

2.4 Comparing Running or Backup Configurations

You can compare running configurations or backup configurations on one switch or on different switches.

- Running configurations

Configurations that are currently running on a switch

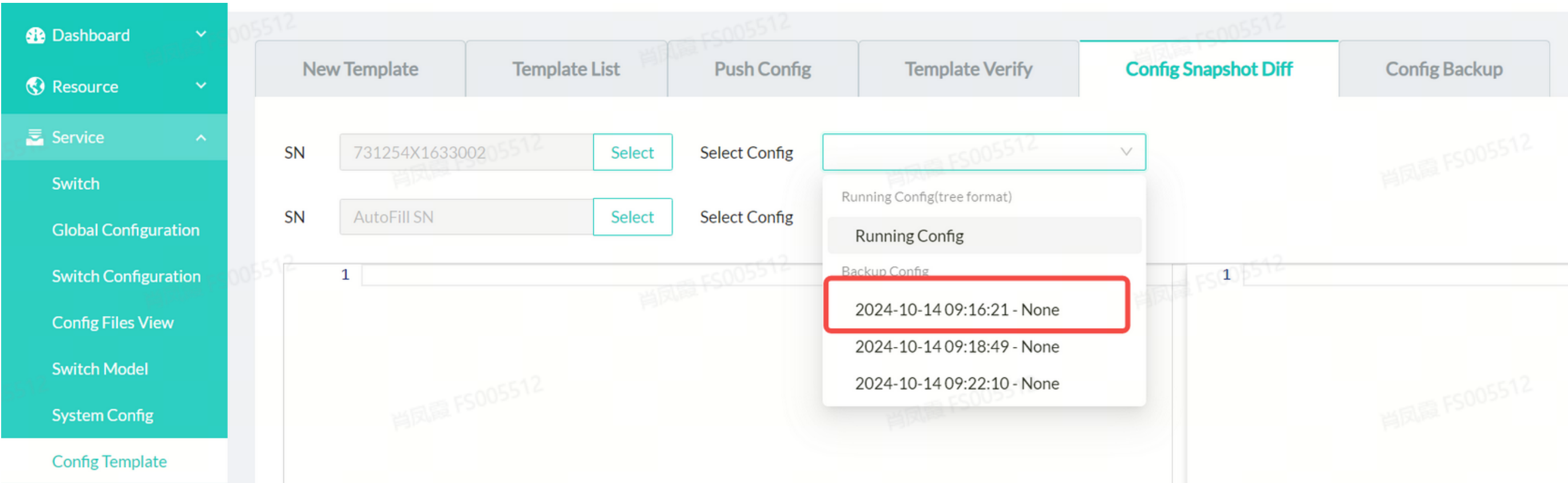
- Backup configurations

Configuration files that were backed up as described in "2.3 Backing up Switch Configurations"

2.4.1 Procedure

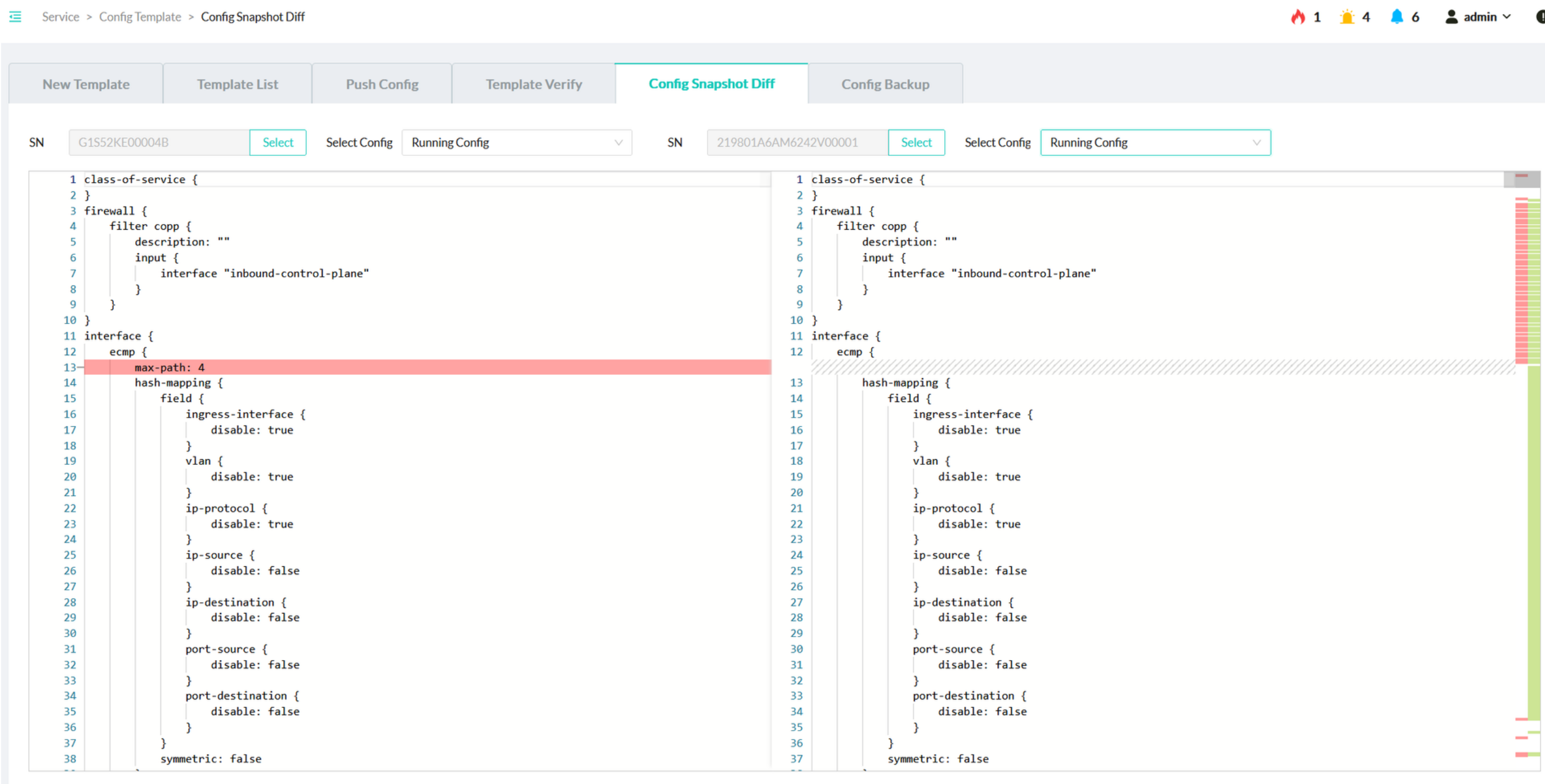
1. In the AmpCon-DC UI, click **Service > Config Template**.
2. In the first **SN** field, click **Select** to choose one switch to compare.
3. In the pop-up window, select the switch.
4. In the first **Select Config** drop-down list, select a running configuration file or a backup configuration file.

NOTE • The running configuration is available only for online switches (switches can connect with the AmpCon-DC server).



5. In the second **SN** field, click **Select** to choose another switch to compare.
6. In the pop-up window, select the switch.
7. In the second **Select Config** drop-down list, select a running configuration file or a backup configuration file.

Then, you can see configuration differences as follows:



2.5 Comparing Running Configurations with Initial Configurations

You can compare running configurations with initial configurations on the same switch.

- Initial configurations

Configurations that you selected when you add a switch configuration, including the global configuration file and the configuration template

- Running configurations

Configurations that are currently running on the switch

NOTEThis feature doesn't support the following scenarios:

- Comparing configurations on different switches
- Comparing configurations on imported switches
- Comparing configurations on disconnected switches (switches can't connect with the AmpCon-DC server)

2.5.1 Prerequisites

- Check the **Mgmt IP** column on the “Switch” page, and ensure that the switch to compare is connected to the AmpCon-DC server.
 - ✓: The switch is connected to the AmpCon-DC server.
 - x: The switch is not connected to the AmpCon-DC server.

Dashboard

Resource

Service

Switch

Global Configuration

Switch Configuration

Config Files View

Switch Model

System Config

Config Template

Monitor

Maintain

System

Topo

Switch

Import Actions Lifecycle Actions Parking Lot

Search

| Switch Name | SN/Service Tag | Model | Version | Status | Mgmt IP | Operation |
|-------------|----------------|------------|-----------|----------|---------------------------|---|
| PICOS | 62A778A8C505 | as5812_54x | 9.8.7-pim | Imported | ✗ 10.8.0.114 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 62A544ABC111 | AG5648 | 9.8.7-pim | Imported | ✗ 10.8.0.118/10.37.16.221 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 65FDC8D34321 | as7312_54x | 9.8.7-pim | Imported | ✗ 10.8.0.122/10.37.16.222 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 62A544A8C520 | AG5648 | 9.8.7-pim | Imported | ✗ 10.8.0.126/10.37.16.220 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 62A544ABC115 | AG5648 | 9.8.7-pim | Imported | ✗ 10.8.0.130/10.37.16.225 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 62A544ABC112 | AG5648 | 9.8.7-pim | Imported | ✗ 10.8.0.134/10.37.16.223 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | 65FDC8D34376 | as5812_54x | 9.8.7-pim | Imported | ✓ 10.8.0.78 | UnStage SSH Log Configuration Config View Lifecycle Actions |
| PICOS | AS7892735869 | AG9032 | 9.8.7-pim | Imported | ✓ 10.8.0.82 | UnStage SSH Log Configuration Config View Lifecycle Actions |

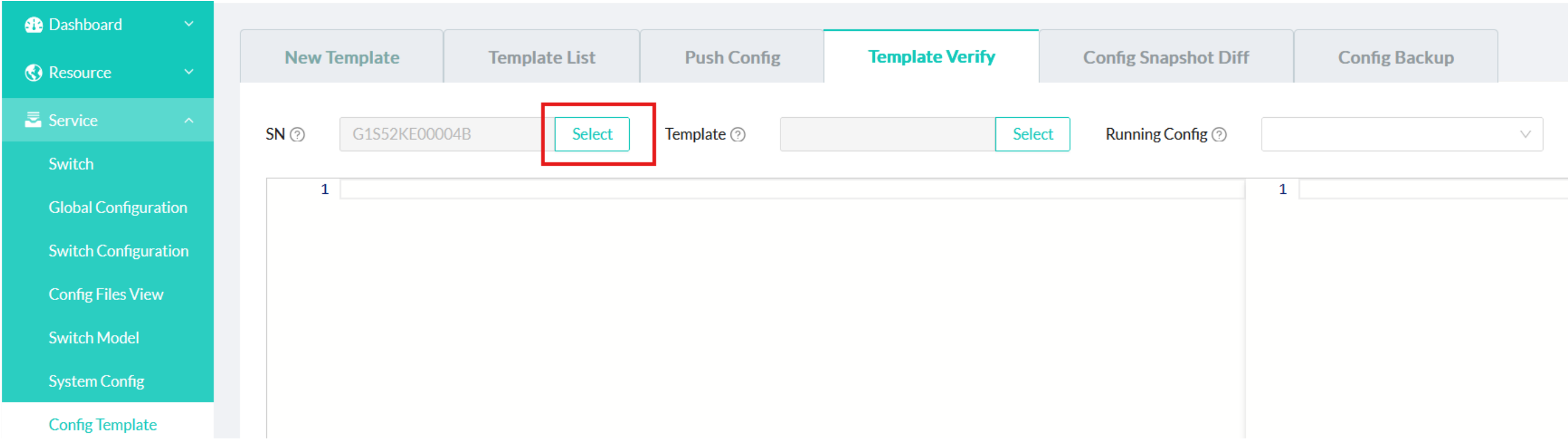
- Ensure that the switch to compare is not in **Imported** status on the “Switch” page.

NOTE

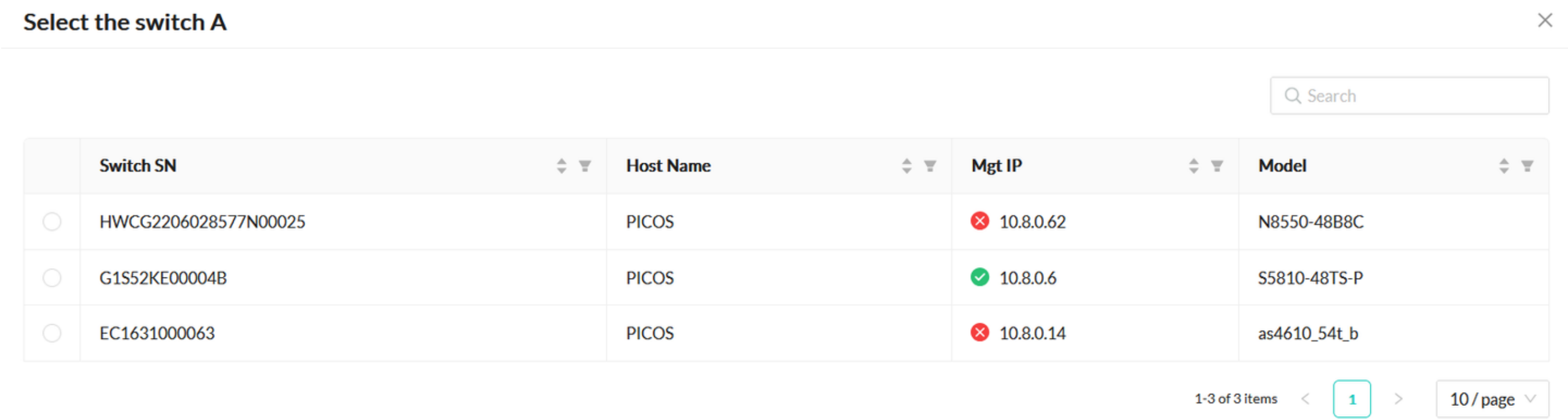
- After you [Return Merchandise Authorization \(RMA\)](#) to replace an imported switch with a new switch, the new switch is shown as **Provisioning Success**. However, you can't compare running configurations with initial configurations on this new switch.
- This is because the new switch is configured by using the backup configuration file or uploaded configurations of the imported switch during the deployment process, instead of by creating a switch configuration.

2.5.2 Procedure

- In the AmpCon-DC UI, click **Service > Config Template**.
- In the **SN** field, click **Select**.

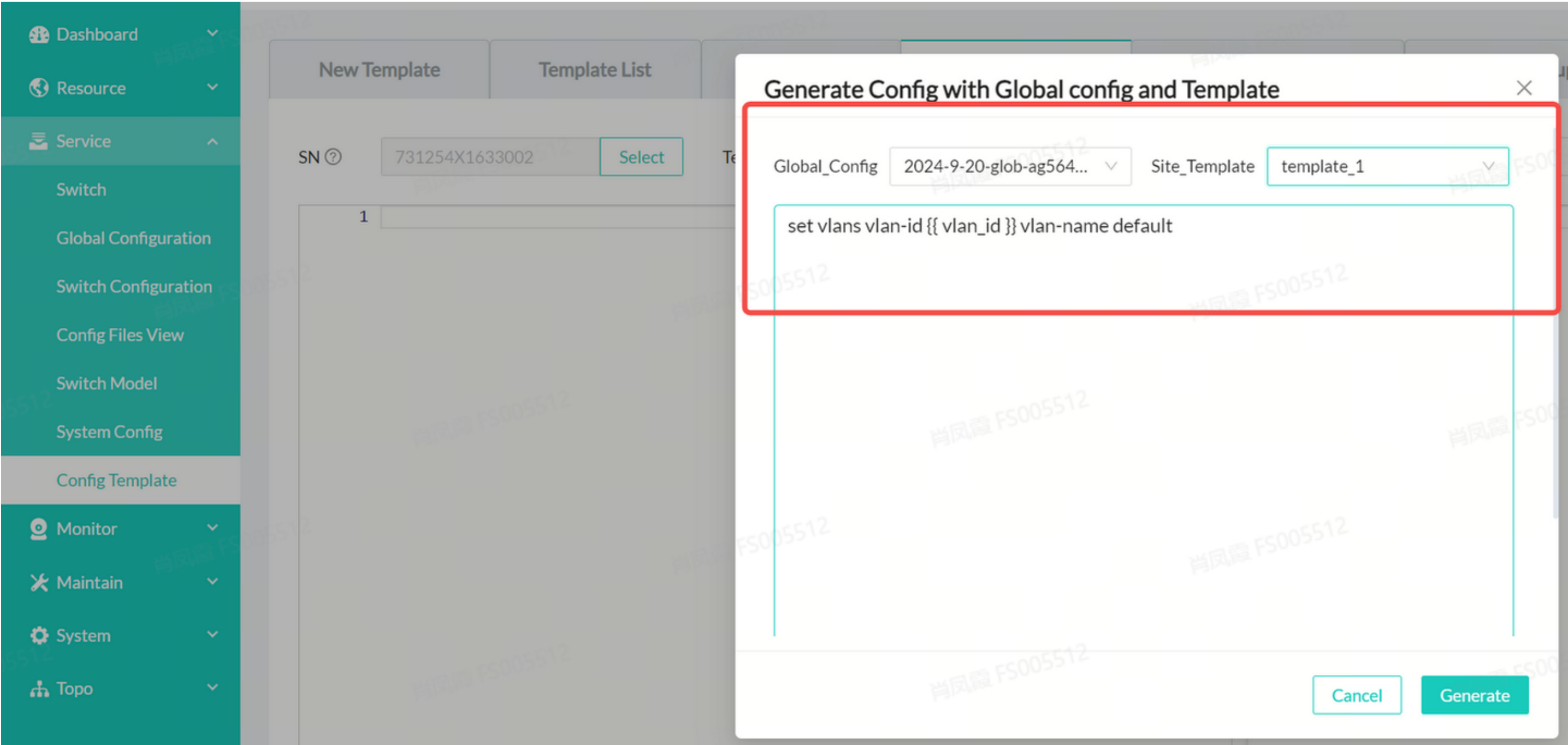


3. In the pop-up window, select the switch to compare.



4. In the **Template** field, click **Select**.

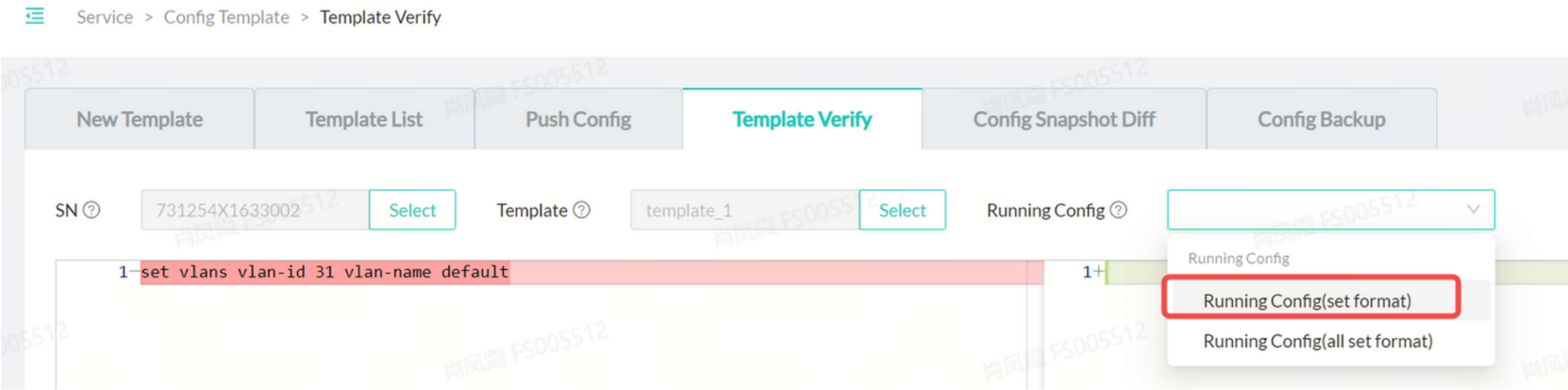
5. In the pop-up window, select the global configuration file and the configuration template that you pushed to the switch during the initial switch deployment process. Then, click **Generate**.



6. In the **SN** drop-down list, select **Running Config(set format)** or **Running Config(all set format)**.

- **Running Config(set format):** Displays configurations as the **show | display set** command result in the switch
- **Running Config(all set format):** Displays configurations as the **show all | display set** command result in the switch

Then, you can see differences between the running configurations and the initial configurations on the switch.



STEP3 : Keep Going

Now that you have your devices connected and in tip-top condition, you can keep going onto the next stages of automating your data center deployment. Use these links to continue your journey with ampcon data center automation.

What's Next?

| If you want to | Then |
|---|--|
| Monitor these switches easily | See the Monitoring Switches section in the ampcon-dc-management-platform-210-user-manual.pdf |
| Have AmpCon-DC licenses and PicOS® licenses | See the Managing Licenses section in the ampcon-dc-management-platform-210-user-manual.pdf |
| Run Ansible playbooks with AmpCon-DC | See the Running Ansible Playbooks for Automation section in the ampcon-dc-management-platform-210-user-manual.pdf |

3.2 General Information

| If you want to | Then |
|------------------------------------|---|
| See all FS AmpCon-DC documentation | Visit AmpCon-DC documentation |

3.3 Learn with Videos

Our video library continues to grow! We’ve created many videos that demonstrate how to do everything from install your hardware to configure advanced AmpCon-DC network features. Here are some great video and training resources that will help you expand your knowledge of AmpCon-DC.

| If you want to | Then |
|---|---|
| Watch short demos to learn how to use AmpCon-DC to automate and validate the design, deployment, and operation of data center networks, from Day 0 through Day 2+ | See https://www.youtube.com/results?search_query=Ampcon-DC the FS Networks Product Innovation YouTube page |
| Get short and concise tips and instructions that provide quick answers, clarity, and insight into specific features and functions of FS technologies | See https://www.youtube.com/@FS_com on FS Networks main YouTube page |



Delaware, United States

Address: Delaware: 380 Centerpoint Blvd, New Castle, DE 19720, United States
Email: US@fs.com
Tel: +1 (888) 468-9910

Germany

Address: Röntgenstraße 18, 85757 Karlsfeld, Germany
Email: DE@fs.com
Tel: +49 (0) 8131 377 3008

Australia

Address: 57-59 Edison Rd, Dandenong South, VIC 3175, Australia
Email: AU@fs.com
Tel: +61 3 5909 9990

Japan

Address: JS Progress Building 5F, 4-1-23, Heiwajima, Ota Ku, Tokyo, 143-0006, Japan
Email: JP@fs.com
Tel: +81-3-6897-9438

California, United States


Address: California: 15241 Don Julian Rd, City of Industry, CA 91745, United States
Email: US@fs.com
Tel: +1 (888) 468-9910

United Kingdom

Address: Unit 8, Urban Express Park, Union Way, Aston, Birmingham B6 7FH, United Kingdom
Email: UK@fs.com
Tel: +44 (0) 121 726 4775

Singapore

Address: 7002 ANG MO KIO AVENUE 5 #05-02 Singapore 569914
Email: SG@fs.com
Tel: +65 31381992



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