ZTP of New Branch Devices to Regions for Enterprise

Secure SD-WAN

DEFINE / DESIGN / DEPLOY / DEMO

Table of Contents

Change Log

Date	Change Description
2022-05-10	Initial release.
2022-11-03	Updated Branch BGP signaling .

Deployment procedures

This guide demonstrates how to add additional branch devices to an existing SD-WAN implementation. You can provision a single branch device, or you can provision many branch devices using a CSV file.

The deployment instructions include the following topics:

Prerequisites

This guide presumes the SD-WAN configuration has been provisioned and includes the following:

- Templates:
  - IPsec tunnel template
  - BGP template
  - SD-WAN template
  - Post-Run CLI template
- Policy package
- A CSV file of model device definitions (See Model device definitions by CSV file on page 4.)

For information on provisioning an SD-WAN configuration, see the following guides:

- Single Hub
- Dual Hub (Primary/Secondary)
- Dual Hub (Primary/Primary)

Model device definitions by CSV file

You can use a CSV file to add multiple model devices to FortiManager. The CSV file must contain the following columns to be used with the example in this guide:

- sn (serial number)
- device blueprint
- name
- branch_id

Each row in the CSV file defines a branch device.

The *branch_id* column is optional. However it is used in this guide to represent a metafield created by the SD-WAN overlay template. Keep in mind:

- Each branch device must have its own unique value.
- Duplicate IDs are not allowed.

You must create a device blueprint in FortiManager before you can import the CSV file. See Creating a device blueprint on page 5.

Following is an example of a CSV file:

sn	device blueprint	name	branch_id
FGVM08TM2100xxxx	corpa_branch_blueprint	Branch3	3
FGVM08TM2100xxxx	corpa_branch_blueprint	Branch4	4
FGVM08TM2100xxxx	corpa_branch_blueprint	Branch5	5

Assumptions

Branch devices in this guide are FortiGate-VM64 models.

Since VMs come with only one, provisioned interface, a specific pre-run CLI is required to create interfaces 2 to 10. The pre-run CLI is typically not needed in production because branch FortiGates are usually physical devices.

Configuration steps

Following is a summary of the steps required to configure deploy new branch devices to an SD-WAN region using FortiManager:

1. Create a device blueprint. See Creating a device blueprint on page 5.
2. Create a model device. See Creating model devices on page 6.
3. Join branch devices to FortiManager. See Joining branch devices to FortiManager on page 8.

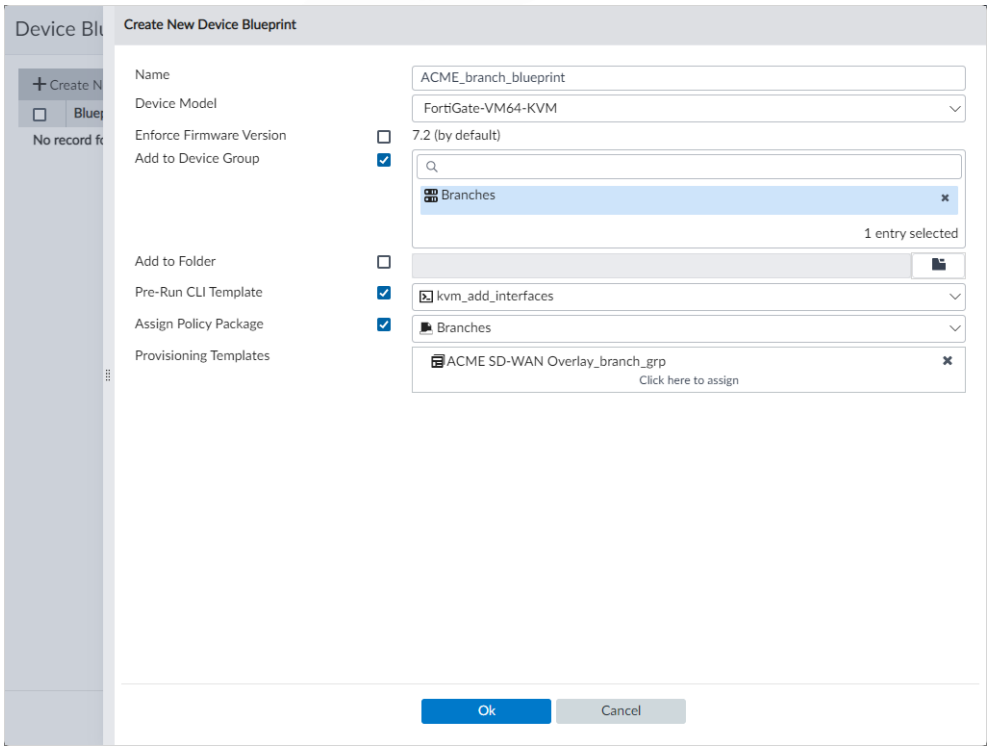
Creating a device blueprint

To create a device blueprint:

1. In FortiManager, go to *Device Manager*, and select *Device Blueprint* from the *Add Device* dropdown menu. The *Device Blueprint* dialog box is displayed.

2. Click *Create New*. The *Create New Device Blueprint* pane is displayed.
3. Set the following options, and click *OK*.

Name	ACME_branch_blueprint
Device Model	FortiGate-VM64-KVM
Add to Device Group	Branches
Pre-Run CLI template	kvm_add_interfaces
Assign Policy Package	Branches
Provisioning Templates	Click to select *Template Group*, and then select *ACME SD-WAN Overlay _branch_grp*.



The device blueprint is created.

4. Click *Close* to close the *Device Blueprint* dialog box.

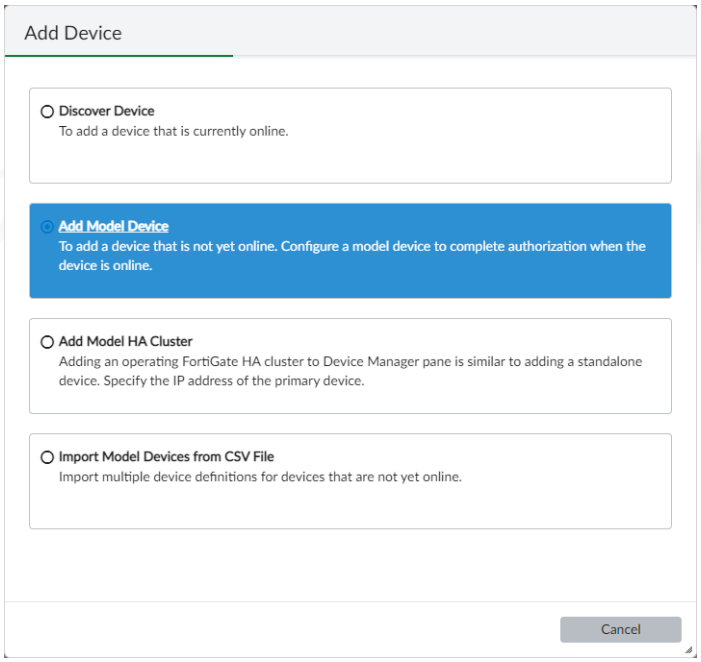
Creating model devices

You can create model devices one by one, or you can import a CSV file of definitions to create multiple model devices. This section describes both methods.

CONFIGURATION STEPS

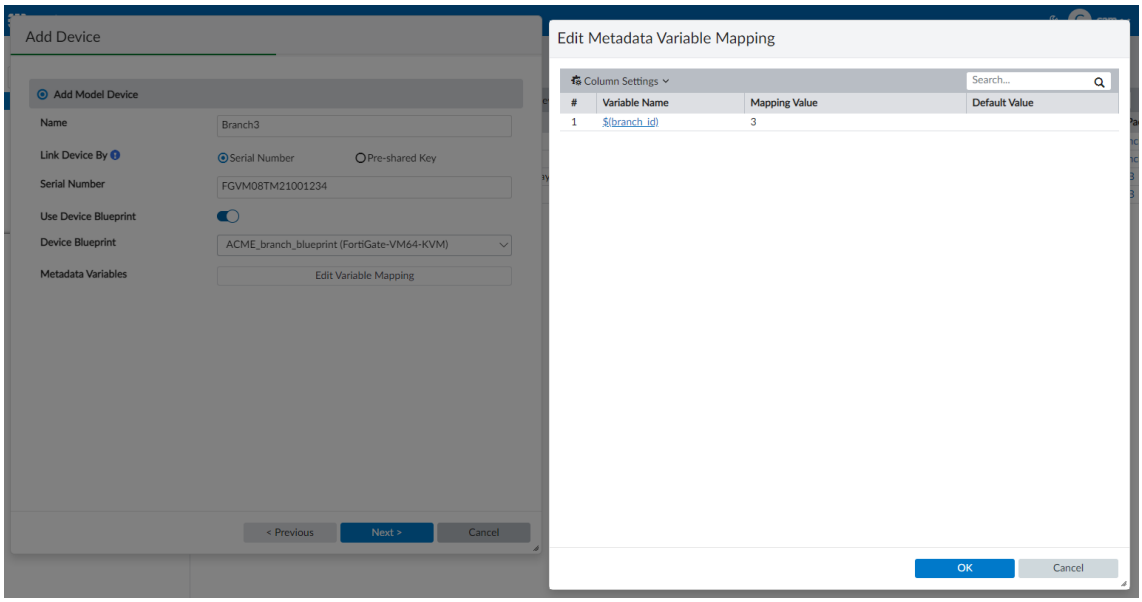
To create a model device one by one:

1. In FortiManager, go to *Device Manager*, and click *Add Device*. The *Add Device* dialog box displays.
2. Select *Add Model Device*.



3. Set the following options, and click *Next*:

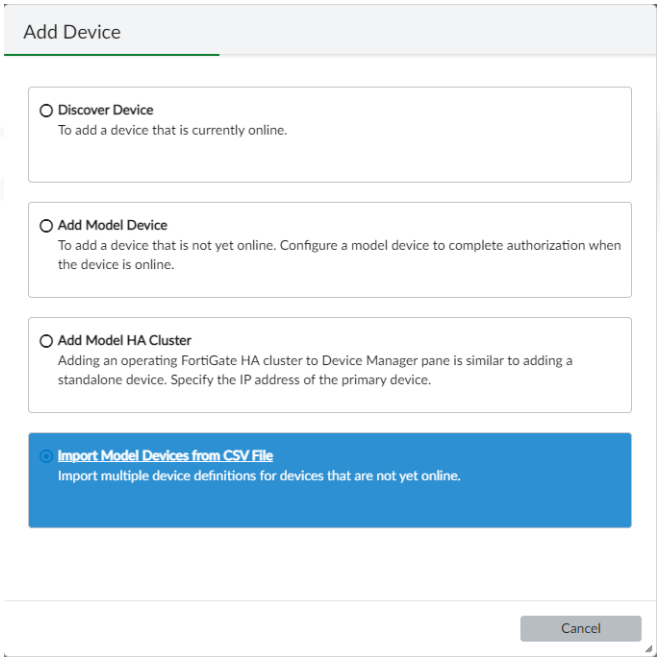
Name	Type a name.
Serial Number	FortiGate-VM64-KVM
Use Device Blueprint	Toggle on and select *ACME_branch_blueprint*.
Metadata Variables	Click *Edit Variable Mapping*, and set the *Mapping Value* column to *3* for the *($branch_id)* variable. Click *OK*.



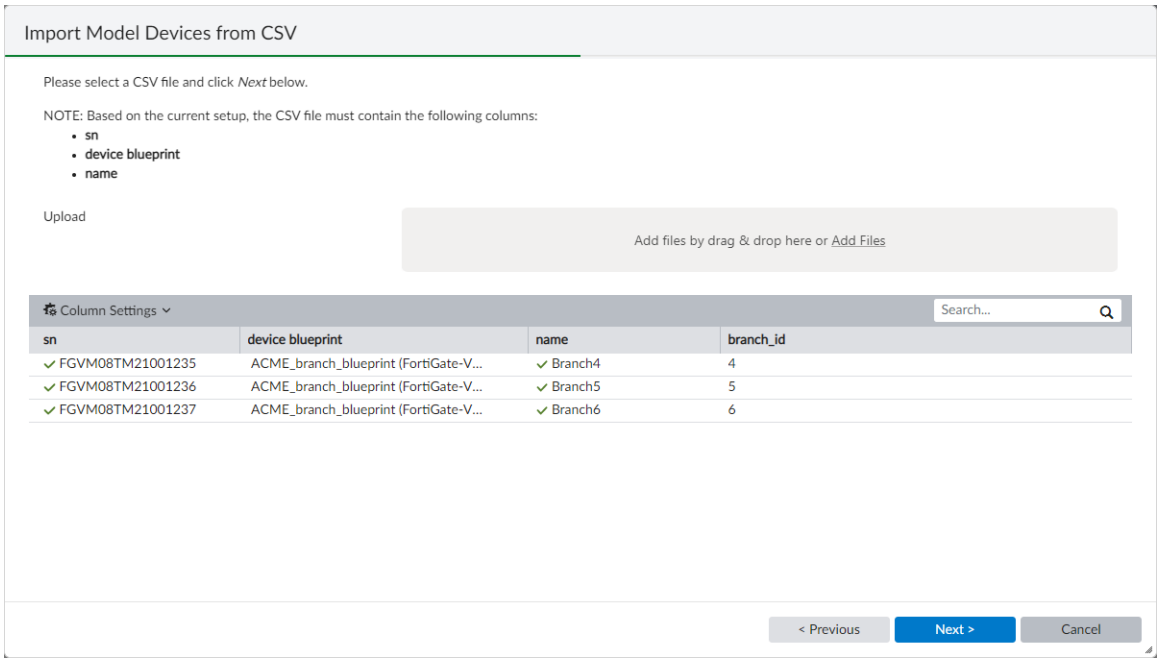
FortiManager adds the model device.

To import multiple model device definitions from a CSV file:

1. Prepare the CSV file.
2. In FortiManager, go to *Device Manager*, and click *Add Device*. The *Add Device* dialog box displays.
3. Select *Import Model Devices from CSV File*.



4. Drag and drop the CSV file in the window. The contents of the CSV file are displayed:



5. Review the list of devices, and click *Next*.
   FortiManager adds the model devices.

Joining branch devices to FortiManager

After the model devices are configured in FortiManager, connect the physical branch devices to FortiManager for the physical device to retrieve its configuration.

CONFIGURATION STEPS

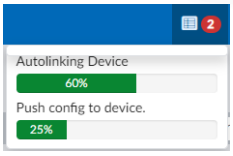
You can use the following methods to connect branch devices to FortiManager:

- FortiDeploy
- Pre-configure a FortiManager IP address

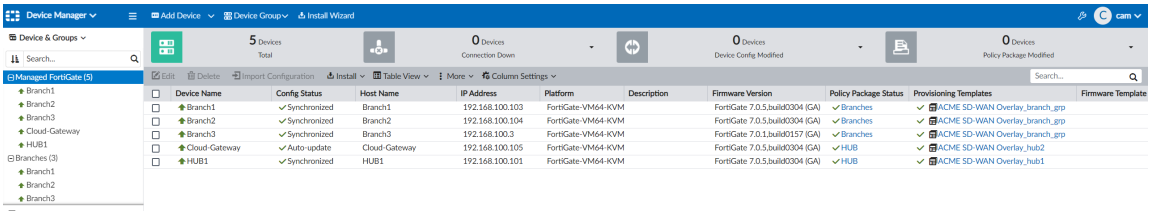
FortiDeploy is the recommended option to automatically join FortiGates to FortiManager for provisioning and continued management.

Once a FortiGate connects to FortiManager, a status window appears in the top-right corner of the FortiManager GUI to display progress for the following processes:

- Autolinking Device
- Push config to device.



When this completes, the branch(es) will show as synchronized for their policy package, config status, and provisioning template. The pre-run CLI template is no longer listed under *Provisioning Templates*.



www.fortinet.com

01-720-802720-20220510