



GigaVUE-FM Installation and Upgrade Guide

GigaVUE-FM

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Change Notes

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About this Guide

This guide describes how to install and upgrade the GigaVUE-FM[®] Fabric Manager (GigaVUE-FM).

Installation

- [Install GigaVUE-FM on VMware ESXi](#)
- [Install GigaVUE-FM on AWS](#)
- [Install GigaVUE-FM on Azure](#)
- [Install GigaVUE-FM on OpenStack](#)
- [Install GigaVUE-FM on Nutanix](#)
- [Install GigaVUE-FM Instance for Kubernetes](#)
- [Install GigaVUE-FM on MS Hyper-V](#)
- [Install GigaVUE-FM on KVM](#)

Upgrade

- [Important GigaVUE-FM Upgrade Guidance](#)
- [Upgrade GigaVUE-FM](#)
- [Upgrade GigaVUE-FM in Azure](#)
- [Upgrade GigaVUE-FM in AWS](#)

Reference

- [GigaVUE-FM CLI Commands](#)
- [Setting the GigaVUE-FM Admin Password](#)

Install GigaVUE-FM on VMware ESXi

This section describes how to install GigaVUE-FM on VMware hypervisor, ESXi. It consists of the following main sections:

- [Before You Install](#) describes the minimum hardware and computing requirements.
- [Install New GigaVUE-FM on VMware ESXi](#) describes the steps to install and deploy GigaVUE-FM on VMware ESXi hypervisor.

Before You Install

This section describes the hardware and virtual computing requirements for GigaVUE-FM. Ensure that the time on the VMware ESXi host is set correctly to ensure accuracy of the trending data that is captured.

Prerequisites for GigaVUE-FM

Before Installing GigaVUE-FM, ensure that VMware vSphere Standard, Enterprise, or Enterprise Plus is installed on hardware that meets minimum requirements. The following VMware vSphere versions are supported. Note the minimum version requirements under [Hardware Requirements](#).

VMware ESXi and NSX-V Hardware Requirements

The following table describes the hardware requirements on which VMware ESXi runs GigaVUE-FM.

Table 1: Hardware Requirements for VMware Hypervisor

Hardware Requirements	
VMware Hypervisor	vSphere ESXi: v5.5 and above.
CPU	One or more 64-bit x86 CPUs with virtualization assist (Intel-VT or AMD-V) enabled. Note: To run GigaVUE-FM, hardware support for virtualization must be enabled on the VMware ESXi host. Make sure that the BIOS option for virtualization support is not disabled. For more information, see your BIOS documentation

Hardware Requirements	
RAM	At least 8GB
Disk Space	At least 84GB shared (FC, iSCSI, NFS, or FCoE) or locally attached storage (PATA, SATA, SCSI) NOTE: Increase the disk space depending on the configuration load requirements for the given GigaVUE-FM instance.
Network	At least one 1Gb NIC

The following table lists the virtual computing resources for GigaVUE-FM.

Table 2: Minimum Virtual Computing Requirements for VMware Hypervisor

Minimum Virtual Computing Requirements	
Memory	Minimum 16GB memory
Virtual CPU (vCPU)	2 vCPU
Virtual Storage for Guest	84GB using PVSCSI (VMware Paravirtual SCSI) <ul style="list-style-type: none"> ● System Disk - 40GB ● Swap Disk - 4GB ● Data Disk - 40GB
Virtual Network Interfaces	One vNIC using VMXNET3 (VMware 3rd Generation Paravirtual NIC)

Supported Browsers

GigaVUE-FM has been tested on the following browsers:

Browser	Version
Mozilla Firefox™	▪ Version 49.00
Apple® Safari®	▪ Version 9.1 and Higher
Google® Chrome®	▪ Version 54 and higher
Microsoft Edge	▪ Version 38

Notes:

- Only the browsers that support TLS v1.2 can access GigaVUE-FM.
- Internet Explorer 11 (IE11) is deprecated for security reasons and is no longer supported. IE users are strongly encouraged to switch to Microsoft Edge.

Install New GigaVUE-FM on VMware ESXi

The GigaVUE-FM software package is distributed as an OVA file. The following sections describe how to deploy a fresh installation of GigaVUE-FM on an ESXi host and perform its initial configuration:

- [Deploy GigaVUE-FM from an OVA File](#)
- [Initial GigaVUE-FM Configuration](#)

Deploy GigaVUE-FM from an OVA File

Use the vSphere Client to install the GigaVUE-FM OVA file. Starting from software version 5.3, you cannot deploy GigaVUE-FM directly from the ESXi host. You must login to the VCenter on the vSphere client to deploy a GigaVUE-FM instance.

NOTE: The OVA file must be stored in a location that is accessible to the vSphere Client. This location cannot be a datastore accessible to the ESXi host which will be the target of the deployment.

NOTE: Starting in software version 5.4.01, you cannot deploy the GigaVUE-FM OVA file on older versions of VMware ESXi. If you have an older version of ESXi, then you must upgrade your VMware ESXi to at least version 5.5. Otherwise, GigaVUE-FM OVA deployment will fail.

The following steps are shown using the ESXi version 6.x. To deploy a GigaVUE-FM instance:

1. Log in to the VMware vCenter web interface.
2. Go to **Menu > VMs and Templates**.
3. Right-click the ESXi Host or data center on which you want to deploy GigaVUE-FM 5.16., and then select **Deploy OVF Template**.

NOTE: GigaVUE-FM v5.8 is used for illustration purposes only throughout this example. In your deployment, you will select the version that you are deploying.

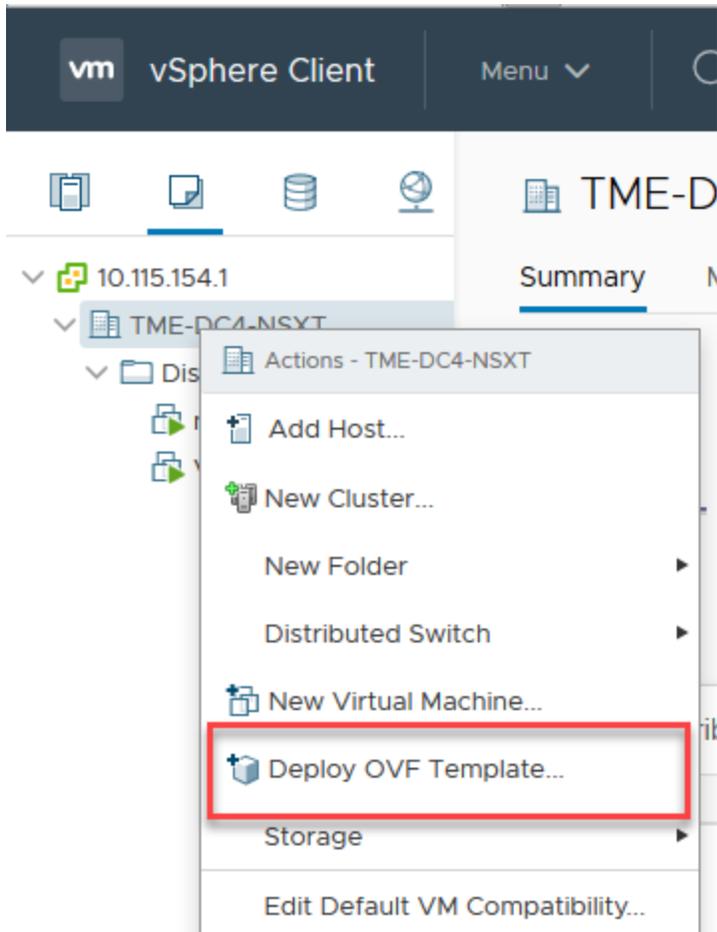


Figure 1 vSphere Client: OVF Template
The Deploy OVF Template wizard opens.

Figure 2 vSphere Client: Find the Location of the OVA File

4. In the **Select an OVF template** page of the **Deploy OVF Template** wizard, choose one of the following options:
 - a. **URL**—Enter the URL from where you want to download and install the OVF package.
 - b. **Local file**—Click **Browse** to navigate to the OVA file available on your local machine, and then select the OVA file.
5. Click the **Next**. The **Select a name and folder** page of the **Deploy OVF Template** wizard appears.

NOTE: This example uses GigaVUE-FM v5.8 for illustration purposes only. In your instance, you will see the version you are deploying.

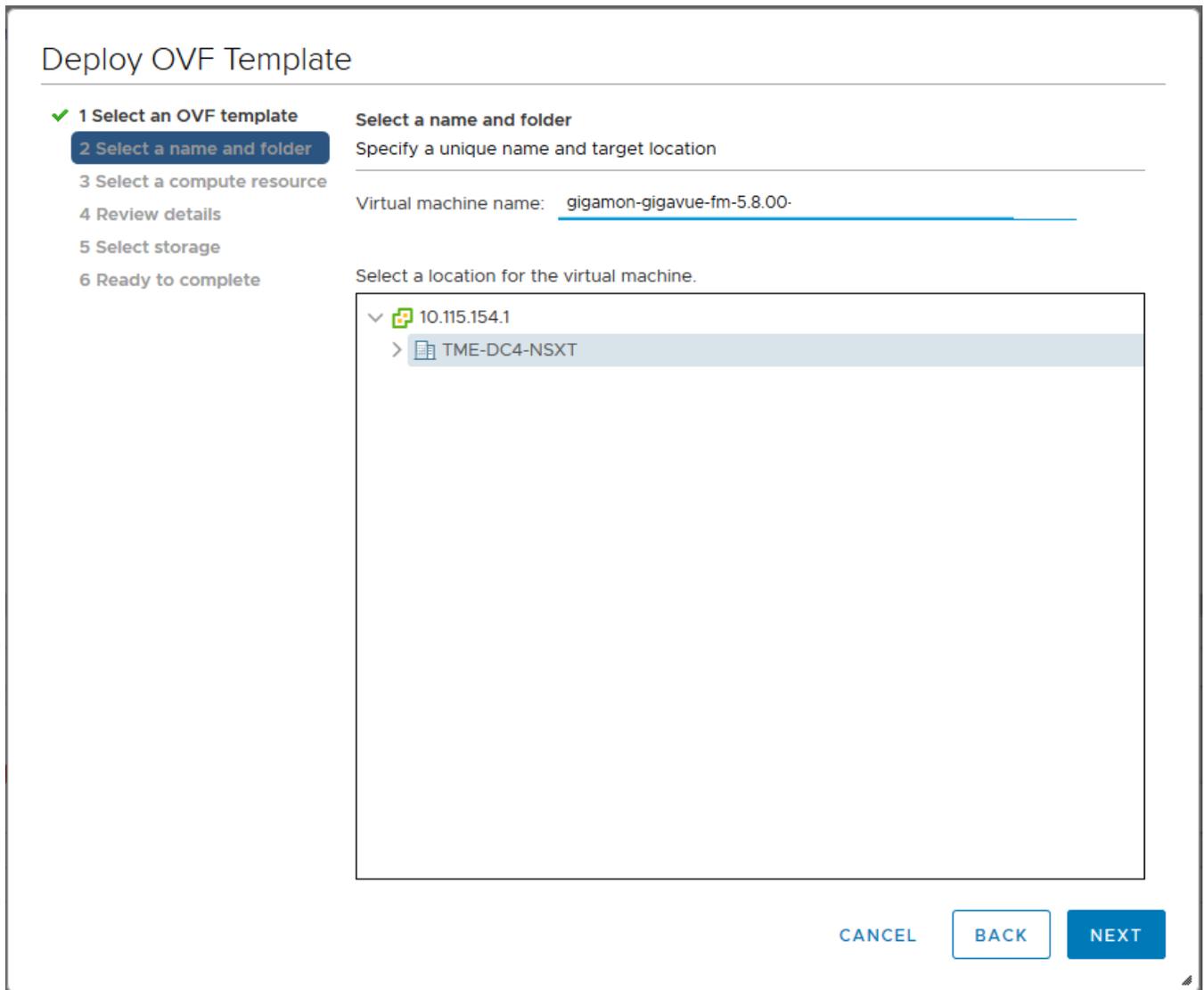


Figure 3 vSphere Client: Enter Name and Location for OVA File on ESXi Server

6. Specify a unique name for the GigaVUE-FM instance, and then select a location and host to which you want to deploy the GigaVUE-FM instance.
7. Click **Next**. The **Select a compute resource** page of the **Deploy OVF Template** wizard appears.

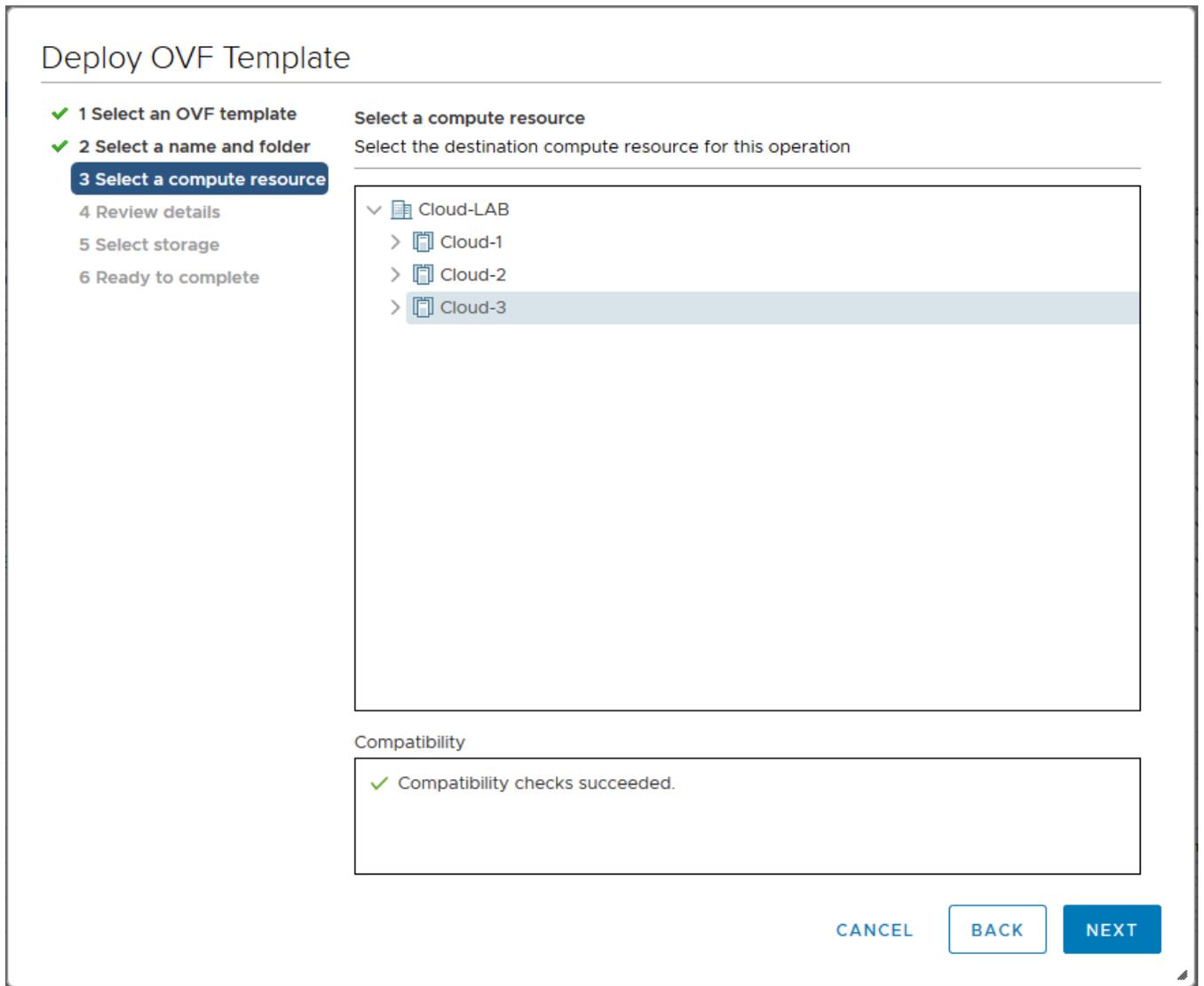


Figure 4 vSphere Client: Select a Compute Resource for the OVF Deployment

8. Select a destination compute host for the OVF deployment. The Deploy OVF Template wizard performs a validation to ensure that the selected host has all the resources required for the GigaVUE-FM deployment.
9. Click **Next**. The **Review details** page of the **Deploy OVF Template** wizard appears.

NOTE: This example uses GigaVUE-FM v5.8 for illustration purposes only. In your instance, you will see the version you are deploying.

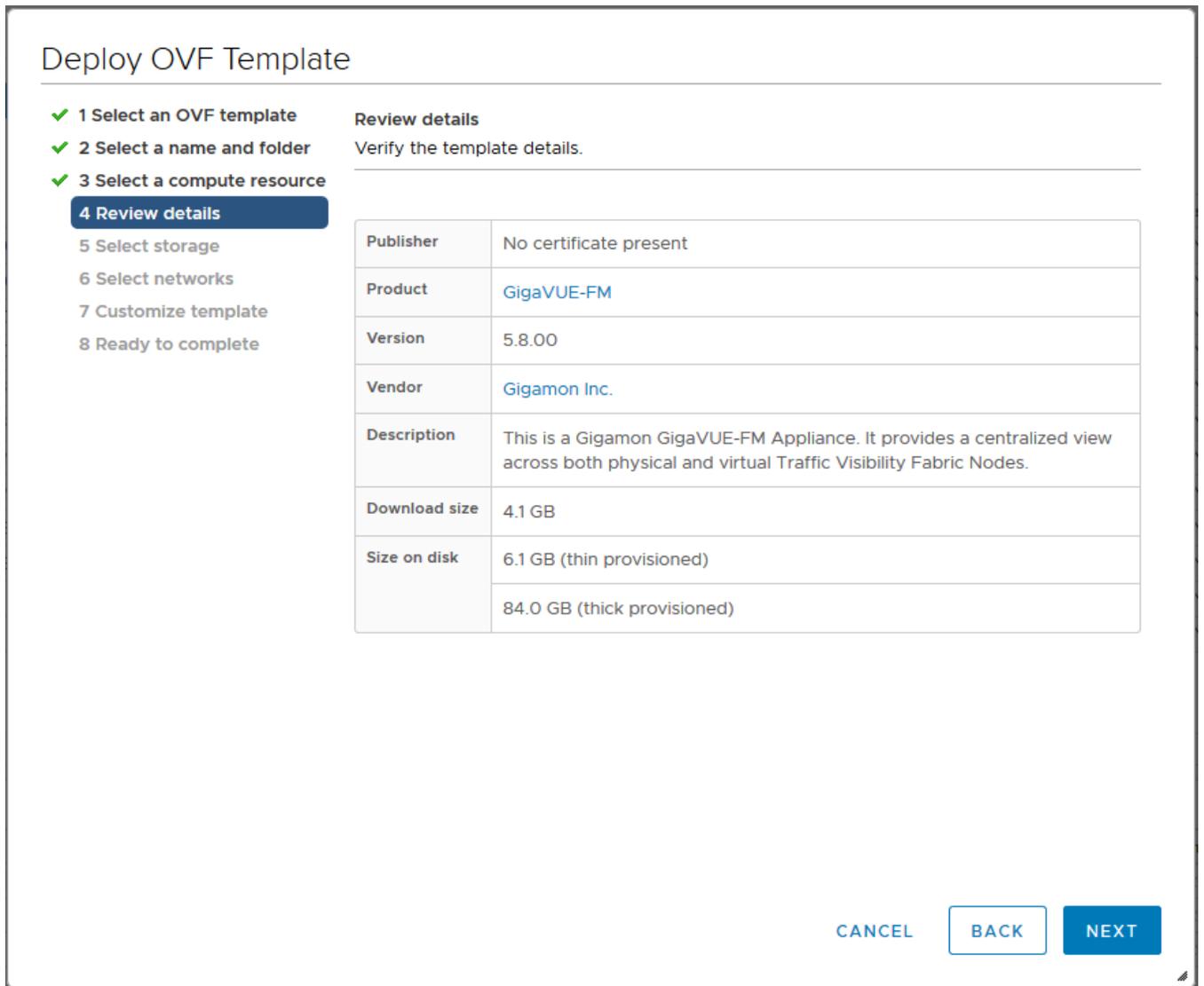


Figure 5 vSphere Client: Review Details

10. Verify the OVF template details, and then click **Next**. The **Select storage** page of the **Deploy OVF Template** wizard appears.

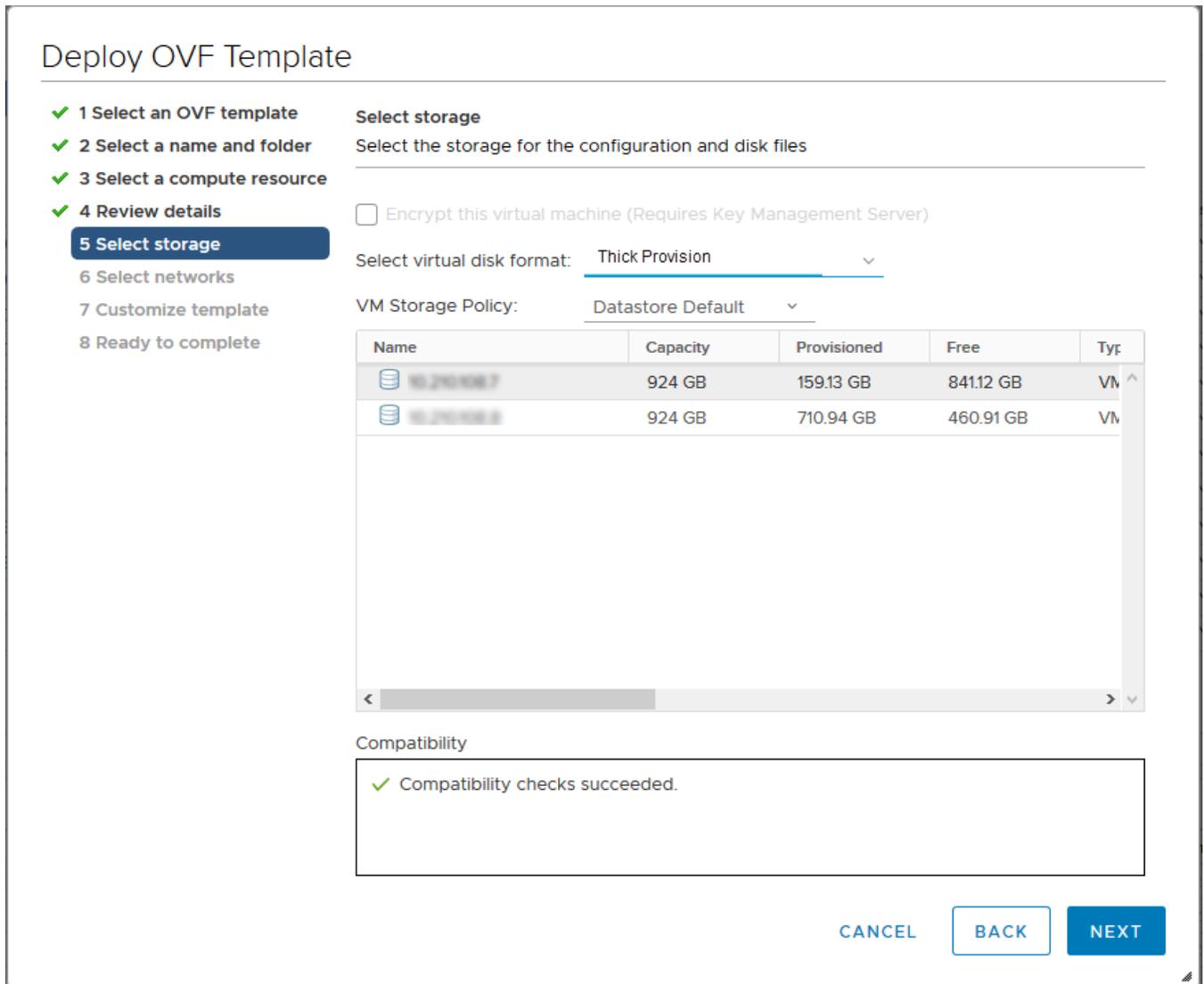


Figure 6 vSphere Client: Select Storage

11. From the **Select virtual disk format** drop-down list, select **Thick Provisioning** as the format for the virtual disks and provisioning.

NOTE: You must deploy GigaVUE-FM using **Thick Provisioning**. Any other choice results in GigaVUE-FM not working correctly.

12. Select the datastore where the virtual machine's files will be stored.
13. Click **Next**. The **Select networks** page of the **Deploy OVF Template** wizard appears.

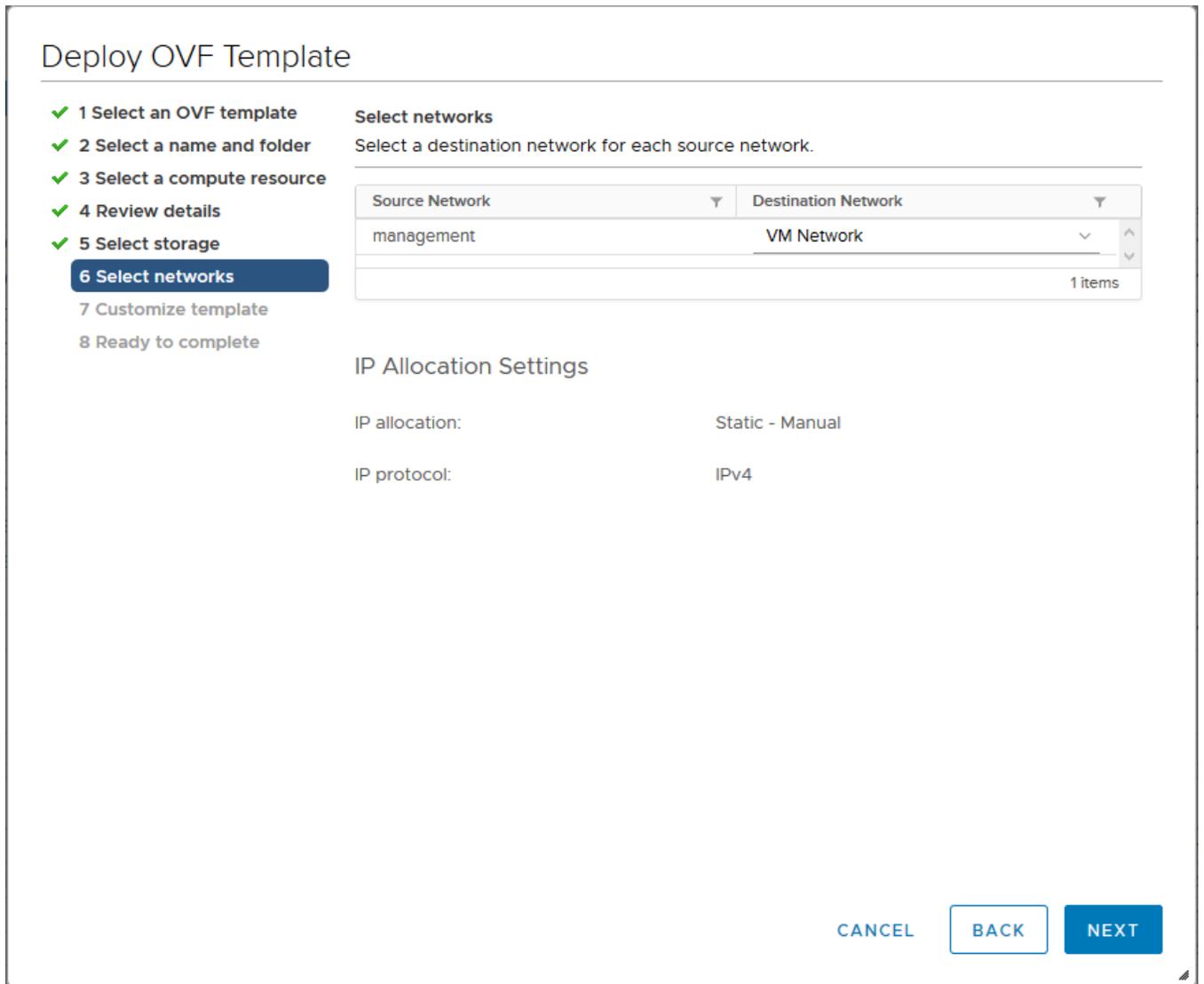


Figure 7 vSphere Client: Select Networks

14. Set network mapping by doing either of the following, depending on how you are deploying, and then click **Next**:
 - **If you are not deploying on a standalone ESXi host**, the **Network Mapping** displays under **Source Networks**. Use the drop-down lists to assign the correct **Destination Network** to the source network.
 - **If you are deploying GigaVUE-FM on a standalone ESXi host**, the network mapping is set automatically by assigning the destination network to the VM Network. In case of multiple port groups, you need to manually assign the destination network to the VM Network.

15. Click **Next**. The **Customize template** page of the **Deploy OVF Template** wizard appears.
16. In the **System Hostname** field, enter the hostname of the GigaVUE-FM instance, and then specify **40** GB as the size of the data disk.
17. Set the admin password. The admin password must be a minimum of 11 characters and a maximum of 30 characters. The characters must include at least:
 - One numerical character
 - One upper case character
 - One lower case character
 - One special character

NOTE: The password that you set here is applicable only to the GigaVUE-FM Shell. To access the GigaVUE-FM UI, the default username is admin and password is admin123A!!. You can change the password when you first login to the GigaVUE-FM UI.

If the password does not meet the complexity requirements:

- The system does not display any error message.
 - The parameters configured above are not passed on to the GigaVUE-FM except the host name parameter.
 - The static IP addresses that were configured originally will be unavailable after GigaVUE-FM is deployed.
18. (Optional) Complete the IP Networking configurations such as the default gateway for the management port, IP address of the DNS server, and the domain name for this GigaVUE-FM instance.
 19. (Optional) Complete the NTP configurations such as the IP address and version of the NTP server, and then click **Next**.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks
- 7 Customize template**
- 8 Ready to complete

Customize template
Customize the deployment properties of this software solution.

✓ All properties have valid values
✕

Basic Configuration	4 settings
01. System Hostname	A Unique hostname for this instance. <input style="width: 80%;" type="text" value="GigaVUE-FM-5800"/>
02. Size of Data Disk	The size of the Data Disk in gigabytes. <input style="width: 80%;" type="text" value="40"/>
03. Optional admin password	If set, the default admin password will be set to this value to allow password based login. The password will be good for only a single login. You MUST specify either a password or an SSH Public Key, otherwise you will NOT be able to access your GigaVUE-FM instance. <div style="margin-top: 10px;"> <input style="width: 80%;" type="password" value="Password"/> <input style="width: 80%;" type="password" value="Confirm Password"/> </div>

CANCEL
BACK
NEXT

Figure 8 vSphere Client: Customize Template

NOTE: You can also choose to perform the IP Networking and NTP configurations by running the **fmctl jump-start** command after you power on the GigaVUE-FM instance at the successful completion of the OVF template deployment. For details, refer to [Perform Network Configurations](#)

The **Ready to Complete** page of the **Deploy OVF Template** wizard appears.

NOTE: This example uses GigaVUE-FM v5.8 for illustration purposes only. In your instance, you will see the version you are deploying.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks
- ✓ 7 Customize template
- 8 Ready to complete

Ready to complete
Click Finish to start creation.

Provisioning type	Deploy OVF From Remote URL
Name	gigamon-gigavue-fm-5.8.00
Template name	gigamon-gigavue-fm-5.8.00
Download size	4.1 GB
Size on disk	6.1 GB
Folder	Workload
Resource	Cloud-2
Storage mapping	1
All disks	Datastore: 10.210.108.7; Format: Thick Provision
Network mapping	1
management	VM Network
IP allocation settings	
IP protocol	IPV4
IP allocation	Static - Manual

CANCEL
BACK
FINISH

Figure 9 vSphere Client: Final Verification Before Installation

20. Verify that all of the settings are correct, and then click **Finish**. The Recent Tasks pane of the vSphere Client Home page shows the progress of the deployment operation.

Recent Tasks		Alarms	
Task Name	Target	Status	Details
Deploy OVF template	gigamon-gigavue-fm...	<div style="width: 5%; height: 10px; background-color: #0056b3;"></div> 5%	✕
Import OVF package	Cloud-2	<div style="width: 7%; height: 10px; background-color: #0056b3;"></div> 7%	✕

Figure 10 vSphere Client: OVF Deployment Progress

When the operation completes, you have successfully deployed a GigaVUE-FM instance.

Important: Clear the browser cache before logging in to GigaVUE-FM.

Redeploy GigaVUE-FM Instance (with VMs Already Deployed)

If there is a need to remove an existing instance of GigaVUE-FM and reinstall it, delete all the virtual centers configured in the Virtual > Management > Virtual Center tab prior to deleting the GigaVUE-FM. To re-install GigaVUE-FM, refer to the [Install New GigaVUE-FM on VMware ESXi](#) or [Install GigaVUE-FM for Microsoft Hyper-V](#).

By deleting the virtual centers, you will lose all the GigaVUE-VM nodes and vMaps configured on those virtual centers and they will need to be recreated.

Initial GigaVUE-FM Configuration

After you have deployed a new GigaVUE-FM instance, you can choose to perform some initial configuration before you start using GigaVUE-FM. This procedure only needs to be performed once for each GigaVUE-FM instance deployed.

NOTE: Use care when Shutting Down or Rebooting a GigaVUE-FM. **Never** directly Power-Off the virtual machine. In VMware ESXi environment when using vSphere client, ALWAYS use **Shut Down Guest OS** or **Restart Guest** functions from VMware. Access is available from either the FILE menu or from the appropriate buttons on the GigaVUE-FM console. Failure to follow these steps may lead to database corruption issues.

Use Fault Tolerance for GigaVUE-FM Deployments (VMware ESXi only)

Gigamon recommends that you enable the VMware Fault Tolerance feature for the GigaVUE-FM virtual machine, providing redundancy in the case of a failure. Enabling the VMware Fault Tolerance feature provides a “hot” GigaVUE-FM virtual machine instance on another ESXi host in the cluster. If the ESXi host with the primary GigaVUE-FM instance goes down, you can take advantage of the Fault Tolerance feature to continue GigaVUE-FM operations.

When in Fault Tolerance mode, the MAC address and the UUID for both the primary GigaVUE-FM and the “hot” GigaVUE-FM virtual machine instance remains the same, therefore there is no need to update the existing licenses for GigaVUE-FM or GigaVUE-VM that are installed on the primary.

Both instances of the GigaVUE-FM implement VMware vLockstep technology to keep in virtual lockstep with each other. Any events are executed on the primary and then transmitted over a Gigabit Ethernet network to the other instance. Both instances access a common disk and appear as a single instance since they share the MAC address and UUID.

NOTE: Refer to the VMware Fault Tolerance documentation for deployment requirements and instructions.

Depending on the host configurations, there may be a need to shutdown GigaVUE-FM (primary) to enable the Fault Tolerance mode.

Perform Initial Configuration

Before powering on GigaVUE-FM, you can optionally perform the following:

- [Perform Network Configurations](#)
- [Add Additional vNIC](#)
- [Increase the Memory](#)
- [Add vCPUs](#)

Perform Network Configurations

To perform the initial configuration:

1. Log in to GigaVUE-FM using one of the following methods:
 - If you have a static IP address set up for the GigaVUE-FM, log in through SSH.
 - If you do not have a static IP address set up for the GigaVUE-FM, complete the following steps:
 - a. Log in to the VMware vCenter web interface.
 - b. Go to **Menu > VMs and Templates**.
 - c. Right-click the GigaVUE-FM virtual machine, and select **Open Remote Console**.
 - d. Log in with your GigaVUE-FM Shell credentials.
2. Perform the following steps to complete the initial configuration:
 - a. Run the **fmctl jump-start** command. The Initial System Configuration screen appears as shown in the following figure:

Initial System Configuration

Hostname `unconfigured-gigavue-fm`
 Domain Name

Enable DHCP4 `yes` Enable DHCP6 `yes`
 IPv4 Address IPv6 Address
 CIDR CIDR
 Gateway Gateway

DNS Servers
 Search Domains

Enable NTP `no` NTP Servers `0.centos.pool.ntp.org 1.centos.pool.ntp.org`
 NTP Version `4`

< **OK** > <Cancel>

- b. Provide a unique hostname for GigaVUE-FM. Note that the hostname may contain letters, numbers, periods (.), and hyphens (-), but may not begin with a hyphen. No other special characters are permitted.
- c. Enter the required domain name.
- d. Decide whether to use DHCP for the management interface. Choose one of the following options:
 - If you enter **yes**, the **IPv4 Address** or **IPv6 Address**, **CIDR**, **Gateway**, **DNS Servers**, and **Search Domains** are dynamically set up for the management interface.
 - If you enter **no**, you must provide the following:
 - i. **IPv4 Address** or **IPv6 Address**, and the respective **CIDR** and **Gateway**.
 - ii. In the **DNS Servers** field, provide the address of any additional name servers required. Enter the set of IP addresses with spaces in between.
 - iii. In the **Search Domains** field, provide the required DNS domains with spaces in between.
- e. You can choose to either enable or disable NTP. In the **Enable NTP** field, enter one of the following:
 - **Yes**—Use NTP to synchronize the time between GigaVUE-FM virtual machine and the NTP server. In the **NTP Servers** and **NTP Version** fields, enter the NTP server address and the version number of the NTP server.
 - **No**—you can skip the next step and directly save your configurations.
- f. Select **OK** to save your configurations.
- g. Reboot your GigaVUE-FM virtual machine.

You can now access GigaVUE-FM by opening a browser and entering its IP address (the IP address you specified).

Add Additional vNIC

Gigamon allows you to configure GigaVUE-FM with two network interfaces—eth0 and eth1. The network interface eth0 can be configured to connect to a network used to manage Gigamon devices. The other network interface eth1 can be configured to connect to a network hosting different servers like SMTP server, Archive server, and so on.

To add an additional vNIC:

1. Right-click the GigaVUE-FM instance and select **Edit Settings...** Refer to [Figure 11vSphere Client: Edit Settings](#).

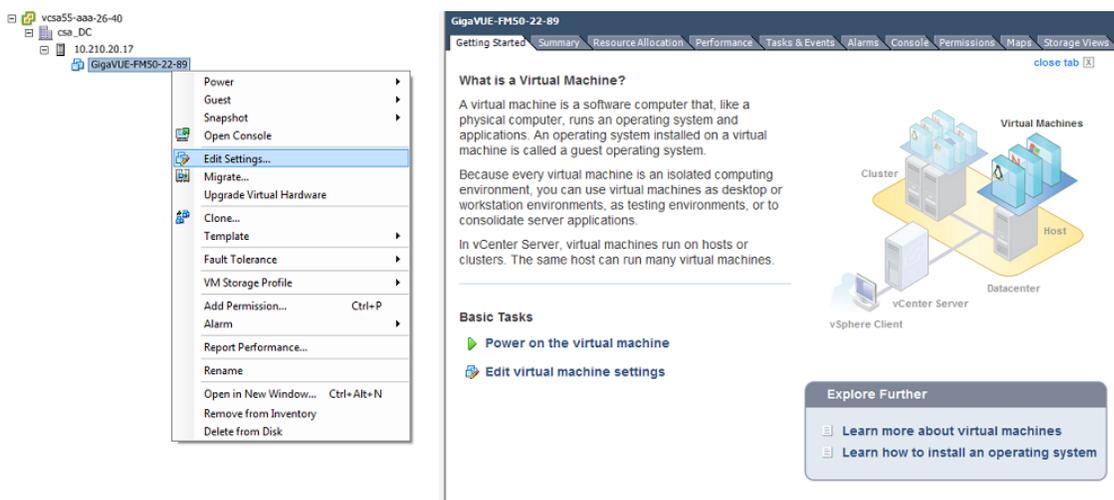


Figure 11 vSphere Client: Edit Settings

2. In the Hardware tab, click **Add**.
3. In the Add Hardware dialog box, select **Ethernet Adapter** and then click **Next**. Refer to [Figure 12vSphere Client: Selecting Ethernet Adapter](#).

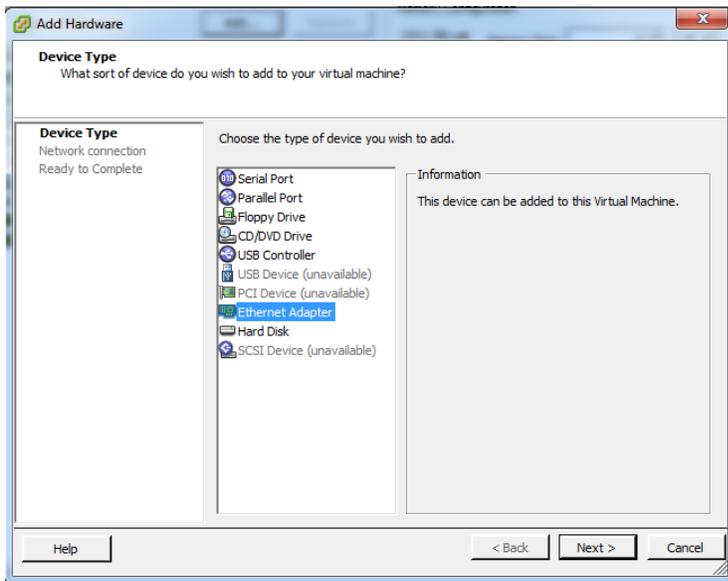


Figure 12 vSphere Client: Selecting Ethernet Adapter

- In the **Adapter Type** drop-down list, select an appropriate adapter type. Refer to [Figure 13](#) vSphere Client: Selecting Device Type.

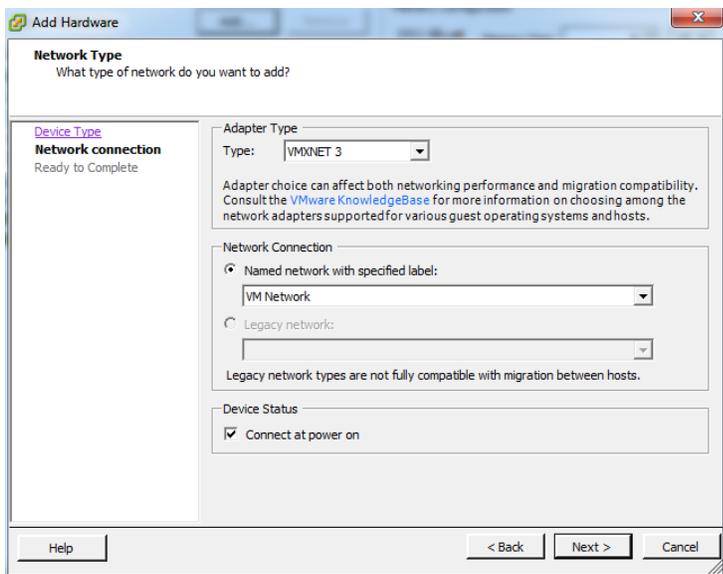


Figure 13 vSphere Client: Selecting Device Type

- In the **Named network with specified label** drop-down list, select an appropriate network and click **Next**.

The Network adapter 2 is added to GigaVUE-FM.

Increase the Memory

Based on the requirement, you can increase the memory of the GigaVUE-FM instance.

To increase the memory:

1. Right-click the GigaVUE-FM instance and select **Edit Settings...** Refer to [Figure 14vSphere Client: Edit Settings](#).

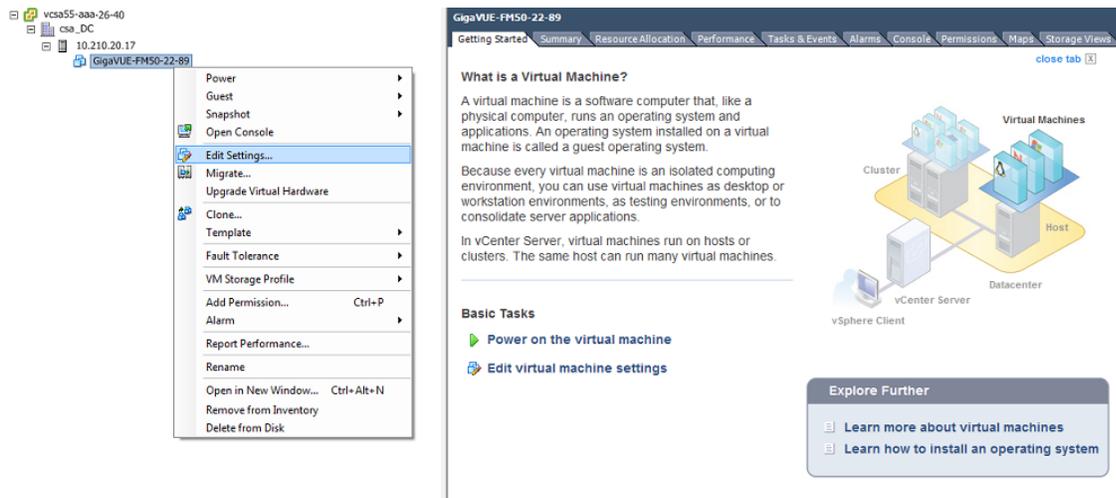


Figure 14 vSphere Client: Edit Settings

2. In the Hardware tab, select **Memory**.
3. In Memory Configuration, increase the size of the memory as per your requirement. Refer to the recommended size for your guest OS in the dialog box. Refer to [Figure 15vSphere Client: Increasing Memory](#).

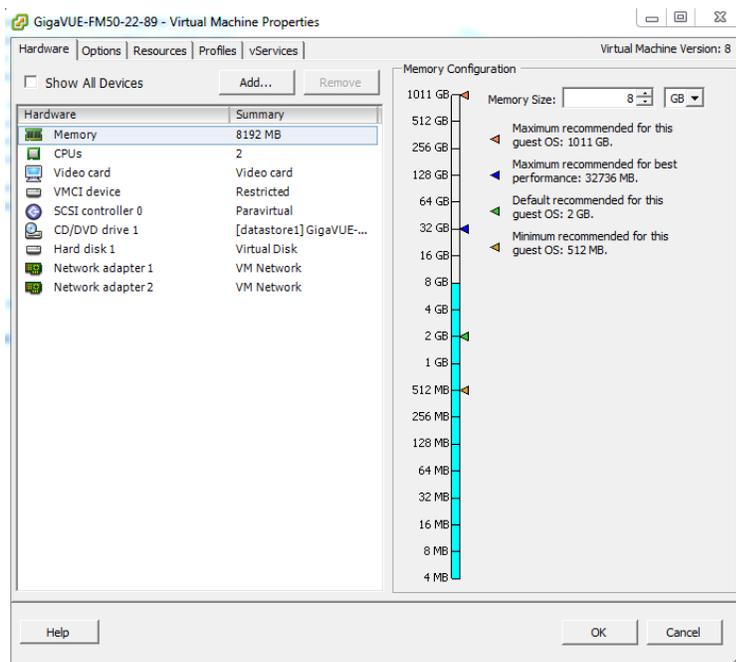


Figure 15 vSphere Client: Increasing Memory

4. Click **OK**.

Add vCPUs

Based on the requirement, you can add additional vCPUs to the GigaVUE-FM instance.

1. Right-click the GigaVUE-FM instance and select **Edit Settings...**
2. In the Hardware tab, select **CPUs**. Refer to [Figure 16 vSphere Client: Adding vCPUs](#).

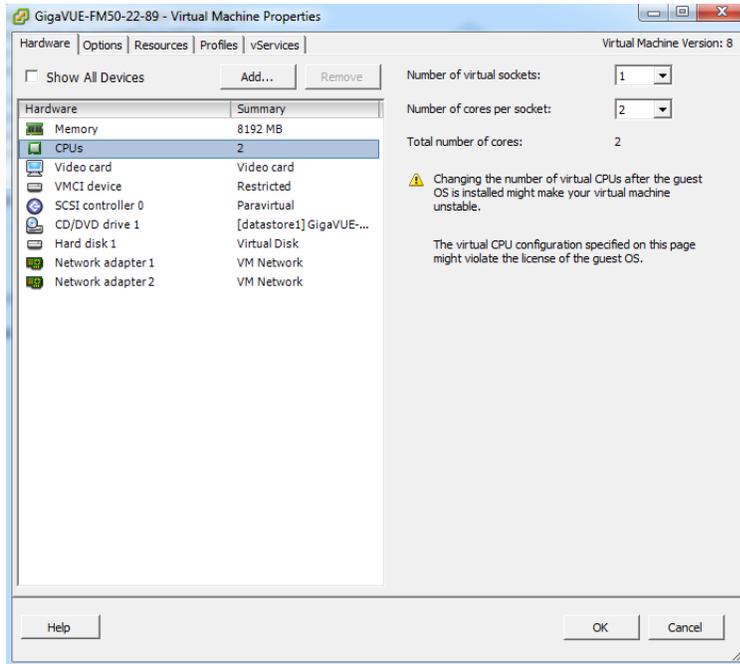


Figure 16 vSphere Client: Adding vCPUs

3. In the **Number of virtual sockets** field, enter the appropriate number of sockets.
4. In the **Number of cores per socket** field, enter the appropriate number of cores per socket.
5. Click **OK**.

To install a third-party certificate on GigaVUE-FM, refer to the following sections:

- [Pre-requisites](#)
- [Steps](#)

Pre-requisites

Refer to the following pre-requisites:

- Take a backup of the default system self-signed certificate and key contents before replacing them with third-party certificate and key. The files are available in the following folders:
 - **localhost.crt**: `/etc/pki/tls/certs/localhost.crt`
 - **localhost.key**: `/etc/pki/tls/private/localhost.key`
- When replacing the certificate key and file ensure to adhere to the following naming convention:
 - For Certificate: **localhost.crt**
 - For Certificate Key: **localhost.key**
- When you copy the contents of the certificate file, do not delete the EOL characters at the end of each line. If there is no EOL character at the end of certificate file, insert one.
- In case of chain of certificates, bundle the server, intermediate, and root certificates into a single certificate file before replacing the **localhost.crt**.
- For chain of certificates, add the SSLCertificateChainFile directive to `/etc/httpd/conf.d/ssl.conf`: **sudo vim /etc/httpd/conf.d/ssl.conf**. Add the following line:**SSLCertificateChainFile /etc/pki/tls/certs/localhost.crt**.

Steps

Generate the certificate and a private key file in pem format. Use the following command on Linux or a Linux app (such as Cygwin) for generating the files:

```
openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout privatekey.pem -out certificate.pem
```

Copy the contents of the certificate file.

To install the certificates:

1. Log in to the GigaVUE-FM CLI.
2. Execute the following steps from the shell prompt as a root user (**sudo**):
 - Replace SSLCertificateFile: `/etc/pki/tls/certs/localhost.crt`
 - Replace SSLCertificateKeyFile: `/etc/pki/tls/private/localhost.key`
 - Provide access to certificate: `chmod 644`
 - Provide access to key: `chmod 600`
 - Configure GigaVUE-FM load balancer functionality:

```
cat /etc/pki/tls/certs/localhost.crt  
/etc/pki/tls/private/localhost.key > /etc/pki/tls/certs/localhost.pem  
systemctl reload haproxy.service
```

- Restart apache as root: **systemctl restart httpd.service**
- After restarting, ensure tomcat is up and running: **sudo systemctl status tomcat@cms.service**

The system will now start using the newly installed certificate.

GigaVUE-FM uses a public key (cms.p12 file) to encrypt the Security Assertion Markup Language (SAML) messages. You can either use the default public key available in GigaVUE-FM or generate a new public key using the following command:

```
sudo openssl pkcs12 -export -name CMS -out /etc/gigamon/cms.p12 -inkey /etc/pki/tls/private/localhost.key -in /etc/pki/tls/certs/localhost.crt -passout pass:cms123
```

You will be prompted for a pass phrase for the **localhost.crt**.

After the public key (cms.p12 file) is generated, place the file in the **/etc/gigamon** directory. Change the access rights to **chmod 644**.

Install GigaVUE-FM on AWS

You can deploy GigaVUE-FM using the AWS CloudFormation Templates (CFT) found in the AWS Marketplace or deploy the latest GigaVUE-FM instance manually using the public images (AMI) through the AWS EC2.

You can launch GigaVUE-FM in AWS using one of the following methods:

- [Launch GigaVUE-FM using CFT](#)
- [Launch GigaVUE-FM using an Instance in AMI](#)

Launch GigaVUE-FM using CFT

Refer to the following topics for details:

- [Launch GigaVUE-FM from AWS Marketplace](#)
- [Configure an AWS CloudFormation Stack](#)

Launch GigaVUE-FM from AWS Marketplace

To launch the GigaVUE-FM instance from the AWS Marketplace:

1. Login to your AWS account.
2. Go to <https://aws.amazon.com/marketplace/>.
3. In the **Search** field, type Gigamon and click Search.
4. Select the latest GigaVUE Cloud Suite version link from the list for Gigamon products.
5. Click **Continue to Subscribe**. The **Subscribe to this software** page is displayed, where the complete detail about the product is described.
6. Click **Continue to Configuration**. The **Configure this software** page is displayed.

7. In the Configure this software page, select the following:
 - a. From the **Fulfillment option** drop-down list, select **Auto Deploy GigaVUE-FM using AWS CFT**.
 - b. From the **Software version** drop-down list, select the latest version.
 - c. From the **Region** drop-down list, select the appropriate region.
 - d. Click **Continue to Launch**. The **Launch this Software** page is displayed.
8. In the Launch this Software page, from the **Choose Action** drop-down, select **Launch CloudFormation**.
9. Click **Launch**. The **Create Stack** page is displayed.

Configure an AWS CloudFormation Stack

To configure CloudFormation Stack:

1. In the **Create Stack** page, enter or select the following details:
 - a. Specify a Template and Template source for the Stack.
 - b. Click **Next**. The **Specify stack details** page is displayed.
2. In the Specify stack details page, enter or select the following details:
 - a. In the **Stack name** field, enter a name for the stack.
 - b. Enter or select the following details for the Parameters.

Fields	Action
GigaVUE-FM Instance Configuration	
Instance Type	Select m4.xlarge as the minimum instance type for GigaVUE-FM NOTE: Do not select the t2 instance types as they are not supported.
Key Pair	Select the name of an existing Amazon EC2 key pair.
Volume Size	The default volume size is 40 GB. You can change the volume size based on your requirement.
GigaVUE-FM Network Configuration	
VPC ID	Select the existing VPC ID.
Subnet	Select the existing public subnet ID.
GigaVUE-FM Security Group Configuration	
SSH Location	Enter the IP address or subnet that requires SSH access to the GigaVUE-FM instance.
CIDR IP	Enter the CIDR block where GigaVUE-FM would be deployed to allow management port access to the other components.

- c. Click **Next**. The **Configure stack options** page is displayed.

3. In the Configure stack options page, enter or select the following details.
 - a. In the **Tags** section, enter the key and value pairs. Click **Add tag** to add new tags and click **Remove** to remove tags.
 - b. In the **Permissions** section, select the IAM roles for the CloudFormation. Refer to the AMI and Permissions topic in the *GigaVUE Cloud Suite for AWS Guide* for detailed information on the required IAM roles.
 - c. In the **Stack failure options** section, select a behavior for stack failures.
 - d. In the **Advanced options** section, select the required stack policy and notification options.
 - e. Click **Next**. The **Review** page is displayed.
4. In the Review page, review the complete details and then select the **I acknowledge that AWS CloudFormation might create IAM resources** check box.
5. Click **Create Stack** to deploy GigaVUE-FM in AWS.

Launch GigaVUE-FM using an Instance in AMI

To launch GigaVUE-FM using a public image:

1. Login to the AWS EC2.
2. From the navigation pane, select **Images > AMIs**. The **Amazon Machine Images (AMIs)** page appears.
3. Select the latest GigaVUE-FM public image and click **Launch instance from image**. The Instance launch wizard is displayed.

- In the Instance Launch wizard, select or enter the details in the respective tabs. Refer to the following table for details.

Fields	Action
1. Choose AMI	Select the latest GigaVUE-FM public image.
2. Choose Instance Type	Select m4.xlarge as the minimum instance type for GigaVUE-FM <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> NOTE: Do not select the t2 instance types as they are not supported. </div>
3. Configure Instance	Select the instance details by your requirements like VPC, Subnet (management network), IAM Role, and more. Refer to the AMI and Permissions topic in the <i>GigaVUE Cloud Suite for AWS Guide</i> for detailed information on the required IAM roles. <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <ul style="list-style-type: none">  You can also launch your instance into an Auto Scaling Group.  You can launch multiple instances from the same AMI. </div>
4. Add Storage	Select Add New Volume , select a Snapshot, and enter 40 (GiB) as the Size for the new volume in addition to the Root volume 40 (GiB).
5. Add Tags	Enter the key-value pair information for the instances and volumes.
6. Configure Security Group	Select an existing security group or select the protocol type, CIDR IP, and other details for a new security group. For security group values, refer to the Security Group topic in the <i>GigaVUE Cloud Suite for AWS Guide</i> .
7. Review	Review your instance launch details.

- In the Review tab, click **Launch**.

If the page prompts you to specify key pair, select an existing key pair from the drop-down or create a new key pair.

Initial GigaVUE-FM Configuration

It may take several minutes for the GigaVUE-FM instance to initialize. After the initialization is completed, you can verify the instance through the web interface as follows:

- In your EC2 Instances page, select the launched GigaVUE-FM instance and expand the page in the **Descriptions** tab to view the instance information.
- Copy and paste the Public IP address into a new browser window or tab.
- Copy the Instance ID from the **Descriptions** tab.

If GigaVUE-FM is deployed inside AWS, use **admin** as the username and the **Instance ID** as the default password for the admin user to login to GigaVUE-FM, for example i-079173111e2d73753 (**Instance ID**).

 If GigaVUE-FM is deployed outside the AWS, use admin123A!! as the default admin password.

After logging into GigaVUE-FM, you are prompted to change the default password.

Install GigaVUE-FM on Azure

The GigaVUE-FM can be launched from the Azure VM dashboard or Azure Marketplace. The following instructions describes how to launch GigaVUE-FM in your VNet from the Azure VM Dashboard. Refer to [Create a Linux virtual machine in the Azure](#) and [Create a Windows virtual machine in the Azure](#) topics in Azure Documentation for more information.

In the **Virtual Machines** page, click **Create** to create an Azure Virtual Machine. The following table describes the important fields.

Parameter	Description
Basics	
Subscription	Select your subscription.
Resource Group	Select an existing resource group or create a new security group. For more information, refer to Create a resource group topic in the Azure Documentation.
Virtual machine name	Enter a name for the VM.
Region	Select a region for Azure VM.
Image	Select the latest GigaVUE-FM images. NOTE: You cannot select multiple images for a VM. Refer to Configure GigaVUE Fabric Components in Azure for more details on configuring GigaVUE V Series Node, GigaVUE V Series Proxy, and G-vTAP Controller in Azure.
Size	For V Series 2 configuration, the recommended instance types are as follows: <ul style="list-style-type: none"> ● GigaVUE-FM - Standard_D4s_v3 ● G-vTAP Controller - Standard_B1ms ● V Series Node - Standard_D4s_v4 ● V Series Proxy - Standard_B1ms For the V Series 1 configuration, the recommended instance types are as follows: <ul style="list-style-type: none"> ● GigaVUE-FM - Standard_DS2_v2 ● G-vTAP Controller - Standard_B1s ● V Series Node - Standard_DS2_v2 ● V Series Controller - Standard_B1s
Authentication Type	Select an authentication type. <ul style="list-style-type: none"> ● SSH public key <ul style="list-style-type: none"> ○ Enter the administrator username for the VM. ○ Enter the SSH public key pair name.

Parameter	Description
	<ul style="list-style-type: none"> ● Password <ul style="list-style-type: none"> ○ Enter the administrator username for the VM. ○ Enter the administrator password.
Disks	
Disk Size	The required disk size for GigaVUE-FM is 2 x 40GB .
Networking	
Virtual Network	Select an existing VNet or create a new VNet. For more information, refer to Create a virtual network topic in the Azure Documentation. On selecting an existing VNet, the Subnet and the Public IP values are auto-populated.
Configure network security group	Select an existing network security group or create a new network security group. For more information, refer to Network Security Groups . Configure the Network Security Group to allow GigaVUE-FM to communicate with the rest of the components.

NOTE: Verify the summary before proceeding to create. It will take several minutes for the VM to initialize. After the initialization is completed, you can verify the VM through the Web interface.

After the VM deployment, navigate to the VM overview page, copy the **Public IP address**, and paste it in a new web browser tab.

If GigaVUE-FM is deployed in Azure, use **admin123A!!** as the password for the **admin** user to login to GigaVUE-FM. You must change the default password after logging in to GigaVUE-FM.

Install GigaVUE-FM on OpenStack

To launch the GigaVUE-FM instance inside the cloud:

1. Log into Horizon.
2. From the Horizon GUI, select the appropriate project, and select **Compute > Images**. The list of existing images is displayed.
3. Select the GigaVUE-FM image and click **Launch**. The Launch Instance dialog box is displayed.
4. In the **Details** tab, enter the following information and Click **Next**.

Parameter	Attribute
Instance Name	Initial hostname for the instance
Availability Zone	Availability zone where the image will be deployed.
Count	Number of instances to be launched

5. In the **Source** tab, verify that the selected GigaVUE-FM image is displayed under **Allocated** section and click **Next**.
6. In the **Flavor** tab, select a flavor complying the [Minimum Compute Requirements](#) and then move the flavor from the **Available** section to the **Allocated** section. The selected GigaVUE-FM flavor is displayed under Allocated and click **Next**.
7. In the **Networks** tab, select the specific network for the GigaVUE-FM instance from the **Available** section and then move the Network to the **Allocated** section. The selected network is displayed under Allocated and Click **Next**.
8. In the **Network Ports** tab, click **Next** again.
9. In the **Security Groups** tab, select the appropriate security group for the GigaVUE-FM instance from the **Available** section and then move the Security Group to the **Allocated** section. For information about the security groups, refer to [Security Group](#). The selected security group is displayed under Allocated. Click **Next**.
10. In the **Key Pair** tab, select the existing key pair from the **Available** section and then move the Key Pair to the **Allocated** section. or create a new key pair. For information about the key pairs, refer to [Key Pairs](#). The selected key pair is displayed under Allocated. Click **Next**.
11. Click **Launch Instance**. The GigaVUE-FM instance takes few minutes to fully initialize.
12. From the Horizon GUI, navigate to **Compute > Instances**. You can view the launched instance displayed in the **Instances** page. During the initial boot-up sequence, click **Associate Floating IP**. The **Manage Floating IP Associations** dialog box appears.

13. In the Manage Floating IP Associations dialog box, enter the following information and click **Associate**.

Parameter	Attribute
IP Address	Floating IP address of the instance
Port to be associated	Port for the GigaVUE-FM instance

The Floating IP is then displayed in the **IP Address** column of the corresponding Instance.

Initial GigaVUE-FM Configuration

After you have deployed a new GigaVUE-FM instance, you need to perform an initial configuration before you can start using GigaVUE-FM. This is a one-time activity that must be performed for each GigaVUE-FM instance deployed.

1. From the Horizon GUI, navigate to **Compute > Instances**.
2. In the Instances page, click the GigaVUE-FM instance name. The GigaVUE-FM instance **Overview** tab is displayed by default.
3. Click the **Console** tab and the **Instance Console** appears.
4. Log in as admin with password as admin123A!! and then the console prompts you to change the default password.

```
CentOS Linux 7 (Core)
Kernel 3.10.0-1062.9.1.el7.x86_64 on an x86_64

123 login:

CentOS Linux 7 (Core)
Kernel 3.10.0-1062.9.1.el7.x86_64 on an x86_64

123 login: admin
Password:
You are required to change your password immediately (root enforced)
Changing password for admin.
(current) UNIX password:
New password:
Retype new password:
[admin@123 ~]$\
```

NOTE: You can also choose to perform the IP Networking and NTP configurations by running the **fmctl jump-start** command after you power on the GigaVUE-FM instance

5. To access GigaVUE-FM GUI, enter **wget -q -O - http://169.254.169.254/latest/meta-data/instance-id** command in the Instance Console and retrieve the instance ID in the format of **i-000000##** which is the default password for the admin user. If GigaVUE-FM is deployed inside OpenStack, use the **Instance ID** as the password for the admin user to login to GigaVUE-FM, however if GigaVUE-FM is deployed outside OpenStack, use admin123A!! as the default admin password.

Install GigaVUE-FM on Nutanix

To launch the GigaVUE-FM instance from the Prism Central:

1. Log in to Prism Central.
2. In Prism Central, select **Dashboard > Virtual Infrastructure > VMs**. The VMs page appears.
3. On the VMs page, click **Create VM**. The **Create VM** window appears.

NOTE: If the device has more than one cluster, select the required cluster in the **Cluster Selection** window.

4. Enter or select the values as described in the following table.

Field	Description
General Configuration	<ul style="list-style-type: none"> • Name—name for the VM. • Description—description for the VM. • Timezone—time zone from the drop-down list.
Compute Details	<ul style="list-style-type: none"> • vCPU(s)—number of vCPUs required. • Number Of Cores Per vCPU—number of cores per vCPU. • Memory—memory size of the vCPU(s). Minimum value is 8GiB.
Disks	Add, edit or delete the disks. Add the GigaVUE-FM qcow2 disk image and a Container (second disk), minimum of 40GB for the VM. You must select the fabric image as Boot Device.
Network Adapters (NIC)	Add, edit or delete the NIC.
VM Host Affinity	Set Affinity by choosing the required nodes to run GigaVUE-FM or a particular VM.

5. Click **Save** and the new VM appears on the VMs list with the **Power State** as **Off**.
6. Select the new VM and then select **Actions > Power On**. The new VM is now Active.
7. Select the new VM and then select **Actions > Launch console**. The GigaVUE-FM console appears.
8. Log in to the GigaVUE-FM console as admin with the default password admin123A!! and you are requested to change the password.

Install GigaVUE-FM Instance for Kubernetes

You must have a GigaVUE-FM instance launched in your environment. Refer to the *GigaVUE-FM Installation Guide* and *GigaVUE Fabric Management Guide* for details on installing and launching GigaVUE-FM.

Install GigaVUE-FM on MS Hyper-V

This section describes how to install and configure GigaVUE-FM in a Microsoft Hyper-V environment. It consists of the following main sections:

- [System Requirements](#) describes the hardware requirements.
- [Install GigaVUE-FM for Microsoft Hyper-V](#) describes the steps to install and deploy GigaVUE-FM.

System Requirements

This section describes the hardware and virtual computing requirements for GigaVUE-FM. Before installing GigaVUE-FM, ensure that a supported version of Windows Server is installed on hardware that meets minimum requirements (see [Windows Server Hardware Requirements](#) for hardware requirements).

Ensure that the GigaVUE-FM time is set correctly to ensure accuracy of the trending data that is captured.

The Hyper-V implementations provided by the following Windows Server versions have been tested and found to operate acceptably with GigaVUE-FM:

- Windows Server 2012 R2 and later

Windows Server Hardware Requirements

The following table describes the minimum requirements for the hardware on which Microsoft Hyper-V runs GigaVUE-FM.

Minimum Hardware Requirements	
Hypervisor	Microsoft Hyper-V
CPU	One or more 64-bit x86 CPUs with virtualization assist (Intel-VT or AMD-V) enabled. Note: To run GigaVUE-FM, hardware support for virtualization must be enabled. Make sure that the BIOS option for virtualization support is not disabled. For more information, see your BIOS documentation

Minimum Hardware Requirements	
RAM	At least 16GB
Disk Space	At least 84GB shared (FC, iSCSI, NFS, or FCoE) or locally attached storage (PATA, SATA, SCSI). NOTE: Increase the disk space depending on the configuration load requirements for the given GigaVUE-FM instance.
Network	At least one 1Gb NIC

NOTE: Refer to the Microsoft documentation for information on enabling Hyper-V.

The following table lists the virtual computing resources that the Windows Server must provide for each GigaVUE-FM instance.

Minimum Virtual Computing Requirements	
Memory	Minimum 8GB memory
Virtual CPU	2 vCPU
Virtual Storage for Guest	84GB Virtual IDE (the Hyper-V default) <ul style="list-style-type: none"> ● System Disk - 40GB ● Swap Disk - 4GB ● Data Disk - 40GB
Virtual Network Interfaces	1 vNIC using Hyper-V Virtualized NIC (the Hyper-V default)

Install GigaVUE-FM for Microsoft Hyper-V

The GigaVUE-FM software package for Microsoft Hyper-V environments is distributed as an **ISO image** file. The following sections describes how to deploy a fresh installation of GigaVUE-FM on a Hyper-V host and perform its initial configuration:

- [Install GigaVUE-FM from an ISO Image File](#)
- [Initial GigaVUE-FM Configuration](#)

Install GigaVUE-FM from an ISO Image File

Use the Hyper-V Manager to install the GigaVUE-FM ISO image file.

NOTE: The ISO image file must be stored in a location that is accessible to the Hyper-V Manager.

To create the Virtual Machine for GigaVUE-FM in Microsoft Hyper-V:

1. Click **Start > Administrative Tools > Hyper-V Manager** to open the Hyper-V Manager.
2. From the Actions pane, click **New > Virtual Machine**. Refer to [Figure 1 Opening the Virtual Machine Wizard](#).

The **New Virtual Machine Wizard** opens.

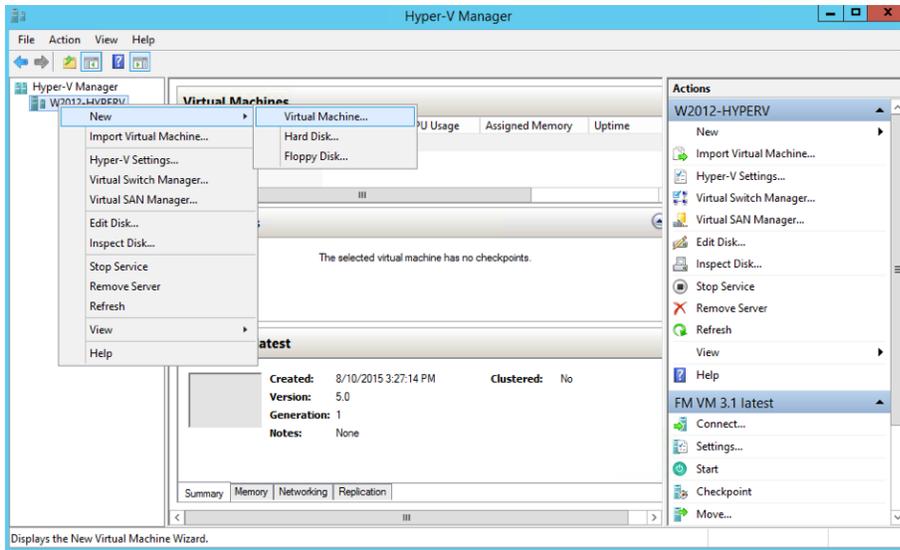


Figure 1 *Opening the Virtual Machine Wizard*

3. Read the notes on the Before You Begin screen (refer to [Figure 2 Before You Begin Screen](#)), and then click **Next** to continue.

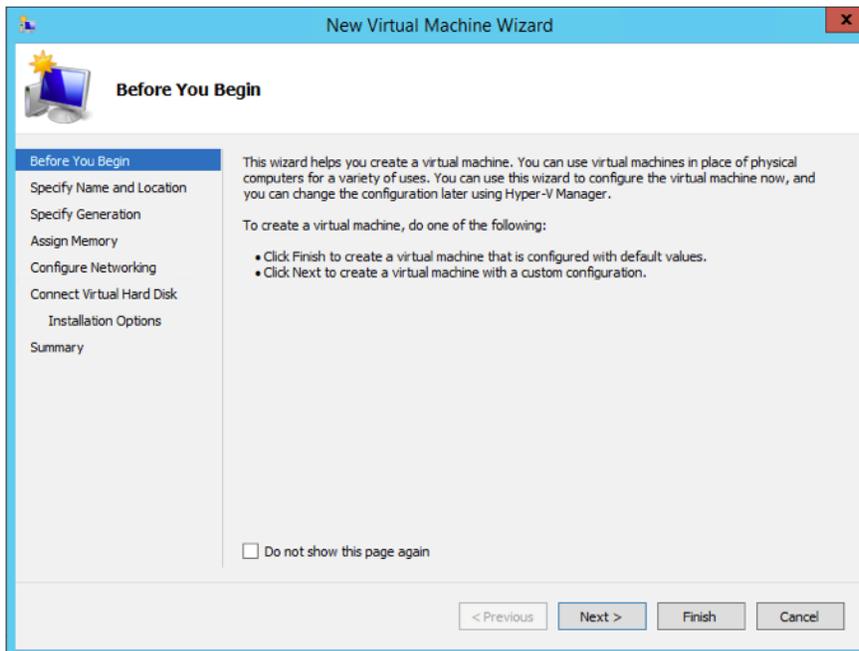


Figure 2 *Before You Begin Screen*

4. After the **Specify Name and Location** page of the **New Virtual Machine Wizard** opens as shown in [Figure 3 Name and Location Page](#), do the following:

- a. Supply a descriptive name for the GigaVUE-FM virtual machine in the **Name** field.
By default, the virtual machine will be stored in the default configuration folder shown in the **Location** text box. You can change this default location by checking the **Store the virtual machine in a different location** check box and providing a custom path.
- b. Click **Next** to continue.

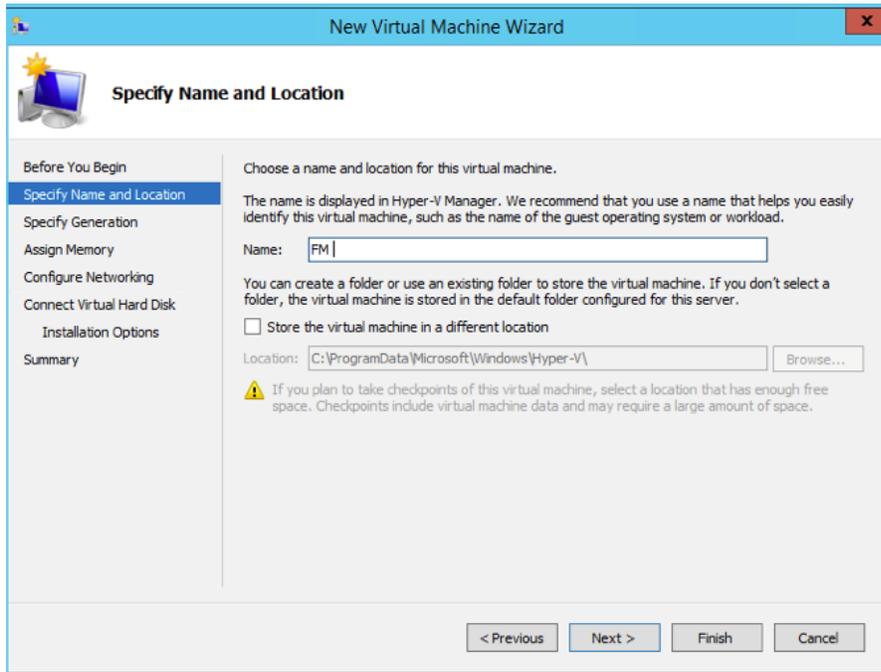


Figure 3 Name and Location Page

5. On the **Specify Generation** page of the **New Virtual Machine Wizard**, select **Generation 1** as shown in [Figure 4Specify Generation Page](#)

NOTE: It is important to select Generation 1 and not Generation 2. Selecting Generation 2 may lead to failure of the GigaVUE-FM installation process because the CD Drive is presented as an SCSI device and not IDE.

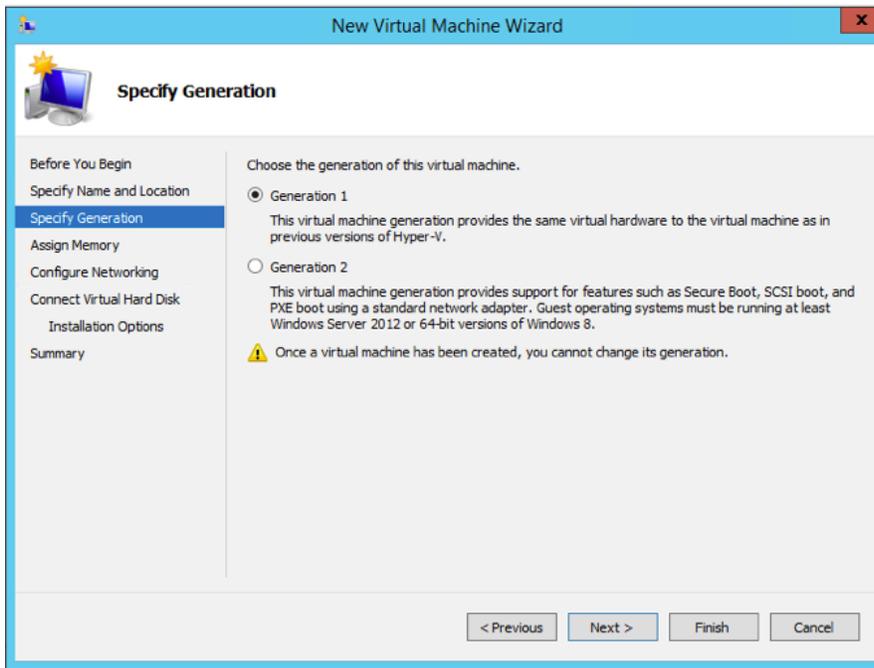


Figure 4 Specify Generation Page

6. Click **Next** to continue.

The **Assign Memory** page of the **New Virtual Machine Wizard** opens, which is shown in [Figure 5 Assign Memory Page](#).

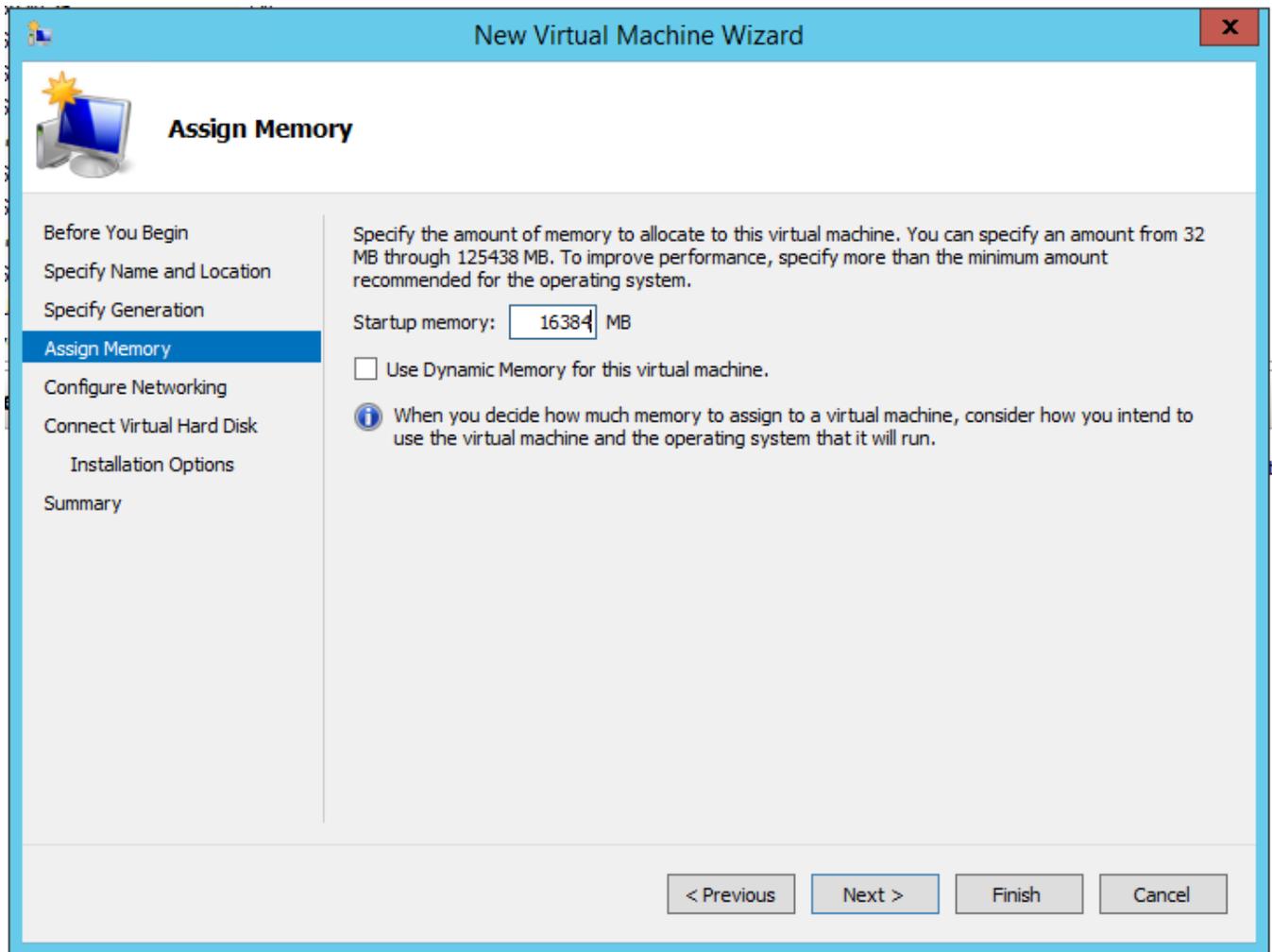


Figure 5 *Assign Memory Page*

7. Change the **Memory** assigned to this virtual machine to **16384** MB, and then click **Next** to continue.

The **Configure Networking** page of the **New Virtual Machine Wizard** opens, which is shown in [Figure 6Configure Networking Page](#).

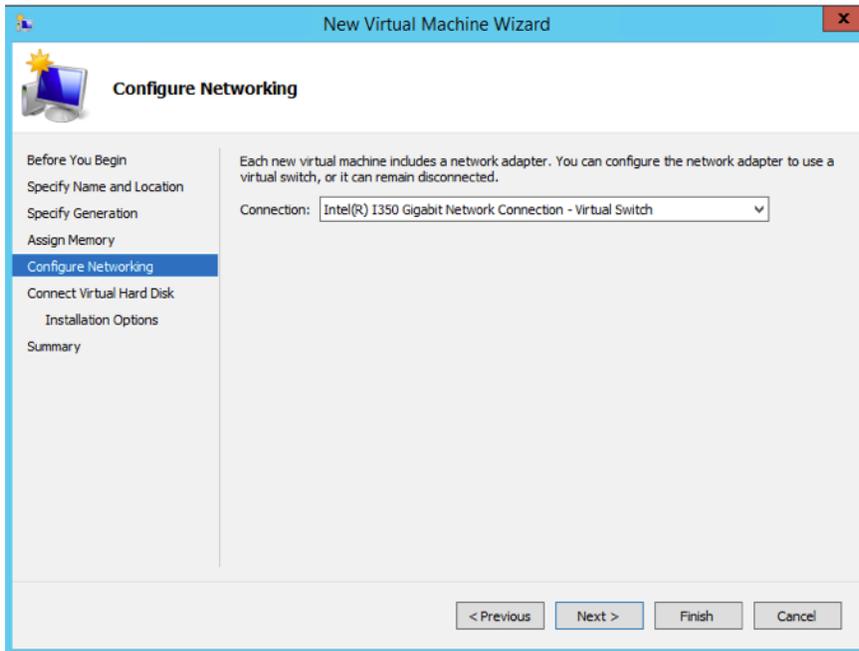


Figure 6 Configure Networking Page

- From the Connection drop-down list, select the virtual network to which GigaVUE-FM will connect to, and then click **Next** to continue.

The **Connect Virtual Hard Disk** page of the **New Virtual Machine Wizard** opens, which is shown in [Figure 7 Connect Virtual Hard Disk Page](#).

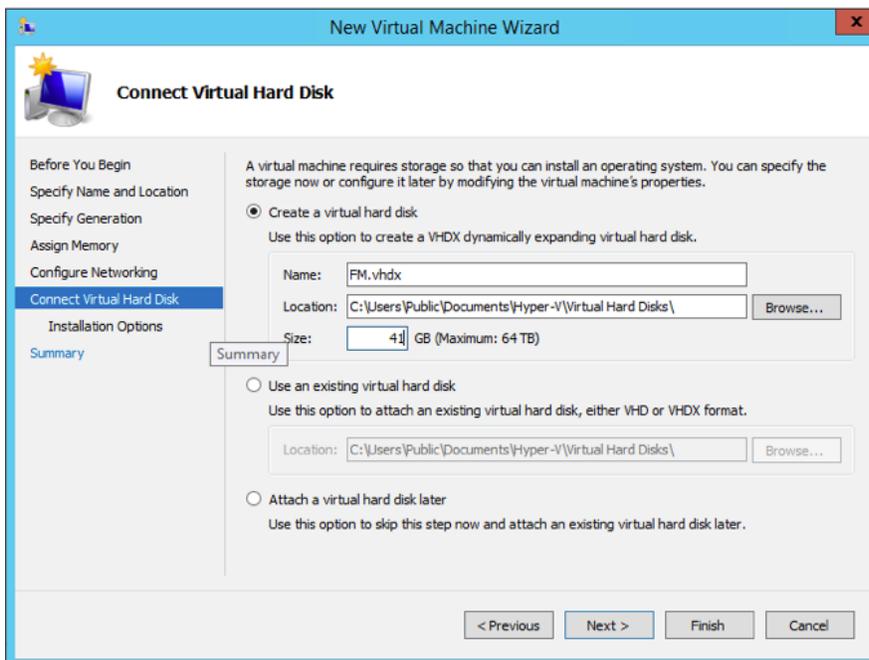


Figure 7 Connect Virtual Hard Disk Page

- Select the **Create a virtual hard disk** option and set the **Size** to **41 GB**.

You can accept the default **Name** and **Location** or customize them according to your needs. When you have finished, click **Next** to continue.

The **Installation Options** page of the **New Virtual Machine Wizard** opens, which is shown in [Figure 8 Install Options Page](#).

10. Use this dialog box to select the ISO image file for GigaVUE-FM. As shown in the figure [Figure 8 Install Options Page](#), set the following options:
 - a. Select the option **Install an operating system from a bootable CD/DVD-ROM**.
 - b. Set the **Media** option to **Image file (.iso)**.
 - c. Use the **Browse** button to navigate to the GigaVUE-FM ISO image file.
 - d. Click **Next** to continue.

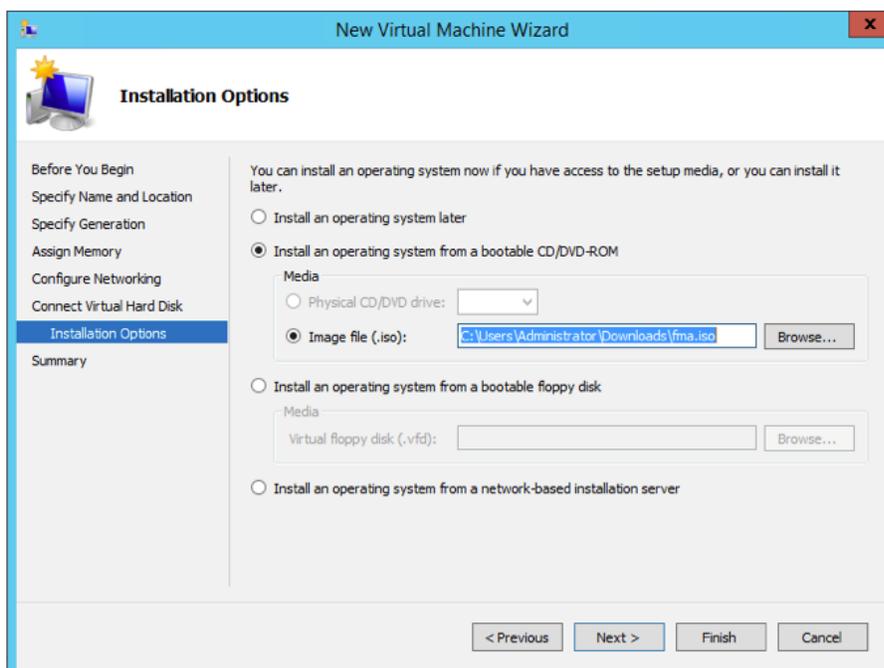


Figure 8 *Install Options Page*

After you click **Next**, the summary page of the **New Virtual Machine Wizard** opens, showing the settings that you configured for the GigaVUE-FM virtual machine. An example is shown in [Figure 9 Summary Page](#).

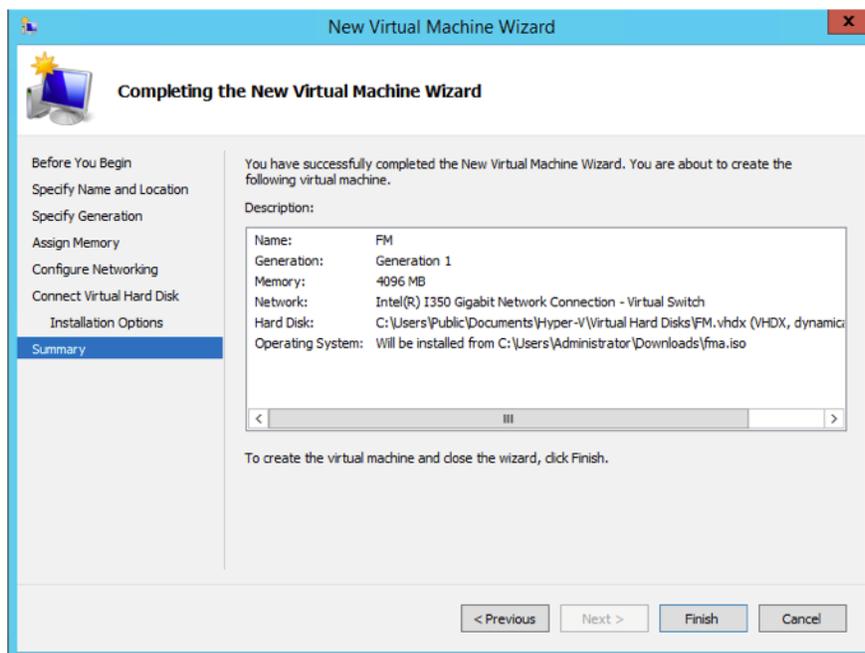


Figure 9 Summary Page

11. Click **Finish** to create the GigaVUE-FM virtual machine as configured. Alternatively, you can use the **Previous** button to go back and change settings.

The New Virtual Machine Wizard only creates the GigaVUE-FM virtual machine, returning you to the Hyper-V Manager when creation is complete. The new GigaVUE-FM virtual machine is listed in the **Action** pane by the name you supplied during installation.

The procedures given below will take you through the steps of adding an additional virtual hard disk and actually installing GigaVUE-FM.

Add Additional Virtual Hard Disk and Install GigaVUE-FM

To add an additional virtual hard disk and install GigaVUE-FM:

1. In Hyper-V Manager, from the Actions pane, select the newly added GigaVUE-FM virtual machine, and then click **Settings**.
2. In the Settings page, select **IDE Controller 0**.
3. In the IDE Controller pane that appears to the right, select **Hard Drive**, and then click **Add**. Refer to the following figure:

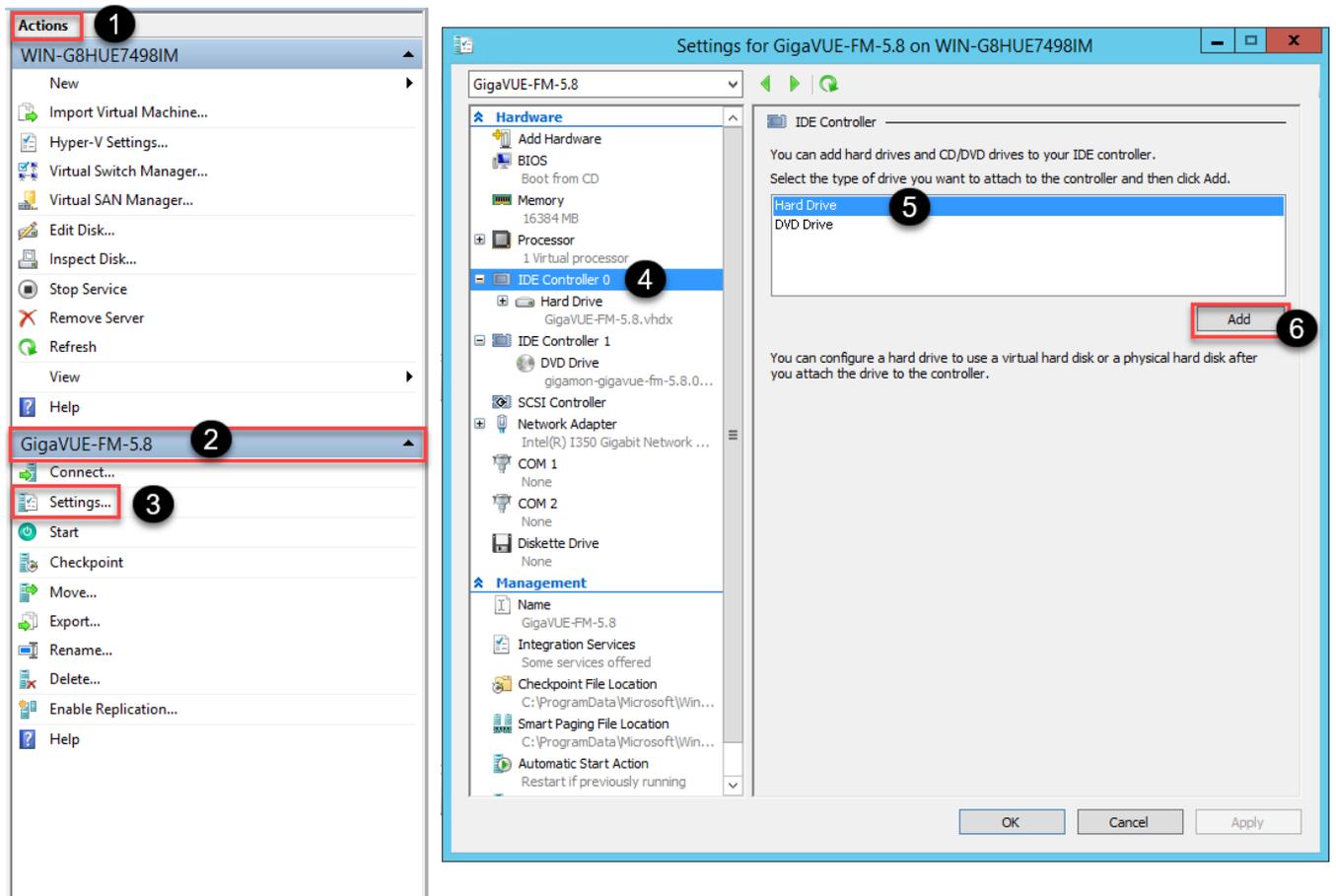


Figure 10 Navigating to Add Additional Hard Disk

A new Hard Drive entry is added under IDE Controller 0.

4. Select the Hard Drive entry.
5. In the Hard Drive pane that appears to the right, select **Virtual hard disk**, and then click **New** as shown in the following figure:

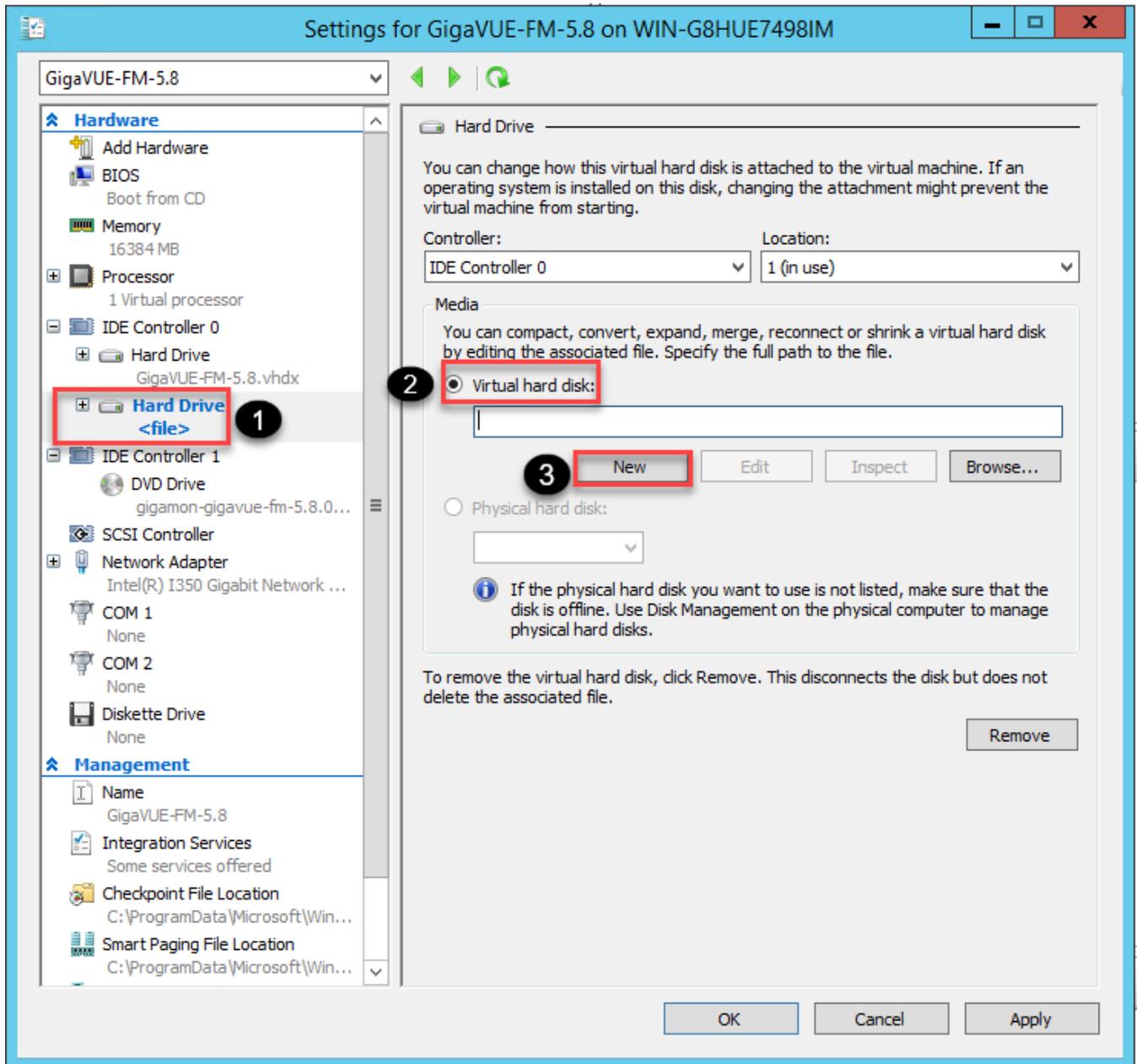


Figure 11 Navigating to the New Virtual Hard Disk Wizard

The **New Virtual Hard Disk Wizard** opens.

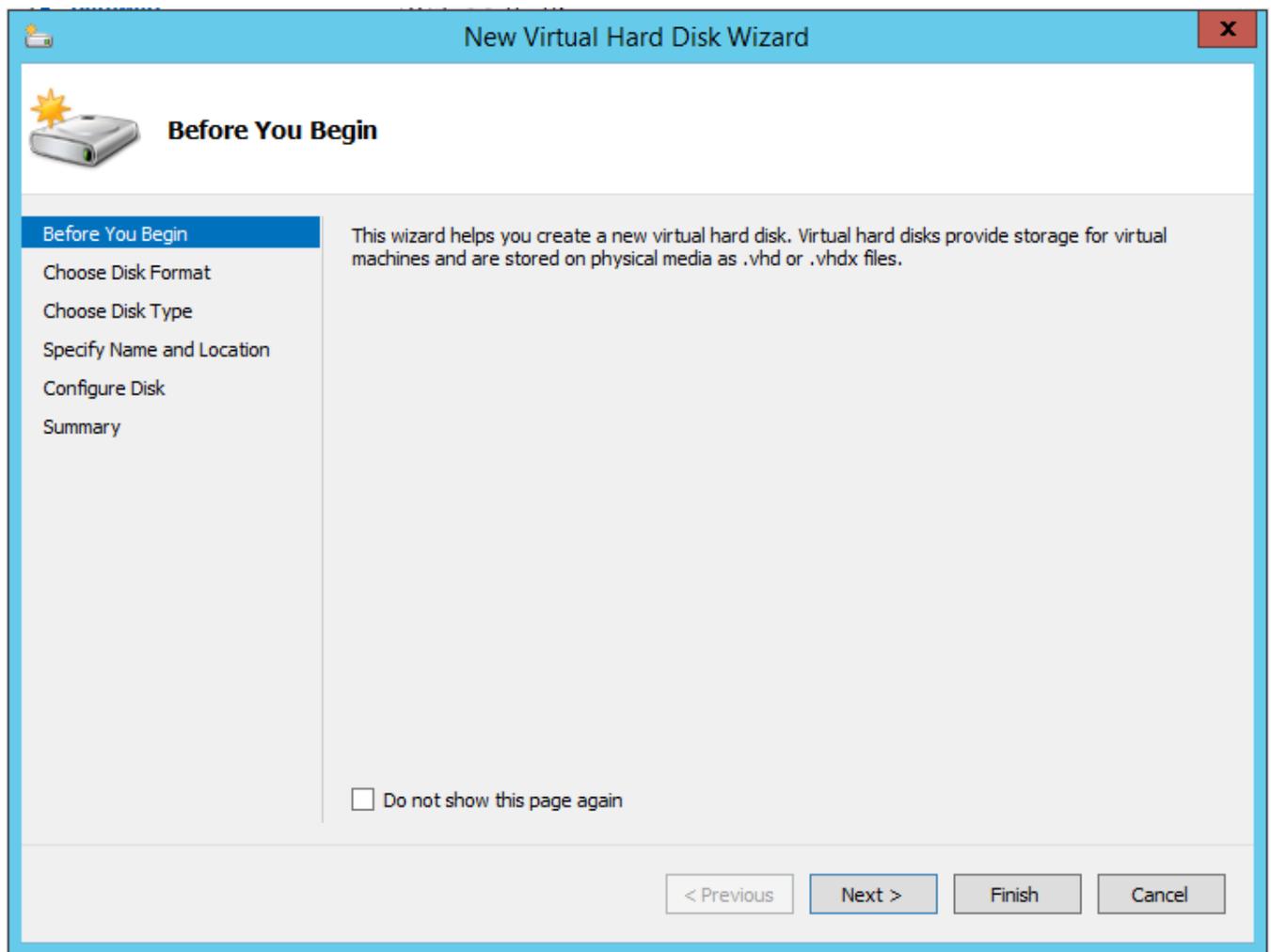


Figure 12 *New Virtual Hard Disk Wizard*

6. Click **Next** to go to the Choose Disk Format page of the wizard.
7. Select the required format that you want to use for the virtual hard disk, and then click **Next**.

The Choose Disk Type page of the wizard appears.

8. Select the required disk type for the virtual hard disk, and then click **Next**.

The Specify Name and Location page of the wizard appears.

9. Specify a unique name for the virtual hard disk, and then browse and select the location where you want to save the disk.
10. Click **Next**. The Configure Disk page of the wizard appears.
11. You can choose one of the following options to configure the virtual hard disk:
 - o Create a blank virtual hard disk of size 41 GB.
 - o Choose a physical hard disk from which you can copy the contents into the new virtual hard disk.

- Browse and select a virtual hard disk from which you can copy the contents into the new virtual hard disk.
12. Click **Next** to exit the New Virtual Hard Disk Wizard.
 13. Click **OK**. The GigaVUE-FM installation begins as shown in the following figure:

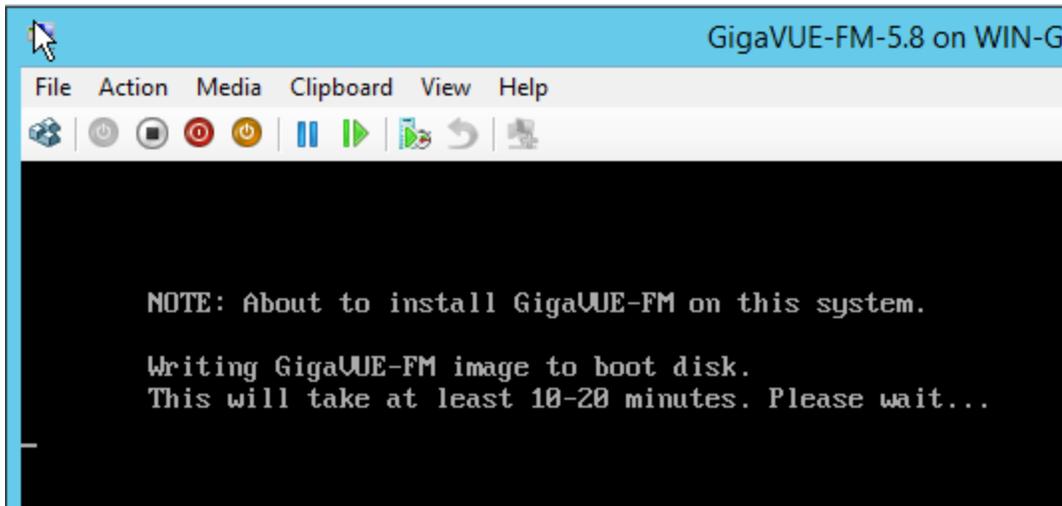


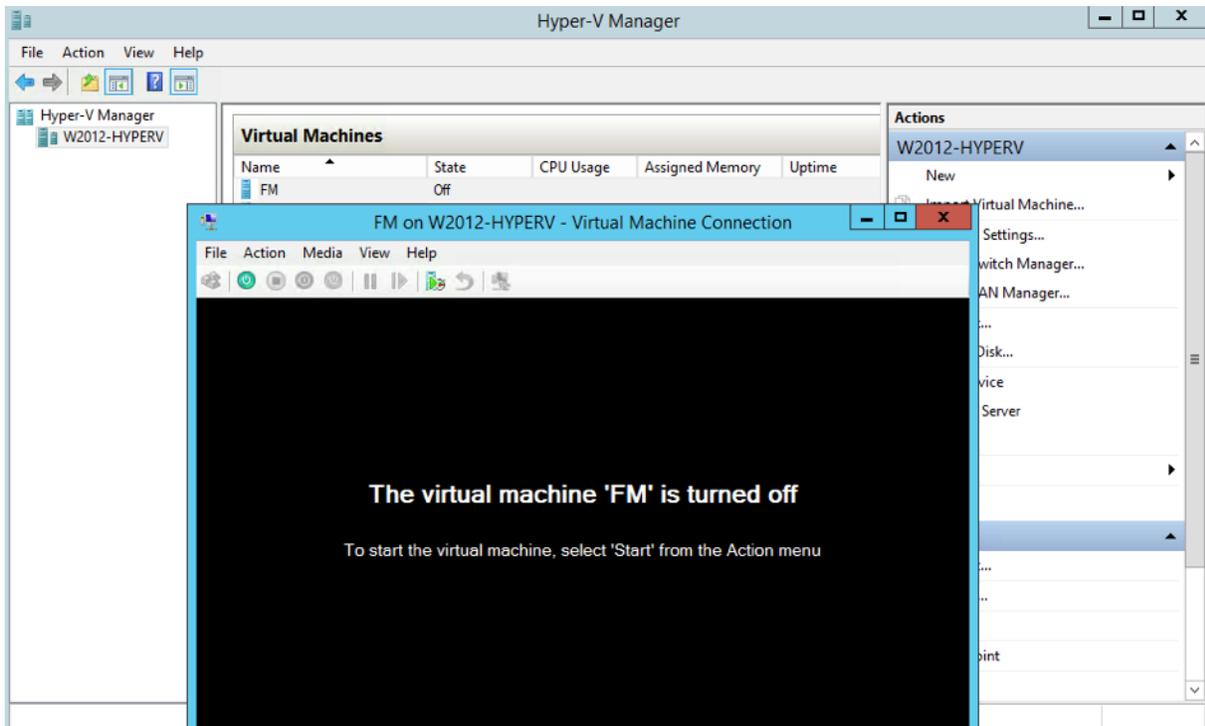
Figure 13 GigaVUE-FM Installation Begins

It may take several minutes for the installation to complete. The system will reboot after the installation is completed.

Connect and Power On the GigaVUE-FM Virtual Machine

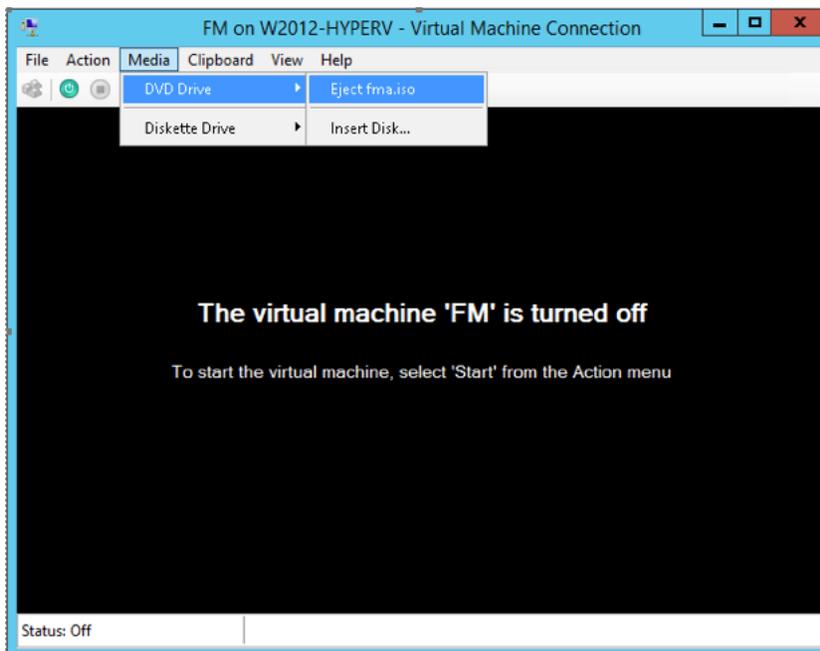
The next step is to connect to the GigaVUE-FM virtual machine from within Hyper-V Manager and start it. This begins the actual installation of the GigaVUE-FM Virtual Appliance from the connected ISO image file. Once GigaVUE-FM finishes installing from the ISO image file, you will then disconnect the ISO image file and restart the virtual machine.

1. In Hyper-V Manager, locate the **Virtual Machines** entry in the results pane, right-click the GigaVUE-FM virtual machine, and click the **Connect** option.
2. The Virtual Machine Connection tool opens for the GigaVUE-FM virtual machine.



3. Select **Action > Start** to start the GigaVUE-FM virtual machine from the Virtual Machine Connection tool.
4. The GigaVUE-FM virtual machine powers on. You can monitor the progress of the system start in the Virtual Machine Connection tool.

The system power-on can take several minutes as GigaVUE-FM is installed from the ISO image file. Disconnect the media before Powering On as shown below:



Disconnect the ISO Image File

It is important to disconnect the ISO image file before you power on GigaVUE-FM again so you don't have to go through the image install process again. Disconnect the ISO image file as follows:

1. In Hyper-V Manager, locate the **Virtual Machines** entry in the results pane and select the GigaVUE-FM virtual machine.
2. In the **Actions** pane, click the **Settings** entry under the GigaVUE-FM virtual machine name.

A Settings dialog box for the GigaVUE-FM virtual machine appears.

3. Select the **DVD Drive** entry in the panel on the left of the Settings dialog box and change its setting from **Image file** to **None**, as shown in the figure below.
4. Click the **OK** button to apply the changes.

This concludes the installation procedure for GigaVUE-FM on Hyper-V. The next step is to power on the virtual machine and perform its initial configuration, as described in [Initial GigaVUE-FM Configuration](#).

IMPORTANT: Clear the browser cache before logging in to GigaVUE-FM.

Initial GigaVUE-FM Configuration

After you have deployed a new GigaVUE-FM instance, you need to perform an initial configuration before you can start using GigaVUE-FM. This procedure only needs to be performed once for each GigaVUE-FM instance deployed.

NOTE: Use Care When Shutting Down or Rebooting GigaVUE-FM. **Never** directly Power-Off the virtual machine. For Microsoft Hyper-V environment, you cannot use any of the reset, or turn-off hooks. Using either of these may lead to corruption that will prevent proper GigaVUE-FM operation.

The best ways to **shutdown** a GigaVUE-FM on Hyper-V is to use either Shutdown or Ctrl+Alt+Del from the **Action** button on the virtual console.

To perform the initial configuration:

1. Click **Start > Administrative Tools > Hyper-V Manager**.

NOTE: Make sure you have already disconnected the ISO image file used to install GigaVUE-FM. Refer to [Disconnect the ISO Image File](#) for details.

2. Locate the **Virtual Machines** entry in the results pane, right-click the GigaVUE-FM virtual machine, and click the **Connect** option. The Virtual Machine Connection tool opens for the GigaVUE-FM virtual machine.
3. Select **Action > Start** to start the GigaVUE-FM virtual machine from the Virtual Machine Connection tool. The GigaVUE-FM virtual machine powers on and displays a login prompt.
4. Log in as **admin** with password **admin123A!!**. You will be prompted to change your password. After you change and confirm your password, perform the following steps:
 - a. Run the **fmctl jump-start** command. The Initial System Configuration screen appears as shown in the following figure:

Initial System Configuration

Hostname	unconfigured-gigavue-fm		
Domain Name			
Enable DHCP4	yes	Enable DHCP6	yes
IPv4 Address		IPv6 Address	
CIDR		CIDR	
Gateway		Gateway	
DNS Servers			
Search Domains			
Enable NTP	no	NTP Servers	0.centos.pool.ntp.org 1.centos.poo
		NTP Version	4

< OK > <Cancel>

- b. Provide a unique hostname for GigaVUE-FM. Note that the hostname may contain letters, numbers, periods (.), and hyphens (-), but may not begin with a hyphen. No other special characters are permitted.

- c. Enter the required domain name.
- d. Decide whether to use DHCP for the management interface. Choose one of the following options:
 - If you enter **yes**, the **IPv4 Address** or **IPv6 Address, CIDR, Gateway, DNS Servers**, and **Search Domains** are dynamically set up for the management interface.
 - If you enter **no**, you must provide the following:
 - i. **IPv4 Address** or **IPv6 Address**, and the respective **CIDR** and **Gateway**.
 - ii. In the **DNS Servers** field, provide the address of any additional name servers required. Enter the set of IP addresses with spaces in between.
 - iii. In the **Search Domains** field, provide the required DNS domains with spaces in between.
- e. You can choose to either enable or disable NTP. In the **Enable NTP** field, enter one of the following:
 - **Yes**—Use NTP to synchronize the time between GigaVUE-FM virtual machine and the NTP server. In the **NTP Servers** and **NTP Version** fields, enter the NTP server address and the version number of the NTP server.
 - **No**—you can skip the next step and directly save your configurations.
- f. Select **OK** to save your configurations.
- g. Reboot your GigaVUE-FM virtual machine.

You can now access GigaVUE-FM by opening a browser and entering its IP address (the IP address you specified).

Install GigaVUE-FM on KVM

This section describes how to install and configure GigaVUE-FM in a KVM environment. It consists of the following main sections:

- [System Requirements](#) describes the hardware requirements.
- [Install GigaVUE-FM for KVM](#) describes the steps to install and deploy GigaVUE-FM.
- [Initial GigaVUE-FM Configuration](#) describes the steps to start GigaVUE-FM instance and configure it.

Limitations

You can install GigaVUE-FM in a KVM environment, but you cannot access GigaVUE-FM through CLI in a KVM environment using SSH. In KVM, you can only access the GigaVUE-FM CLI using the VNC console.

System Requirements

This section describes the hardware and virtual computing requirements for GigaVUE-FM. Ensure that the GigaVUE-FM time is set correctly to ensure accuracy of the trending data that is captured.

Linux Server Hardware Requirements

The following table describes the minimum requirements for the hardware on which KVM runs GigaVUE-FM.

Minimum Hardware Requirements	
Hypervisor	KVM Supported (tested on previous versions of GigaVUE-FM) <ul style="list-style-type: none"> ▪ v2.0.0
CPU	One or more 64-bit x86 CPUs with virtualization assist (Intel-VT or AMD-V) enabled. Note: To run GigaVUE-FM, hardware support for virtualization must be enabled. Make sure that the BIOS option for virtualization support is not disabled. For more information, see your BIOS documentation.

Minimum Hardware Requirements	
RAM	At least 16GB.
Disk Space	At least 84GB shared (FC, iSCSI, NFS, or FCoE) or locally attached storage (PATA, SATA, SCSI). NOTE: Increase the disk space depending on the configuration load requirements for the given GigaVUE-FM instance.
Network	At least one 1Gb NIC.

The following table lists the virtual computing resources that the Linux Server must provide for each GigaVUE-FM instance.

Minimum Virtual Computing Requirements	
Memory	Minimum 8GB memory
Virtual CPU	2 vCPU
Virtual Storage for Guest	84GB <ul style="list-style-type: none"> ● System Disk - 40GB ● Swap Disk - 4GB ● Data Disk - 40GB
Virtual Network Interfaces	One vNIC

Supported Browsers

GigaVUE-FM has been tested on the following browsers:

Browser	Version
Mozilla Firefox™	▪ Version 47
Apple® Safari®	▪ Version 9.1
Google® Chrome®	▪ Version 52
Microsoft Edge	▪ Version 38

Notes:

- Only the browsers that support TLS v1.2 can access GigaVUE-FM.
- Internet Explorer 11 (IE11) is deprecated for security reasons and is no longer supported. IE users are strongly encouraged to switch to Microsoft Edge.

Install GigaVUE-FM for KVM

The GigaVUE-FM software package for KVM environments is distributed as an **ISO image** file. The following sections describes how to deploy a fresh installation of GigaVUE-FM on a KVM host and perform its initial configuration:

- [Install GigaVUE-FM from an ISO Image File](#)
- [Initial GigaVUE-FM Configuration](#)

These steps are only valid for new installations of GigaVUE-FM.

Install GigaVUE-FM from an ISO Image File

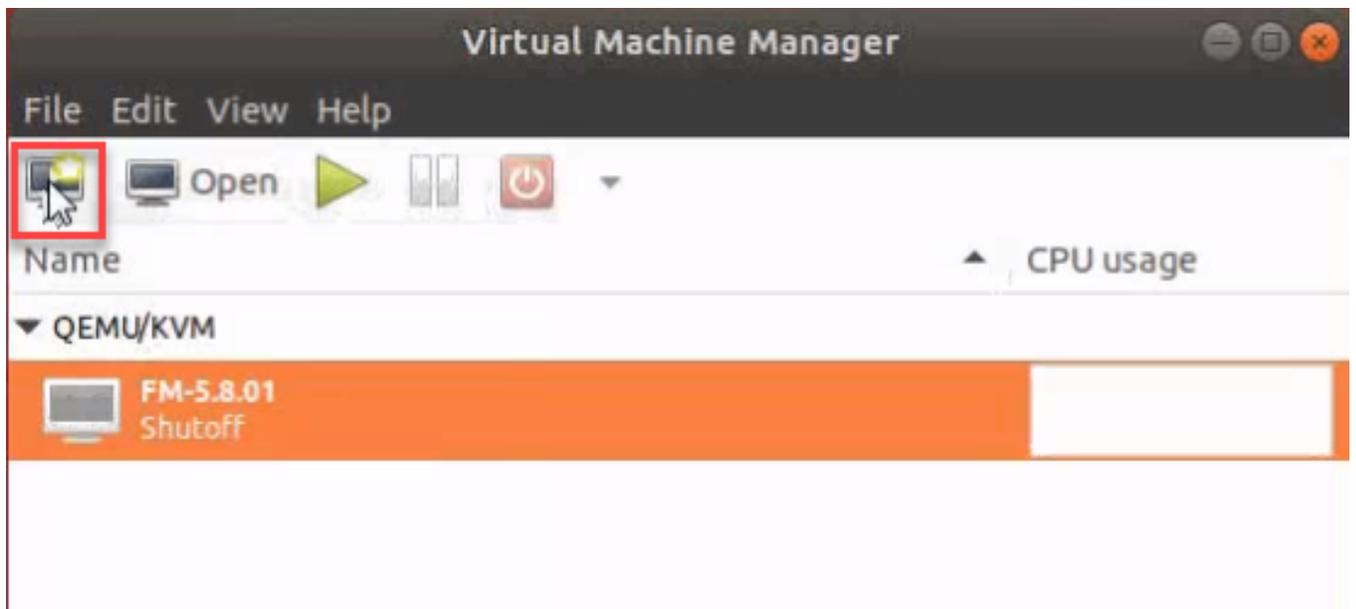
Use the Virtual Machine Manager to install the GigaVUE-FM ISO image file.

NOTE: The ISO image file must be stored in a location that is accessible to the Manager.

To create the Virtual Machine for GigaVUE-FM in KVM:

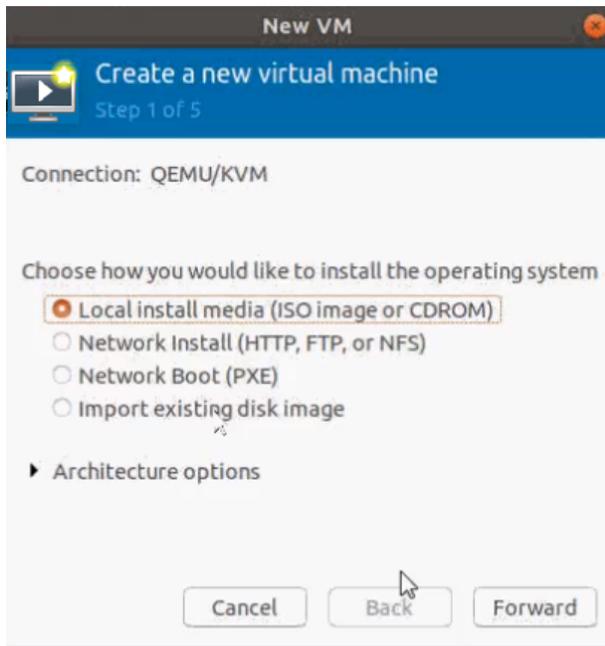
NOTE: These instructions use “Virtual Machine Manager” to create and manage the virtual machines (VMs).

1. Open the Virtual Machine Manager, and then click the **Create a new virtual machine** icon as shown in the following figure:

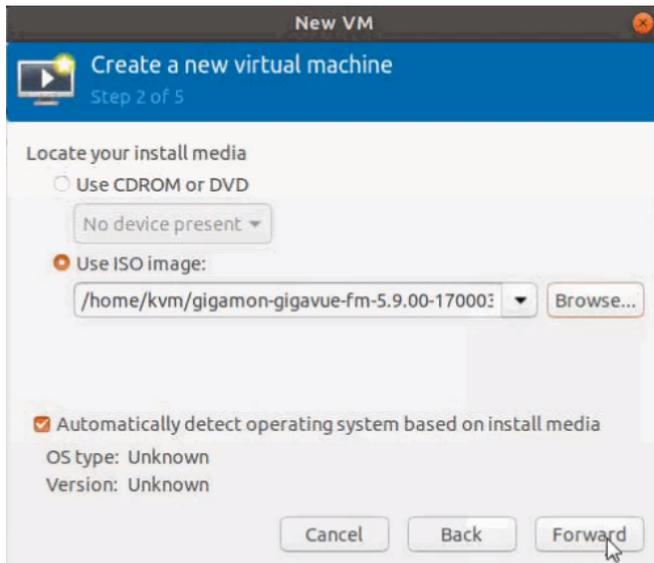


The **New Virtual Machine Wizard** opens.

2. Select **Local install media (ISO image or CDROM)**, and then click **Forward** to continue.

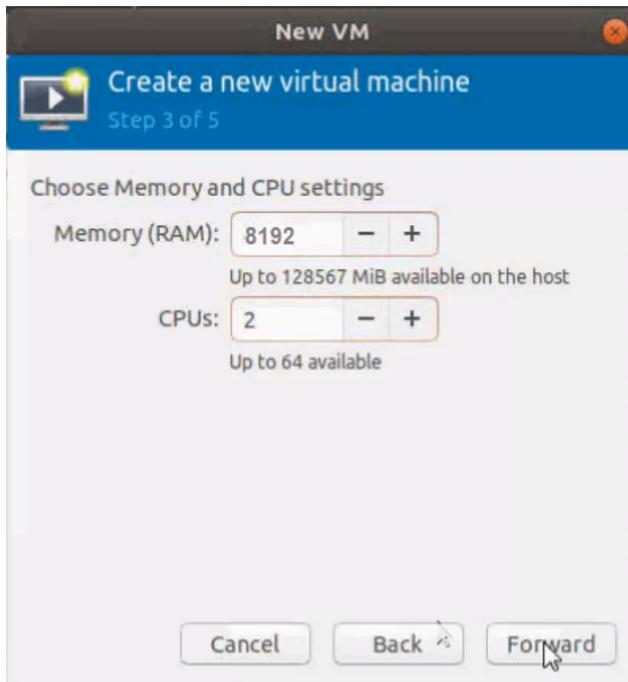


3. Browse and select the location from where to upload the GigaVUE-FM ISO image, and then select the **Automatically detect operating system based on install media** check box.



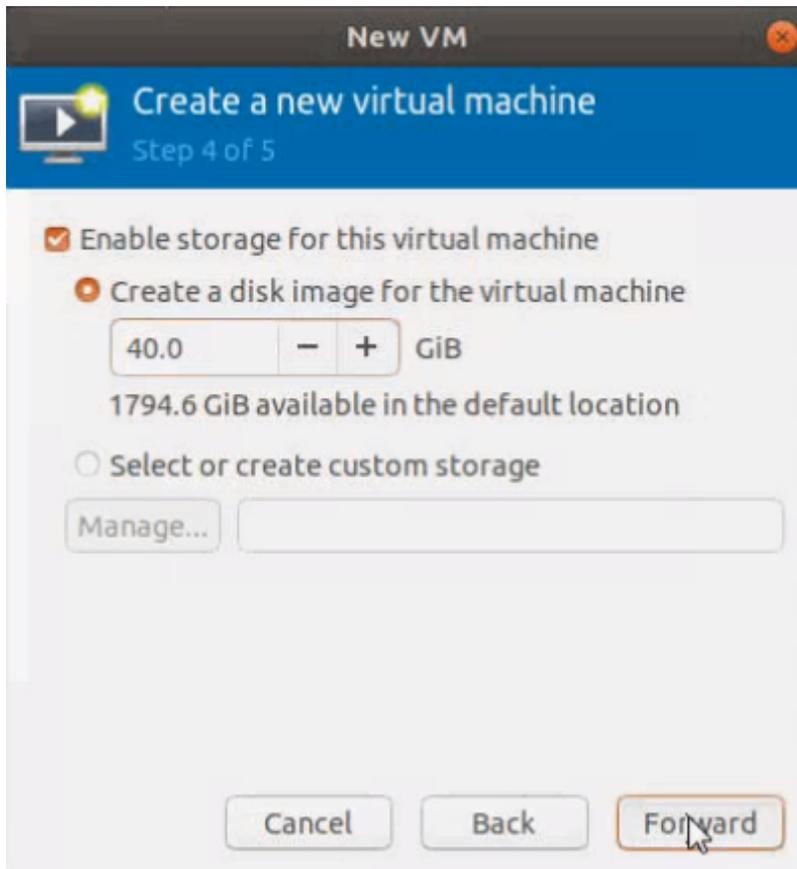
Click **Forward** to continue.

4. Set the **Memory** and **CPU** Settings.



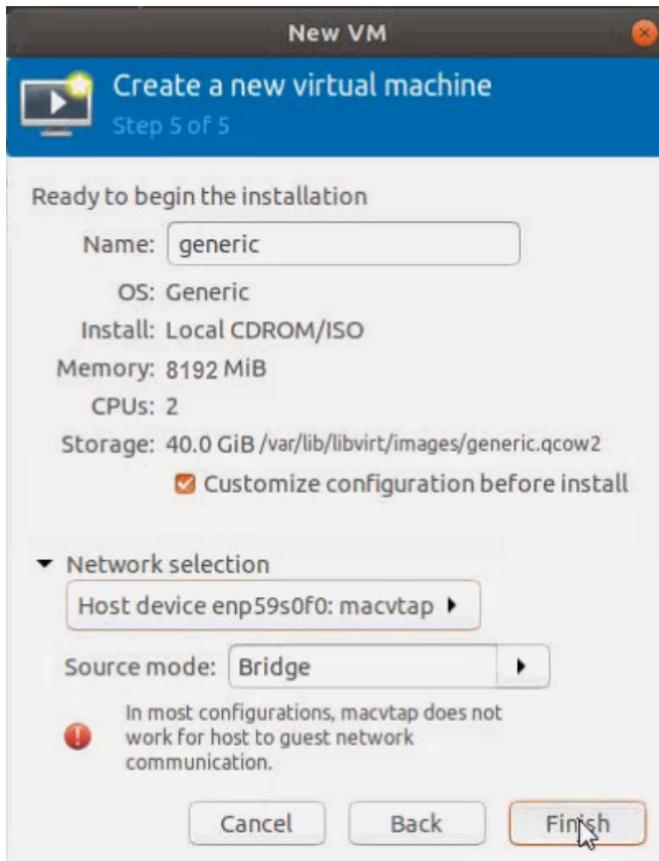
Click **Forward** to continue.

5. Select the **Enable storage for this virtual machine** check box, and set the **Size** to **40Gb**.

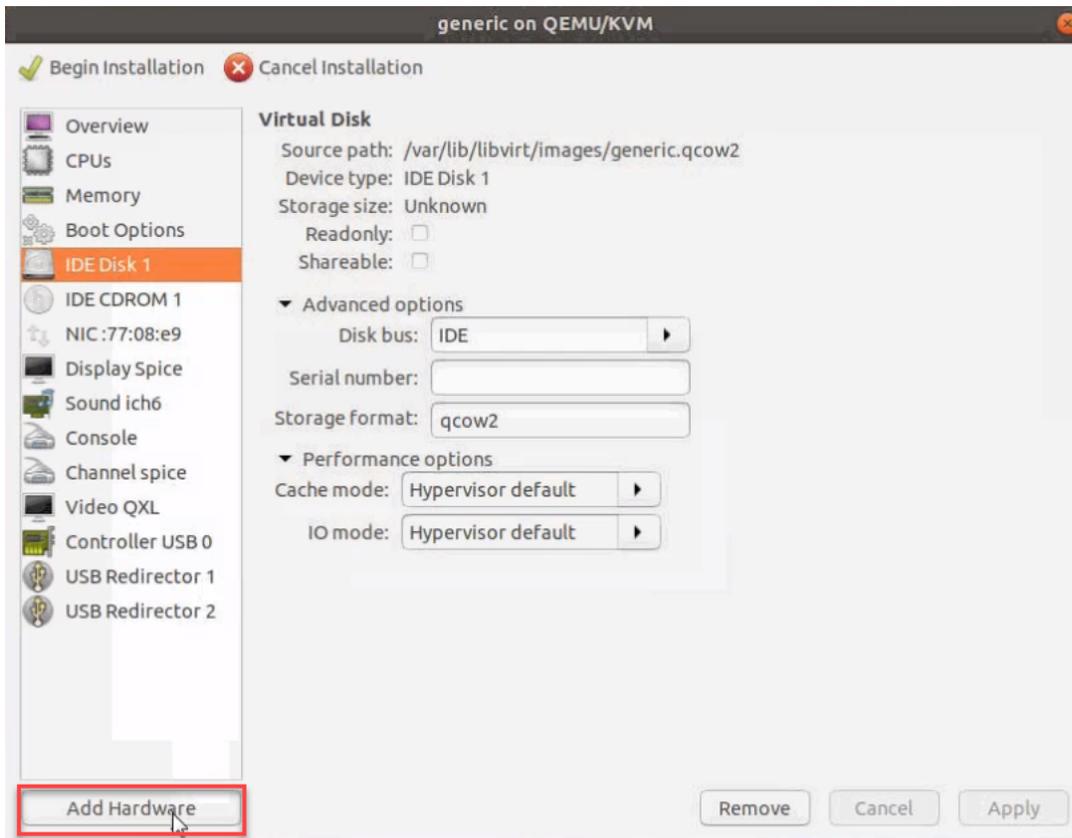


Click **Forward** to continue.

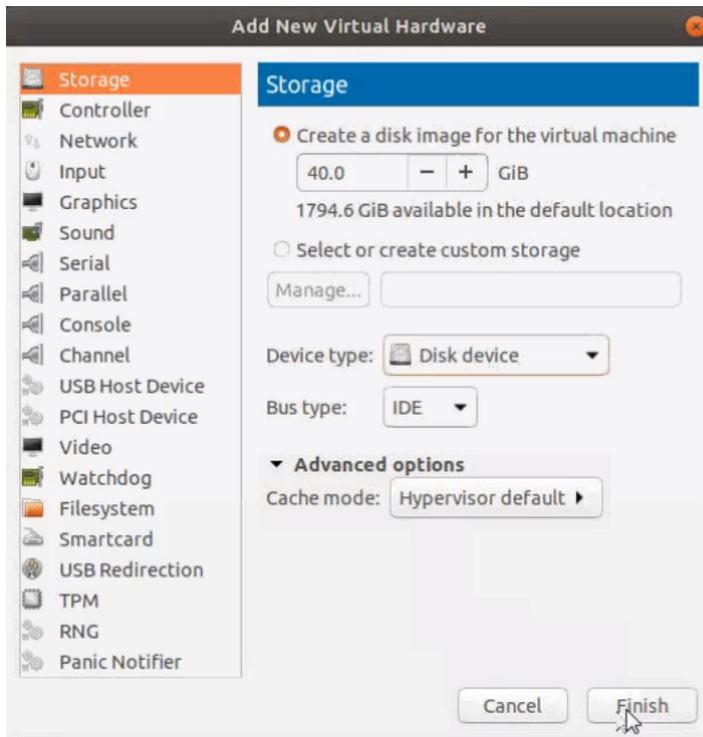
6. On the next screen, complete the following:
 - a. Enter a unique name for the virtual machine.
 - b. Select the **Customize configuration before install** check box.
 - c. From the **Network Selection** drop-down list, select the required network communication option.
 - d. From the **Source mode** drop-down list, select **Bridge**.
 - e. Click **Finish**.



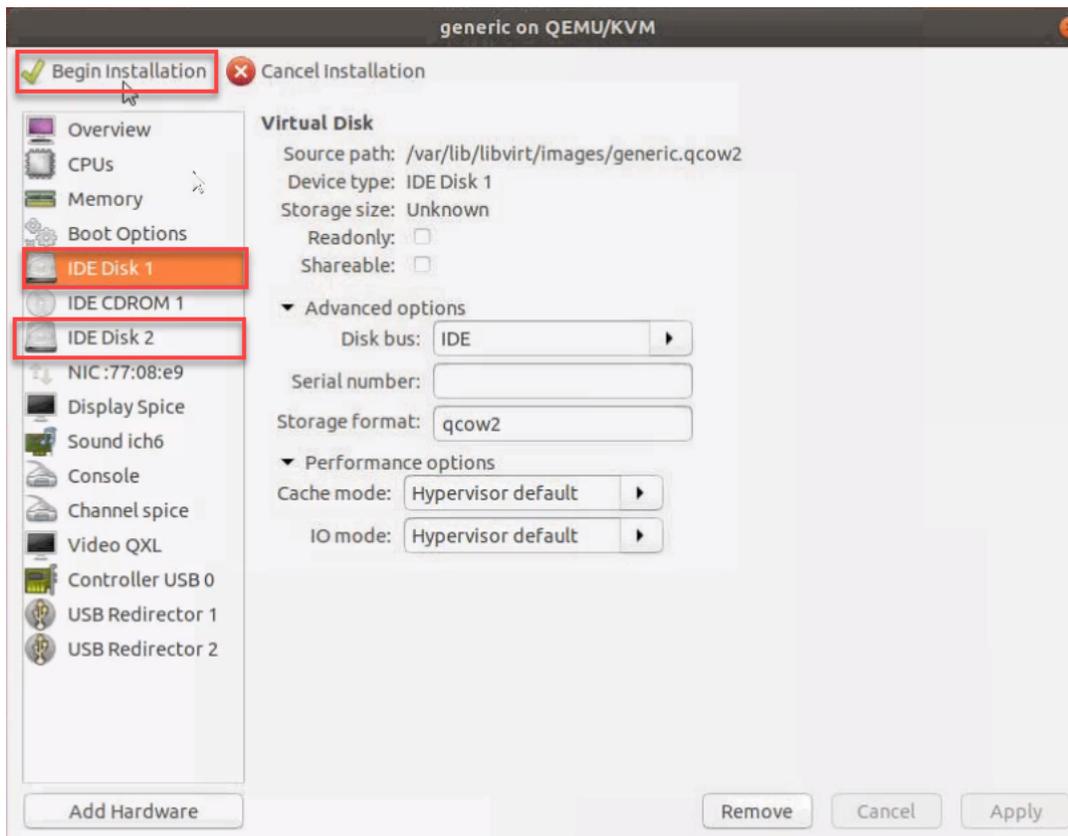
The summary screen appears as shown in the following figure:



7. Verify the options that you have selected, and then click **Add Hardware** to add the second disk.
8. In the Add New Virtual Hardware screen, set the disk size to **40Gb**.



- Click **Finish**. The summary screen appears again where you can verify the details of IDE Disk 2 that you added. Click **Begin Installation**.



Once the installation is complete, the virtual machine launches.

Initial GigaVUE-FM Configuration

After you have deployed a new GigaVUE-FM instance, you need to perform an initial configuration before you can start using GigaVUE-FM. This procedure only needs to be performed once for each GigaVUE-FM instance deployed.

To perform the initial configuration:

1. Open Virtual Machine Manager.
2. Locate the **Virtual Machines** entry in the results pane, right-click the GigaVUE-FM virtual machine, and click the **Open** option.

The Virtual Machine Connection tool opens for the GigaVUE-FM virtual machine.

3. Open the GigaVUE-FM virtual machine from the Virtual Machine tool.
4. The GigaVUE-FM virtual machine powers on and displays a login prompt.
5. Log in as **admin** with password **admin123A!!**. You will be prompted to change your password. After you change and confirm your password, perform the following steps:
 - a. Run the **fmctl jump-start** command. The Initial System Configuration screen appears as shown in the following figure:

Initial System Configuration

Hostname	unconfigured-gigavue-fm		
Domain Name			
Enable DHCP4	yes	Enable DHCP6	yes
IPv4 Address		IPv6 Address	
CIDR		CIDR	
Gateway		Gateway	
DNS Servers			
Search Domains			
Enable NTP	no	NTP Servers	0.centos.pool.ntp.org 1.centos.pool.ntp.org
		NTP Version	4

< OK > <Cancel>

- b. Provide a unique hostname for GigaVUE-FM. Note that the hostname may contain letters, numbers, periods (.), and hyphens (-), but may not begin with a hyphen. No other special characters are permitted.

- c. Enter the required domain name.
- d. Decide whether to use DHCP for the management interface. Choose one of the following options:
 - If you enter **yes**, the **IPv4 Address** or **IPv6 Address**, **CIDR**, **Gateway**, **DNS Servers**, and **Search Domains** are dynamically set up for the management interface.
 - If you enter **no**, you must provide the following:
 - i. **IPv4 Address** or **IPv6 Address**, and the respective **CIDR** and **Gateway**.
 - ii. In the **DNS Servers** field, provide the address of any additional name servers required. Enter the set of IP addresses with spaces in between.
 - iii. In the **Search Domains** field, provide the required DNS domains with spaces in between.
- e. You can choose to either enable or disable NTP. In the **Enable NTP** field, enter one of the following:
 - **Yes**—Use NTP to synchronize the time between GigaVUE-FM virtual machine and the NTP server. In the **NTP Servers** and **NTP Version** fields, enter the NTP server address and the version number of the NTP server.
 - **No**—you can skip the next step and directly save your configurations.
- f. Select **OK** to save your configurations.
- g. Reboot your GigaVUE-FM virtual machine.

You can now access GigaVUE-FM by opening a browser and entering its IP address (the IP address you specified).

Upgrade GigaVUE-FM

This section describes how to upgrade GigaVUE-FM to the latest revision in either a VMware ESXi host or in Microsoft HyperV environment.



Before you upgrade, read [Important GigaVUE-FM Upgrade Guidance](#) for special guidelines and caveats related to upgrading from specific versions of GigaVUE-FM.

At a high level, the upgrade process involves the following steps:

1. Before starting an upgrade to GigaVUE-FM, get the latest image, upgrade information, and Release Notes from the [Software & Release Notes](#) download page (login required) on the Gigamon Community.
2. Be sure to review the *GigaVUE Release Notes* for the latest release before performing the upgrade.
 - Ensure your environment supports any specified system requirements.
 - Check the minimum memory requirements in the new release as they may change between releases.
3. Once the GigaVUE-FM image is obtained, download it to a server within your environment. This must be a server that your current GigaVUE-FM instance can access to upload it.
4. (**Important**) Save your current configuration using the facilities provided by the hypervisor before upgrading.
5. Verify that the GigaVUE-FM instance time is set correctly to ensure accuracy of the trending data that is captured.
6. Perform the upgrade using either the Command-Line Interface (CLI) or the GigaVUE-FM User Interface (UI).
7. After upgrading your GigaVUE-FM instance, upgrade your GigaVUE-VM deployments. Refer to “*Bulk Upgrading GigaVUE-VM Nodes*” in the *GigaVUE Cloud Suite for VMware—GigaVUE V Series Guide*.

Upgrade Methods:

- [Upgrade GigaVUE-FM from the GigaVUE-FM CLI](#)
- [Upgrade GigaVUE-FM from the UI](#)
- [How to Use the Snapshot Feature](#)

Supported Upgrade Paths for GigaVUE-FM

The supported upgrade paths for GigaVUE-FM is as follows:

- 5.8.01 > 5.10.02 > 5.11.01*
- 5.9.01 > 5.11.01*
- 5.10.02 > 5.11.01*
- 5.10.02 > 5.12.01**
- 5.11.01 > 5.12.01**
- 5.11.01 > 5.13.00**
- 5.12.01 > 5.13.00**
- 5.12.01 > 5.13.01**
- 5.13.00 > 5.13.01**
- 5.12.01 > 5.14.00**
- 5.13.00 > 5.14.00**
- 5.13.01 > 5.14.00**
- 5.13.01 > 5.15.00**
- 5.14.00 > 5.15.00**
- 5.14.00 > 5.16.00**
- 5.15.00 > 5.16.00**

*Password change is mandated for all passwords during upgrade.

**Password change is only mandated if the current password is using the default password.

GigaVUE-FM Upgrade Rules and Notes

- **Best Practice:** Always upgrade your GigaVUE-FM instance before upgrading the GigaVUE-OS nodes. You can upgrade the attached nodes from the device or from GigaVUE-FM. The latter is recommended. Refer to *“Upgrading Software on a GigaVUE-FM Node or a Cluster from GigaVUE-FM”* in the *GigaVUE Fabric Management Guide*.
- **If upgrading from GigaVUE-FM versions lower than 5.10.xx:** You cannot directly upgrade your GigaVUE-FM instance to release 5.10.00 from a release prior to 5.8.xx. If your current version of GigaVUE-FM is 5.7.xx or lower and you want to upgrade to software version 5.13.xx, you must first migrate to GigaVUE-FM 5.10.xx and then upgrade to 5.11.xx.

NOTE: For instructions on how to migrate refer to [Migrate GigaVUE-FM](#) in GigaVUE 5.10 Documentation.

- **If upgrading from GigaVUE-FM versions lower than 5.5.00:** While upgrading from any version lower than 5.5.00, an association of more than one VPort to the same GigaSMART group needs to be removed for any existing GTP GigaSMART operation.

- **If upgrading from GigaVUE-FM versions lower than 5.4.00:** Be aware of the minimum memory requirement changes between releases. Earlier releases specified 4GB of memory for the OVA template; whereas versions after 5.4.00 require 8GB and versions after 5.7.00 require 16GB. If the existing virtual or physical hardware running GigaVUE-FM is configured with less memory than required, then increase the amount of memory available to the GigaVUE-FM machine. Refer to GigaVUE-FM Memory and CPU Requirements in the *GigaVUE Release Notes* for additional details.

Important GigaVUE-FM Upgrade Guidance

To upgrade GigaVUE-FM, the recommended procedure is to back up your current configuration and perform the pre-upgrade checks (memory requirements, the maximum number of images) before installing the image. You can upgrade via the GigaVUE-FM GUI or CLI. It is recommended that you plan your upgrade before performing any upgrade steps.

Important: Intent-Based Orchestration (IBO) Policies are removed when upgrading from any pre-5.11 version of GigaVUE-FM to version 5.11.00 or above. IBO Policies will need to be recreated after upgrading to 5.11.00 or above.

Best Practice: Before performing an upgrade, in addition to taking a backup of GigaVUE-FM, also take a Sysdump, which provides valuable configuration information that is not captured in the backup. You can use the Sysdump after the upgrade to troubleshoot any upgrade-related issues with your configurations.

Post-Upgrade Notes

- **Intent Based Orchestration (IBO):** IBO Policies are removed when upgrading from any pre-5.11 version of GigaVUE-FM to version 5.11.00 or above. You must recreate the IBO Policies after upgrading to 5.11.00 or above. Refer to the *"Orchestrated Configurations"* section in the GigaVUE-FM User's Guide details on how to create policy.
- **Storage Management:** The time period specified for the storage management settings will be configured to the default values when upgrading to GigaVUE-FM v5.11.xx. After completing the upgrade, you must reconfigure the time period to the required values.
- **Remember to upgrade your GigaVUE-VM deployments:** When upgrading GigaVUE-FM, you must also upgrade your GigaVUE-VM deployments. For the steps to upgrade GigaVUE-VM, refer to the *"Bulk Upgrading GigaVUE-VM Nodes"* section in the *GigaVUE Cloud Suite for VMware—GigaVUE V Series Guide*.

- **Tags Applied to Resources:** After you upgrade to software version 5.11.0.0, duplicate tag values will not get associated to nodes and ports while adding and removing nodes from the clusters. However, the existing duplicate tags on the resources do not get cleaned up as part of the upgrade. You must run the following script (bundled with 5.11) to remove the duplicate tags of nodes/clusters and ports.

Script name: duplicate_tags_removal.

NOTE: It is recommended that a sudo privileged user runs this script. The default admin user is a sudo privileged user.

To run the script:

1. SSH to GigaVUE-FM.
2. Execute `sudo duplicate_tags_removal`.
3. You can see the logs in the console.

GigaVUE-FM Migration Guidance

GigaVUE-FM v5.8.01 introduced several significant changes that included improvements in usability and performance. These changes involved upgrading and replacing databases and changing the underlying operating system. For this reason, when upgrading from any pre-5.8.xx version of FM to version 5.8.xx or above, you must first migrate your existing configurations and data such as audit logs, events, syslogs, and statistics from your current pre-5.8.xx GigaVUE-FM version to GigaVUE-FM v5.10.xx.

Special migration steps and supported upgrade paths are provided under [Migrate GigaVUE-FM](#) in the [5.10 Documentation](#). After GigaVUE-FM v5.10.xx, migration is no longer needed when upgrading to future versions. For supported upgrade paths requiring a special migration step, see [Supported GigaVUE-FM Migration and Upgrade Paths](#).

Upgrade GigaVUE-FM from the GigaVUE-FM CLI

The following steps describe how to upgrade an existing GigaVUE-FM deployment to the current release.

1. Verify that only three images are present on the GigaVUE-FM server.
2. Download the new image into GigaVUE-FM using either HTTP, HTTPS, FTP, TFTP, SCP, or SFTP.
3. Install the new image.
4. Change boot partition.
5. Upgrade GigaVUE-VM (Optional).

Notes:

- It is important to log in with the **admin** account/username when upgrading the image on the existing GigaVUE-FM.
- After the upgrade completes, rediscover the nodes to recompute node health status.
- GigaVUE-FM backup and restore files use a text based format; binary backups or restore on physical nodes are not supported. For binary backups, you must use the CLI commands rather than GigaVUE-FM. For more information about the CLI commands, refer to the *GigaVUE-OS CLI Reference Guide*.
- When using the Firefox or IE browser, clear the cache before upgrading to prevent issues with the browser.
- In your commands use the actual file names of the image(s) you are fetching, managing, or deploying.

Step 1: Verify that only three images are present on GigaVUE-FM server

NOTE: It is important that you log in with the **admin** account/username when upgrading the image on the existing GigaVUE-FM.

1. To begin an upgrade, open a SSH session and log into GigaVUE-FM.
2. Check the number of images currently available for installation with the following command from the GigaVUE-FM CLI:

```
$ fmctl image list
```

Important: If there are three images listed in the **Images available to be installed** section of the **fmctl image list** output, Gigamon recommends that you use the **fmctl image delete <Filename>** command to remove existing older images. GigaVUE-FM will display a warning if you attempt to fetch a fourth image.

3. To delete an existing image from the server use the following command:

```
$ fmctl image delete <Filename>
```

4. Go to [Step 2: Fetch the latest release of GigaVUE-FM](#).

Step 2: Fetch the latest release of GigaVUE-FM

Gigamon provides an FTP site where the new release image file resides. To fetch the latest release, do the following:

1. Locate the image file for the new release.
2. Copy the image to your file server.

3. Use the **fmctl image fetch** command to retrieve the software image from your file server. The CLI shows you the progress of the image fetch with a series of hash marks, returning you to the system prompt when complete.

NOTE: The **image fetch** command supports the use of HTTP, HTTPS, FTP, TFTP, SCP, or SFTP for the transfer of images. The examples are provided to show the syntax only. In your commands, use your actual login credentials and the actual name of the image file you wish to fetch.

- a. The following command uses SCP to retrieve the **gigamon-gigavue-fm-5.16. image** from the image server with the IP address of 10.115.0.100 using login and password.

```
fmctl image fetch <download URI> [<filename>]
$ fmctl image fetch scp://user:password@10.115.0.100/gigamon-gigavue-fm-5.16..img
```

- b. The following command uses FTP to retrieve the same image using login and password.

```
$ fmctl image fetch ftp://user:password@10.115.0.100/gigamon-gigavue-fm-5.16..img
```

- c. The following command uses TFTP to retrieve the same image without using a password but using a DNS server instead of an IP address for the download server.

```
$ fmctl image fetch tftp://myserver.gigamon.com/tftpboot/gigamon-gigavue-fm-5.16..img
```

Specify the base directory when using TFTP.

NOTE: Fetching the image using TFTP is time consuming, due to the size of the image and the inherent slowness of TFTP. For better performance, use SCP or HTTP to fetch the image.

4. Go to [Step 3: Install the latest release of the GigaVUE-FM](#).

Step 3: Install the latest release of the GigaVUE-FM

Use the **image install** command to install the downloaded image file. When running the following command, the process will first verify that the filename used for the image is suitable for installation prior to installing the image. For example, to install the image downloaded in the previous step and provide the location for boot location for installation.

To check current boot location:

```
$ fmctl image show
```

This command lists the current boot partition, which can be 1 or 2. Use 2 if the current partition is 1 and vice e versa.

```
$fmctl image install <Filename> <Boot location>
```

Step 4: Change the boot partition

Set the image you just installed to boot next with the following command. This ensures that at the next boot the latest image will be picked up.

```
$ fmctl image boot next
```

GigaVUE-FM will reboot with the next boot image and GigaVUE-FM will be upgraded.

Step 5: Upgrade GigaVUE-VM (Optional)

After upgrading GigaVUE-FM, you must also upgrade any deployed GigaVUE-VM. Otherwise, maps may not work and the GigaVUE-VM will be unreachable. For information about upgrading GigaVUE-VM, refer to the “*Bulk Upgrading GigaVUE-VM Nodes*” section in the *GigaVUE Cloud Suite for VMware—GigaVUE V Series Guide*.

Upgrade GigaVUE-FM from the UI

This section describes the steps to upgrade GigaVUE-FM from the UI. You can upgrade by using an image that is located on an external image server, or you can use GigaVUE-FM as the image server.

Keep in mind the following rules and notes before you upgrade GigaVUE-FM from the UI:

- When using the GigaVUE-FM UI to upgrade GigaVUE-FM, you can only upgrade to the currently available version or to the next version. You cannot downgrade.
- When using the Firefox browser, clear the cache before upgrading to prevent issues with the browser.
- When upgrading GigaVUE-FM to the latest image file, the upgrade operation will fail if GigaVUE-FM already has three image files. Delete the unused image files before proceeding to download a new image file.

NOTE: You can enable auto-purge of GigaVUE-FM images using an API. Contact Gigamon Technical Support for assistance.

- Starting from software version 5.15.00, subsequent GigaVUE-FM upgrade operation to higher versions deletes the upgraded GigaVUE-FM image file irrespective of the completion status. For example, when upgrading from 5.15.00 to 5.16.00, irrespective of whether the upgrade process fails or succeeds, GigaVUE-FM deletes the 5.16.0.0 image file at the end of the upgrade process.

Upgrade from External Image Server

This section provides the steps for upgrading the GigaVUE-FM from an image stored on an external server. The image can be transferred from the server to the GigaVUE-FM using either SCP or TFTP file protocols.

To upgrade with an image stored on an external image server, do the following:

1. Upload the image to the external image server to make it available to GigaVUE-FM.
To obtain software images, register on the [Gigamon Customer Portal](#) and download the software.
2. Add the image server to GigaVUE-FM. This stores the credentials, image file name, and IP address of the server on GigaVUE-FM.

To add the image server:

- a. On the left navigation pane, click .
- b. Select **System** on the left navigation panel and go to **Images > External Servers**. The External Servers page appears.
- c. Click **Add**. The Add External Server page appears.
- d. On the Images Server page, specify the following:
 - An alias to help identify the image server.
 - The host IP address of the server.
 - The protocol to use for the download: SCP or TFTP.
 - The user name and password if you selected SCP. They are not needed for TFTP.
- e. Click **Save**.

The External Server page displays the newly added external server. From the **Admin** drop-down list in the top right corner of the window, select **Upgrade** to open the FM Image Upgrade page as shown in the following figure.

Software Upgrade

Image File

Select the file server where you have uploaded the image file.

Image Server:

Image File Path:

To monitor the progress and status of the upgrade, click  "GigaVUE Administration Guide".

3. On the FM Image Upgrade page, click on the Image Server field and select the server added in [Step 2](#).
4. In the Image File Path, enter the image path and filename on the external file server.
5. Upgrade any deployed GigaVUE-FM-VMs.

After upgrading GigaVUE-FM, you must also upgrade any deployed GigaVUE-FM-VMs. Otherwise, maps may not work and the GigaVUE-FM-VMs will be unreachable. For information about upgrading GigaVUE-FM-VM, refer to the “*Bulk Upgrading GigaVUE-VM Nodes*” section in the *GigaVUE Cloud Suite for VMware—GigaVUE V Series Guide*.

Upgrade with GigaVUE-FM as the Image Server

This section provides the steps for upgrading GigaVUE-FM when GigaVUE-FM is used as the file server instead of an external server.

Upgrading from GigaVUE-FM 5.6.01 to 5.7.xx.00 or 5.7.01 via an internal image will not work because internal server storage does not function during the upgrade procedure. Alternatively, you can upgrade using an external image server or the GigaVUE-FM CLI or you can use the GigaVUE-FM internal storage to store the GigaVUE-FM image, and point to it as if it were an external server as follows :

1. Add the GigaVUE-FM 5.7 image under the GigaVUE-FM internal image server (/config/gigamon/imagesRepo).
2. Configure the GigaVUE-FM external server with the GigaVUE-FM IP address.
3. Initiate the upgrade process, select External Image Server, and then specify the path to the GigaVUE-FM Image file that you added in step 1 (/config/gigamon/imagesRepo/fma5700.img).

To upgrade a GigaVUE-FM using internal image files, do the following:

1. Download the images from the Gigamon website and place them where they can be available for uploading to GigaVUE-FM.

To obtain software images, register on the [Gigamon Customer Portal](#) and download the software.

2. Upload the images file to GigaVUE-FM.
 - a. On the left navigation pane, click  and select to **System > Images > Internal Image Files**.
 - b. On the Internal Image File page, click **Upload**.
 - c. Click **Browse** to locate the image file.
 - d. Click **OK** to upload the file. The page displays the progress of the upload.

After the upload completes, you can see the GigaVUE-FM image to use for the upgrade on the Internal Images Files page.

3. Click the **Admin** drop-down list on the top right of the window and select **Upgrade**.
4. On the FM Image Upgrade page, click in the **Image Server** field and select **Internal Image Server**.

Software Upgrade

Image File

Select the file server where you have uploaded the image file.

Image Server:

Version:

Image File:

5. From the **Version** drop-down list, select the version to which you are upgrading.

NOTE: You can only upgrade to another instance of the current version or the immediate next version. Downgrading to a lower version is not supported through the UI.

6. Click **Upgrade**.

NOTE: When you change the IP address of the GigaVUE-FM instance using the jump-start configuration, the internal database and the in-memory caches of the GigaVUE-FM instance are not updated. The Database continues to have the IP address of the old GigaVUE-FM, and the image upgrade using the internal server option does not work. To fix this, you must restart the GigaVUE-FM instance after upgrade.

On the left navigation pane, click  , to monitor the progress and status of the upgrade and select **Events** on the left navigation pane. Also, email notifications are sent if email notifications have been configured.

After upgrading GigaVUE-FM, you must also upgrade any deployed GigaVUE-FM-VMs. Otherwise, maps may not work and the GigaVUE-FM-VMs will be unreachable. For information about upgrading GigaVUE-FM, refer to the “*Bulk Upgrading GigaVUE-VM Nodes*” section in the *GigaVUE Cloud Suite for VMware—GigaVUE V Series Guide*.

NOTE: If you are using FireFox, clear the cache before upgrading to prevent issues with the browser.

How to Use the Snapshot Feature

Follow the steps below to upgrade to the current release version of GigaVUE-FM using the snapshot feature.



A note about upgrading from very old versions of GigaVUE-FM:

- This procedure is only valid for upgrading from GigaVUE-FM v3.0 and above. For upgrades from pre-3.0 releases, review the GigaVUE-FM v3.0 User's Guide and upgrade to release GigaVUE-FM v3.1.
- You cannot directly upgrade from a pre-3.3 releases to the current release. You can only upgrade from GigaVUE-FM v3.3 or v3.4 release.

1. Prior to upgrading, ensure that the available **memory size is at least 8GB** prior to upgrading to the new GigaVUE-FM release. If the available memory size is less than 8GB, it will cause out of memory issues. Also, at least 2 vCPU are required.
2. When upgrading from v3.1, it's a good idea to use the vSphere client's **Snapshot** feature to record the current state of the GigaVUE-FM virtual machine. Steps to use **Snapshot** feature are as follows:
 - a. Log into the vSphere client and navigate to the Datacenter or Cluster level where the GigaVUE-FM installation is located.
 - b. Right-click the GigaVUE-FM entry in the vSphere client and select the **Take Snapshot** option.

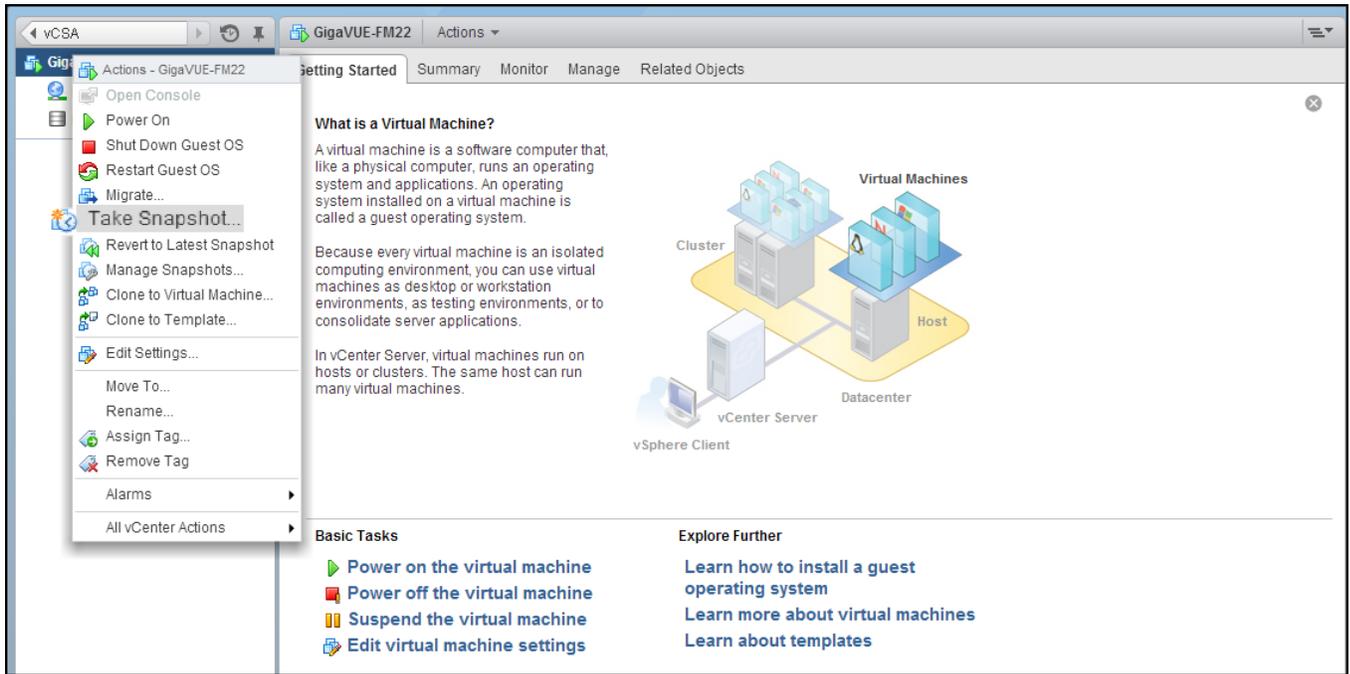


Figure 1 “Take Snapshot” Command to Preserve Current Settings Prior to Upgrade

c. Follow the system prompts to record a snapshot of GigaVUE-FM’s current state.

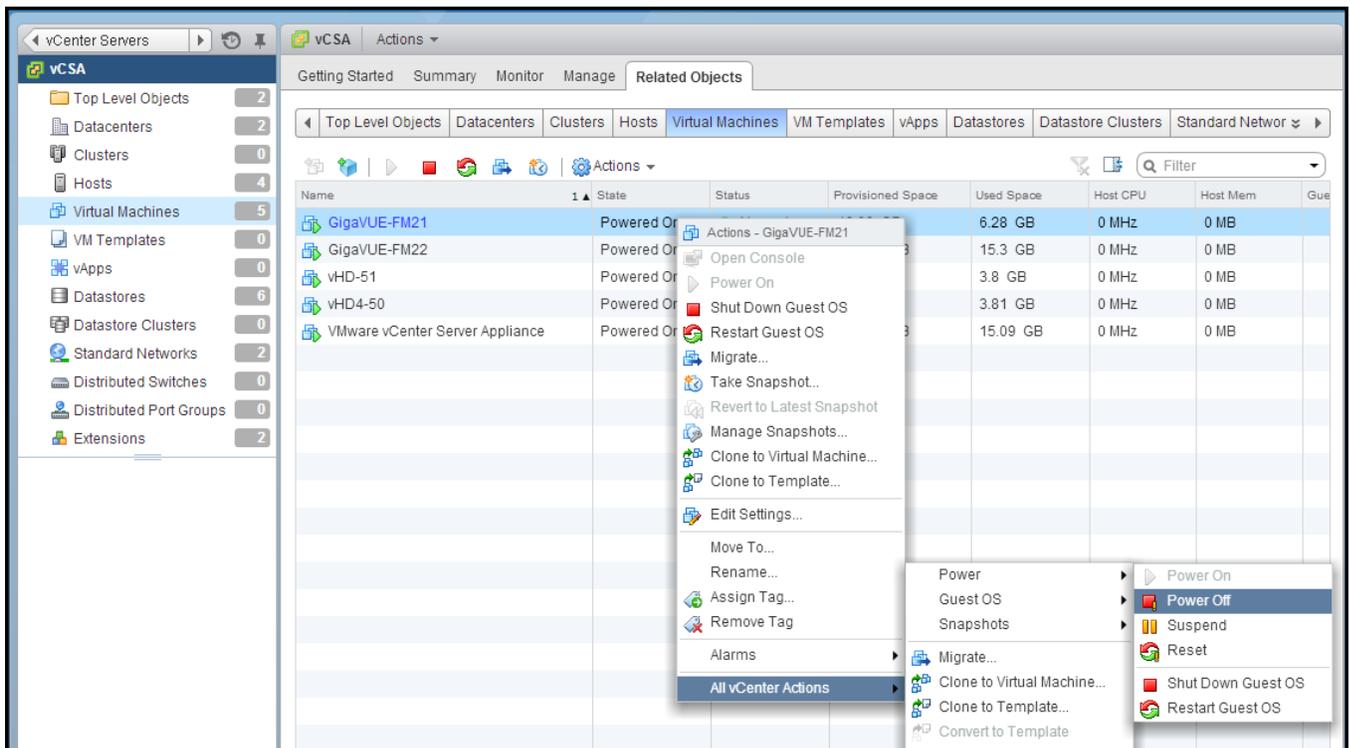


Figure 2 Power Off Command

Upgrade GigaVUE-FM in Azure

This chapter describes how to upgrade the GigaVUE-FM instance on Azure.

Refer to the following sections for details:

- [At a Glance](#)
- [Stop GigaVUE FM Instance](#)
- [Create Snapshot of the GigaVUE-FM Instance](#)
- [Upgrade GigaVUE-FM Instance](#)

Upgrade GigaVUE-FM in AWS

This chapter describes how to upgrade the GigaVUE-FM instance on AWS.

Refer to the following sections for details:

- [At a Glance](#)
- [Stop GigaVUE-FM FM Instance](#)
- [Create Snapshot of the GigaVUE-FM Instance](#)
- [Upgrade GigaVUE-FM Instance](#)

At a Glance

To upgrade the GigaVUE-FM instance successfully, you must perform the following steps:

Step 1: Stop the existing version of the GigaVUE-FM instance.

Step 2: Create a snapshot of the second disk (dev/sdb) of the FM instance.

Step 3: Make a note of the snapshot ID.

Step 4: Launch the latest version of the GigaVUE-FM instance. While launching the latest version, enter the snapshot ID of the old version of the GigaVUE-FM instance in **Add Storage > Add New Volume**.

Step 5: Complete the launch.

Step 6: Verify if the data from the previous GigaVUE-FM instance is restored in the new instance.

Step 7: Terminate the old FM instance.

Stop GigaVUE-FM FM Instance

Before upgrading the GigaVUE-FM instance, the existing version of the GigaVUE-FM instance must be stopped.

NOTE: Do not terminate the GigaVUE-FM instance.

To stop the GigaVUE-FM instance:

1. Login to the AWS account and select **Services > EC2**.
2. In the left navigation pane, select **Instances**.

3. In the search field, enter the name of the existing GigaVUE-FM instance and select the Instance ID.

NOTE: If the instance ID is the password for logging in to the existing GigaVUE-FM, make note of this instance ID. This instance ID will be used as the password for logging in to the upgraded GigaVUE-FM as well. If the password is changed, use the changed password to login to the upgraded GigaVUE-FM.

4. Go to **Actions > Instance State > Stop**.

Create Snapshot of the GigaVUE-FM Instance

You must create a snapshot of the volume of the existing version (dev/sdb) of the GigaVUE-FM instance. Snapshots capture data that are written to your Amazon EBS volume at the time the snapshot is taken. This excludes any data that are cached by any applications or the operating system.

To create a snapshot:

1. Select the GigaVUE-FM instance and click the **Description** tab.
2. Scroll down and locate Block Devices.
3. Click the **/dev/sdb** link. The Block Device dialog box is displayed with the volume ID link.
4. In the Block Device dialog box, click the volume ID link. The Volumes page is displayed.
5. Click **Actions** and select **Create Snapshot**.

The Create Snapshot dialog box is displayed.

6. In the Create Snapshot dialog box, enter the following information:

Table 1: Fields for Creating a Snapshot

Field	Description
Name	The name of the snapshot.
Description	The description of the snapshot.

7. Click **Create**. It will take several minutes for the snapshot to be created.

NOTE: Make a note of the snapshot ID. This snapshot ID will be used to find the snapshot and add the volume while upgrading the GigaVUE-FM instance.

Upgrade GigaVUE-FM Instance

While upgrading the GigaVUE-FM instance, the Amazon EBS volume must be restored with the data from the snapshot that is created in [Create Snapshot of the GigaVUE-FM Instance](#).

To upgrade the GigaVUE-FM instance:

1. Select **Services > EC2**.
2. Click **Launch Instance** and go to **AWS Marketplace** or **Community AMIs**.
3. Search for **Gigamon**, locate the latest version of the GigaVUE-FM AMI, and click **Select**.
4. Choose the Instance Type. The recommended instance type is **m4.xlarge**.

NOTE: Do not select the t2 instance types as they are not supported.

5. Click **Next: Configure Instance Details**.
6. Enter the following information.
 - o **Network**— Select the VPC where you want to launch the AMI.
 - o **Subnet**— Select the management subnet that the instance will use after launch. (Required)
 - o **Auto-assign Public IP**— Select **Enable**.
 - o **IAM role**—Select an existing IAM role to associate with the instance. Refer to the *GigaVUE Cloud Suite for AWS Quick Start Guide*.
7. Click **Next: Add Storage** and click **Add New Volume**.
8. Enter the following storage device settings:
 - o **Snapshot**—Enter the name of the snapshot that is created in step 9 in the section [Create Snapshot of the GigaVUE-FM Instance](#).
 - o **Size (GiB)**— Enter a minimum of 40Gb of storage. The size of the volume must be same as the volume selected while launching the previous version of the GigaVUE-FM instance.
 - o **Volume Type**— Select a volume type. The recommended volume is General Purpose SSD (GP2).
 - o **Delete on Termination**— Select this check box to make sure the volumes are cleaned up when the GigaVUE-FM instance is removed.
9. Click **Next: Tag Instance**, and then add a key-value pair to identify the instance.
10. Click **Next: Add Security Group**. Click the **Select an existing security group** check box if the security group is already created. Otherwise, select the **Create a new security group** check box and click **Add Rule**. For more information on creating a security group, refer to the *GigaVUE Cloud Suite for AWS–GigaVUE V Series 2*
11. Click **Review and Launch**. Review the instance launch details and click **Launch**.

12. Select the SSH key pair, check the acknowledgment check box, and click **Launch Instances**.
13. It will take several minutes for the instance to initialize. After the initialization is completed, verify the instance through the Web interface as follows:
 - a. Find the instance and expand the page in the **Descriptions** tab to view the instance information, if necessary.
 - b. Copy the Public DNS value and paste the value into a new browser window or tab.
 - c. Copy the Instance ID of the previous version of the GigaVUE-FM. If the password is changed, use the changed password to login to the upgraded GigaVUE-FM.

NOTE: Do not have multiple versions of GigaVUE-FM instances monitoring the same AWS connection.

Launch the new version of the GigaVUE-FM instance. Verify if the data from the previous GigaVUE-FM instance is restored in the new instance. Once the data is verified, terminate the old version of the GigaVUE-FM instance.

Post Installation Configurations

Refer to the following sections for details:

- [Install Custom Certificate](#)
- [Install Rabbit MQ Certificate](#)
- [Communication between GigaVUE-FM Load Balancer and Web Server](#)

Install Custom Certificate

To install a third-party certificate on GigaVUE-FM, refer to the following sections:

- [Pre-requisites](#)
- [Steps](#)

Pre-requisites

Refer to the following pre-requisites:

- Take a backup of the default system self-signed certificate and key contents before replacing them with third-party certificate and key. The files are available in the following folders:
 - **localhost.crt**: `/etc/pki/tls/certs/localhost.crt`
 - **localhost.key**: `/etc/pki/tls/private/localhost.key`
- When replacing the certificate key and file ensure to adhere to the following naming convention:
 - For Certificate: **localhost.crt**
 - For Certificate Key: **localhost.key**
- When you copy the contents of the certificate file, do not delete the EOL characters at the end of each line. If there is no EOL character at the end of certificate file, insert one.
- In case of chain of certificates, bundle the server, intermediate, and root certificates into a single certificate file before replacing the **localhost.crt**.
- For chain of certificates, add the SSLCertificateChainFile directive to `/etc/httpd/conf.d/ssl.conf`: **sudo vim /etc/httpd/conf.d/ssl.conf**. Add the following line:**SSLCertificateChainFile /etc/pki/tls/certs/localhost.crt**.

Steps

Generate the certificate and a private key file in pem format. Use the following command on Linux or a Linux app (such as Cygwin) for generating the files:

```
openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout privatekey.pem -out certificate.pem
```

Copy the contents of the certificate file.

To install the certificates:

1. Log in to the GigaVUE-FM CLI.
2. Execute the following steps from the shell prompt as a root user (**sudo**):
 - Replace SSLCertificateFile: `/etc/pki/tls/certs/localhost.crt`
 - Replace SSLCertificateKeyFile: `/etc/pki/tls/private/localhost.key`
 - Provide access to certificate: `chmod 644`
 - Provide access to key: `chmod 600`
 - Configure GigaVUE-FM load balancer functionality:

```
cat /etc/pki/tls/certs/localhost.crt  
/etc/pki/tls/private/localhost.key > /etc/pki/tls/certs/localhost.pem  
systemctl reload haproxy.service
```

- Restart apache as root: **systemctl restart httpd.service**
- After restarting, ensure tomcat is up and running: **sudo systemctl status tomcat@cms.service**

The system will now start using the newly installed certificate.

GigaVUE-FM uses a public key (cms.p12 file) to encrypt the Security Assertion Markup Language (SAML) messages. You can either use the default public key available in GigaVUE-FM or generate a new public key using the following command:

```
sudo openssl pkcs12 -export -name CMS -out /etc/gigamon/cms.p12 -inkey /etc/pki/tls/private/localhost.key -in /etc/pki/tls/certs/localhost.crt -passout pass:cms123
```

You will be prompted for a pass phrase for the **localhost.crt**.

After the public key (cms.p12 file) is generated, place the file in the `/etc/gigamon` directory. Change the access rights to `chmod 644`.

Install Rabbit MQ Certificate

To update the Rabbit MQ certificate, generate the certificate and a private key file in pem format. Use the following command on Linux or a Linux app (such as Cygwin) for generating the files:

```
openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout privatekey.pem -out certificate.pem
```

Copy the contents of the certificate file.

To update the RabbitMQ files:

1. Log in to the GigaVUE-FM CLI.
2. Execute the following steps from the shell prompt as a root user (sudo):

Replace the existing certificate: `/var/lib/gigamon/rabbitmq/server/cert.pem`

Example: `cp certificate.pem /var/lib/gigamon/rabbitmq/server/cert.pem`

Replace the existing private key: `/var/lib/gigamon/rabbitmq/server/key.pem`

Example: `cp privatekey.pem /var/lib/gigamon/rabbitmq/server/key.pem`

Provide access to certificate and key: `chmod 644`

NOTE: It is not required to reload the RMQ service.

Communication between GigaVUE-FM Load Balancer and Web Server

After GigaVUE-FM is installed, communication is established between GigaVUE-FM Load Balancer (HA-proxy service) and the apache web server. If IPv6 (global, link-local, loopback) is disabled in all the network interfaces, then GigaVUE-FM GUI may not be accessible. Use the following command to access the GigaVUE-FM GUI:

```
curl -XPOST "http://localhost:4466/fmcs/configureLoadBalancer?pretty" -H "Content-Type: application/json" -d '{"enable_ipv6" : "true"}'
```

The reason for inaccessibility of GigaVUE-FM GUI is as follows: by default, Load Balancer uses the IPv6 loopback address to communicate with the webserver present locally. If IPv6 address is not present in the system, the webserver cannot listen/accept any communication through IPv6 address and therefore rejects the request.

This behavior is observed only from software version GigaVUE-FM \geq 5.13.00 and may be noticed after installation/upgrade of GigaVUE-FM, and also any time when GigaVUE-FM is up and running.

NOTE: Use the following command to change from IPv6 to IPv4 loopback address:
`curl -XPOST "http://localhost:4466/fmcs/configureLoadBalancer?pretty" -H "Content-Type: application/json" -d '{"enable_ipv6" : "false"}'`

Reference

This section provides additional information useful for GigaVUE-FM installation and upgrade.

Topics:

- [Setting the GigaVUE-FM Admin Password](#)
- [GigaVUE-FM CLI Commands](#)

Setting the GigaVUE-FM Admin Password

You can set the admin password for GigaVUE-FM from the GigaVUE-FM Command-line Interface (CLI) or from the GigaVUE-FM GUI. This topic describes the requirements for the password.

The characters in the admin password must include, at least:

- One numerical character
- One upper case character

- One lower case character
- One special character

If the password does not meet the complexity requirements:

- The system does not display any error message.
- The parameters configured above are not passed on to the GigaVUE-FM except the host name parameter.
- The static IP addresses that were configured originally will be unavailable after GigaVUE-FM is deployed.

Setting the Admin Password from the GigaVUE-FM CLI

You must change the default admin password when you first login to the GigaVUE-FM CLI. The password can be a minimum of 14 characters and a maximum of 255 characters, and must comply with the character requirements specified above.

NOTE: The password that you set from the GigaVUE-FM CLI is applicable only to the GigaVUE-FM CLI.

Setting the Admin Password from the GigaVUE-FM GUI

The default username and password for a admin user in GigaVUE-FM GUI is *admin* and *admin123A!!*, respectively. If GigaVUE-FM is deployed inside AWS or OpenStack, then the default password is the **Instance ID**. You can change the default admin password from GUI. The password can be a minimum of 8 characters and a maximum of 64 characters, and must comply with the character requirements specified above.

NOTE: The password that you set from the GigaVUE-FM GUI is applicable only to the GigaVUE-FM GUI.

GigaVUE-FM CLI Commands

This section describes the commands for the GigaVUE-FM Command-Line Interface (CLI) related to installation and upgrade processes.

fmctl

Use the **fmctl** command to manage GigaVUE-FM-related configurations.

The **fmctl** command has the following syntax:

```
fmctl  
configuration [backup|restore][<absolute pathname of backup file>]
```

image

```
fetch <download URI> [<filename>]
list [details] [<filename>]
install <filename> [next|location {1|2}]
boot [next|location {1|2}]
delete [force] <filename>
{move|rename} <old filename> <new filename>
show
```

jump-start

```
logging [<fqdn>[:<port>]] [facility <facility>] [priority <priority>] [udp|tcp]
no logging <fqdn>[:<port>]
reset factory halt
set UI admin password <new password>

{get|show} interface [{mgmt|management}]
set interface {mgmt|management} <interface name>
[options{--help|--interface <interface name>}]
  set mapping <fqdn> <IP address>
  {get|show} {ip|ntp|hostname|domain|fqdn}
  set [ip|ip6] dhcp
  set [ip|ip6] [static] <address/cidr> <gateway> <dns1>[,<dns2>[,...]]
  set {ip|ip6} route {add|remove} address/cidr gateway
  set ntp {disable|[enable] <server1>[,<server2>[,...]]}
  set hostname <hostname>
  set domain <domain>
  set fqdn <hostname> <domain>
  set/get/show searchdomains [<domain1>[,<domain2>[,...]]]
  set/get/show nameservers [<dns1>[,<dns2>[,...]]]
  show backup [<absolute pathname of backup file>]
```

The following table describes the arguments for the **fmctl** command:

Argument	Description
configuration [backup restore]	<p>Backs up and restores the configurations such as management interface, hostname, domain, IP, search domains, and NTP.</p> <p>For example, use the following command to back up the system configurations:</p> <pre>fmctl configuration backup <absolute path name of backup file></pre> <p>Use the following command to restore the system configurations from the backup:</p> <pre>fmctl configuration restore <absolute path name of backup file></pre>
image fetch <download URI> [filename]	<p>Retrieves a saved configuration file from a remote host. Use HTTP(S), FTP, TFTP, or SCP to retrieve the file. The format for the download URL is as follows:</p> <pre>[protocol]://username[:password]@hostname/path/filename</pre> <p>For example, the following command retrieves the configuration file named myconfig from the FTP server at 192.168.1.10 using the robh account with the xray password:</p> <pre>fmctl image fetch ftp://robh:xray@192.168.1.10/myconfig</pre> <p>You can also use the <filename> argument to give the retrieved file a new name on the GigaVUE-FM H Series node. For example, the following command retrieves myconfig and names it newconfig on the node:</p> <pre>fmctl image fetch scp://bbochy:catch1@192.168.1.75/myconfig newconfig</pre> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>NOTE: You cannot retrieve a file with the same name as the currently active configuration file.</p> </div>
image list	<p>Provides the list of image file names available in GigaVUE-FM.</p> <p>For example:</p> <pre>fmctl image list</pre>
image install <filename> [next location {1 2}]	<p>Installs the image file.</p> <p>For example, use the following command to install the image file on the next partition:</p> <pre>fmctl image install gigamon-gigavue-fm-5.8.00-160194-trial.img next</pre> <p>Use the following command to install the image file on the specified partition:</p> <pre>fmctl image install gigamon-gigavue-</pre>

Argument	Description
	<p>fm-5.8.00-160194-trial.img location 1</p> <p>NOTE: Ensure that your current partition is not the same as the partition you specified for installation. Else, an error is displayed.</p>
image boot [next location {1 2}]	<p>Boots the image file on the specified partition. Ensure that the partition has the installed image file.</p> <p>For example, use the following command to boot the image file on the next partition:</p> <p>fmctl image boot next</p> <p>Use the following command to boot the image file on the specified partition:</p> <p>fmctl image boot location 1</p> <p>NOTE: GigaVUE-FM reboots immediately.</p>
image delete [force] <filename>	<p>Deletes the named image file.</p> <p>For example:</p> <p>fmctl image delete myimage</p>
image {move rename} <old filename> <new filename>	<p>Moves or renames the specified image file. For example, the following command renames myimage as newimage:</p> <p>fmctl image rename myimage newimage</p>
image show	<p>Displays the last boot partition.</p> <p>For example:</p> <p>fmctl image show</p>
jump-start	<p>Runs the configuration wizard for the initial setup of GigaVUE-FM. Refer to Perform Initial Configuration.</p> <p>NOTE: When you change the IP address of the GigaVUE-FM instance using the jump-start configuration, the internal database and the in-memory caches of the GigaVUE-FM instance are not updated. The Database continues to have the IP address of the old GigaVUE-FM, and the image upgrade using the internal server option does not work. To fix this, you must restart the GigaVUE-FM instance after upgrade.</p>
logging [<fqdn>[:<port>]] [facility <facility>] [priority <priority>] [udp tcp]	<p>Configures the logging server.</p> <p>For example:</p> <p>fmctl logging 1.2.3.4:9514 facility * priority debug tcp</p>
no logging <fqdn>[:<port>]	<p>Removes the logging server configuration.</p>

Argument	Description
	For example: fmctl no logging 1.2.3.4:9514
reset factory halt	Resets the GigaVUE-FM instance to the default configuration and shuts down the system. For example: fmctl reset factory halt
set UI admin password <new password>	Configures a new admin password for the GigaVUE-FM UI only. For information on setting the GigaVUE-FM password, refer to Setting the GigaVUE-FM Admin Password .
{get show} interface [{mgmt management}]	Displays the management interface configured for the GigaVUE-FM instance. For example: fmctl get show interface management
set interface {mgmt management} <interface name>	Configures the management interface for the GigaVUE-FM instance, which has more than one ethernet interface. For example: fmctl set interface management eth1 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">NOTE: You cannot use the --interface syntax with the set interface management argument.</div>
--interface <interface name>	Allows various configurations that can be set for the management interface. This is an optional argument. For example, use the following command to ensure that eth1 management interface uses DHCP: fmctl --interface eth1 set ip dhcp
[options{--help --interface <interface name>}] set mapping <fqdn> <IP address>	Maps the FQDN with the IP address of GigaVUE-FM. For example: fmctl --interface eth1 set mapping fm 10.10.10.1 Use the following command to remove the mapping: fmctl --interface eth1 set mapping fm
[options{--help --interface <interface name>}] {get show} {ip ntp hostname domain fqdn}	Use to either fetch or display the IP address, NTP configurations, host name, domain name, or FQDN . For example: fmctl --interface eth1 get {ip ntp hostname domain fqdn} fmctl --help show {ip ntp hostname domain fqdn}
[options{--help --interface <interface name>}] set [ip ip6]	Configures the management interface to use DHCP. For example:

Argument	Description
dhcp	fmctl --interface eth1 set ip dhcp
[options{--help --interface <interface name>}] set [ip ip6] [static] <address/cidr> <gateway> <dns1>[,<dns2>[,...]]	Configures the static IP address and gateway on the management interface. You can also choose to configure DNS. For example: fmctl --interface eth1 set ip static 10.115.46.72/21 10.115.40.1 10.10.1.20
[options{--help --interface <interface name>}] set {ip ip6} route {add remove} address/cidr gateway	Adds or removes the IP address and gateway for the management interface.
[options{--help --interface <interface name>}] set ntp {disable [enable] <server1> [,<server2>[,...]]}	Use to enable or disable NTP for synchronization of the system's clock. For example, the following command disables NTP: fmctl --interface eth1 set ntp disable You choose to enable NTP and add NTP servers. For example, the following command enables NTP and adds a NTP server: fmctl --interface eth1 set ntp enable 192.168.1.10
[options{--help --interface <interface name>}] set hostname <hostname>	Configures the hostname. For example: fmctl --interface eth1 set hostname myfm NOTE: Ensure that you log out and re-login to the GigaVUE-FM to view the changes.
[options{--help --interface <interface name>}] set domain <domain>	Configures the domain for GigaVUE-FM. For example: fmctl --interface eth1 set domain gigamon.com
[options{--help --interface <interface name>}] set fqdn <hostname> <domain>	Configures the Fully Qualified Domain Name (FQDN) for the current GigaVUE-FM. fmctl --interface eth1 set fqdn myfm gigamon.com

Argument	Description
[options{--help --interface <interface name>}] set/get/show searchdomains [<domain1> [,<domain2>[,...]]]	Displays a list of domains for the current GigaVUE-FM For example: fmctl --interface eth1 set searchdomains fmctl --help get show searchdomains
[options{--help --interface <interface name>}] set/get/show nameservers [<dns1>[,<dns2>[,...]]]	Displays a list of name servers for the current GigaVUE-FM For example: fmctl --interface eth1 set nameservers fmctl --help get show nameservers
[options{--help --interface <interface name>}] show backup	Displays the configurations that were backed up. For example: fmctl --help show backup <absolute path name of backup file>

NOTE: To include special characters in the `fmctl` command line, enclose the string containing the special characters within single quotes. For example, to include the bang (!) special character in a password string, you must enclose the password string within single quotes, as shown in the following example:

```
fmctl set UI admin password 'admin!!'
```

Additional Sources of Information

This appendix provides additional sources of information. Refer to the following sections for details:

- [Documentation](#)
- [Documentation Feedback](#)
- [Contact Technical Support](#)
- [Contact Sales](#)
- [The Gigamon Community](#)

Documentation

This table lists all the guides provided for GigaVUE-FM software and hardware. The first row provides an All-Documents Zip file that contains all the guides in the set for the release.

NOTE: In the online documentation, view [What's New](#) to access quick links to topics for each of the new features in this Release; view [Documentation Downloads](#) to download all PDFs.

Table 1: Documentation Set for Gigamon Products

GigaVUE-FM 5.16. Hardware and Software Guides
<p>DID YOU KNOW? If you keep all PDFs for a release in common folder, you can easily search across the doc set by opening one of the files in Acrobat and choosing Edit > Advanced Search from the menu. This opens an interface that allows you to select a directory and search across all PDFs in a folder.</p>
<p>Hardware</p> <p>how to unpack, assemble, rack-mount, connect, and initially configure ports the respective GigaVUE-FM devices; reference information and specifications for the respective GigaVUE-FM devices</p>
G-TAP A Series 2 Installation Guide
GigaVUE-HC1 Hardware Installation Guide
GigaVUE-HC2 Hardware Installation Guide
GigaVUE-HC3 Hardware Installation Guide
GigaVUE M Series Hardware Installation Guide
GigaVUE TA Series Hardware Installation Guide
GigaVUE-FM Hardware Appliance Guide for GFM-HW1-FM010
GigaVUE-OS Installation Guide for DELL S4112F-ON

GigaVUE-FM 5.16. Hardware and Software Guides

Software Installation and Upgrade Guides

GigaVUE-FM Installation, Migration, and Upgrade Guide

GigaVUE-OS Upgrade Guide

Administration

GigaVUE Administration Guide

covers both GigaVUE-OS and GigaVUE-FM

Fabric Management

GigaVUE Fabric Management Guide

how to install, deploy, and operate GigaVUE-FM; how to configure GigaSMART operations; covers both GigaVUE-FM and GigaVUE-OS features

Cloud Configuration and Monitoring

how to configure the GigaVUE Cloud Suite components and set up traffic monitoring sessions for the cloud platforms

GigaVUE V Series Quick Start Guide

GigaVUE Cloud Suite for AWS—GigaVUE V Series 2 Guide

GigaVUE Cloud Suite for AWS—GigaVUE V Series 1 Guide

GigaVUE Cloud Suite for Azure—GigaVUE V Series 2 Guide

GigaVUE Cloud Suite for Azure—GigaVUE V Series 1 Guide

GigaVUE Cloud Suite for OpenStack—GigaVUE V Series 2 Guide

GigaVUE Cloud Suite for OpenStack—GigaVUE V Series 1 Guide

Gigamon Containerized Broker Guide

GigaVUE Cloud Suite for VMware—GigaVUE V Series Guide

GigaVUE Cloud Suite for AnyCloud Guide

GigaVUE Cloud Suite for Kubernetes Guide

GigaVUE Cloud Suite for Nutanix Guide

GigaVUE Cloud Suite for VMware—GigaVUE-VM Guide

GigaVUE Cloud Suite for AWS Secret Regions Guide

Reference

GigaVUE-OS CLI Reference Guide

library of GigaVUE-OS CLI (Command Line Interface) commands used to configure and operate GigaVUE

GigaVUE-FM 5.16. Hardware and Software Guides

H Series and TA Series devices

GigaVUE-OS Cabling Quick Reference Guide

guidelines for the different types of cables used to connect Gigamon devices

GigaVUE-OS Compatibility and Interoperability Matrix

compatibility information and interoperability requirements for Gigamon devices

GigaVUE-FM REST API Reference in GigaVUE-FM User's Guide

samples uses of the GigaVUE-FM Application Program Interfaces (APIs)

Release Notes

GigaVUE-OS, GigaVUE-FM, GigaVUE-VM, G-TAP A Series, and GigaVUE Cloud Suite Release Notes

new features, resolved issues, and known issues in this release ;
important notes regarding installing and upgrading to this release

NOTE: Release Notes are not included in the online documentation.

NOTE: Registered Customers can log in to [My Gigamon](#) to download the Software and Release Notes from the Software & Docs page on to [My Gigamon](#). Refer to [How to Download Software and Release Notes from My Gigamon](#).

In-Product Help

GigaVUE-FM Online Help

how to install, deploy, and operate GigaVUE-FM.

GigaVUE-OS H-VUE Online Help

provides links the online documentation.

How to Download Software and Release Notes from My Gigamon

Registered Customers can download software and corresponding Release Notes documents from the **Software & Release Notes** page on to [My Gigamon](#). Use the My Gigamon Software & Docs page to download:

- Gigamon Software installation and upgrade images,
- Release Notes for Gigamon Software, or
- Older versions of PDFs (pre-v5.7).

To download release-specific software, release notes, or older PDFs:

1. Log in to [My Gigamon](#)
2. Click on the **Software & Release Notes** link.
3. Use the **Product** and **Release** filters to find documentation for the current release. For example, select Product: "GigaVUE-FM" and Release: "5.6," enter "pdf" in the search box, and then click **GO** to view all PDF documentation for GigaVUE-FM 5.6.xx.

NOTE: My Gigamon is available to registered customers only. Newer documentation PDFs, with the exception of release notes, are all available through the publicly available online documentation.

Documentation Feedback

We are continuously improving our documentation to make it more accessible while maintaining accuracy and ease of use. Your feedback helps us to improve. To provide feedback and report issues in our documentation, send an email to:

documentationfeedback@gigamon.com

Please provide the following information in the email to help us identify and resolve the issue. Copy and paste this form into your email, complete it as able, and send. We will respond as soon as possible.

Documentation Feedback Form		
About You	Your Name	
	Your Role	
	Your Company	
For Online Topics	Online doc link	<i>(URL for where the issue is)</i>
	Topic Heading	<i>(if it's a long topic, please provide the heading of the section where the issue is)</i>

For PDF Topics	Document Title	<i>(shown on the cover page or in page header)</i>
	Product Version	<i>(shown on the cover page)</i>
	Document Version	<i>(shown on the cover page)</i>
	Chapter Heading	<i>(shown in footer)</i>
	PDF page #	<i>(shown in footer)</i>
How can we improve?	Describe the issue	<i>Describe the error or issue in the documentation. (If it helps, attach an image to show the issue.)</i>
	How can we improve the content? Be as specific as possible.	
	Any other comments?	

Contact Technical Support

For information about Technical Support: Go to **Settings**  > **Support** > **Contact Support** in GigaVUE-FM.

You can also refer to <https://www.gigamon.com/support-and-services/contact-support> for Technical Support hours and contact information.

Email Technical Support at support@gigamon.com.

Contact Sales

Use the following information to Gigamon channel partner or Gigamon sales representatives.

Telephone: +1.408.831.4025

Sales: inside.sales@gigamon.com

Partners: www.gigamon.com/partners.html

Premium Support

Email Gigamon at inside.sales@gigamon.com for information on purchasing 24x7 Premium Support. Premium Support entitles you to round-the-clock phone support with a dedicated Support Engineer every day of the week.

The Gigamon Community

The **Gigamon Community** is a technical site where Gigamon users, partners, security and network professionals and Gigamon employees come together to share knowledge and expertise, ask questions, build their network and learn about best practices for Gigamon products.

Visit the Gigamon Community site to:

- Find knowledge base articles and documentation
- Ask and answer questions and learn best practices from other members.
- Join special-interest groups to have focused collaboration around a technology, use-case, vertical market or beta release
- Take online learning lessons and tutorials to broaden your knowledge of Gigamon products.
- Submit and vote on feature enhancements and share product feedback. (Customers only)
- Open support tickets (Customers only)
- Download the latest product updates and documentation (Customers only)

The Gigamon Community is a great way to get answers fast, learn from experts and collaborate directly with other members around your areas of interest.

Register today at community.gigamon.com

Questions? Contact our Community team at community@gigamon.com.

Glossary

D

decrypt list

need to decrypt (formerly blacklist)

decryptlist

need to decrypt - CLI Command (formerly blacklist)

drop list

selective forwarding - drop (formerly blacklist)

F

forward list

selective forwarding - forward (formerly whitelist)

L

leader

leader in clustering node relationship (formerly master)

M

member node

follower in clustering node relationship (formerly slave or non-master)

N

no-decrypt list

no need to decrypt (formerly whitelist)

nodecryptlist

no need to decrypt- CLI Command (formerly whitelist)

P

primary source

root timing; transmits sync info to clocks in its network segment (formerly grandmaster)

R

receiver

follower in a bidirectional clock relationship (formerly slave)

S

source

leader in a bidirectional clock relationship (formerly master)