# Cisco HyperFlex Workload Profiler

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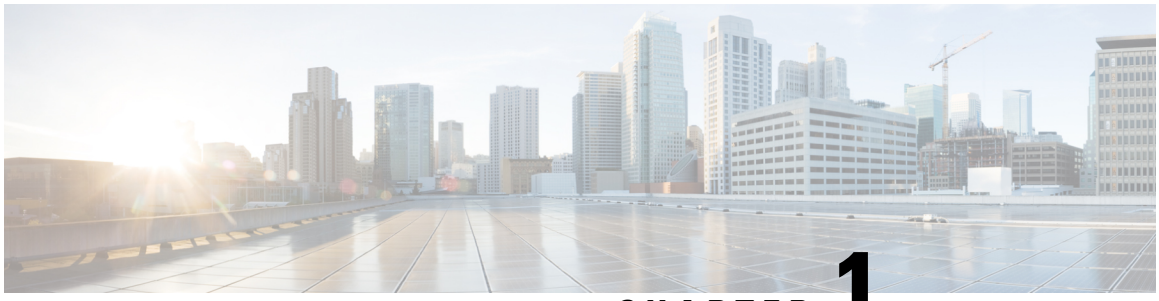


CHAPTER 1

# Introduction


- Introduction, on page 1


# Introduction

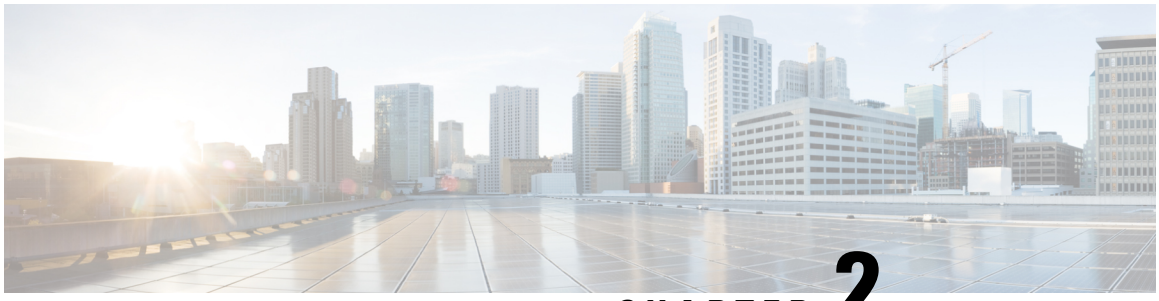
## ESXi Introduction

Hx Workload Profiler is a VMware vCenter characterization tool that can estimate the compute, storage, and network usage of hosts and VMs across multiple vCenter deployments. The output of the tool can be fed into HxSizer product to size the HyperFlex cluster requirements. The workload requirements are estimated by the HxProfilertool.

Hx Workload Profiler key outputs:

- 30-day historic summary of host-level compute metrics
- Detailed compute, storage, and network metrics for hosts and VMs for all vCenters profiled
- Detailed time series data to analyze trends of key metrics in the UI
- Download of time series data of all key metrics

The Hx Workload Profiler tool is delivered as an OVA and can be used to monitor multiple vCenters simultaneously.



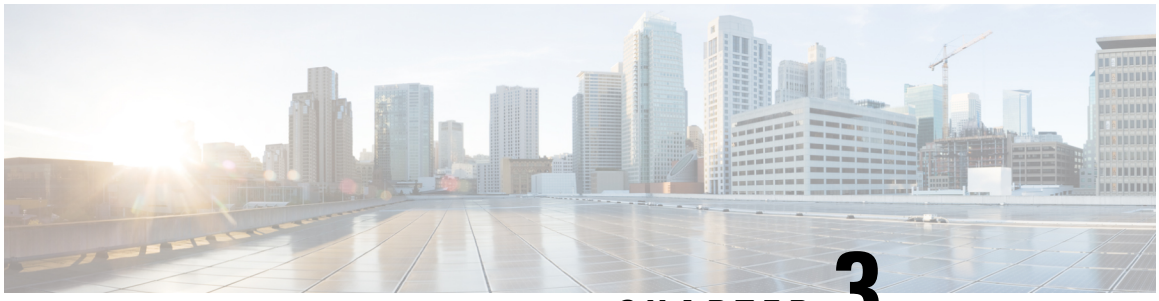
CHAPTER 2

# System Requirements


- ESXi System Requirements, on page 3


## ESXi System Requirements

| Requirement | Description |
|---|---|
| ESXi version | v5.5 or later |
| OVA size | • vCPU: 4<br>• RAM: 8 GB<br>• Disk: 100 GB (thin provisioning supported). It is recommended that you use thin provisioning while deploying the VM. |
| Scale for end-points | • Maximum number of simultaneous vCenters: 16<br>• Maximum number of hosts: 200<br>• Maximum number of VMs: 4000 |
| Credentials | • Root/admin credentials |
| Browser support | • Chrome: Chrome version 50 or later<br>• Firefox: Unsupported<br>• IE: Unsupported<br>• Safari: Unsupported |



CHAPTER 3

# Setting Up the Virtual Appliance


- Logging into the Profiler, on page 5
- HX Profiler Software License, on page 6
- Deploying the Virtual Machine, on page 7
- Configuring and Using the Profiler Application, on page 12
- Using the Profiler Service, on page 13
- Locating the Application Logs, on page 14

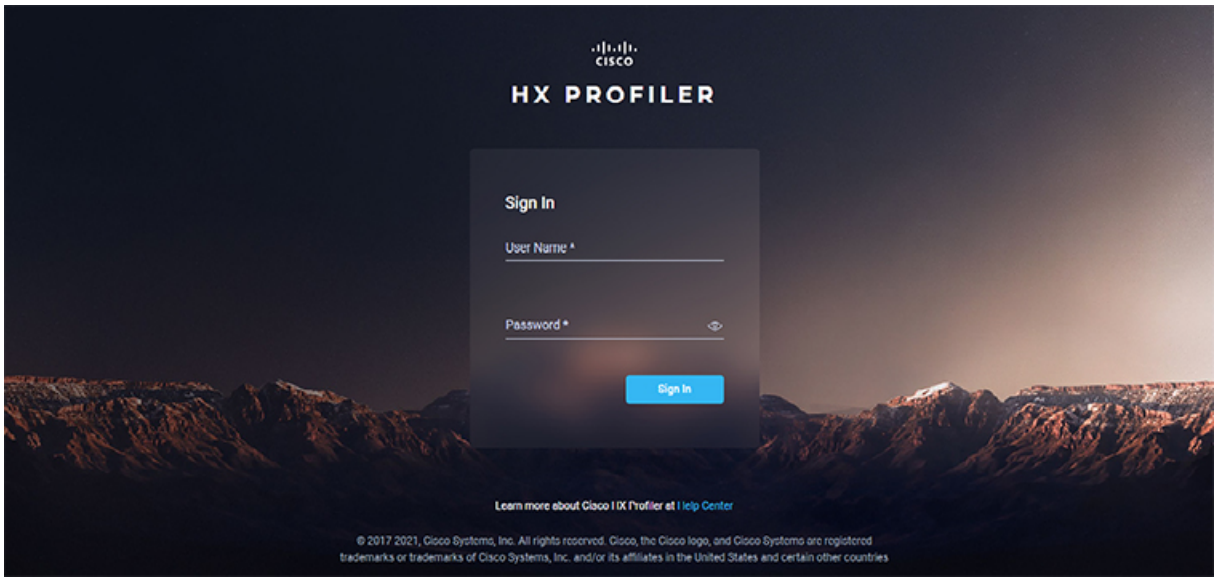

# Logging into the Profiler

## Logging in to the ESXi Profiler

The Hx Workload Profiler user interface (UI) uses system credentials for authentication.

**Step 1** To access the UI, launch a browser window and enter `http://<IP>` or `http://<IP:8000>` or `http://<IP>/profiler/index.html` or `http://<IP:8000>/profiler/index.html`, where the IP is the IP address of the VM.

The HX Profiler UI appears:

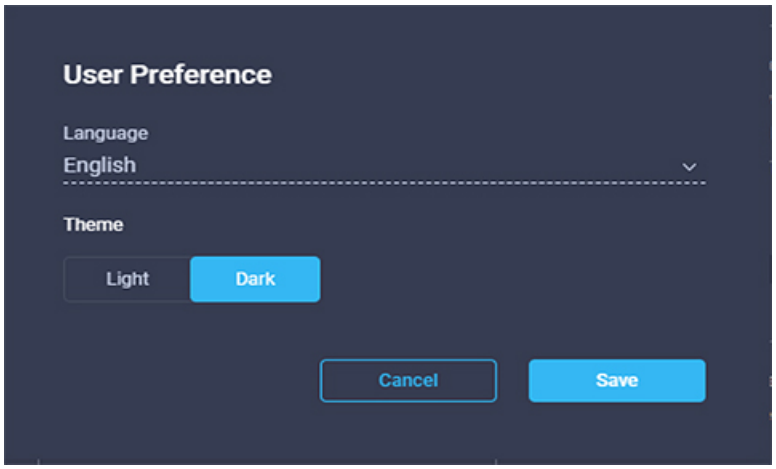



**Step 2** When prompted, log in to the UI with the following credentials:

User name: **`monitoring`**

Password: **`<new password set during the install workflow>`**

**Step 3** You can use the User Preference option in the top right corner of the UI to configure **Language** or **Theme**.

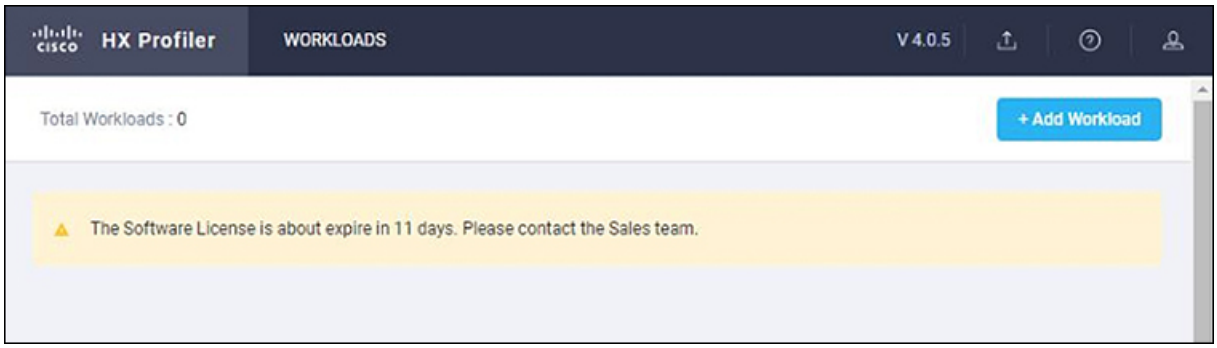



Click **Cancel** or **Save** to continue.

**Step 4** When finished, you can end the user session by clicking **Logout** at the top right of the page.

# HX Profiler Software License

The lifespan of the HX Profiler Software License is 45 days from the date of deployment. The HX Profiler displays a Software Expiration warning message after 30 days have elapsed after deployment.

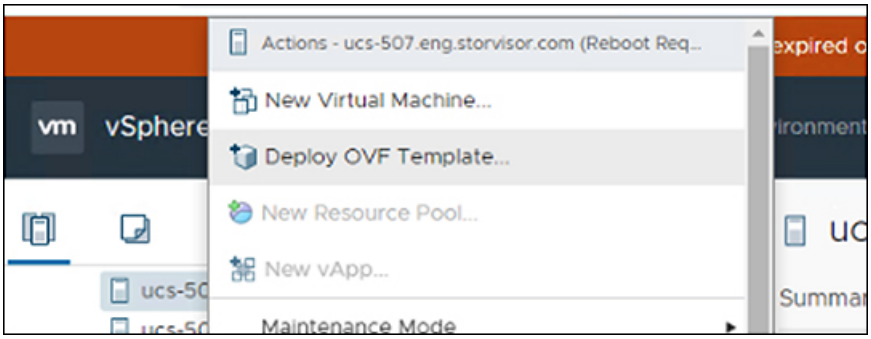



# Deploying the Virtual Machine

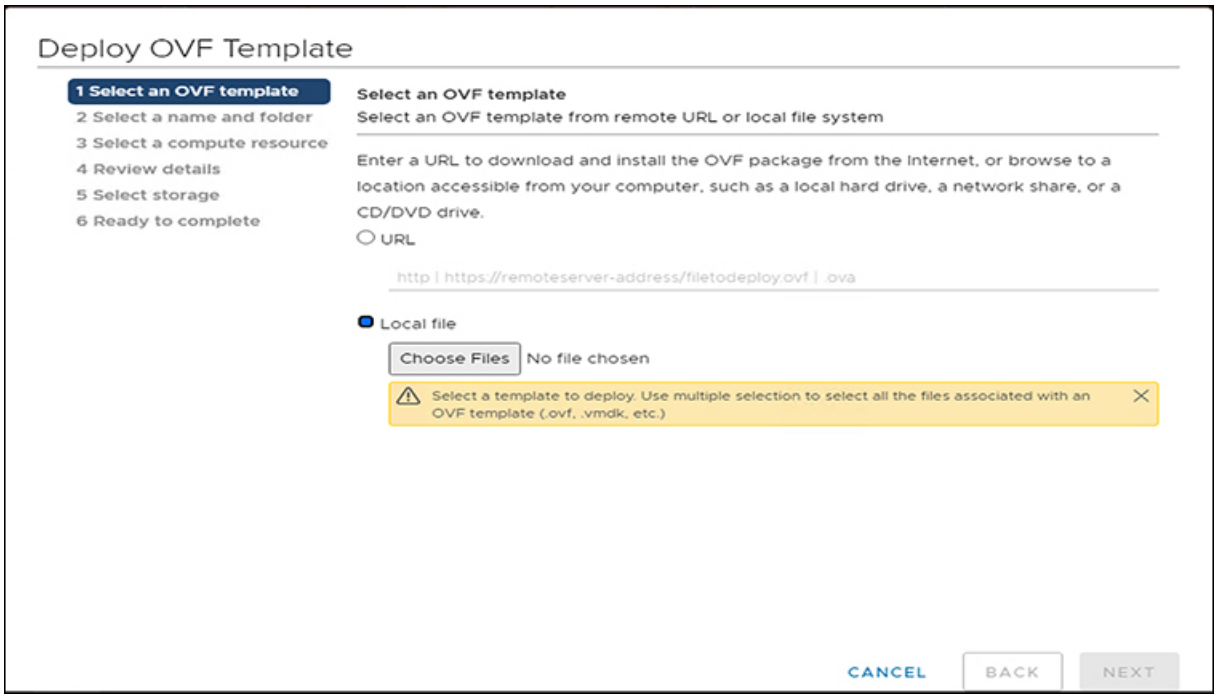
## Deploying the ESXi Virtual Machine

**Step 1** Log in to VMware vSphere Client.

**Step 2** Select **File** > **Deploy OVF Template**.

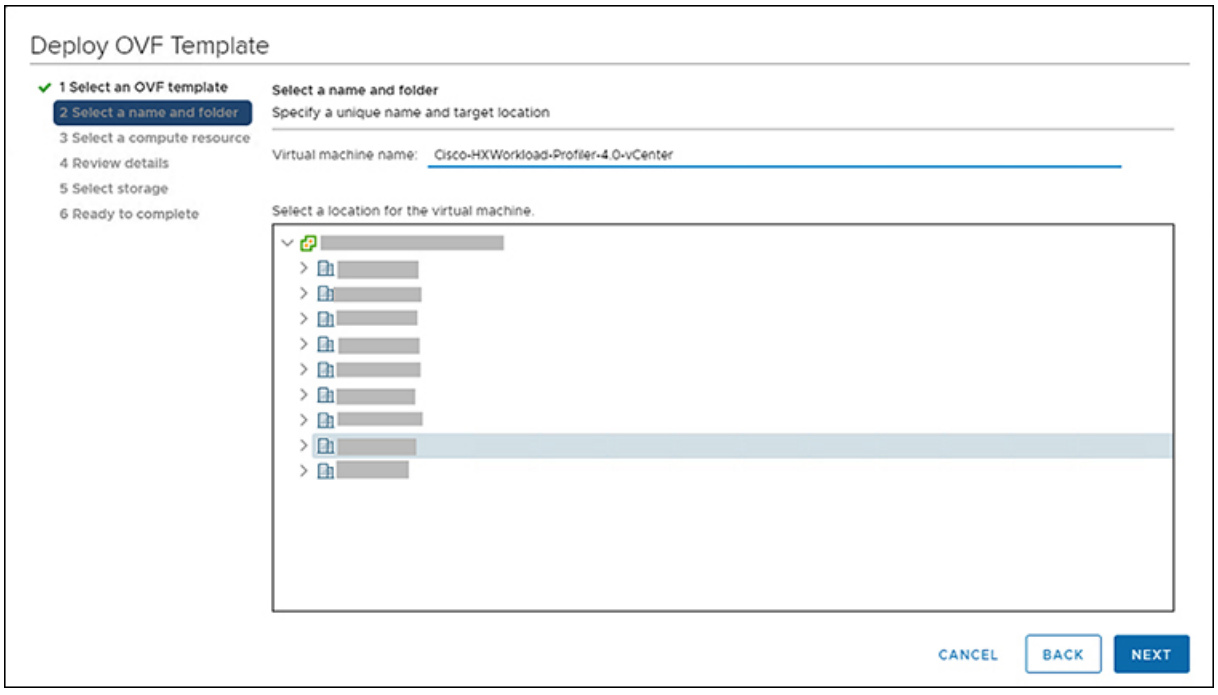


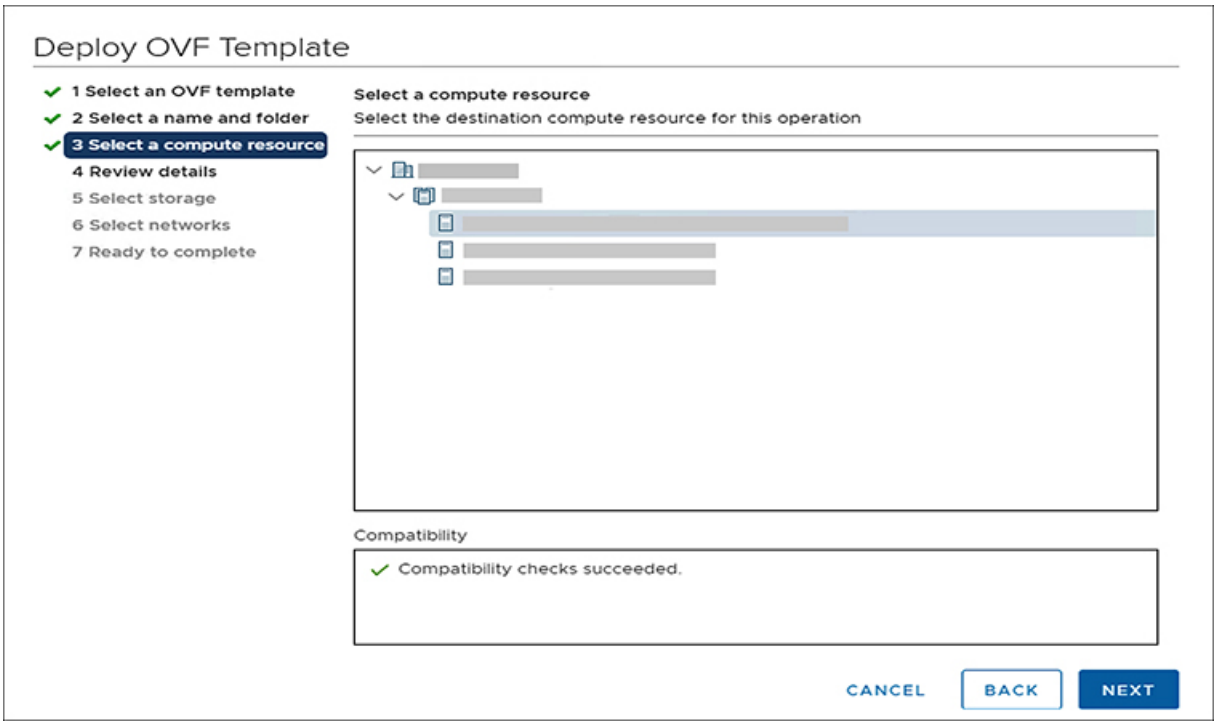

**Step 3** Select the OVA file you want to deploy from the **Select an OVF template** option.



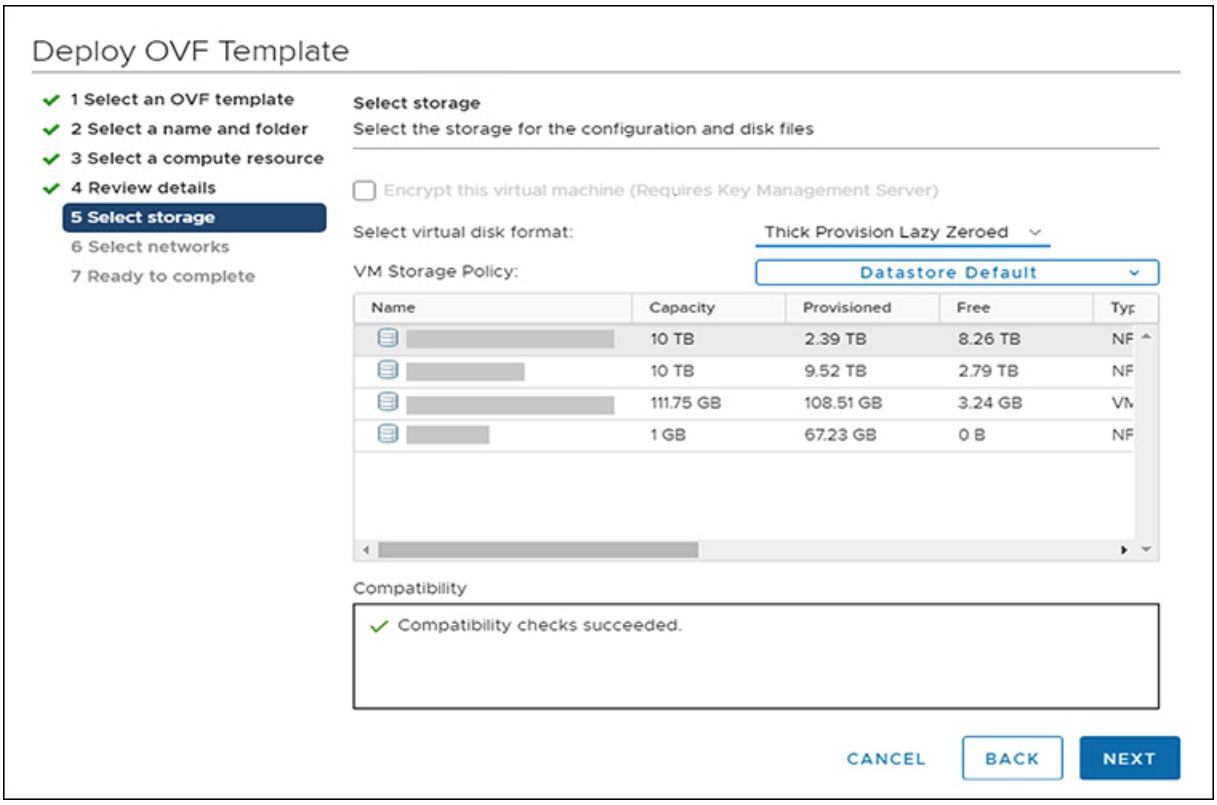

**Step 4** Click **Next**, review the OVF template details, and then click **Next** again.

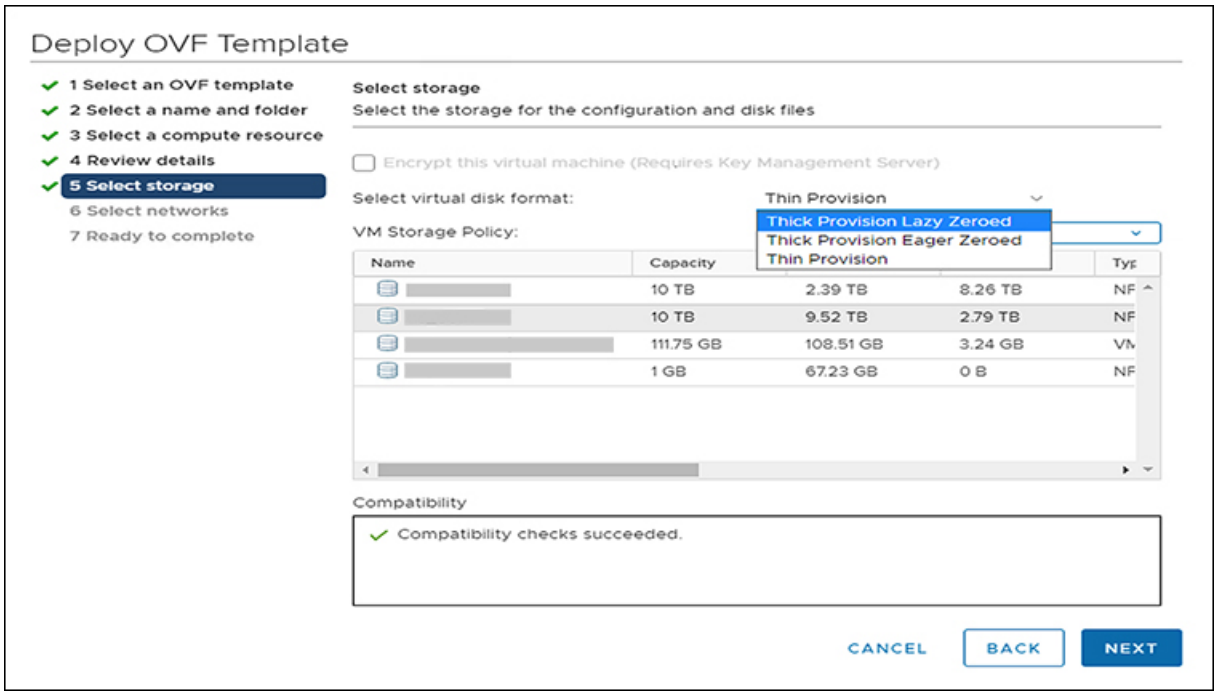
**Step 5** On the **Select a name and folder** page, specify the name and location for the virtual appliance, and then click **Next**.






**Step 6** On the **Select storage** page, specify the storage for the configuration and disk files, and then click **Next.**

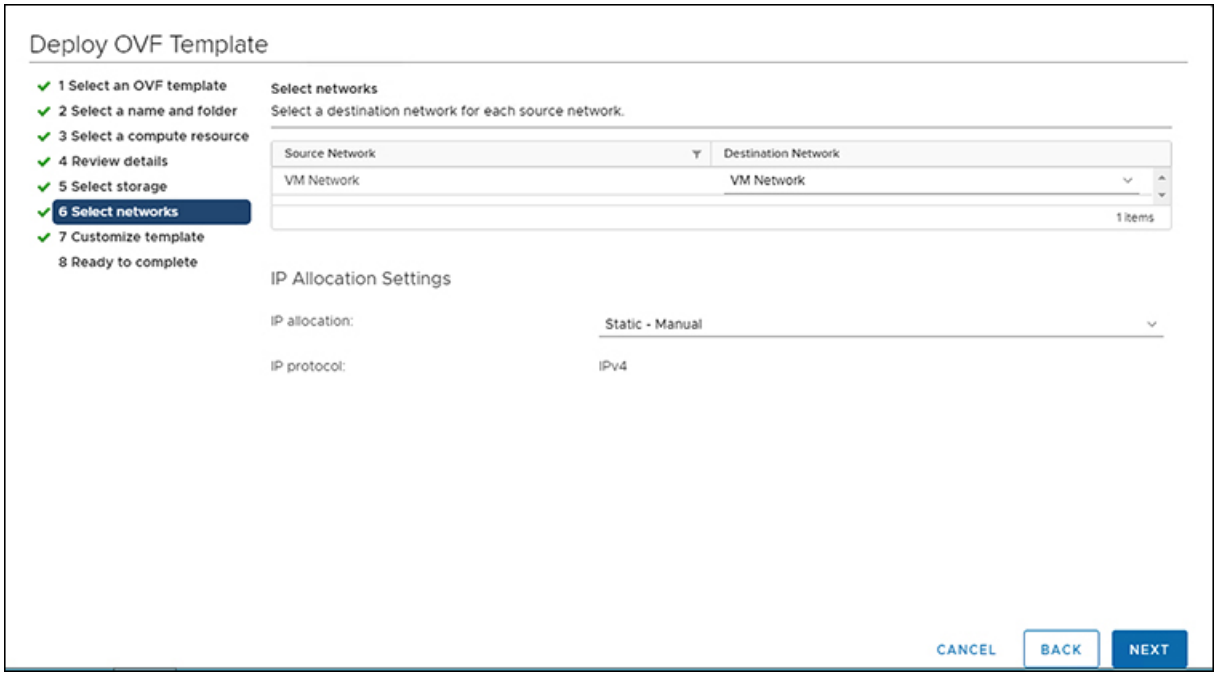


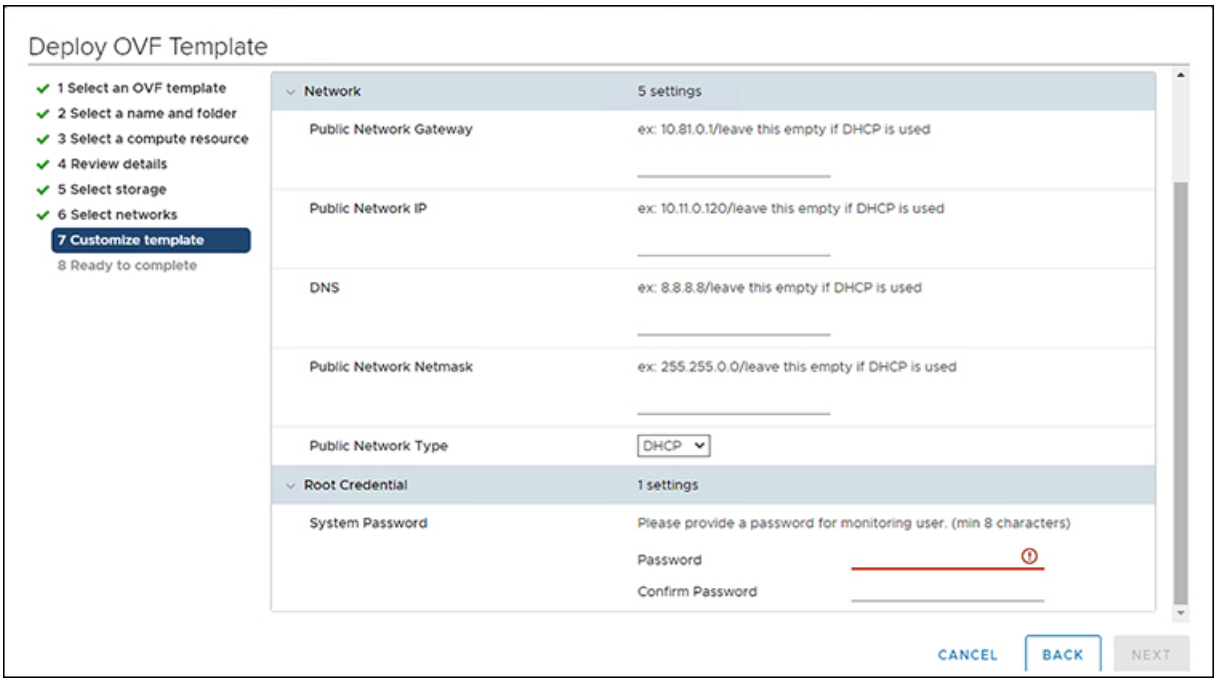



**Step 7** On the **Select networks** page, specify the destination network for each source network, and then click **Next.**

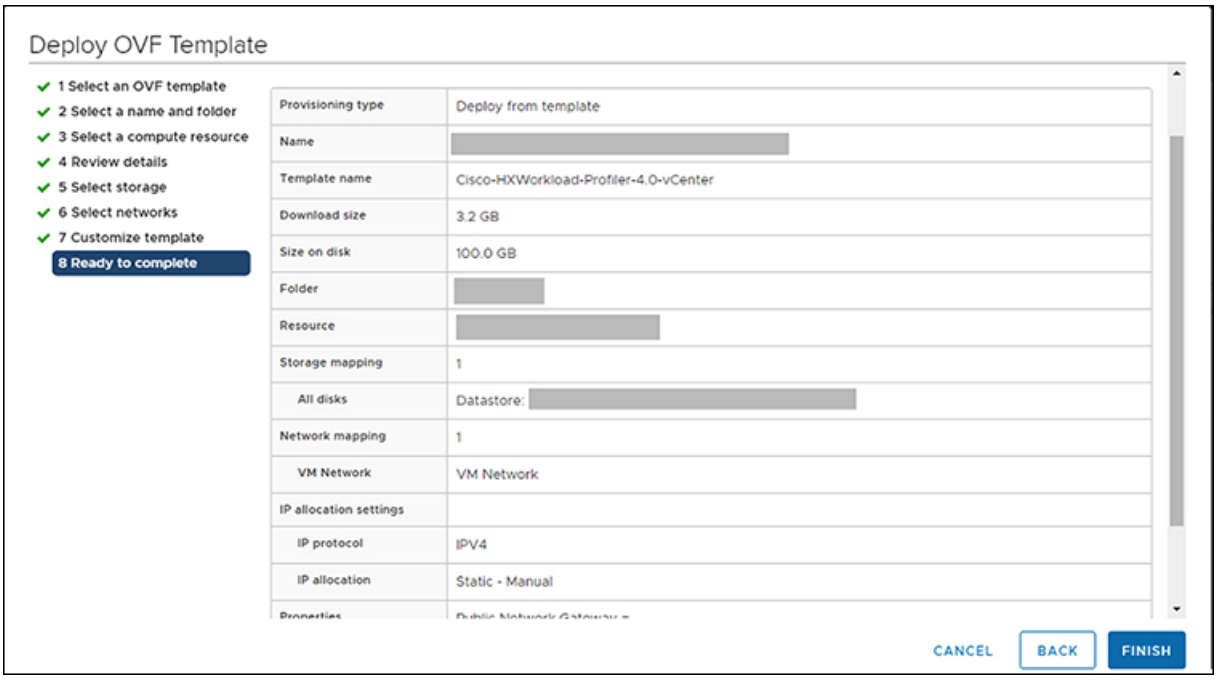
You can configure either DHCP or a static IP address for the VM.

(Mandatory) You must change the system password for default user monitoring in the System Password fields.






**Step 8** On the **Ready to Complete** page, review your deployment settings, select **Power On After Deployment**, and then click **Finish**.




### What to do next

You must wait for the deployment task to complete. On completion, a successful deployment message displays.

If the IP address has not been assigned after the OVA deployment, reboot the HxProfiler VM.

# Configuring and Using the Profiler Application

## Configuring and Using the ESXi Profiler Application

Perform the Hx Workload Profiler application configuration and operations from the web-based UI.

The following table shows the high-level steps for configuring the application.

| Task | See |
|---|---|
| Addition of a poller, which is referred to as a workload or node. | Adding vCenter to the ESXi Profiler, on page 15 |
| Configuration of the profiling attributes. | Starting ESXi Data Profiling, on page 21 |
| Start the polling operation. | Starting the Profiler Service, on page 13 |

## Configuring and Using the Windows Bare Metal Profiler Application

Perform the Hx Workload Profiler application configuration and operations from the web-based UI.

The following table shows the high-level steps for configuring the application.

| Task | See |
|---|---|
| Addition of a poller, which is referred to as a workload or node. | Adding Windows Bare Metal to the Profiler, on page 17 |
| Configuration of the profiling attributes. | Starting Windows Bare Metal Data Profiling, on page 23 |
| Start the polling operation. | Starting the Profiler Service, on page 13 |

## Configuring and Using the Linux Bare Metal Profiler Application

Perform the Hx Workload Profiler application configuration and operations from the web-based UI.

The following table shows the high-level steps for configuring the application.

| Task | See |
|---|---|
| Addition of a poller, which is referred to as a workload or node. | Adding Linux Bare Metal to the Profiler, on page 19 |
| Configuration of the profiling attributes. | Starting Linux Bare Metal Data Profiling, on page 24 |
| Start the polling operation. | Starting the Profiler Service, on page 13 |

# Using the Profiler Service

## Using the Profiler Service

The Hx Workload Profiler start and stop services use the profiler_service.sh command.

The following table shows the high-level steps for using the profile service.

| Task | See |
|---|---|
| Starting the Profiler Service | Starting the Profiler Service, on page 13 |
| Stopping the Profiler Service | Stopping the Profiler Service, on page 13 |
| Restarting the Profiler Service | Restarting the Profiler Service, on page 13 |

### Starting the Profiler Service

To start the profiler service:

Run the following command: `sudo service hxpmonitor start`.

### Stopping the Profiler Service

Complete the following steps to stop the profiler service:

**Step 1** Run the following command: `sudo service hxpmonitor stop`.

**Step 2** Run the following command: `sudo service hxpcontroller stop`.

### Restarting the Profiler Service

Complete the following steps to restart the profiler service:

**Step 1** Run the following comand: `sudo service hxpcontroller restart`.

**Step 2** Run the following comand: `sudo service hxpmonitor restart`.

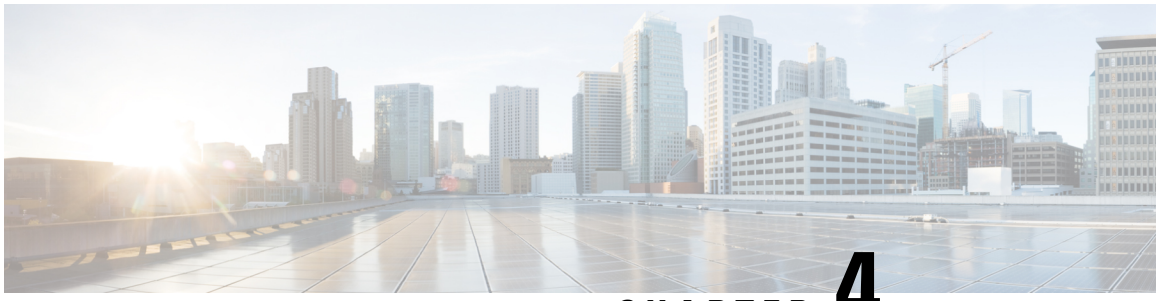
# Locating the Application Logs

## Locating the ESXi Application Logs

You can find Hx Workload Profiler logs in the following locations:

***Table 1: Application Logs***

| Log | Path |
|---|---|
| Server | `/home/monitoring/monitor/server.log` |
| Controller | `/home/monitoring/controller/logs/*` |
| Monitor | `/home/monitoring/monitor/monitor.log` |



CHAPTER 4

# Configuring and Using the Profiler Application


- Adding a Server to the Profiler, on page 15
- Starting Data Profiling, on page 21
- Downloading Profiling Results, on page 25
- Viewing Data Collections from Servers, on page 27
- 30-Days Sizing Summary Report, on page 34


# Adding a Server to the Profiler

## Adding vCenter to the ESXi Profiler

At the first login following installation of Hx Workload Profiler, you are redirected to the landing page where you can find the **+ Add Workload** option on the top right corner of the page. You can select vCenter, then you can add multiple vCenters.

To calculate the metrics for a host, the Profiler captures the metrics for all the VMs on the Host. You then need to select the VM to be profiled. By default none of the VM's are selected.

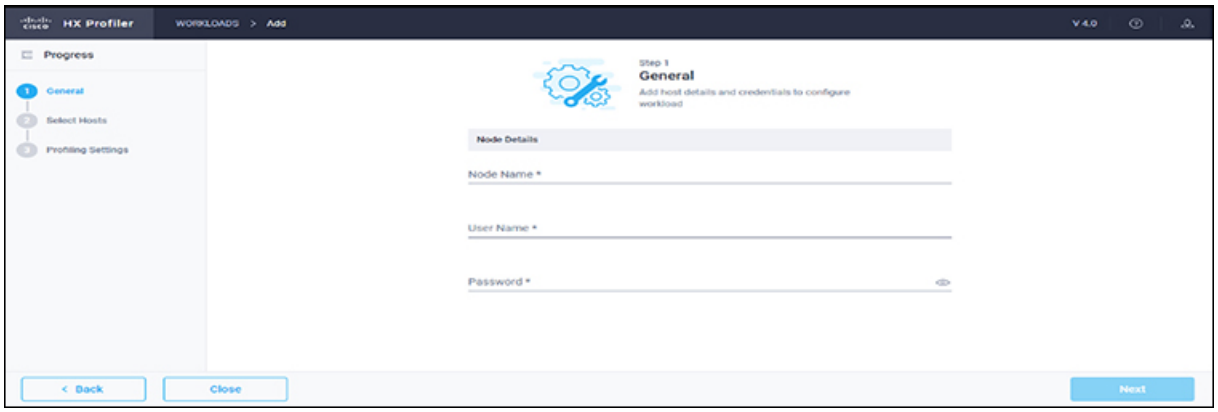
The workflow includes:

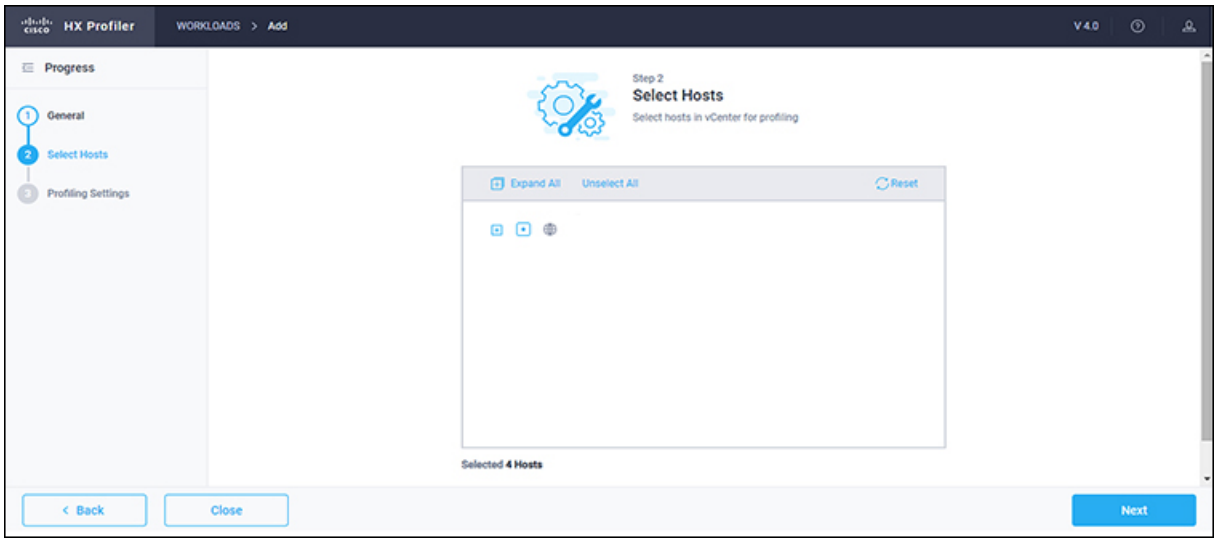
- Node details tab: Records your vCenter details and then connects to the vCenter. If the connection succeeds, the **Next** button displays enabling you to select the hosts for profiling.
- Select Hosts tab: Provides the vCenter details in hierarchy of vCenter, Datacenters, Clusters, and Hosts, with the option to select hosts to Profile. Default: All hosts in vCenter are selected.
- Profiling Setting tab, which provides:
    - Profile Name: for specifying the name of the profile which must be unique.
    - Profile period: for specifying the period of profiling. Default value is 7days and the minimum value is 1day.
    - Polling Interval: for specifies the frequency for which polling should occur.
    - Quick Profile: for a quick estimate
    - Detailed Profile: for detailed end-to-end profile results.

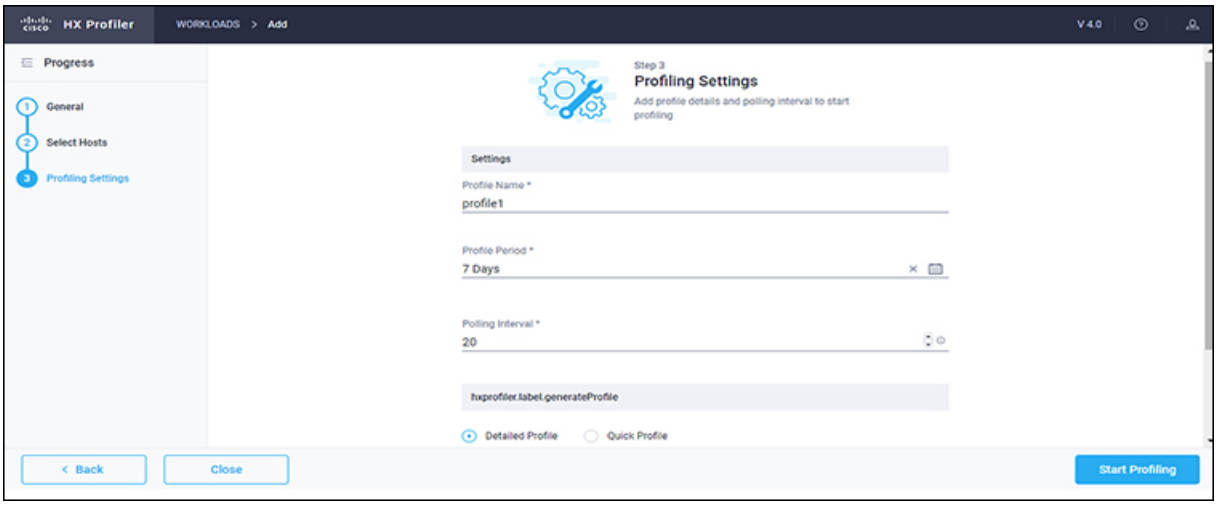
**Step 1** Log in to the Profiler. See Logging in to the ESXi Profiler, on page 5.

**Step 2** Follow the steps provided to enter values for the following options:

| Item | Description |
|---|---|
| vCenter Name | Name of the vCenter you are adding. |
| User Name | Name of the user as part of the login credentials for the vCenter.<br>**Note** HX Profiler uses VMware SDK to collect different performance metrics. To get the performance data, the user account connecting to the VMware vSphere must have administrator privileges. |
| Password | The password set as part of the login credentials for the vCenter. |
| Polling Interval | The interval at which you want polling to occur. The default is 20 seconds. You can change the interval to between 20-120 seconds, based on the number of hosts and VMs being polled in that vCenter. |



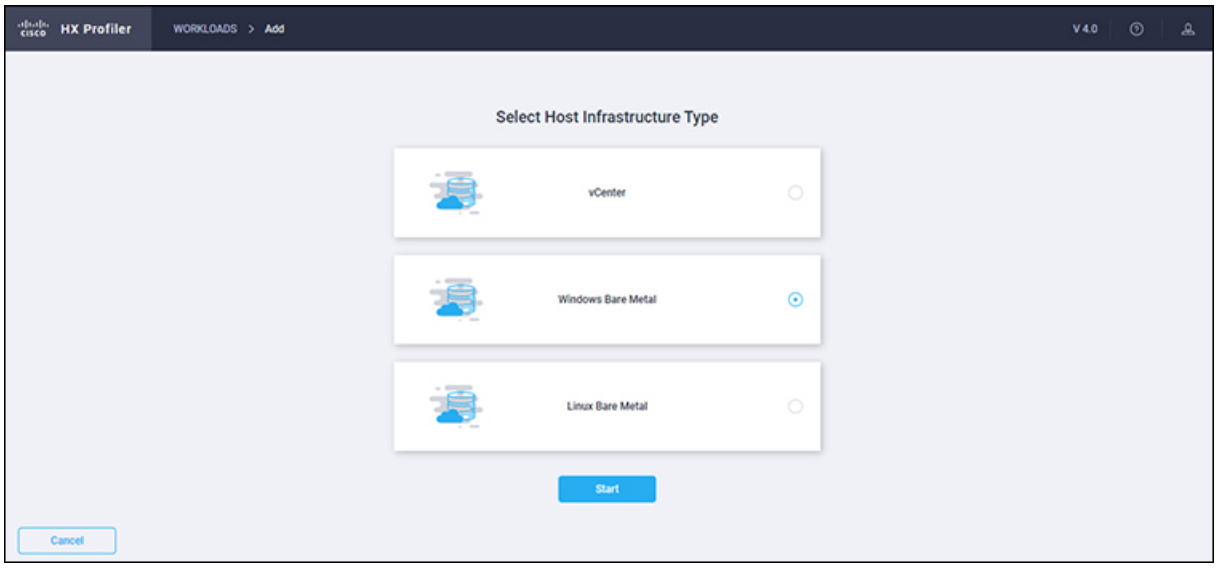



**Step 3** Click **Start Profiling**. The Profiler service starts automatically.
When the connection status indicates successful connection, click **Next**.

**Step 4** On the **Poll filter** tab, review the hierarchy values.

# Adding Windows Bare Metal to the Profiler

At the first login following installation of Hx Workload Profiler, you are redirected to **+ Add Workflow**. You can select **Windows Bare Metal** to add Windows Bare Metal to the workload.




## SUMMARY STEPS

1. Log in to the Profiler.
2. On the **Node details** tab, enter values for the following options:

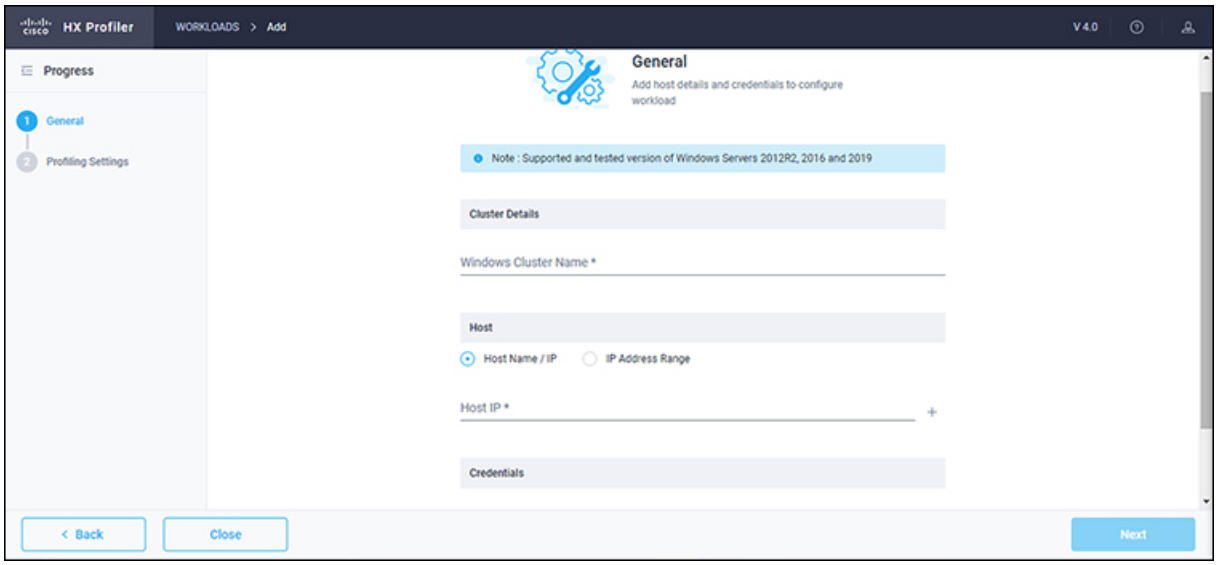
3. If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.
4. If you select the IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.
5. If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

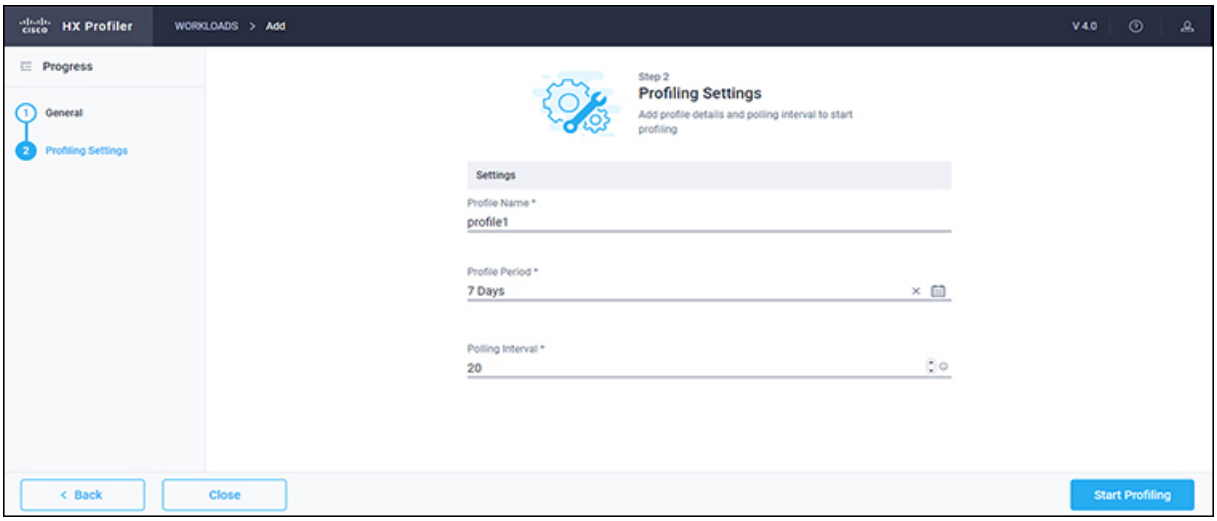
## DETAILED STEPS

**Step 1** Log in to the Profiler.

**Step 2** On the **Node details** tab, enter values for the following options:

| Item | Description |
|---|---|
| Windows Cluster Name | Name of the cluster you are trying to add |
| Host Name/IP Address | To enter a single host / different IPs |
| IP Address Range | To enter a range of VM IPs |
| User Name | Login username for windows baremetal<br>**Note** The `username` must have the administrator role assigned to it. |
| Password | Login password for windows baremetal |
| Polling Interval (seconds) | Default 20 seconds |





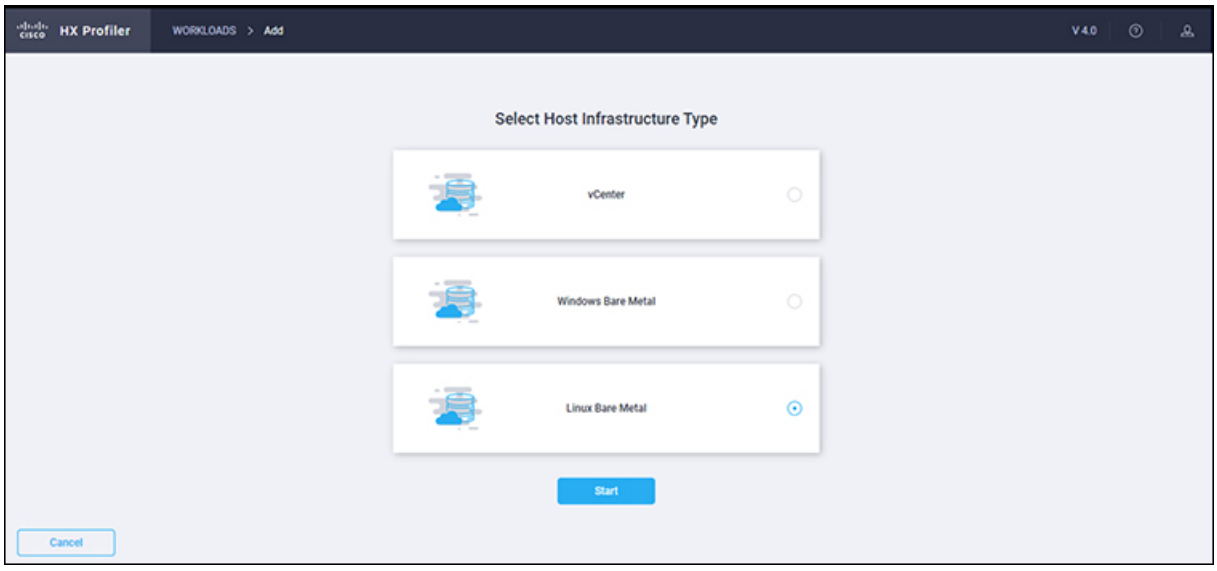

**Step 3** If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.

**Step 4** If you select the IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.

**Step 5** If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

# Adding Linux Bare Metal to the Profiler

At the first login following installation of Hx Workload Profiler, you are redirected to **+ Add Workflow**. You can select **Linux Bare Metal** to add Linux Bare Metal to the workload.



## SUMMARY STEPS

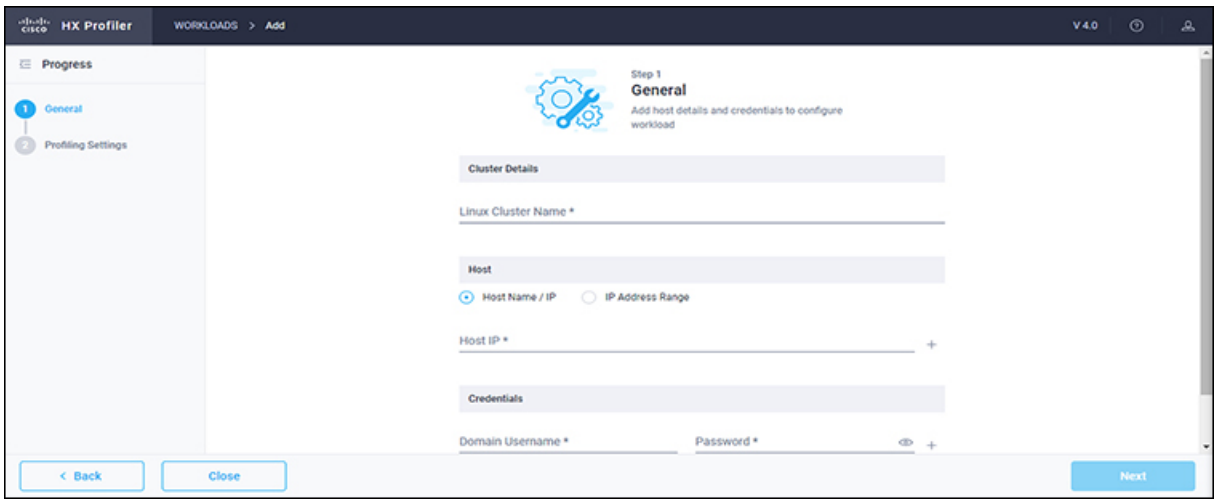
1. Log in to the Profiler.
2. On the **Node details** tab, enter values for the following options:
3. If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.
4. If you select IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.
5. If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

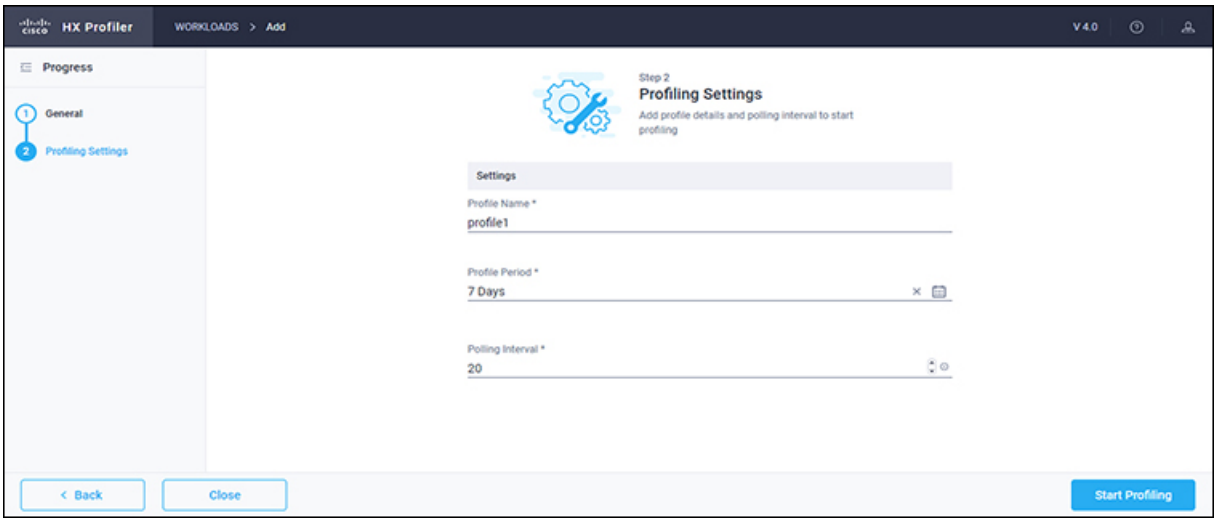
## DETAILED STEPS

**Step 1** Log in to the Profiler.

**Step 2** On the **Node details** tab, enter values for the following options:

| Item | Description |
|---|---|
| Linux Cluster Name | Name of the cluster you are trying to add |
| Host Name/IP Address | To enter a single host / different IPs |
| IP Address Range | To enter a range of VM IPs |
| User Name | Login username for Linux baremetal |
| Password | Login password for Linux baremetal |
| Polling Interval | Default 20 seconds |






**Step 3** If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.

**Step 4** If you select IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.

**Step 5** If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

# Starting Data Profiling

## Starting ESXi Data Profiling

Following the successful addition of a vCenter Server, the new vCenter displays on the Data Inventory (home) page. You configure the profiling attributes by providing the profile name and duration.

***Table 2: Profiling Operation Options***

| Item | Description |
|---|---|
| Delete (trash can) | Deletes a previously added vCenter. |
| Edit (pen) | Edit vCenter properties to add or remove hosts for polling. |
| Stop ( \|\| symbol) | Stops the profiling so you can resume it later. |
| Reset (refresh symbol) | Performs a reset operation, which creates a new profile and starts polling. When you trigger reset, the profiler stops the active/running profile and creates a new one. A prompt asks for confirmation. |

| Item | Description |
|---|---|
| View Collection | Opens the View Collection page so you can browse through the collected data as part of the profiling to review the HOST and VM level data. |

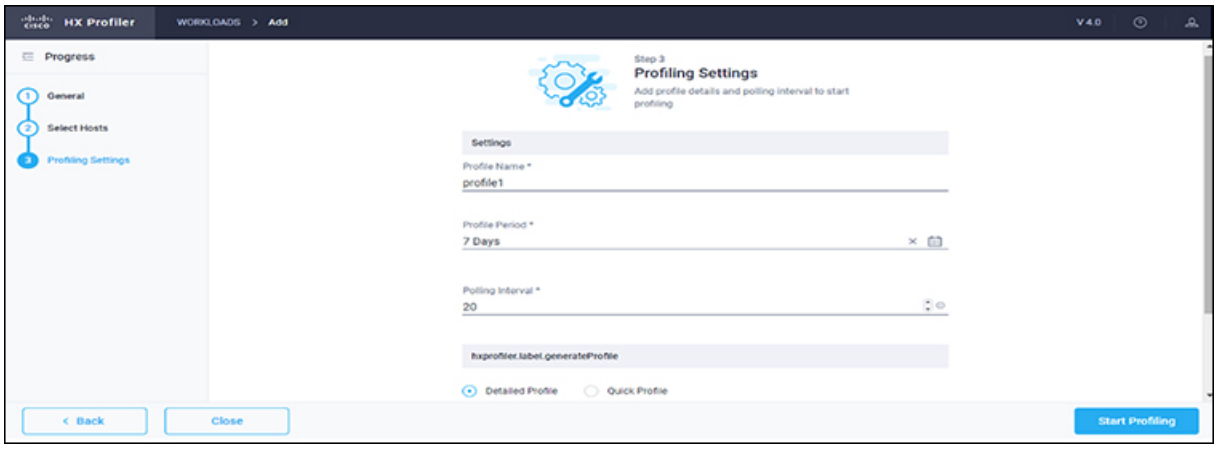
Polling starts as soon as you enter the profiler name ,days and polling period.

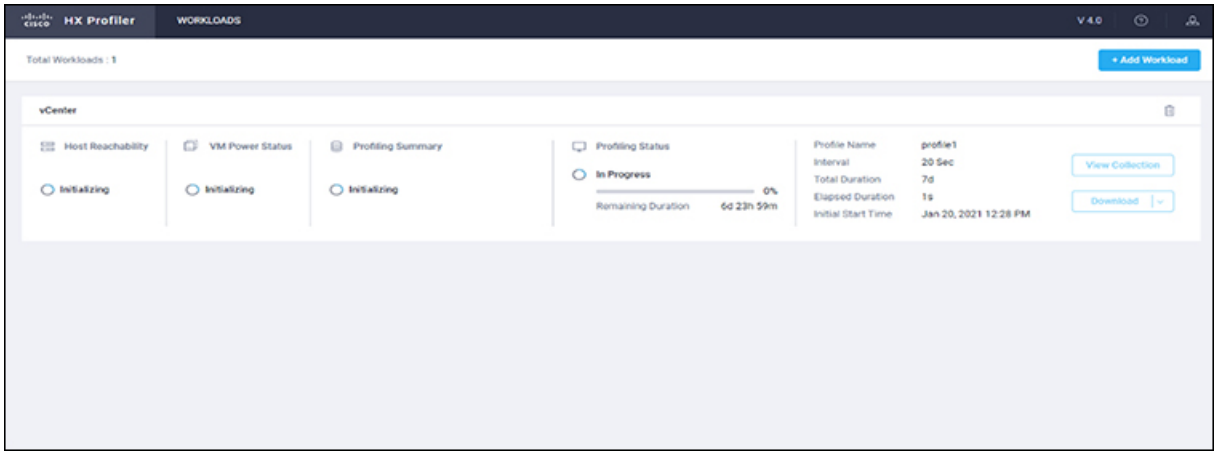
**Step 1** In the dialog that displays, perform the following steps:

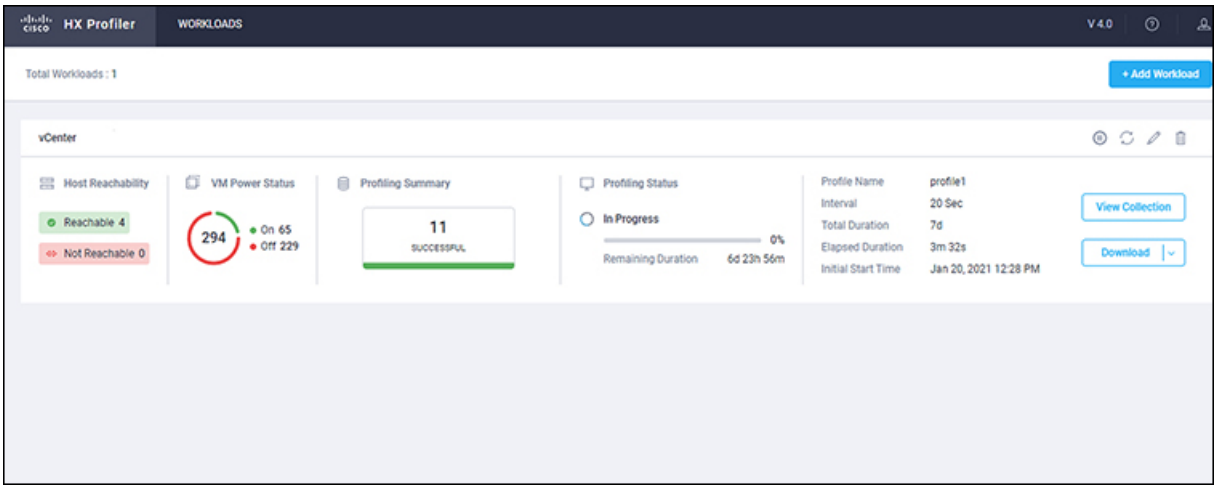
a) Enter a name for the profile.

b) Select a duration value from the **Profiling Period** down-drop list.

c) Click **Ok**.






Following successful profile creation, the Profiler begins polling the selected hosts and all the VMs on those hosts. When the polling starts, the data collector runs as a background process. The Datacenter Inventory page displays information about the hosts and polling, showing number of hosts and the status of the polling.

**Step 2** (Optional) To stop an in-progress profiling operation so you can resume it later, see Stopping the Profiler Service, on page 13.

**Step 3** (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.

**Step 4** (Optional) To browse through the collected data, see Viewing an ESXi Collection, on page 32.

**Step 5** (Optional) To download profiling data, see Downloading ESXi Profiling Results, on page 25.

# Starting Windows Bare Metal Data Profiling

Following the successful addition of a Windows Bare Metal, the newly added Windows Bare Metal displays on the Data Inventory (home) page. You can configure the profiling attributes by providing the profiling name and duration.

***Table 3: Profiling Operation Options***

| Item | Description |
|---|---|
| Delete (trash can) | Deletes the selected Windows Bare Metal workload / node |
| Edit (pen) | Edit Windows Bare Metal to add / remove existing VM/hosts for profiling. |
| Stop ( \|\| symbol) | Stops the profiling |
| Refresh | Performs a reset operation, which creates a new profile and starts the polling. When reset is clicked, profiler stops the active/running profile and creates a new one. A prompt asks for confirmation. |

| Item | Description |
|---|---|
| View Collection | Opens the View Collection page so you can browse through the collected data as part of the profiling to review the HOST and VM level data. |

### SUMMARY STEPS

1. (Optional) To stop an in-progress profiling operation so you can resume it later, see Stopping the Profiler Service, on page 13
2. (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
3. (Optional) To browse through the collected data, see Viewing an ESXi Collection, on page 32.
4. (Optional) To download profiling data, see Downloading ESXi Profiling Results, on page 25.

### DETAILED STEPS

**Step 1** (Optional) To stop an in-progress profiling operation so you can resume it later, see Stopping the Profiler Service, on page 13

**Step 2** (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.

**Step 3** (Optional) To browse through the collected data, see Viewing an ESXi Collection, on page 32.

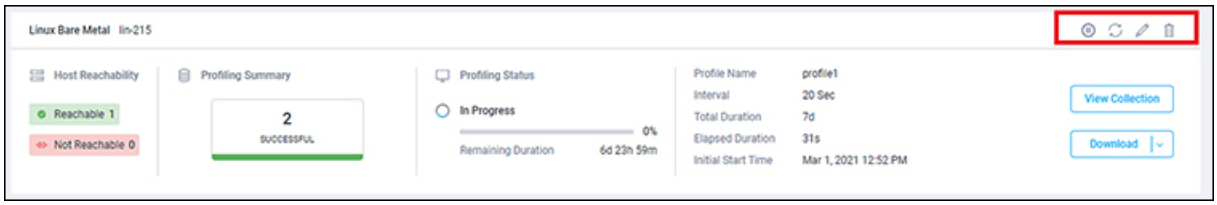
**Step 4** (Optional) To download profiling data, see Downloading ESXi Profiling Results, on page 25.

# Starting Linux Bare Metal Data Profiling

Following the successful addition of a Linux Bare Metal, the newly added Linux Bare Metal displays on the Data Inventory (home) page. You can configure the profiling attributes by providing the profiling name and duration.

| Item | Description |
|---|---|
| Delete (trash can) | Deletes selected Linux Bare Metal workload / node |
| Edit (pen) | Edit Linux Bare Metal to add / remove existing VM/hosts for profiling. |
| Stop ( \|\| symbol) | Stops the profiling |

| Item | Description |
|---|---|
| Refresh | Performs a reset operation, which creates a new profile and starts the polling. When reset is clicked, profiler stops the active/running profile and creates a new one. A prompt asks for confirmation. |
| View Collection | Opens the View Collection page so you can browse through the collected data as part of the profiling to review the HOST and VM level data. |




### SUMMARY STEPS

1. (Optional) To stop an in-progress profiling operation so you can resume it later, see Stopping the Profiler Service, on page 13
2. (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
3. (Optional) To browse through the collected data, see Viewing an ESXi Collection, on page 32.
4. (Optional) To download profiling data, see Downloading ESXi Profiling Results, on page 25.

### DETAILED STEPS

**Step 1** (Optional) To stop an in-progress profiling operation so you can resume it later, see Stopping the Profiler Service, on page 13

**Step 2** (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.

**Step 3** (Optional) To browse through the collected data, see Viewing an ESXi Collection, on page 32.

**Step 4** (Optional) To download profiling data, see Downloading ESXi Profiling Results, on page 25.

# Downloading Profiling Results

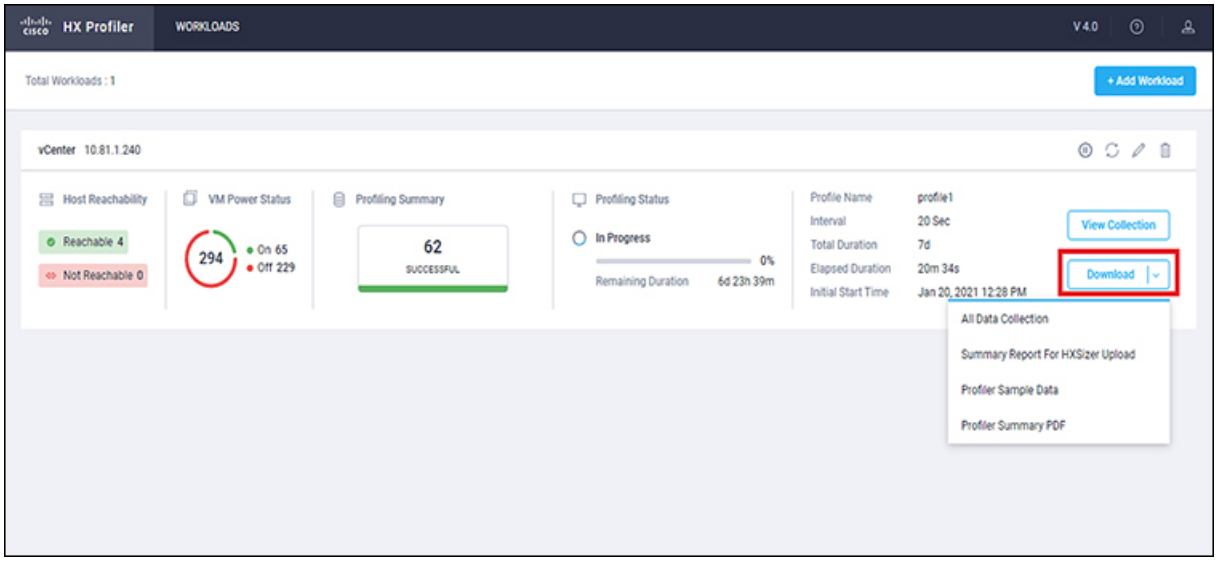
## Downloading ESXi Profiling Results

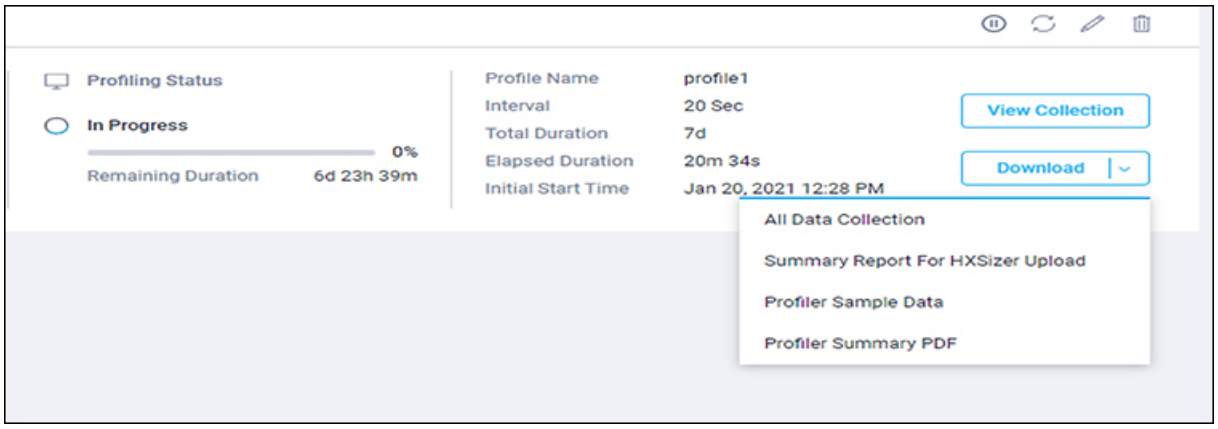
**Step 1** On the Datacenter Inventory page, locate and select the profile whose data you want to download.

**Step 2** Use the **Download** option to select one of the following:

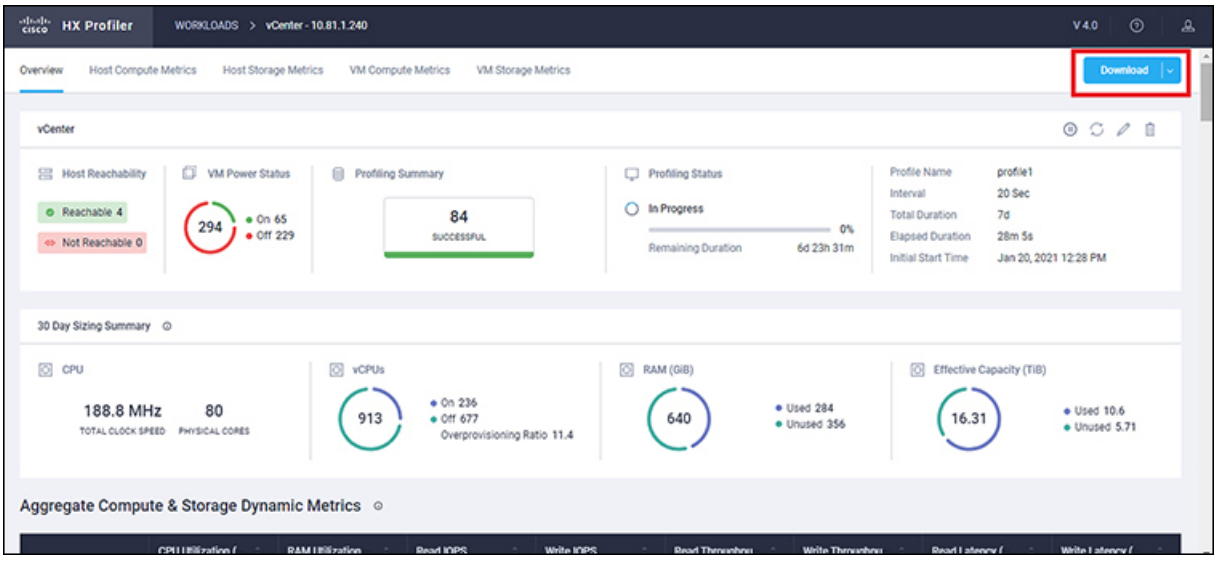
| Option | Description |
|---|---|
| **All Data Collection** | Downloads 30-day host summary, time series, and CVS for both the host and VM |

| Option | Description |
|---|---|
| **Summary Report for HxSizer Upload** | Collects the historic 30-day information from vCenter and does not require any active polling. The download provides the output in CSV format and can be directly uploaded to the Compute and Capacity Workload of HxSizer. |
| **Profiler Sample Data** | Downloads the sampled data for the selected profile in the following formats:<br>• Summarized host data (CVS)<br>• Summarized VM data (CVS)<br>• Time series data of host (zipped CSV file)<br>• Time series data of VM (zipped CSV file) |
| **Profiler Summary PDF** | PDF download |



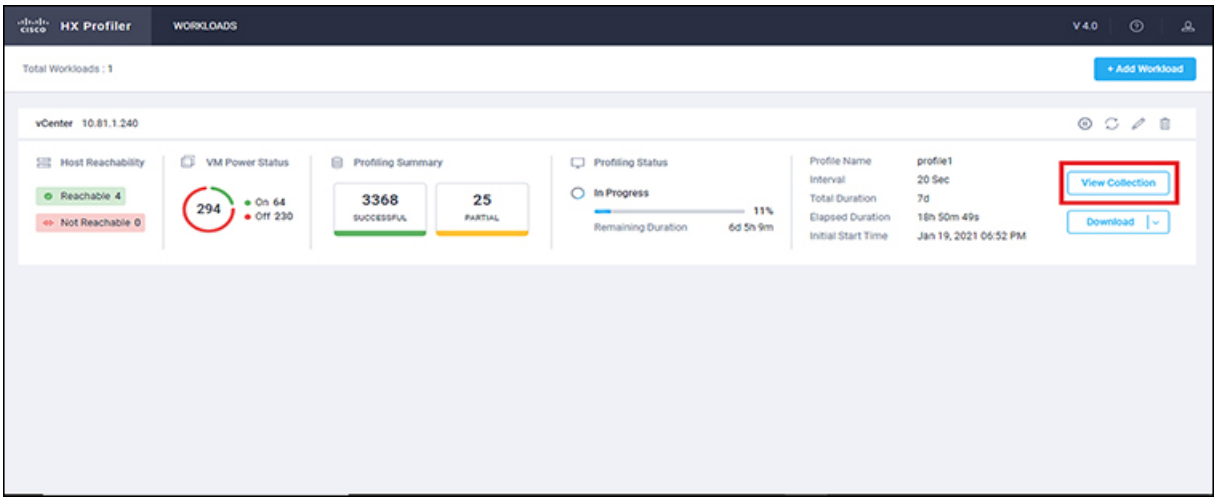

**Step 3** You can still download the profiling results when viewing the compute, storage and network data of various hosts and VMs by clicking on the **Download** button on the top right corner of the UI.

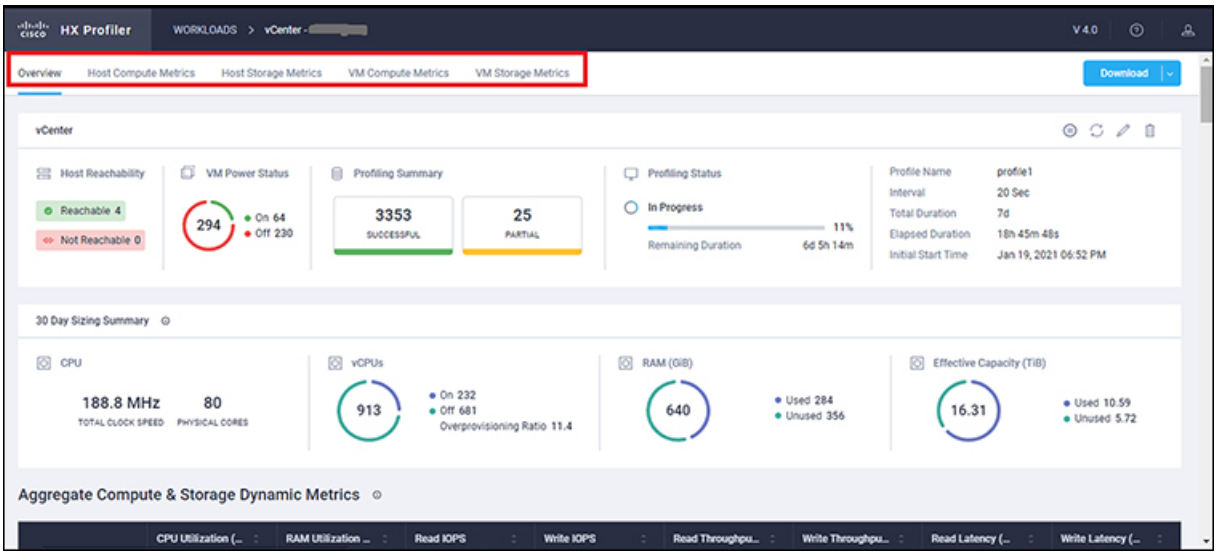



# Viewing Data Collections from Servers

## Viewing ESXi Data Collections from vCenter Servers

The View Collection page has five tabs at the top left of the page, Overview, Host Compute Metrics, Host Storage Metrics, VM Compute Metrics, VM Storage Metrics. When clicked, they show summary data described in his section. The View Collection page also provides the summarized data for Compute Summary and Storage Summary of individual host and VMs. You can also fetch the data for specific period of profiling using the predefined filter present on the top right corner of the page with the minimum being 30minutes or the user can also use the time line to select the time period. The following sections describe the summary data shown through filter tool use and in that shown in each tab and view.


HX Profiler
WORKLOADS
V 4.0
Total Workloads : 1
+ Add Workload
vCenter 10.81.1.240
Host Reachability
Reachable 4
Not Reachable 0
VM Power Status
294
On 64
Off 230
Profiling Summary
3368
SUCCESSFUL
25
PARTIAL
Profiling Status
In Progress
11%
Remaining Duration 6d 5h 9m
Profile Name profile1
Interval 20 Sec
Total Duration 7d
Elapsed Duration 18h 50m 49s
Initial Start Time Jan 19, 2021 06:52 PM
View Collection
Download


HX Profiler
WORKLOADS > vCenter -
V 4.0
Overview
Host Compute Metrics
Host Storage Metrics
VM Compute Metrics
VM Storage Metrics
Download
vCenter
Host Reachability
Reachable 4
Not Reachable 0
VM Power Status
294
On 64
Off 230
Profiling Summary
3353
SUCCESSFUL
25
PARTIAL
Profiling Status
In Progress
11%
Remaining Duration 6d 5h 14m
Profile Name profile1
Interval 20 Sec
Total Duration 7d
Elapsed Duration 18h 45m 48s
Initial Start Time Jan 19, 2021 06:52 PM
30 Day Sizing Summary
CPU
188.8 MHz
TOTAL CLOCK SPEED
80
PHYSICAL CORES
vCPUs
913
On 232
Off 681
Overprovisioning Ratio 11.4
RAM (GiB)
640
Used 284
Unused 356
Effective Capacity (TiB)
16.31
Used 10.59
Unused 5.72
Aggregate Compute & Storage Dynamic Metrics
CPU Utilization (...
RAM Utilization ...
Read IOPS
Write IOPS
Read Throughpu...
Write Throughpu...
Read Latency (...
Write Latency (...

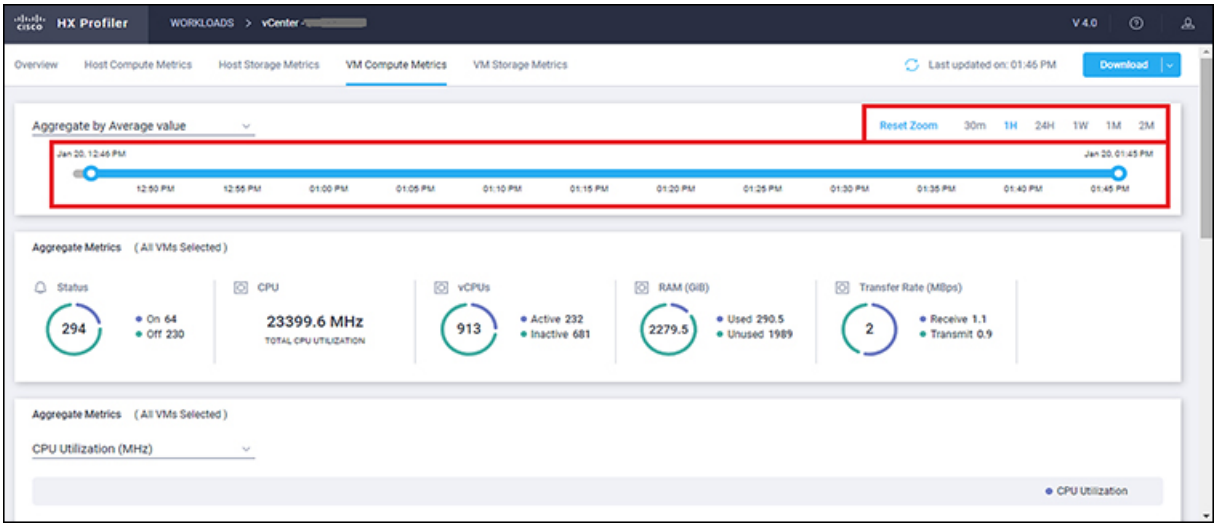
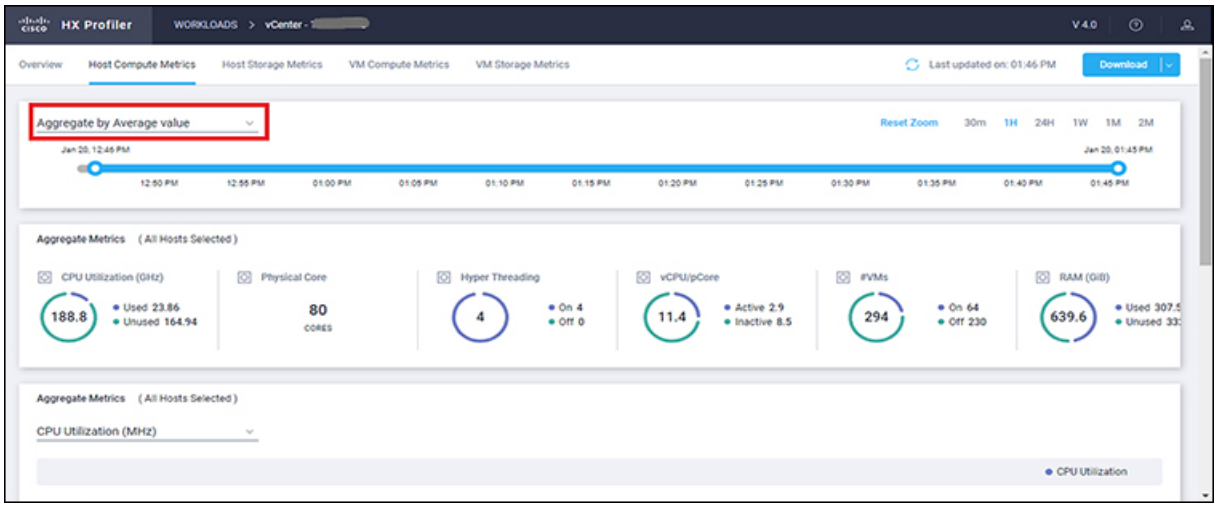
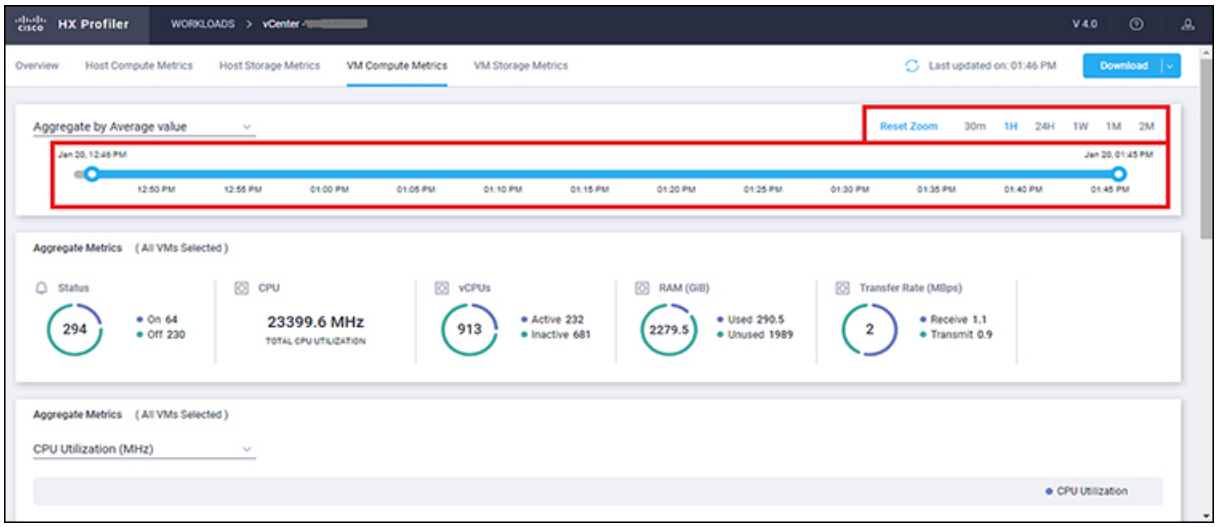

HX Profiler
WORKLOADS > vCenter -
V 4.0
Overview
Host Compute Metrics
Host Storage Metrics
VM Compute Metrics
VM Storage Metrics
Last updated on: 01:46 PM
Download
Aggregate by Average value
Reset Zoom
30m
1H
24H
1W
1M
2M
Aggregate Metrics (All VMs Selected)
Status
294
On 64
Off 230
CPU
23399.6 MHz
TOTAL CPU UTILIZATION
vCPUs
913
Active 232
Inactive 681
RAM (GiB)
2279.5
Used 290.5
Unused 1989
Transfer Rate (MBps)
2
Receive 1.1
Transmit 0.9
Aggregate Metrics (All VMs Selected)
CPU Utilization (MHz)
CPU Utilization

*Table 4: Host View Filter Options*

| Item | Description |
|---|---|
| Aggregation | Filters to view the summarizations based on peak or average selections. Your selection determines the display of the table metrics and trends. The summarized values represent the following:<br>• Peak: Peak value of all the metrics in the selected interval<br>• Average: Averages of all the values in the selected interval |

You can filter Host metrics using the search option by host name only. For VM metrics, you can filter either by the Host name to which the VM belongs or directly with the VM name, using the search option.




## Host and VM Summarized Metrics

Based on your time period and parameters selections, the Profiler computes and populates the compute and storage metrics. Metrics display for the following values:

**Host View Compute Table**

- Host_Name
- Processor Type
- Clock (GHz)
- #Physical Cores
- HT – ON/OFF
- CPU Util (MHz)
- CPU Util (%)
- #VMs
- vCPU of active VMs/pCore Ratio
- RAM (GB)
- RAM Util (GB)
- Network Throughput- Rx (Mbps)
- Network Throughput- Tx (Mbps)

**Host View Storage Table**

- Provisioned Capacity (TB)
- Used Storage Capacity (TB)
- Read Throughput (MBps)
- Write Throughput (MBps)
- Read (%)
- Write (%)
- Read IOPS
- Write IOPS
- Read Block Size (KB)
- Write Block Size (KB)
- Seq (%)
- Read Latency (ms)
- Write Latency (ms)

**VM View Compute Table**

- VM Name
- Status
- Host_Name

- vCPUs
- CPU Util (MHz)
- CPU Util (%)
- RAM (GB)
- RAM Util (GB)
- Network Throughput- Rx (Mbps)
- Network Throughput- Tx (Mbps)

**VM View Storage Table**

- VM Name
- Host_Name
- Disk Capacity (GB)
- Disk Used (GB)
- Read Throughput (MBps)
- Write Throughput (MBps)
- Read (%)
- Write (%)
- Read IOPS
- Write IOPS
- Read Block Size (KB)
- Write Block Size (KB)
- Seq (%)
- Read Latency (ms)
- Write Latency (ms)

**Host and VM Trends**

The View Collection page provides trend charts and an overview of various parameters at a host level and VM level for both compute and storage parameters. The overview provides information aggregate storage and compute matrix along with a 30-day sizing summary. You can view the trend charts by selecting the host or the VM from the table.

Metrics for the following values display in the trend charts:

**Host View Compute Trends**

- CPU Utilization (MHz)
- CPU Utilization (%)
- CPU Overprovisioning Ratio (%)

- RAM Utilization (%)
- RAM Overprovisioning Ratio (%)
- Receive Rate (Mbps)
- Transmit Rate (Mbps)

**VM View Compute Trends**

- Receive Rate (Mbps)
- Transmit Rate (Mbps)

**Host and VM View Storage Trends**

- Read Throughput (MBps)
- Write Throughput (MBps)
- Read Ratio
- Write Ratio
- Read IOPS
- Write IOPS
- Read Seq (%)
- Write Seq (%)
- Read Latency (ms)
- Write Latency (ms)
- Provisioned Capacity (TB)
- Used storage Capacity (TB)

**Histogram Charts**

- Read Block Size Histogram
- Write Block Size Histogram

**Note** You can plot the storage parameter charts for two comparable charts either from the Trend Line chart or from the Histogram chart.

## Viewing an ESXi Collection

You can also use the filter and search tool in the Hosts and VM views to display only those hosts and VMs that you want to see.

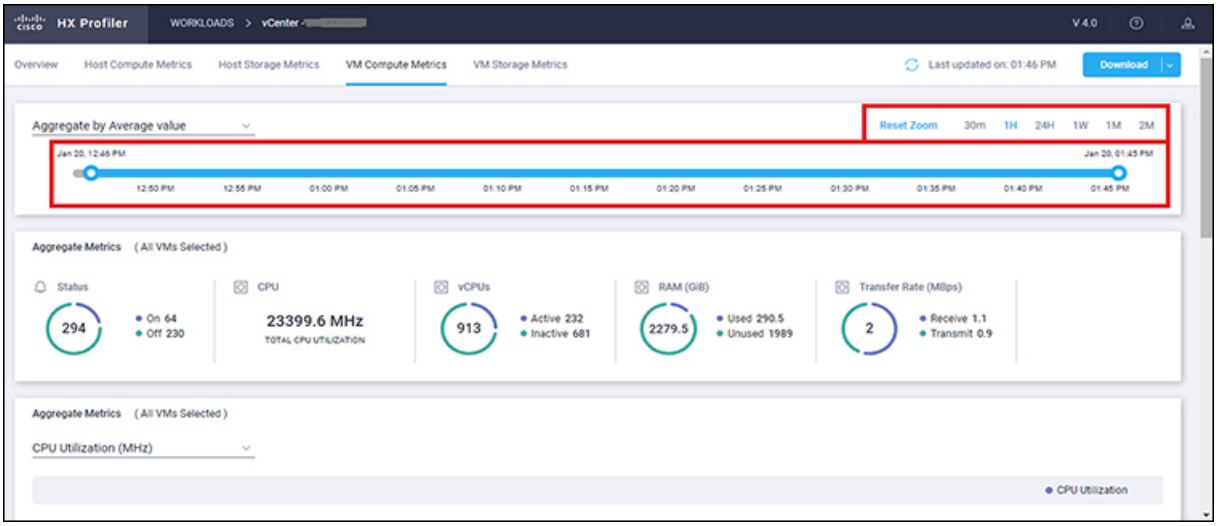
You can also use the filter tool in the Hosts and VM views to display only those hosts and VMs you want to see.

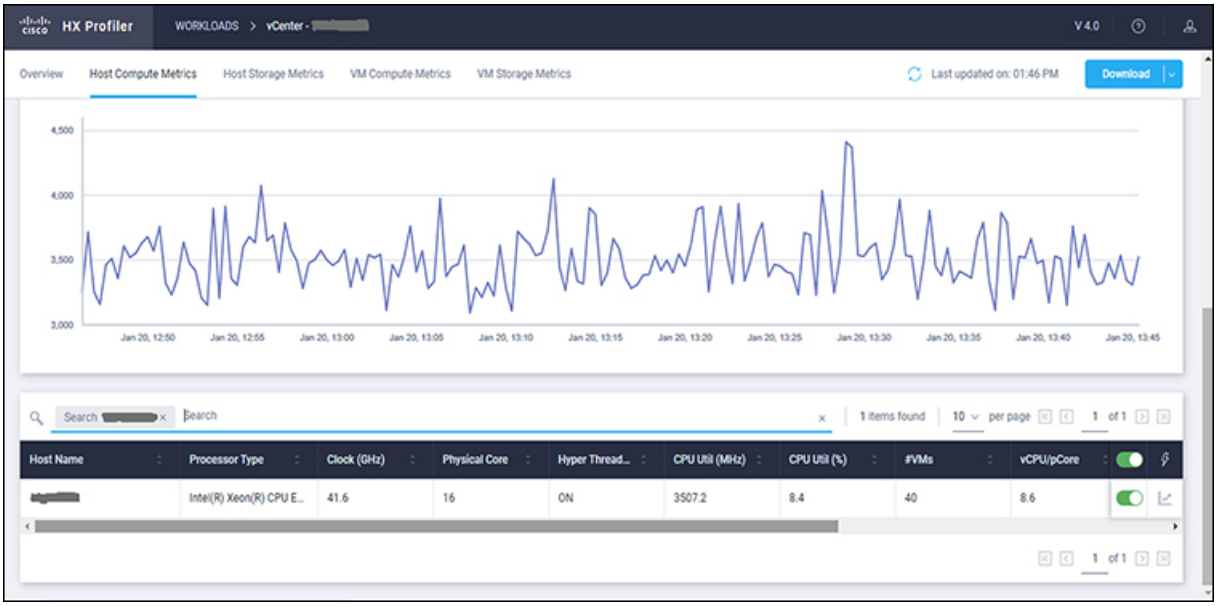
**Step 1** In the Datacenter Inventory page, click **View Collection** to browse through the collected data.

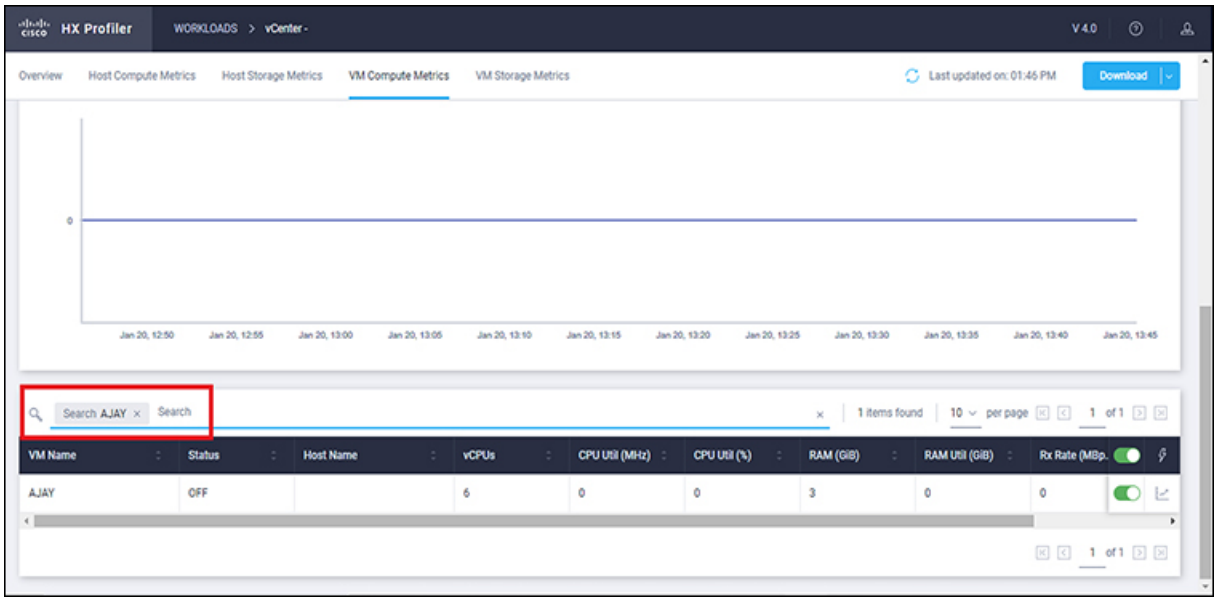
**Step 2** In the View Collection page, select between **Host Compute Metrics**, **Host StorageMetrics**, **VM Compute Metrics** or **VM Storage Metrics**.

**Step 3** In the **Select VMs** tab, select or unselect the toggle switch for the VMs you want to view, then click **Next**. All VMs are selected by default.

**Step 4** To view data for a different time period, select from the options in the top right corner with the default minimum value of 30 minutes. Use the time slider above the fixed time period selection to view data for a specific time range from the selected time period.






# 30-Days Sizing Summary Report

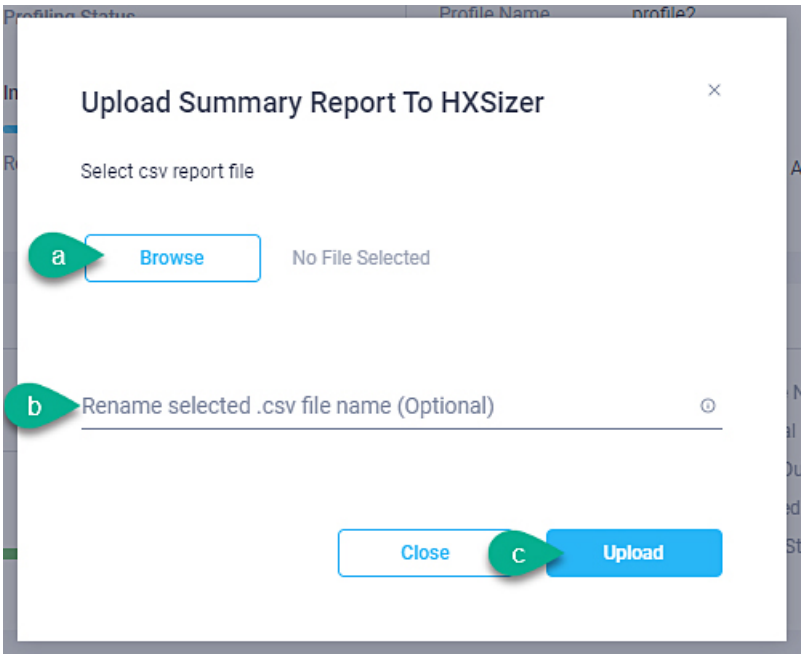
## Upload 30-Days Sizing Summary Report

You can upload the 30-Days Sizing Summary Report to the HxSizer application from HxProfiler. When the report upload is successful, a reference number is generated. View the history of uploads along with the reference number from the HxProfiler application. In addition to identifying the report, the refence number may be used to claim the scenario from the HxSizer application.

Perform the following steps in the Cisco HX Profiler dashboard to upload the 30-Days Sizing Summary report:

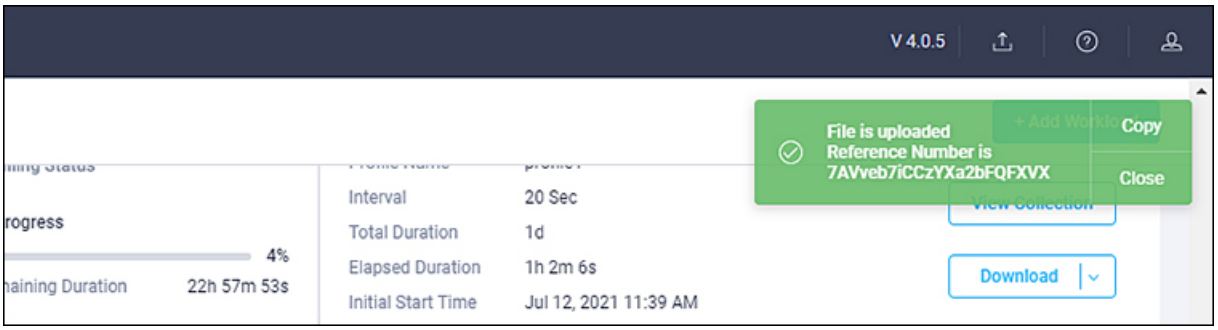
**Step 1** Click the **Upload** icon on the HX Profiler ribbon and select **Upload To HXSizer**. The **Upload Summary Report To HXSizer** window appears.

**Step 2** Click the **Browse** button to navigate to the local .csv file that needs to be uploaded to the HXSizer portal.



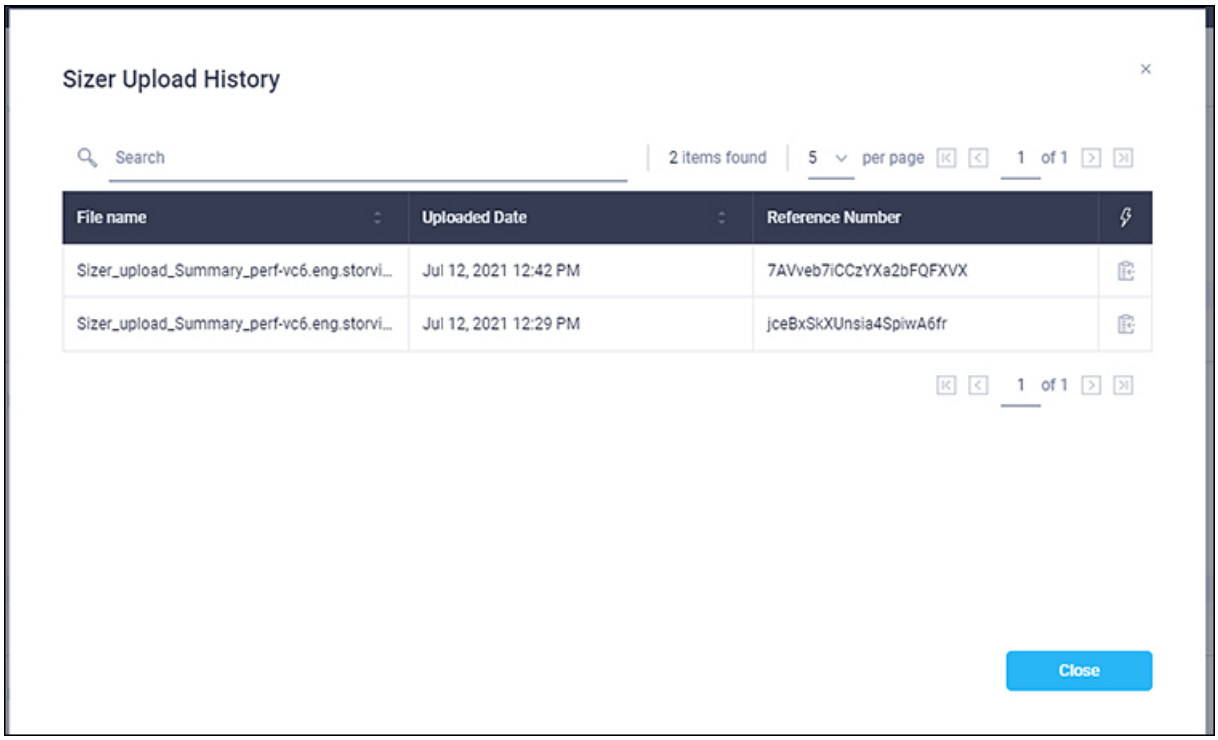

a) Select the desired .csv file.
b) (Optional) To modify the csv file name, type a new name in the **Rename selected .csv file name** field.
c) Click **Upload**.

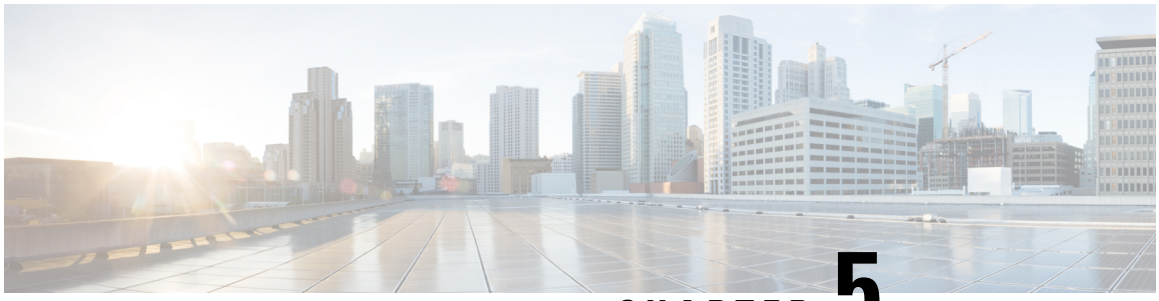
A reference number indicates a successful upload. Use the **Copy** button to copy the reference number and use it to claim the scenario in the HXSizer application.




**Step 3** (Optional) View Upload History

a) Click the **Upload** icon on the HX Profiler ribbon and select **Upload History** to view the list of 30-Days sizing summary .csv files that have been uploaded to the sizer application from profiler.


Sizer Upload History
Search
2 items found
5 per page
1 of 1
File name
Uploaded Date
Reference Number
Sizer_upload_Summary_perf-vc6.eng.storvi...
Jul 12, 2021 12:42 PM
7AVveb7iCCzYXa2bFQFXVX
Sizer_upload_Summary_perf-vc6.eng.storvi...
Jul 12, 2021 12:29 PM
jceBxSkXUnsia4SpiwA6fr
1 of 1
Close



CHAPTER 5

# Monitoring Approach


- Download Quick Profile (30-Days) ESX Host Summary Statistics and Data, on page 37
- Profiler Data Collection Architecture, on page 37
- Performing Profiler VM Clean-up, on page 38


# Download Quick Profile (30-Days) ESX Host Summary Statistics and Data

You can download the Quick Profile (30-days) ESX Host Summary statistics/data report from the Profiler Home page > **Download Results** option. To use this monitoring option, see Downloading Nutanix AHV Profiling Results for ESXi.

Report characteristics:

- Includes VM/host level compute and storage capacity metrics
- Does not include deep storage or compute metrics or metrics for individual VMs
- Data downloads in CSV format and can be uploaded to the Compute and Capacity workload in the Hx Sizer tool

# Profiler Data Collection Architecture

## Understanding the ESXi Profiler Data Collection Architecture

The Profiler connects to vCenter using the root admin credentials.

Architecture characteristics:

- The Profiler directly collects the vCenter Inventory information (Data Centers, Datastores, Clusters, Hosts, VMs, and basic metrics) and the compute metrics from vCenter itself.
- The Profiler also collects deep storage metrics for each VM and aggregates these metrics at a host-level.
- The vCenter does not directly maintain deep storage metrics. The Profiler software invokes vCenter to fetch this data from each individual host (using vSCSI) to obtain detailed data for each VM. The Profiler

then summarizes the data from all VMs to build a host-level summary. For example, the software obtains maximum, minimum, and average values for metrics, such as latency, where as IOPS (Total Blocks/Interval) and throughput (Total Bytes/Interval) are average values only.

# Performing Profiler VM Clean-up

## Performing ESXi Profiler VM Clean-up

After you complete your profiling activitites, follow the best practice of performing the Profiler VM clean-up to achieve a thorough shutdown and exit of the Profiler.

**Step 1** Download the profiled data with the following steps:

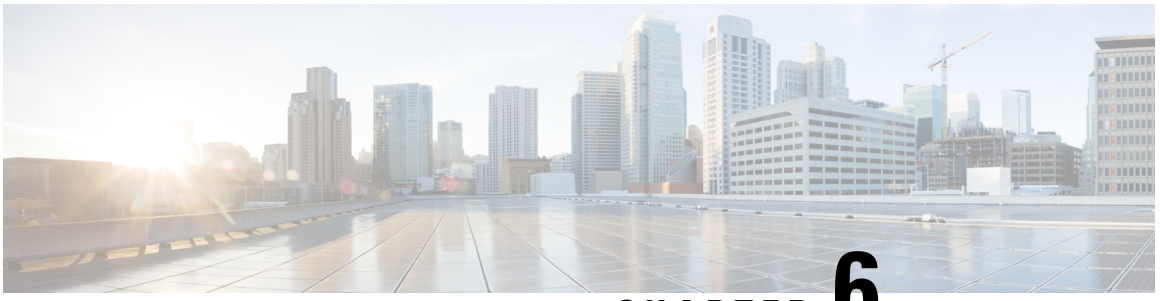
a) Launch the Profiler application.
b) Download the data (CSV format) from the Home page. See Downloading ESXi Profiling Results, on page 25.
c) Save the CSV for further analysis.

**Step 2** To stop the Profiler Service, run the following commands:

a) **sudo service hxpmonitor stop**
b) **sudo service hxpcontroller stop**

**Step 3** Shut down the VM.

**Step 4** Delete the VM if it is no longer required to profile the data for the environment.



CHAPTER 6

# Troubleshooting


• Troubleshooting, on page 39


# Troubleshooting

### Troubleshooting Section for vCenter

1. If the selected hosts are not reachable, then perform the following steps:
   - Check the connection status of the hosts in vCenter.
   - Make sure all the selected hosts connection status is **Connected**.
2. If you forgot the Profiler VM password, then perform the following step:
   - Delete the old deployed machine and redeploy the new one.

### Troubleshooting Section for Windows Bare Metal

1. When adding Windows Bare Metal Host, if you receive a **Getting Invalid Username and Password Combination** error, take the following steps in the Windows Bare Metal machine:
   - Open Registry Editor: right click the **Start** button, select **Run**, type **`regedit`** and press **Enter()**.
   - Go to Path: *HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Ole\AppCompat*.
   - Right click *AppCompat -> New -> Dword*.
   - Enter **`RequireIntegrityActivationAuthenticationLevel`** as **Value** name.
   - The **Value Data** should be *Hexadecimal 0x00000000 (0)*.

**Note** After setting this registry key, for it to take effect, you must restart your device.

Troubleshooting