

NSFOCUS ADS-M-VM

Installation and Deployment Guide



Version: V4.5R90F06 (2024-12-31)

Confidentiality: RESTRICTED

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-

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Preface

This document briefly describes NSFOCUS Virtualized Anti-DDoS System Management (ADS-M-VM) and details how to deploy and install it.

Currently, an ADS M virtual machine supports both the VMware Workstation and Kernel-based Virtual Machine (KVM) platforms. This document describes how to install and deploy the ADS M virtual machine on the virtual platform. Here, Windows 11 is used as the host machine of the virtual platform. Users of other host machine types should perform configuration by referring to other related documents.

This document is provided for reference only. It may slightly differ from the actual product due to version upgrade of the virtual platform or other reasons.

Audience

This document is intended for the following users:

- Users who wish to manage NSFOCUS ADS or detect abnormal traffic by using ADS-M-VM
- Users who wish to know main features and usage of this product
- System administrator
- Network administrator

This document assumes that you have knowledge in the following areas:

- Virtualization
- Network security
- Linux and Windows operating systems
- TCP/IP protocols
- VMware Workstation
- NSFOCUS Anti-DDoS System Management (ADS M)





Organization

Chapter	Description
1 Basic Information	Describes requirements for configuring host machines and virtual hosts of ADS-M-VM.
2 Deployment	Describes how to import and configure ADS-M-VM.
A Default Parameters	Describes default parameters of ADS-M-VM.

Change History

Version	Description
V4.5R90F06	Updated network settings.
V4.5R90F05SP03	<ul style="list-style-type: none"> Updated the pictures in hardware, network, and serial port configuration. Added the "Importing ADS-M-VM to VMware ESXi" section. Added the configuration of adding a serial port.
V4.5R90F04	Updated the structure based on the new template.
V4.5R90F04SP01	Added watermark authentication and modified virtual machine configuration requirements.

Conventions

Convention	Description
Bold font	Keywords, names of screen elements like buttons, drop-down lists or fields, and user-entered text appear in bold font.
<i>Italic font</i>	Document titles, new or emphasized terms, and arguments for which you supply values are in italic font.
 Note	Reminds users to take note.
 Tip	Indicates a tip to make your operations easier.
 Caution	Indicates a situation in which you might perform an action that could result in equipment damage or loss of data.
 Warning	Indicates a situation in which you might perform an action that could result in bodily injury.
A > B	Indicates selection of menu options.

Technical Support

Hardware and Software Support

Email: support@nsfocusglobal.com

Cloud Mitigation Support

Email: cloud-support@nsfocusglobal.com

Phone:

- USA: +1-844-673-6287 or +1-844-NSFOCUS

- UK: +44 808 164 0673 or +44 808 164 0NSF
- Australia: +61 2 8599 0673 or +61 2 8599 0NSF
- Netherlands: +31 85 208 2673 or +31 85 208 2NSF
- Brazil: +55 13 4042 1673 or +55 13 4042 1NSF
- Japan: +81 3-4510-8673 or +81 3-4510-8NSF
- Singapore: +65 3158 3757
- Hong Kong +852 5803 2673 or +852 5803 2NSF
- Middle East: +973 1619 7607

Documentation Feedback

For any query regarding the usage of the documentation, you can contact us:

Email: info-support@nsfocus.com

1 Basic Information

This document describes requirements for configuring the host machine and virtual machine of ADS-M-VM.

1.1 Host Machine Configuration Requirements

ADS-M-VM should be running on a host with the virtual machine (VM) software installed. Make sure that the host machine meets all requirements listed in [Table 1-1](#).

Table 1-1 Reference configuration of the host machine

Item	Reference Configuration
CPU	Intel(R) Xeon(R) CPU E5-2680V2@2.8.0GHz
Memory	32 GB (at least 16 GB)
Hard disk	2 TB or larger
Network adapter	6 (at least 1)



Note

- Running multiple VMs on the host machine will degrade the performance of ADS-M-VM. Therefore, you are advised to shut down unused VMs.
- If the host configuration is below the default configuration requirements of the virtual machine, ADS-M-VM will fail to perform as expected. Therefore, to make ADS-M-VM work to the best effect, you should use a host whose hardware configurations match the default configuration requirements of the virtual machine.

1.2 Virtual Machine Configuration Requirements

ADS-M-VM supports only VMware ESXi 7.0 and later and VMware Workstation 15 and later. If other virtual platform is used, you are advised to use other software for conversion and you also need to consider compatibility issue.

The VM configuration requires connection to a serial port. For a host machine running Windows, you can use the Virtual Serial Port Driver (VSPD), PuTTY, or other software to connect to the serial port.

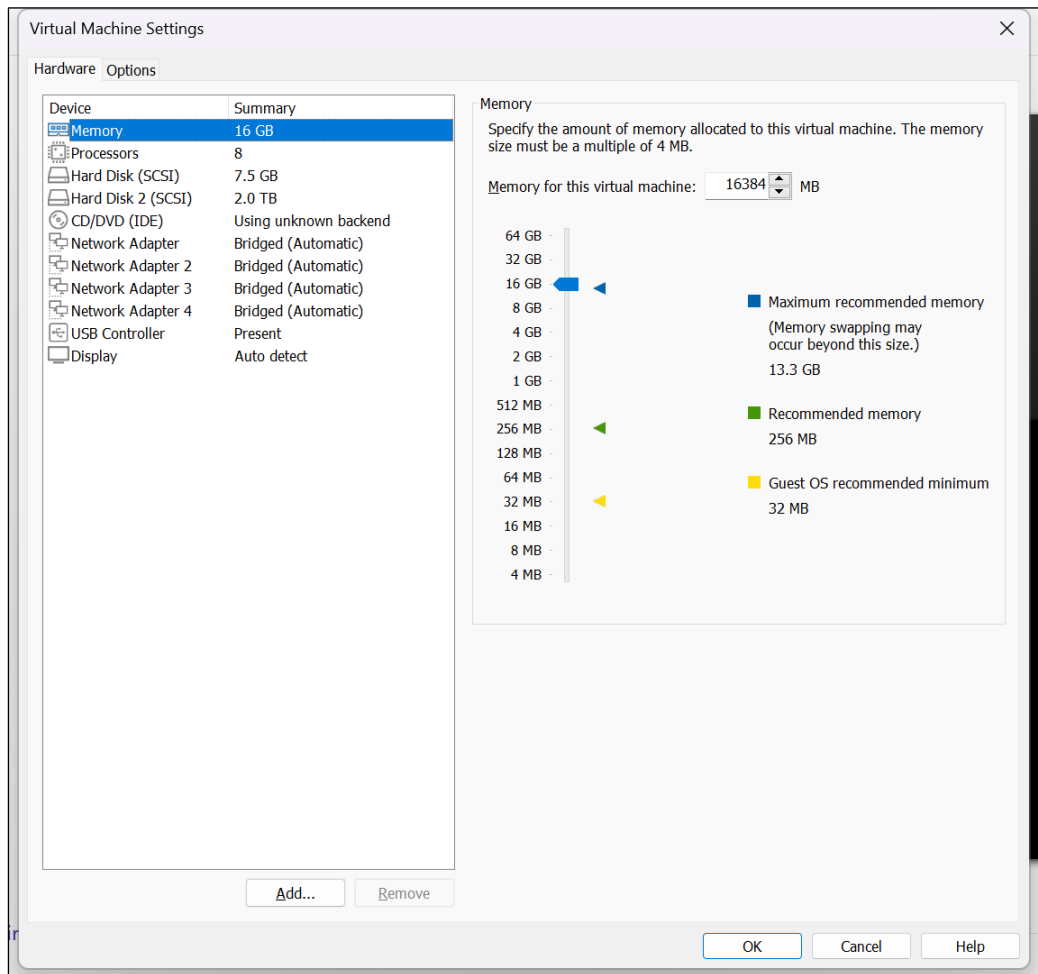


ADS-M-VM does not come with VSPD. For connection to the serial port with VSPD, you need to buy the software from <http://www.eltima.com/>.

1.2.1 Hardware Configuration

Figure 1-1 shows the recommended hardware configuration of the virtual machine.

Figure 1-1 Hardware configuration of the virtual machine



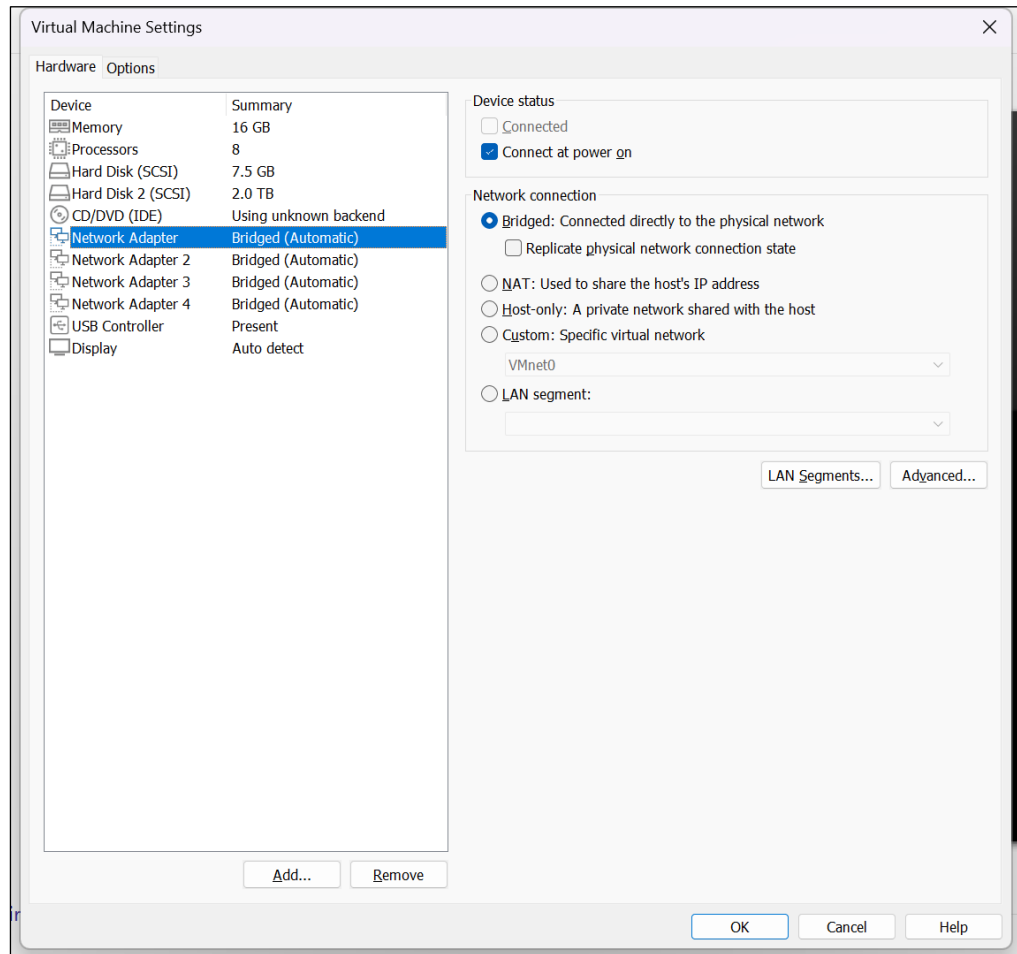
Configure the following parameters as recommended and leave other parameters at default values:

- Set **Memory** to **16 GB**.
- Set **Processors** to **8** if permitted by the host machine.

1.2.2 Network Configuration

Figure 1-2 shows the recommended network configuration of the virtual machine.

Figure 1-2 Network configuration of the virtual machine



Configure the following parameters as recommended and leave other parameters at default values:

- Select **Connected** and **Connect at power on** for **Device status**.
- Select **Bridged: Connected directly to the physical network** for **Network connection**.



Note

- It is recommended that you set **Network connection** to **Bridged: Connected directly to the physical network** for the virtual network adapter. If **Network connection** is set to **NAT: Used to share the host's IP address** or other values, ADS-M-VM will probably fail to connect to NSFOCUS cloud to obtain authorization information.
- After importing ADS-M-VM to the virtual platform, you should not change the MAC address of ADS-M-VM. Otherwise, ADS-M-VM will be unable to obtain authorization from the cloud.

1.2.3 Serial Port Configuration

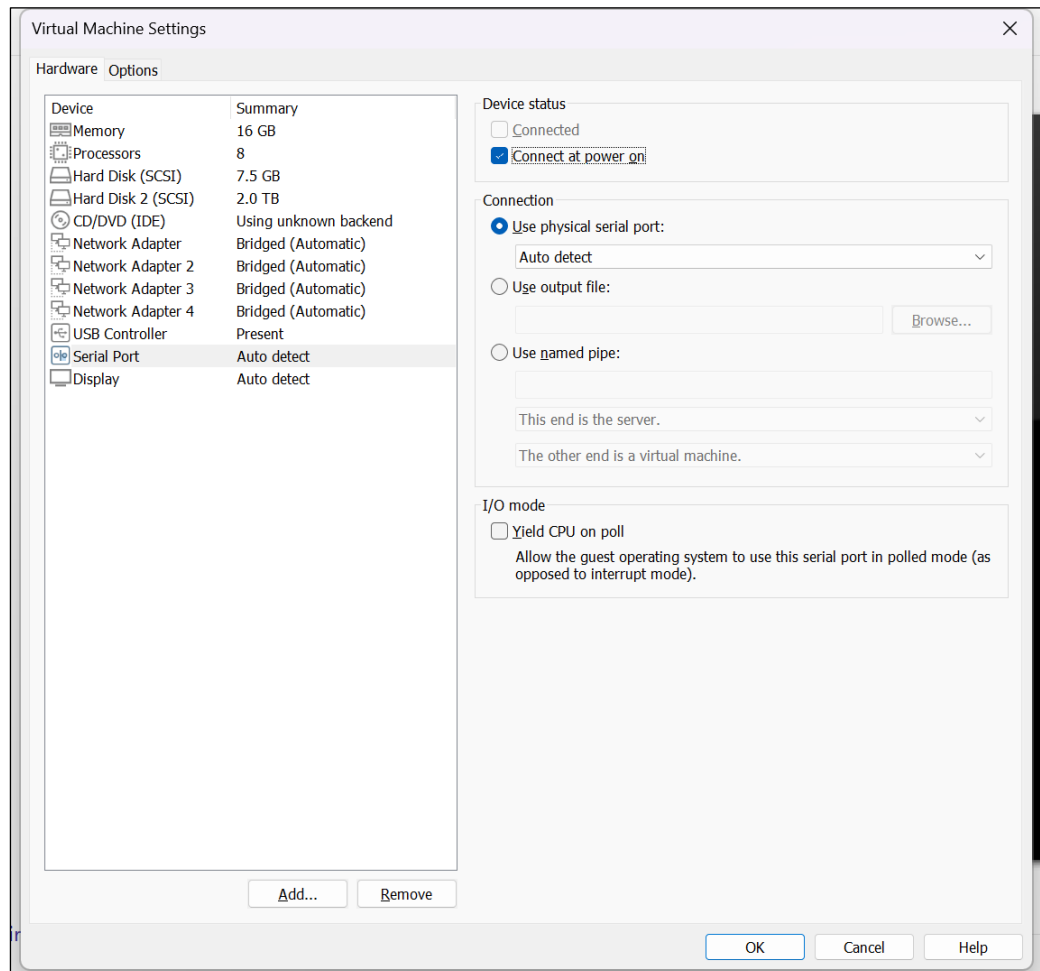
A virtual terminal is reserved after ADS-M-VM gets started. The resolution setting of the guest machine hosted on VMware Workstation varies with environments, which may cause incomplete display of contents on ADS-M-VM under some resolution settings, thereby inconveniencing configuration. Therefore, configuring ADS-M-VM through a serial port is recommended.

For how the guest machine hosted on VMware Workstation and the host machine share the serial port configuration (COM ports), please refer to the related VMware Workstation documents.

Here, VSPD creates a pair of virtual serial ports, COM1 and COM3, which are mutually connected. COM1 connects to the guest machine (ADS-M-VM) hosted on VMware Workstation and COM 3 connects to PuTTY or the like.

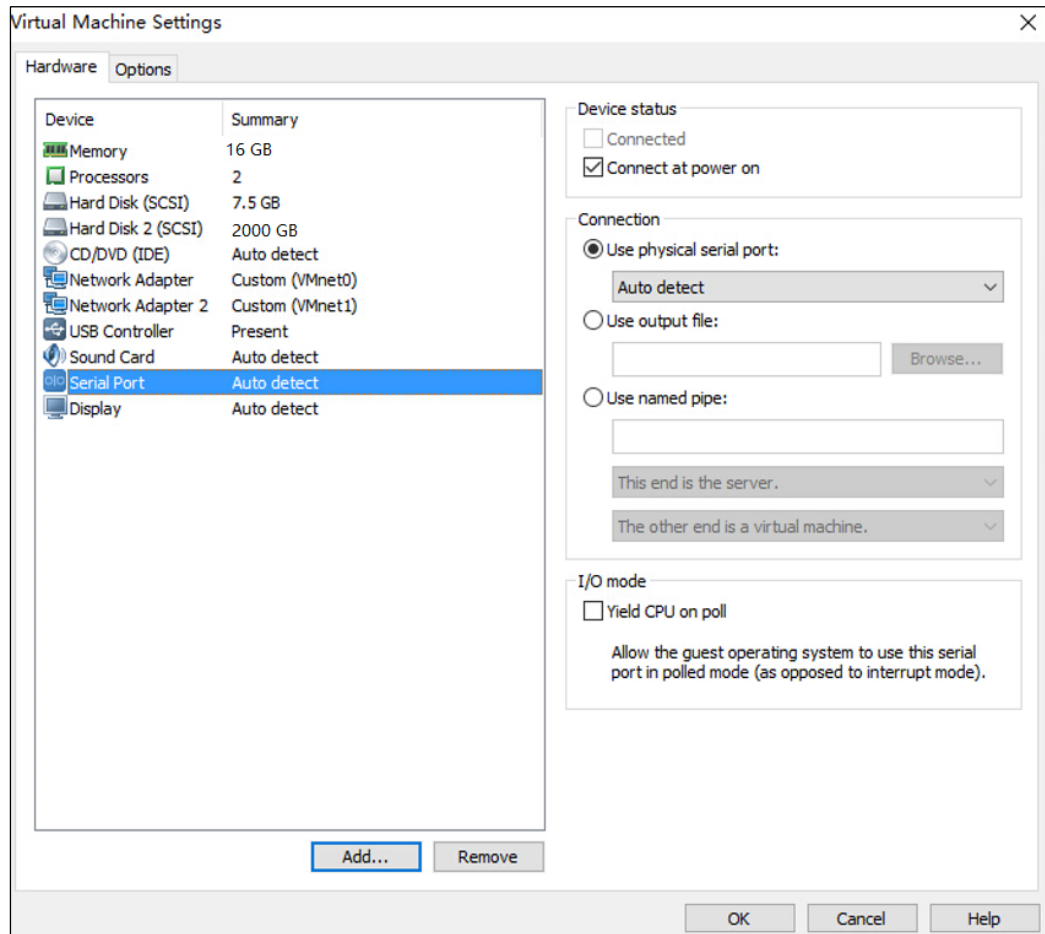
After creating virtual serial ports, you can view the related information from the device manager of the host machine, as shown in [Figure 1-3](#).

Figure 1-3 Device manager of the host machine



For the ADS-M-VM client, configure parameters for serial ports. See [Figure 1-4](#).

Figure 1-4 Serial configuration of the virtual machine



Configure the following parameters as recommended and leave other parameters at default values:

Set **Connection** to **Use physical serial port** and select the serial port number as required.

1.2.4 Other Settings

You can leave other parameters at the default values.

2 Deployment

This chapter describes how to import ADS-M-VM to the virtual platform and details how to configure network settings for it.

2.1 Importing ADS-M-VM to the Virtual Platform

You can choose to import ADS-M-VM to VMware Workstation or VMware ESXi.

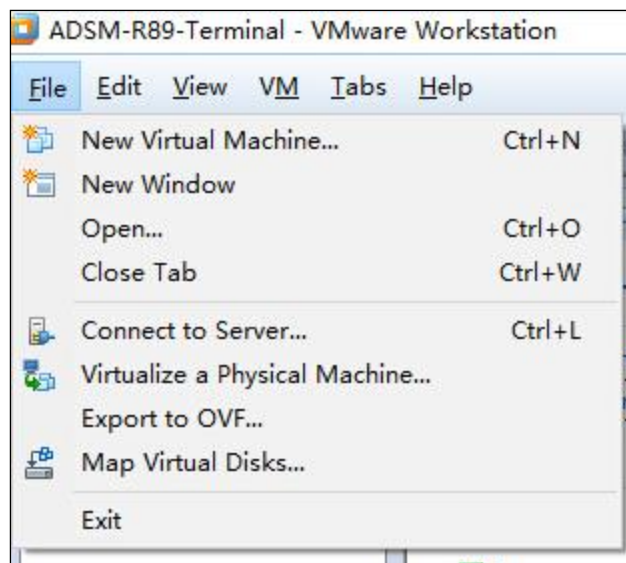
2.1.1 Importing ADS-M-VM to VMware Workstation

Before importing ADS-M-VM to the virtual platform, you need to obtain the virtual template of ADS-M-VM, such as ADSM-R90F05SP03.ova. If the virtual template is incorrect or cannot be obtained, please contact NSFOCUS technical support.

To import ADS-M-VM to the virtual platform, follow these steps:

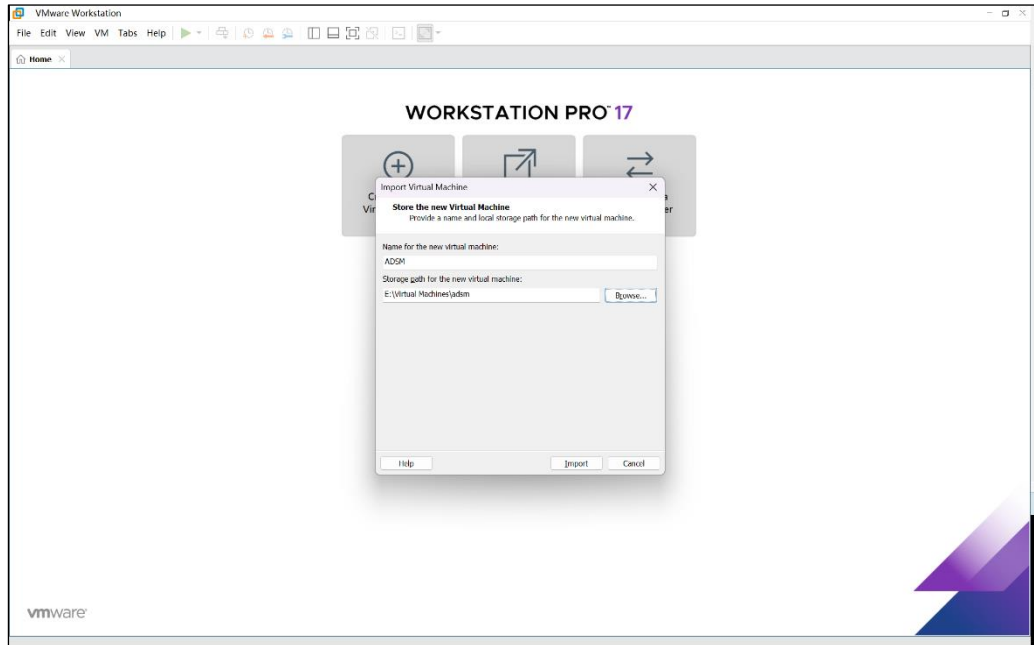
- Step 1** Open VMware Workstation and then choose **File > Open**.

Figure 2-1 VMware Workstation



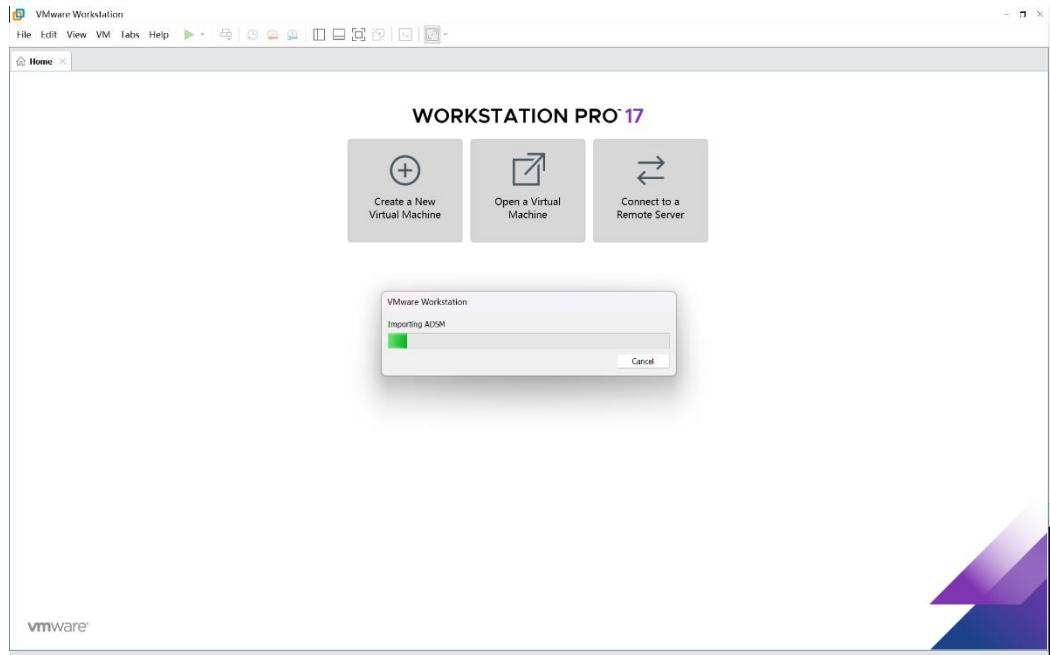
Step 2 After selecting the virtual template, configure the path for saving the virtual machine to be imported and the virtual machine name.

Figure 2-2 Configuring the path for storing the new virtual machine



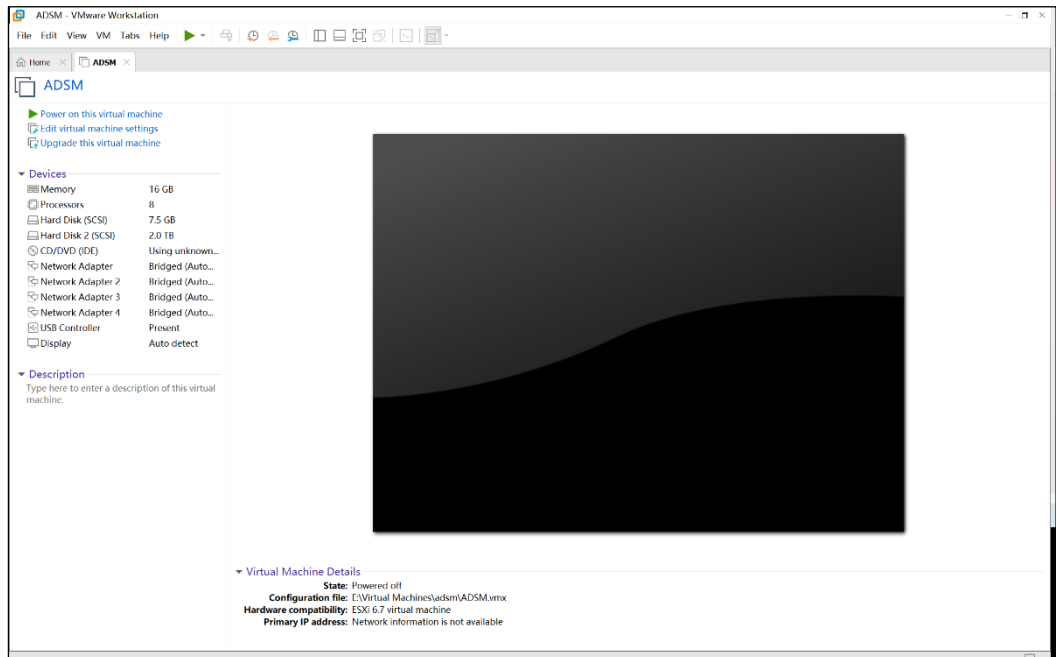
Step 3 Click **Import**.

Figure 2-3 Importing the virtual machine



The page after an import success is shown in [Figure 2-4](#).

Figure 2-4 VM successfully imported



Step 4 On the page shown in [Figure 2-4](#), click **Edit virtual machine settings**.

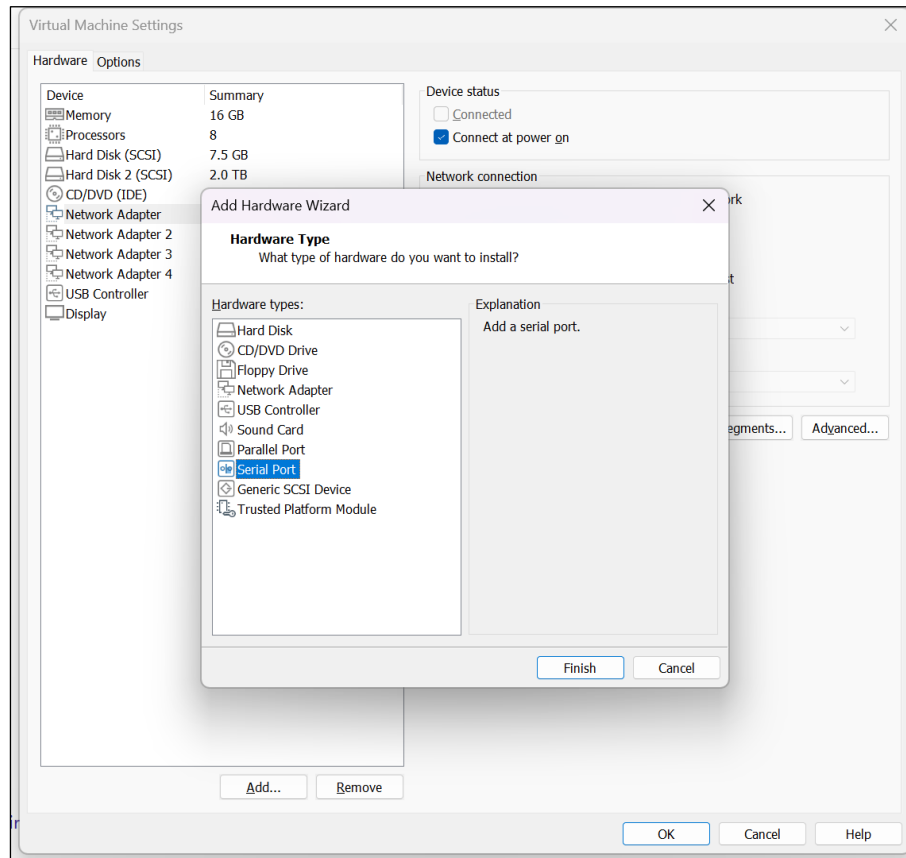
Step 5 Click **Add** on the **Hardware** page to add a serial port.



Note

This operation is required when no serial port exists.

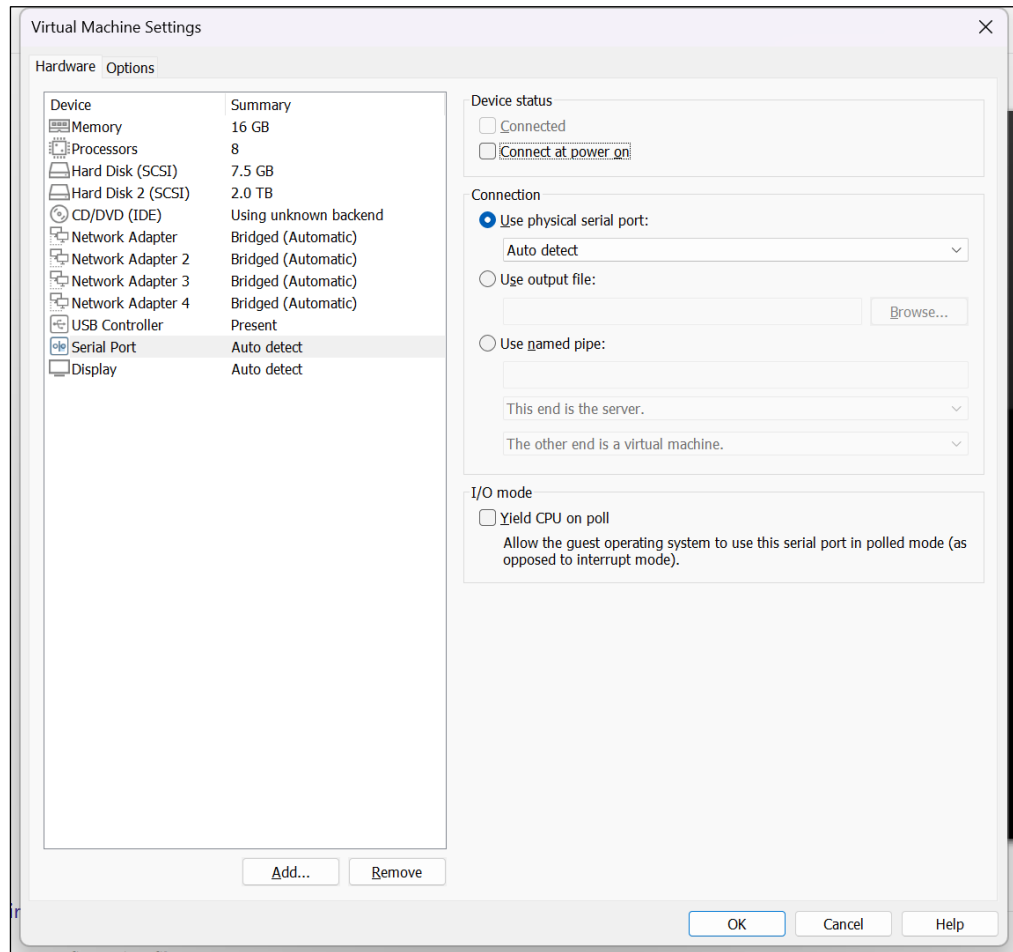
Figure 2-5 Adding a serial port



Step 6 Select the newly-added serial port to set the following parameters.

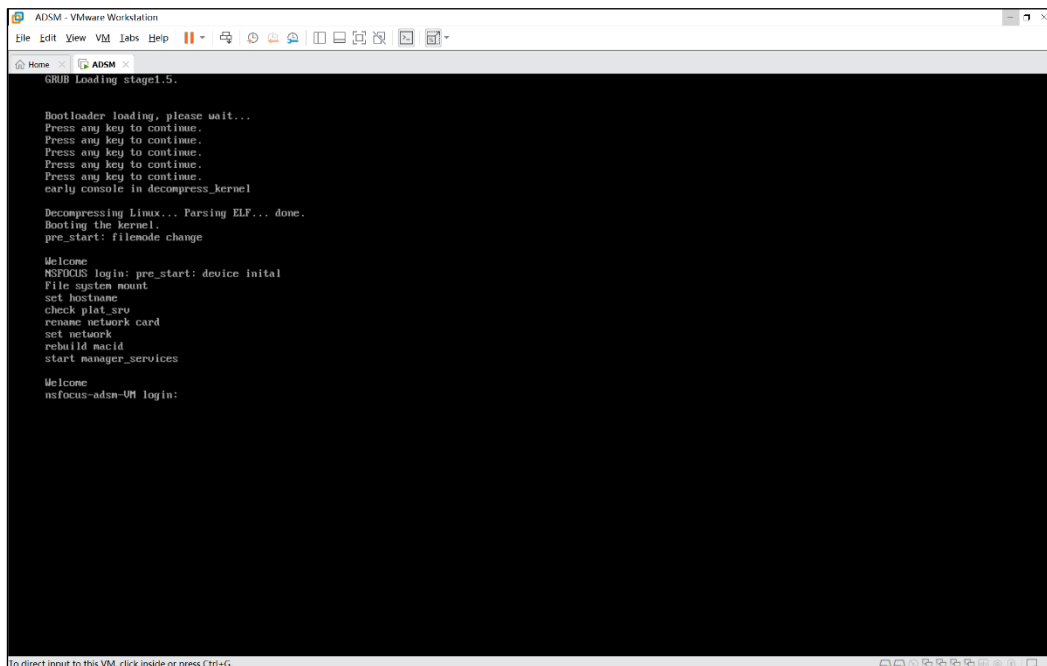
- **Device status:** Select the **Connect at power on** check box. If the serial port will not be used, you can keep it unchecked.
- **Connection:** Select **Use physical serial port**.

Figure 2-6 Setting the serial port



Step 7 On the page shown in [Figure 2-4](#), click **Power on this virtual machine** to start the VM, and then press any key to skip the boot menu till the window shown in [Figure 2-7](#) appears.

Figure 2-7 ADS-M-VM client ready for login



Step 8 Type the default account for login to ADS-M-VM via the serial port.

For details about the default account, see appendix [A Default Parameters](#).

Figure 2-8 Login via the console port



---End

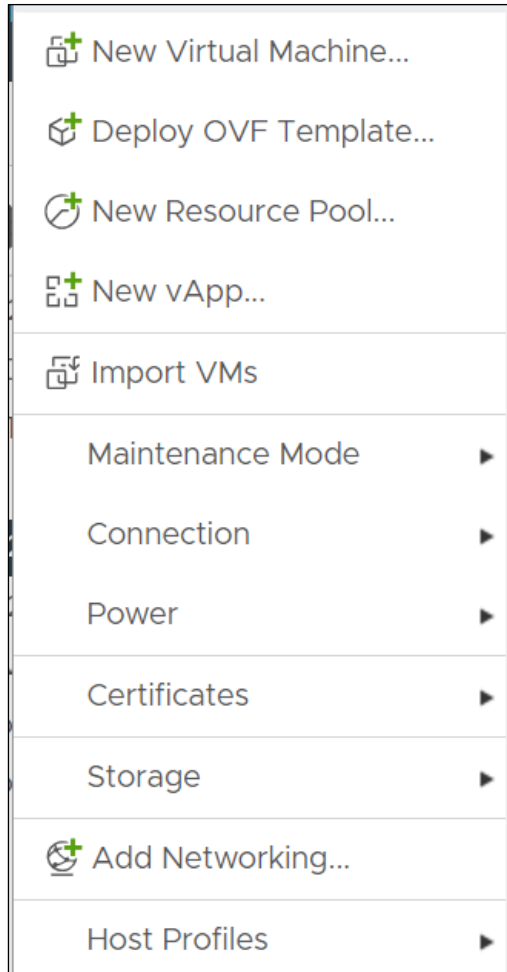
2.1.2 Importing ADS-M-VM to VMware ESXi

Before importing the VM file of ADS-M-VM to the platform, you need to obtain the virtual template (.ova), such as ADSM-R90F05SP03.ova.

To import the virtual template, follow these steps:

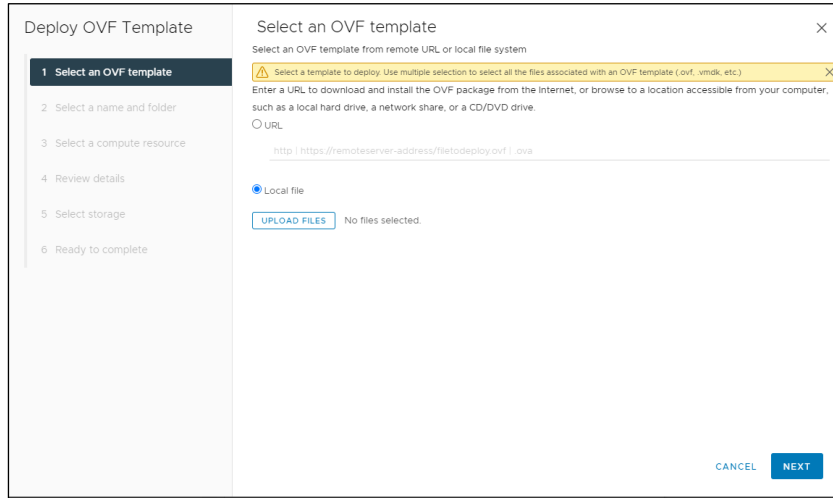
- Step 1** Open vSphere Client web and right-click the server on the left treelike menu to select **Deploy OVF Template**.

Figure 2-9 Deploying OVF template



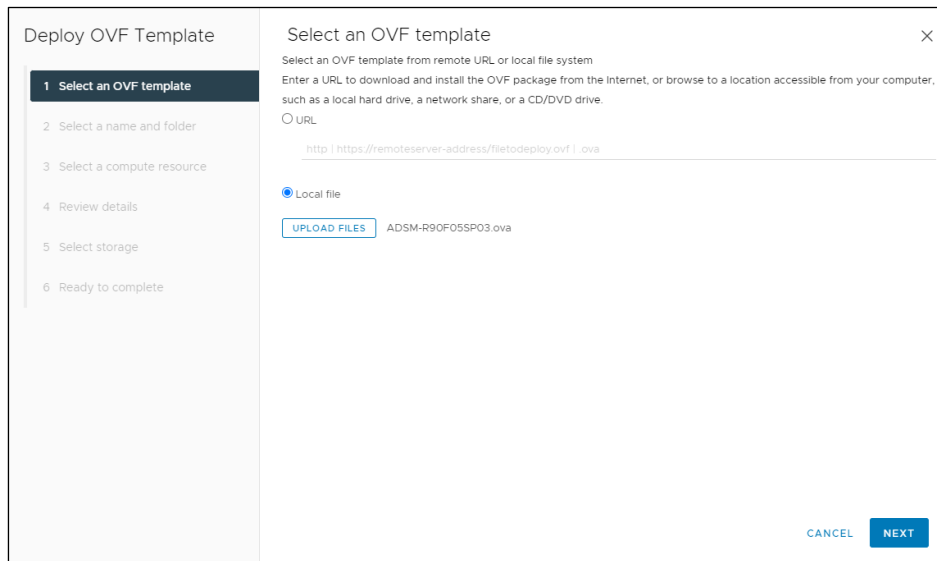
- Step 2** On the **Select an OVF template** page, select **Local file**.

Figure 2-10 Selecting local file



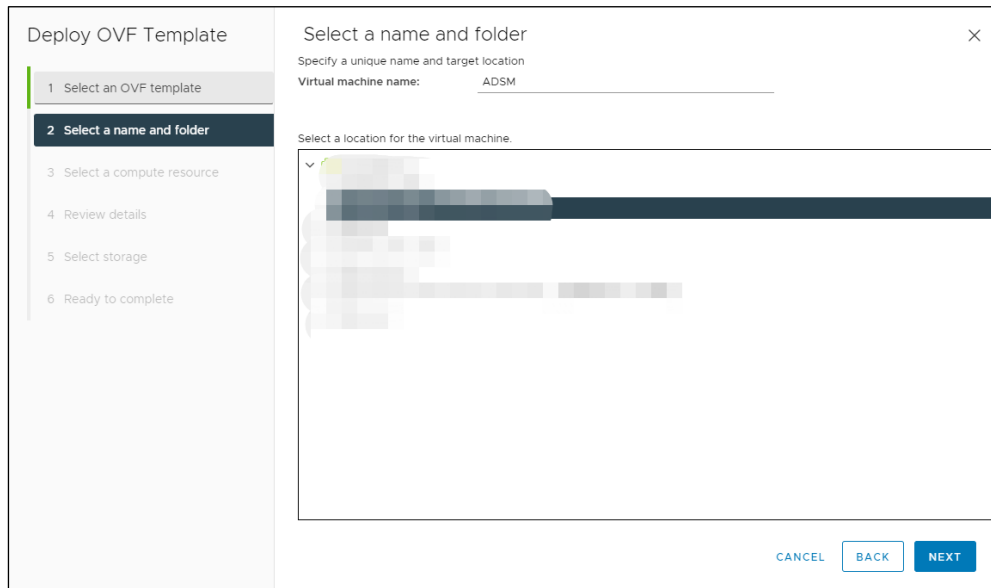
Step 3 Select and upload the OVF template of ADS-M-VM and click **NEXT**.

Figure 2-11 OVF template uploaded



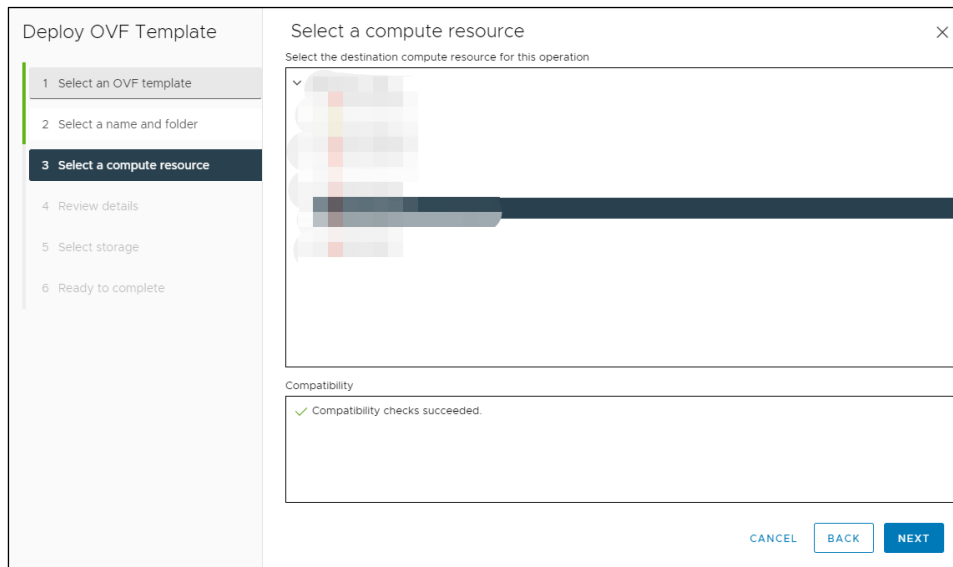
Step 4 Type the VM name, select a location for the VM, and click **NEXT**.

Figure 2-12 Setting a name and a folder



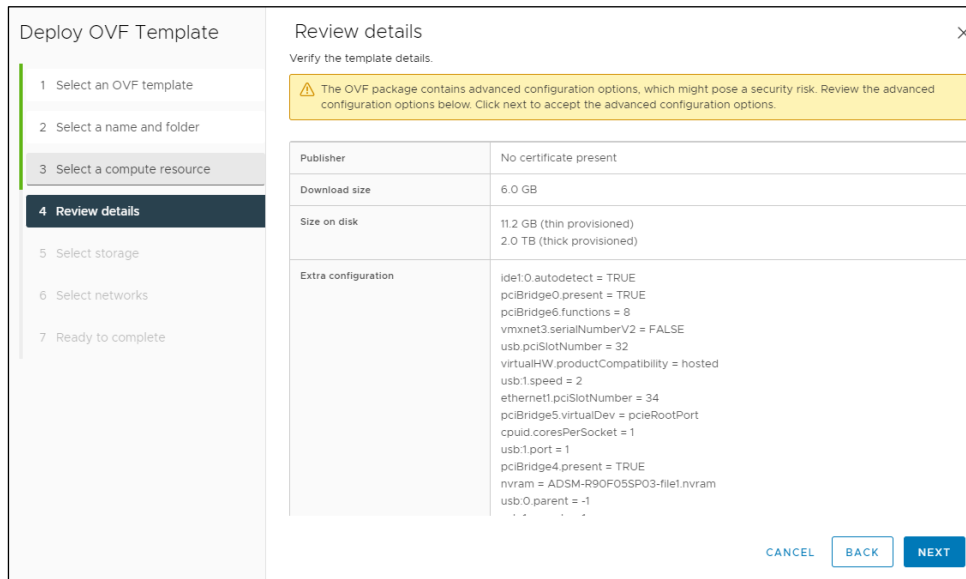
Step 5 Select the destination computing resource and click **NEXT**.

Figure 2-13 Selecting a computing resource



Step 6 Review and verify the details of the OVF package and click **NEXT**.

Figure 2-14 Reviewing details

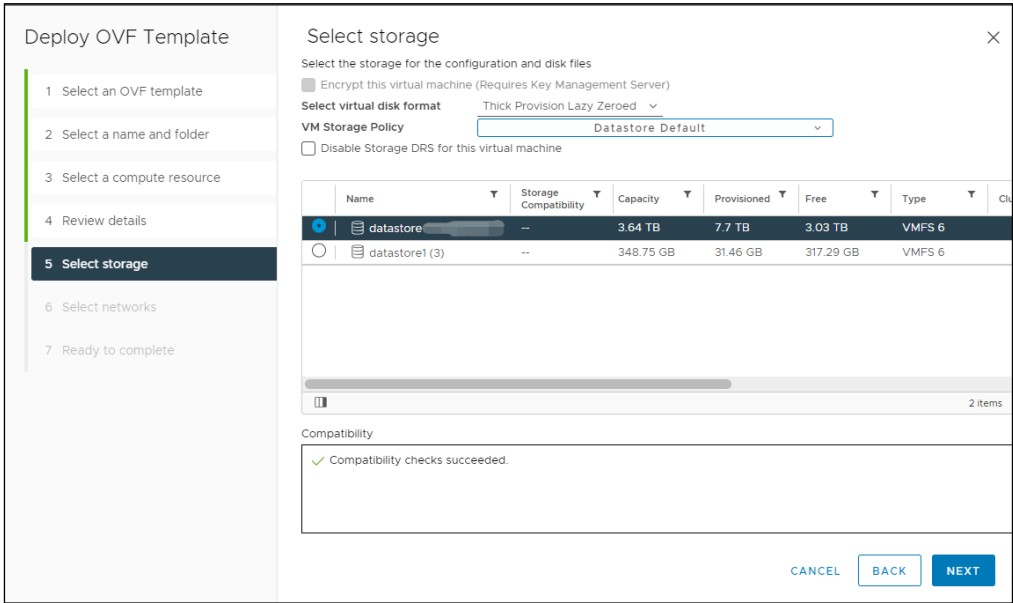


Step 7 Select a storage type and a datastore in which you want to store the VM configuration file and click **NEXT**.



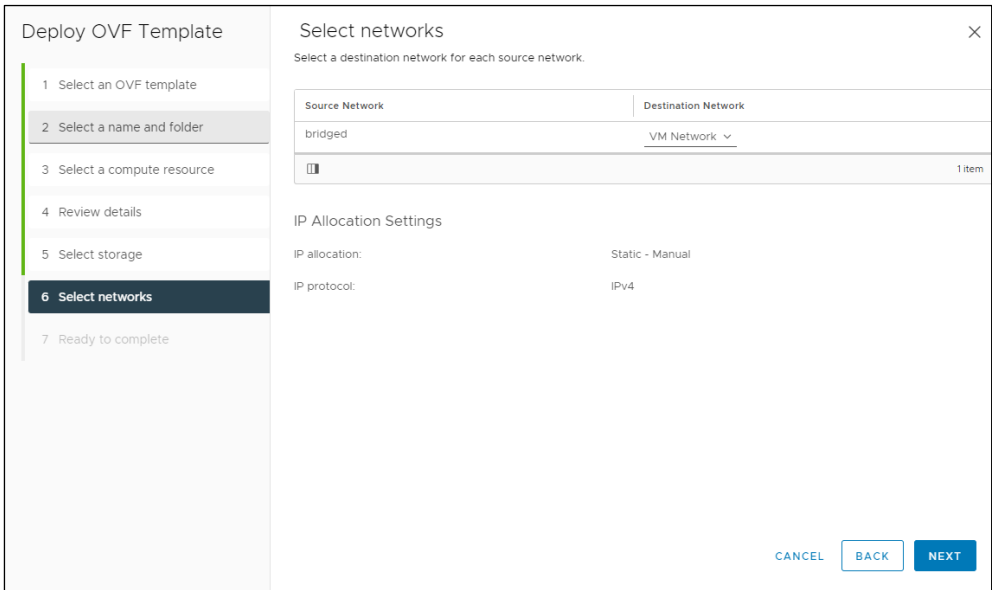
You are advised to select **Thick Provision Lazy Zeroed** for the virtual disk format to obtain the fastest disk read and write speed.

Figure 2-15 Selecting storage



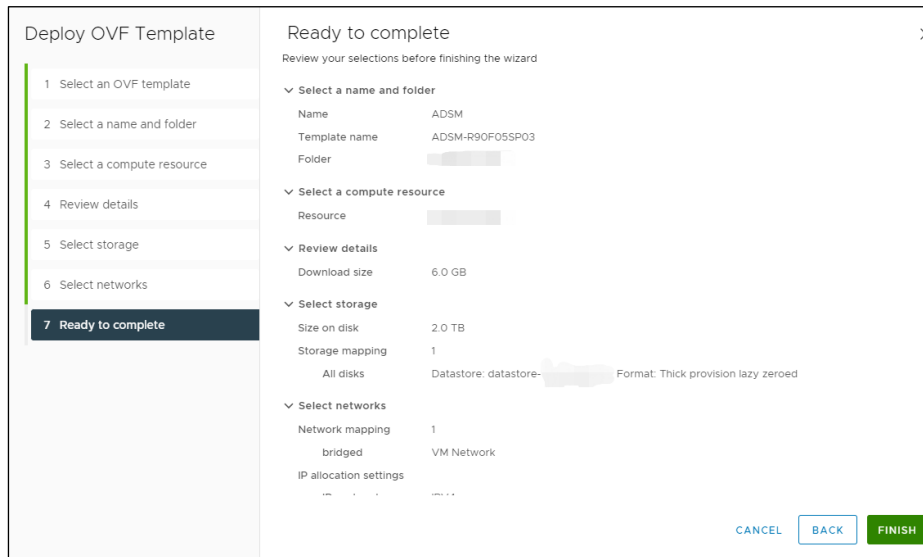
Step 8 Select a destination network for each source network and click **NEXT**.

Figure 2-16 Selecting a network



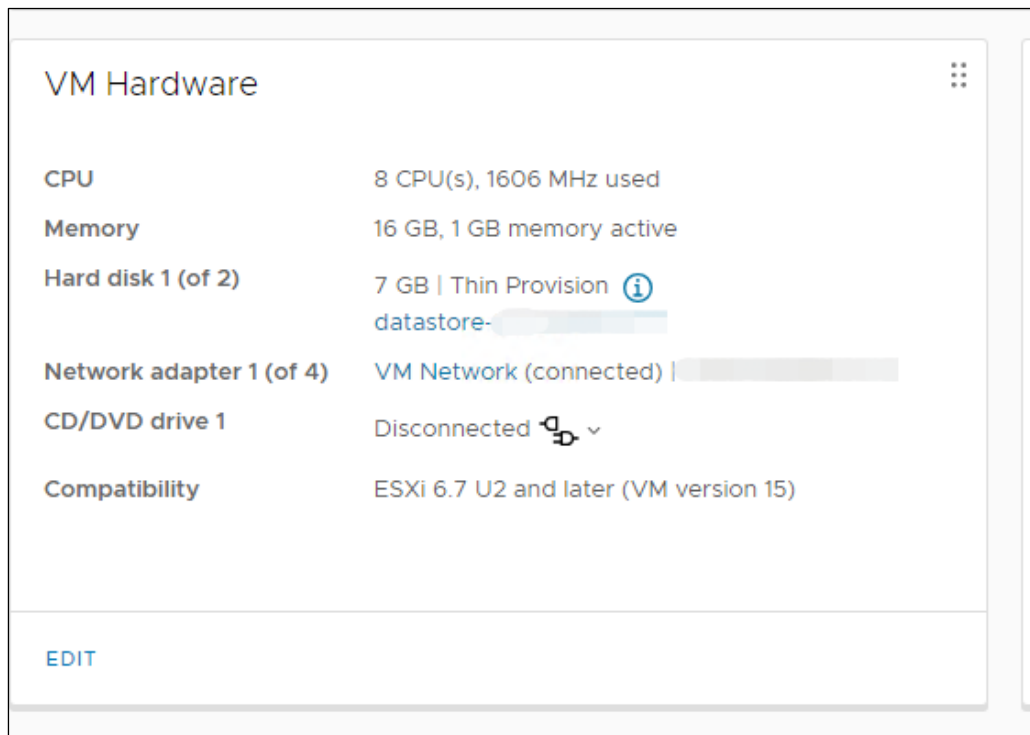
Step 9 Confirm the configuration and then click **FINISH**.

Figure 2-17 Confirming configuration



Step 10 Select the newly-created VM and click **EDIT** in the **VM Hardware** area.

Figure 2-18 Modifying VM hardware



Step 11 On the **Hardware** tab, add a serial port and click **OK**.


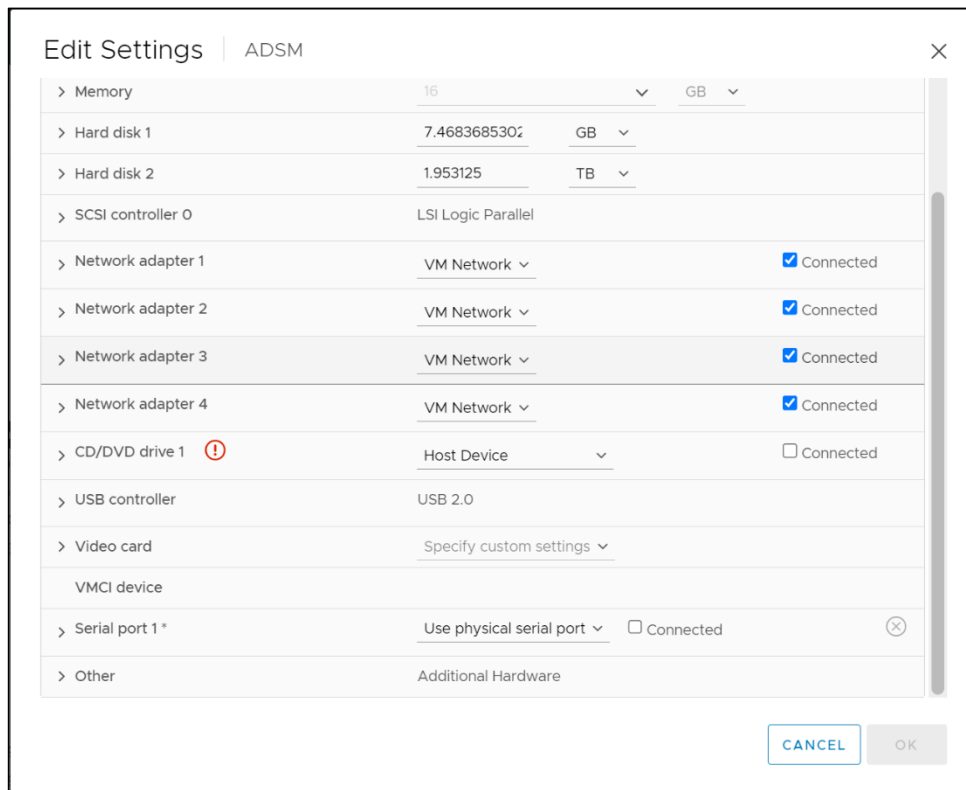
 Note	<ul style="list-style-type: none"> • This operation is required when no serial port exists. • Unselect the Connected check box if the serial port will not be used.
--	--

Figure 2-19 Adding a serial port



----End

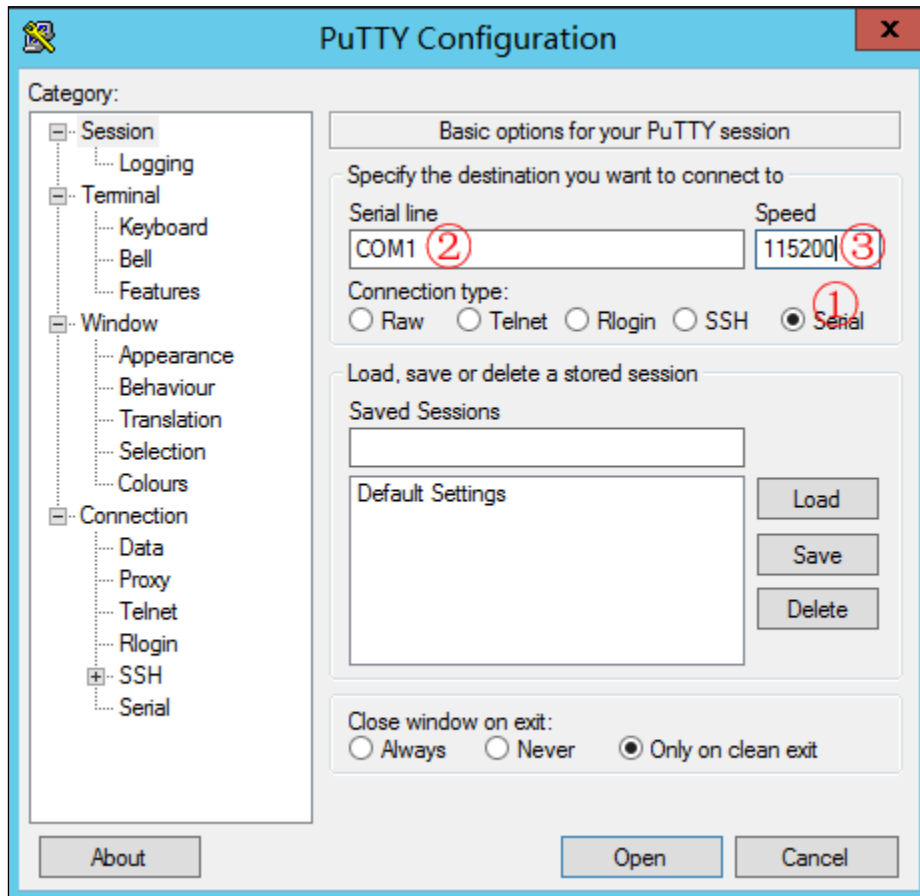
2.2 (Optional) Connecting to the Console Port via PuTTY or the Like

In addition to VMware Workstation, you can use PuTTY or other hyper terminals to connect to the console port. Here, PuTTY is used as an example to show how to connect to the console port.

To connect to the console port, follow these steps:

- Step 1** Open the PuTTY client, and set **Serial line** to **COM1** (or any other port), **Speed** to **115200**, and **Connection type** to **Serial** (or any other available protocol, as shown in [Figure 2-20](#)).

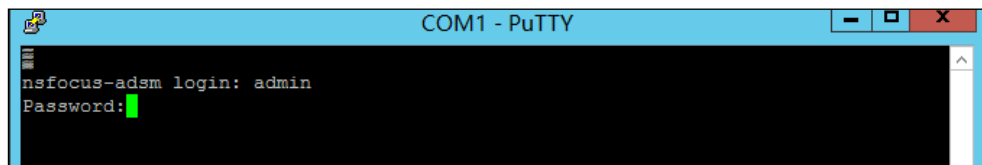
Figure 2-20 Parameter configuration for connecting to the console port



step 2 Type the default user name and password for login to ADS-M-VM.

For information about the default account, see appendix [A Default Parameters](#).

Figure 2-21 Login window



If the user name and password are correct, a menu for system configuration is displayed, as shown in [Figure 2-22](#).

Figure 2-22 System configuration menu

```
Welcome to Nsfocus ADS M
=====
s) Display system status
  setup
    1) Network
    2) Datetime
    3) Timezone
    4) Locale
    5) Console password(Initial password being used. Please change it immediately.)
    6) Reset web admin password
    7) Factory default
    8) Recover database
    9) Set web server port
   10) network diagnose tools
   11) Manage ACL rules
   12) Manage remote assistance
r) Restart system services
b) Reboot
h) Shutdown
x) Logout
```

---End

2.3 Configuring Network Settings

After logging in, configure network settings by referring to the description of console-based management in the *NSFOCUS ADS M User Guide*.

Step 1 Configure parameters.

- a. Select **Network** under **Display system status setup**.
- b. Select **Add an address**.
- c. Select **inet** (indicating IPv4 address) or **inet6** (indicating IPv6 address). Here **inet** is selected.
- d. Select a network adapter. Here eth0, the first virtual network adapter, is selected.
- e. Type a correct IP address.
- f. Type a correct netmask.

Figure 2-23 shows the window in which network settings have been configured.

Figure 2-23 Configuring network settings

```
Please select an operation:
 1) Display network settings
 2) Add an address
 3) Delete an address
 4) Setup default gateway
 5) Add a route
 6) Delete a route
 7) Setup domain name server
 8) Set to Default
 0) Escape
> 2
Please select network family:
 1) inet
 2) inet6
 0) Escape
> 1
Network adapters:
 1) eth0
 2) eth1
 3) eth2
 4) eth3
 0) Escape
> 1
Please input ip address
> 192.168.1.2
Please input netmask
> 255.255.255.0
Operation success.
```

The system then prompts "Operation success".

Step 2 On the network setting menu, type **4** and press **Enter** to add a default gateway. Type the IP address of the gateway as prompted, and press **Enter**, as shown in Figure 2-24.

Figure 2-24 Adding a default gateway

```
Please select an operation:
 1) Display network settings
 2) Add an address
 3) Delete an address
 4) Setup default gateway
 5) Add a route
 6) Delete a route
 7) Setup domain name server
 8) Set to Default
 0) Escape
> 4
Please select network family:
 1) inet
 2) inet6
 0) Escape
> 1
Please input default gateway address
> 10.66.250.254
Operation success.
```

---End

2.4 Importing a License

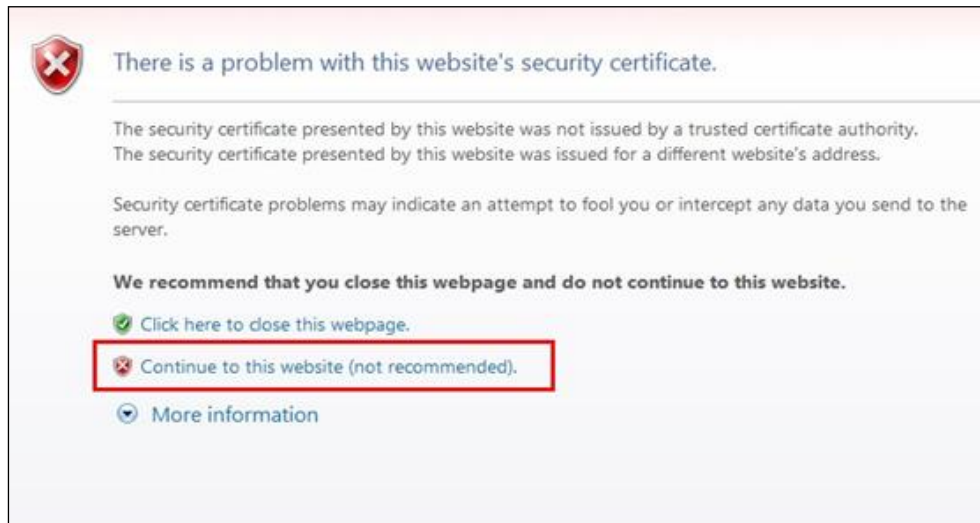
After logging in to the web-based manager of ADS-M-VM, you must import a valid license for using it.

To import a license, follow these steps:

- Step 1** Open a browser (Internet Explorer is used here) and access ADS-M-VM in HTTPS mode by typing the server IP address, such as **https://192.168.1.100**, and pressing **Enter**.

A security alert page appears, as shown in [Figure 2-25](#).

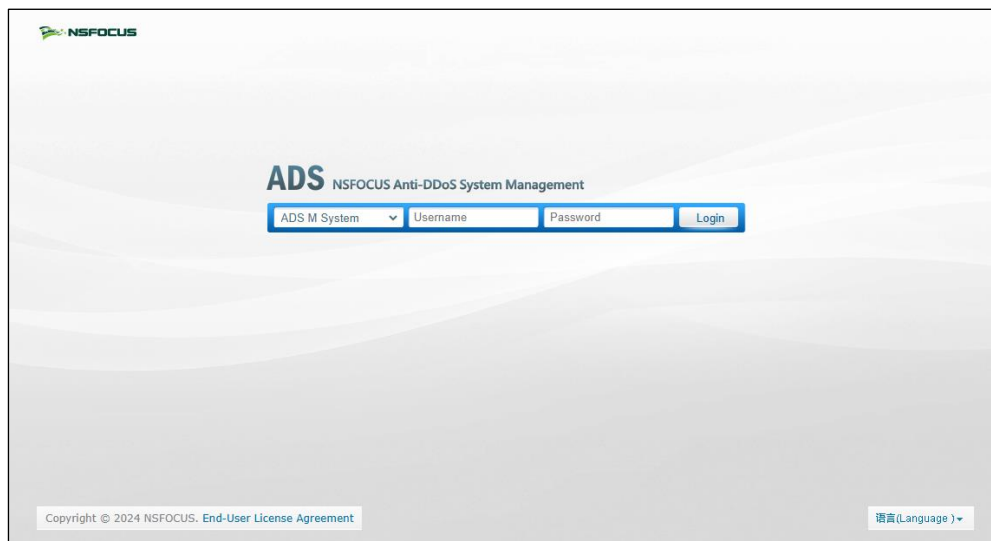
Figure 2-25 Security alert



Step 2 Click **Continue to this website (not recommended)** to accept the channel secured by the ADS-M-VM certificate.

The login page shown in [Figure 2-26](#) appears.

Figure 2-26 Login page




Step 3 Type a valid user name and password and click **Login** or press **Enter**. The system displays that the license does not exist or expires and shows a license import page.

Figure 2-27 Importing a license

ADS [M]

Import License

Import New License

 The device license does not exist or expires. Please import a new one

Hardware ID: 678E-E1F6-1709-B7F8

Authentication Mode: Cloud authentication Local authentication Watermark authentication

Upload License: No file chosen

Step 4 Check the hardware ID.

Send this hardware ID to NSFOCUS's sales or after-sales personnel, who will then produce an authorization license accordingly. After obtaining such a license, you can import it to ADS-M-KVM.

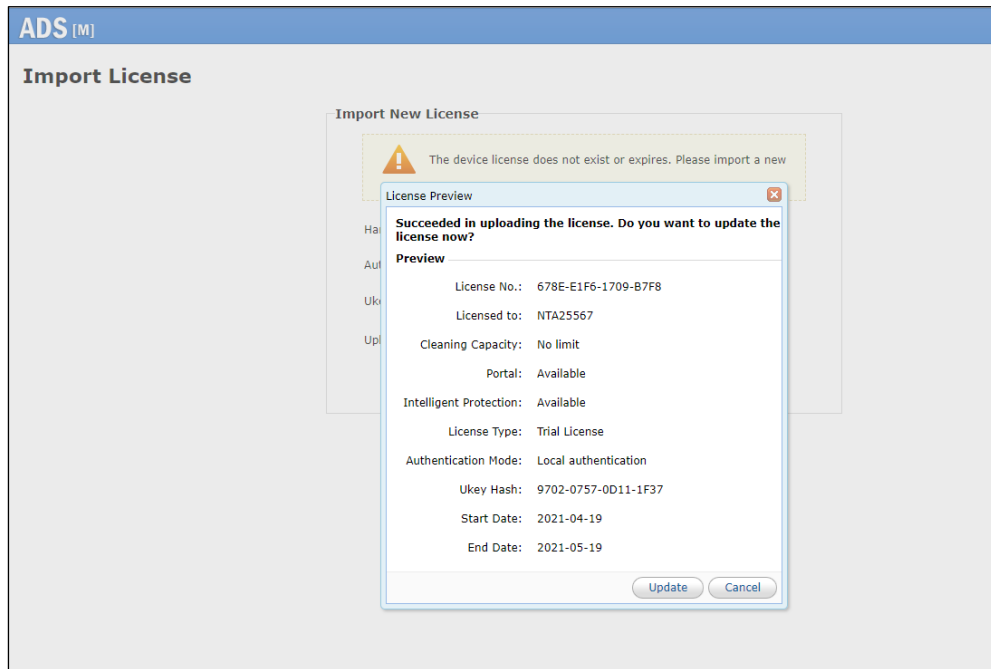
Step 5 Select the authentication mode.

You can select the cloud-based authentication, local authentication, or watermark authentication. The authentication mode, once specified, cannot be changed on the web-based manager (can be changed only when you restore factory defaults on the console).

Step 6 On the page shown in [Figure 2-27](#), browse to the local license file and click **Upload**.

The license preview dialog box appears.

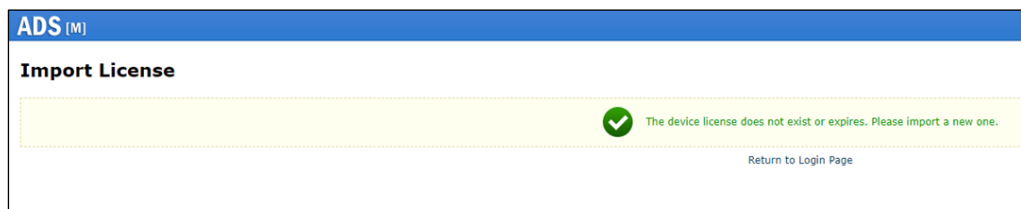
Figure 2-28 Previewing the license



Step 7 Click **Update** to import the license.

A message indicating an import success is displayed, as shown in [Figure 2-29](#).

Figure 2-29 License import success



Step 8 Click **Back** to return to the login page. You can successfully log in to the web-based manager by typing the user name and password.

----End

2.5 Configuring Cloud Authorization

ADS-M-VM can work properly only after being authorized locally, by the cloud, or watermark authorized.

To obtain cloud-based authorization, follow these steps:

Step 1 On the web-based manager of ADS-M-VM, choose **Administration > Local Settings > License**.

Step 2 Set **Address of Authorization Center** to the domain name of the authorization center.


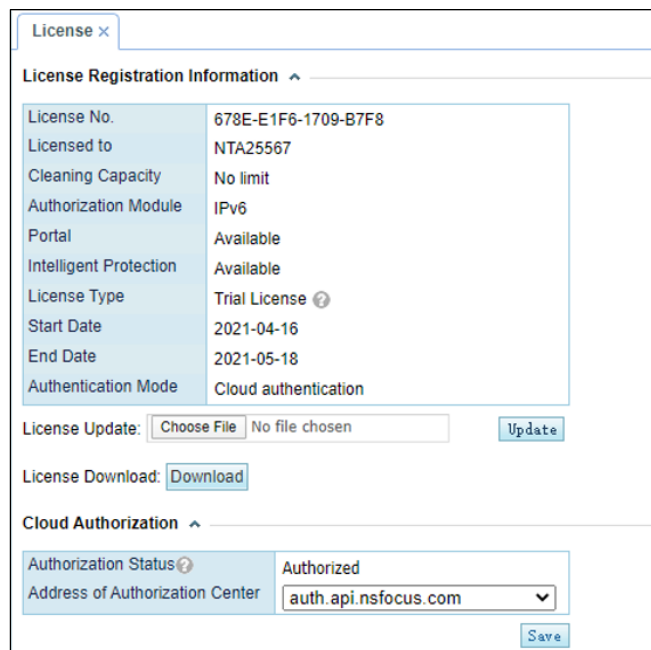
 Note	To obtain authorization, ADS-M-VM must connect to the Internet. <ul style="list-style-type: none"> • For use on the Chinese mainland, choose auth.api.nsfocus.com. • For use in other countries and regions, choose auth.nsfocusglobal.com.
--	---

Figure 2-30 Configuring the address of the authorization center



The screenshot shows a web interface for license management. It is divided into two main sections: 'License Registration Information' and 'Cloud Authorization'.

License Registration Information:

License No.	678E-E1F6-1709-B7F8
Licensed to	NTA25567
Cleaning Capacity	No limit
Authorization Module	IPv6
Portal	Available
Intelligent Protection	Available
License Type	Trial License ?
Start Date	2021-04-16
End Date	2021-05-18
Authentication Mode	Cloud authentication

Below this table are controls for 'License Update' (Choose File, No file chosen, Update) and 'License Download' (Download).

Cloud Authorization:

Authorization Status ?	Authorized
Address of Authorization Center	auth.api.nsfocus.com

A 'Save' button is located at the bottom right of the Cloud Authorization section.

Step 3 Click **Save** to complete the configuration.

---End


2.6 Configuring Local Authorization

ADS-M-VM can work properly only after being authorized locally, by the cloud, or watermark authorized.

Prior to local authorization configuration, select **Local** for **Authorization** on the **Import License** page.

To configure local authorization, follow these steps:

Step 1 Choose **Administration > Local Settings > License**.

Step 2 Click  to the right of **Port** to configure the port for local authentication.


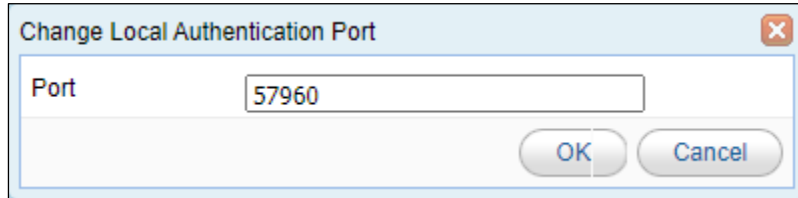
 <p>Caution</p>	<p>Make sure that ADS M has the same local authentication port as ADS or NTA collaborating with it.</p>
---	---

Figure 2-31 Configuring the local authentication port



Step 3 Click **Save** to commit the settings.

----End

2.7 Configuring Watermark Authorization

ADS-M-VM can work properly only after being authorized locally, by the cloud, or watermark authorized.

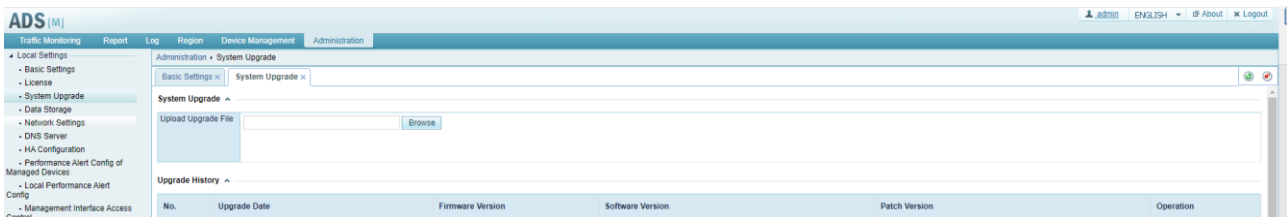
Prior to watermark authorization configuration, select **Watermark** for **Authorization** on the **Import License** page.

To configure watermark authorization, follow these steps:

Step 1 Choose **Administration > Local Settings > System Upgrade**.

Step 2 Browse to the watermark authorization file and upload it.

Figure 2-32 Configuring watermark authorization



A Default Parameters

A.1 Default Parameters of the Communication Interface

Management IP Address	192.168.1.100
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1

A.2 Default Account of the Web Administrator

User Name	admin
Password	nsfocus

A.3 Default Account of the Console Administrator

User Name	admin
Password	nsfocus

A.4 Communication Parameters of the Console Port

Baud Rate	115200
Data Bits	8