

Grandstream Networks, Inc.

SoftwareUCM Installation Guide – Hyper-V



SoftwareUCM is an on-premises solution that provides businesses with complete control over their telephony systems, eliminating the need for cloud services. It offers many advantages, such as scalability by expanding storage capacity, flexibility in integrating with third-party applications, and security within the internal network.

Hyper-V is a hypervisor developed by Microsoft that allows users to create and manage virtual machines (VMs) on a physical server. It enables the allocation of resources and isolates different operating systems. Hyper-V is ideal for running SoftwareUCM in a secure and isolated virtualized environment, separate from the primary operating system.

This guide provides a step-by-step walkthrough for enabling Hyper-V, setting up a virtual machine, and installing and configuring SoftwareUCM.

Critical

Copying or changing the UUIDs (Universally Unique Identifier) of the LVM (Logical Volume Manager) will result in failure to mount the disks after startup.

Prerequisites

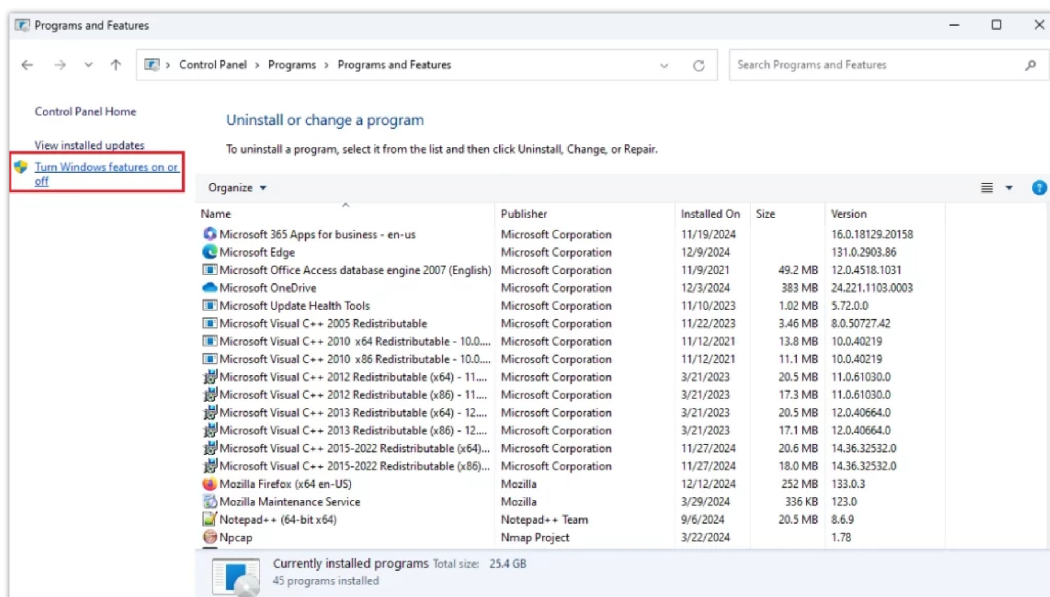
Before proceeding with the instructions in this guide, users should ensure the following criteria are met:

- **System Compatibility:** Ensure that your system meets [the requirements to run Hyper-V](#).
- **Hyper-V Enabled:** Ensure that Hyper-V is enabled and the version is 10.0.19041.1 or later.
- **SoftwareUCM Image File Downloaded:** Ensure that you have the [SoftwareUCM image file](#) downloaded and ready for installation.

Enabling and Configuring Hyper-V

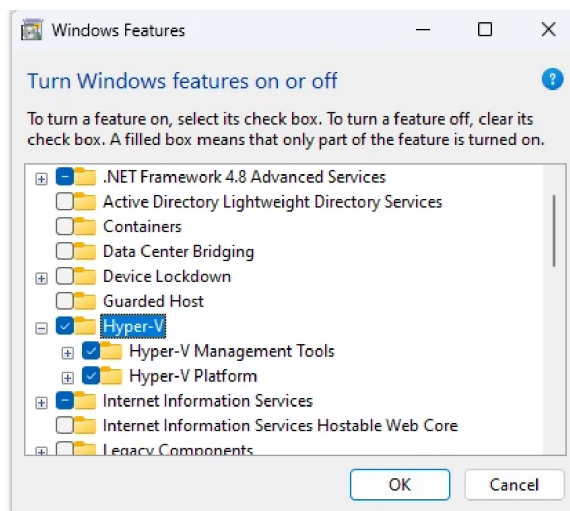
To enable Hyper-V on your Windows machine, please refer to the steps below:

1. Go to **Control Panel**→**Programs**→**Programs and Features** and click on **Turn Windows features on or off**.



Windows Features Configuration

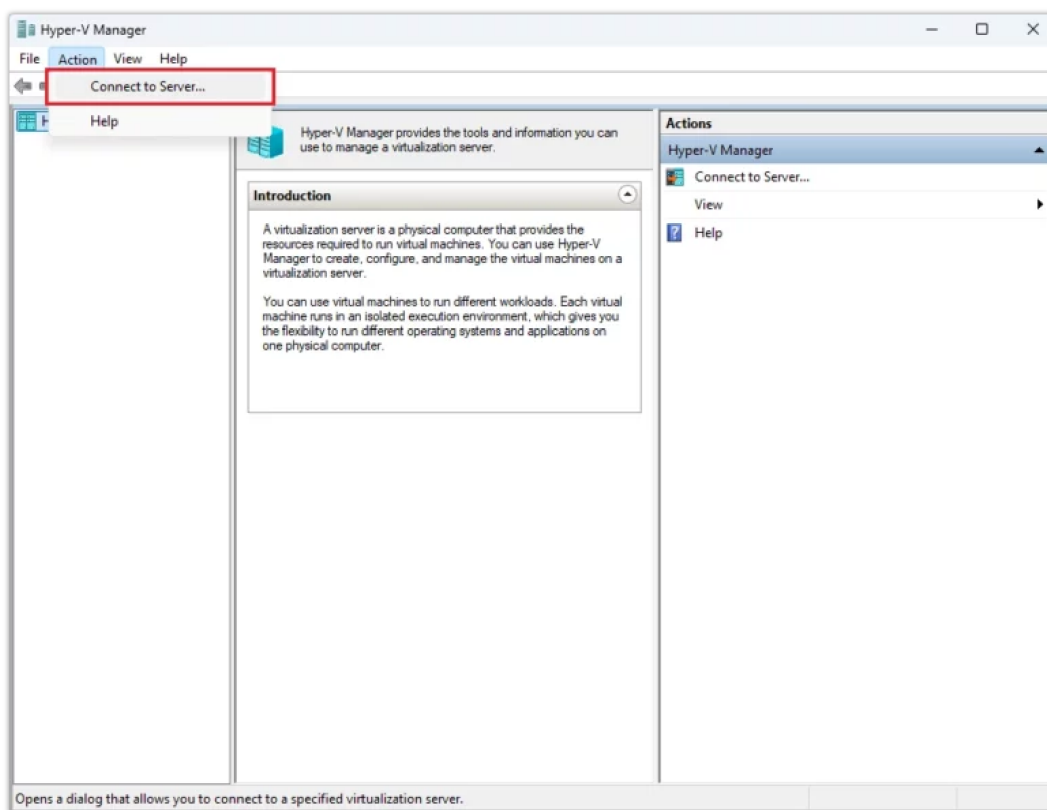
2. In the Windows Features window, select **Hyper-V** and click on OK to enable it.



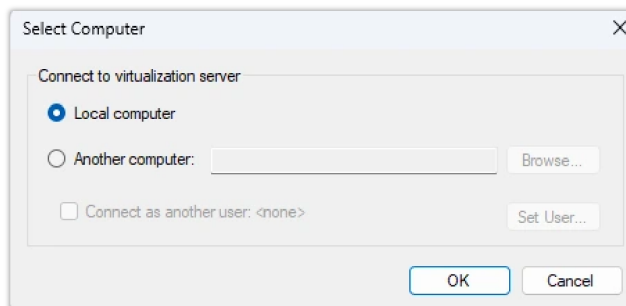
3. Wait for the installation process to complete and click on **Restart Now** to restart your computer.

Now that Hyper-V has been enabled, users need to create a Virtual Switch to share the host machine's network with the virtual machine running on it. Based on the machine's network environment, users need to create one or two virtual switches.

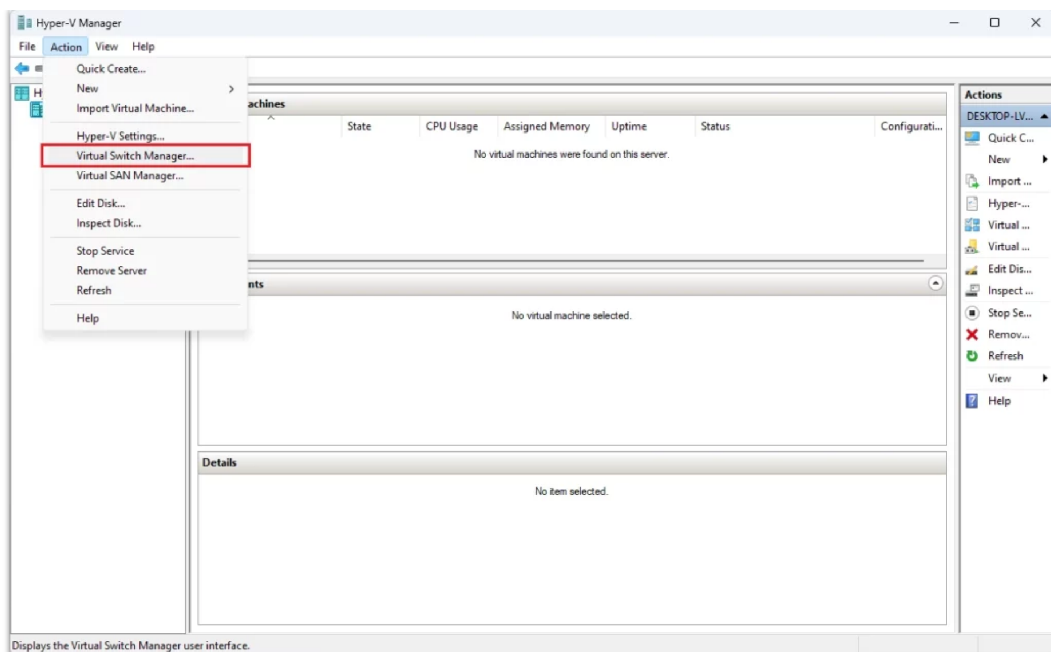
1. Open Hyper-V Manager, select **Action** and click on **Connect to Server**.



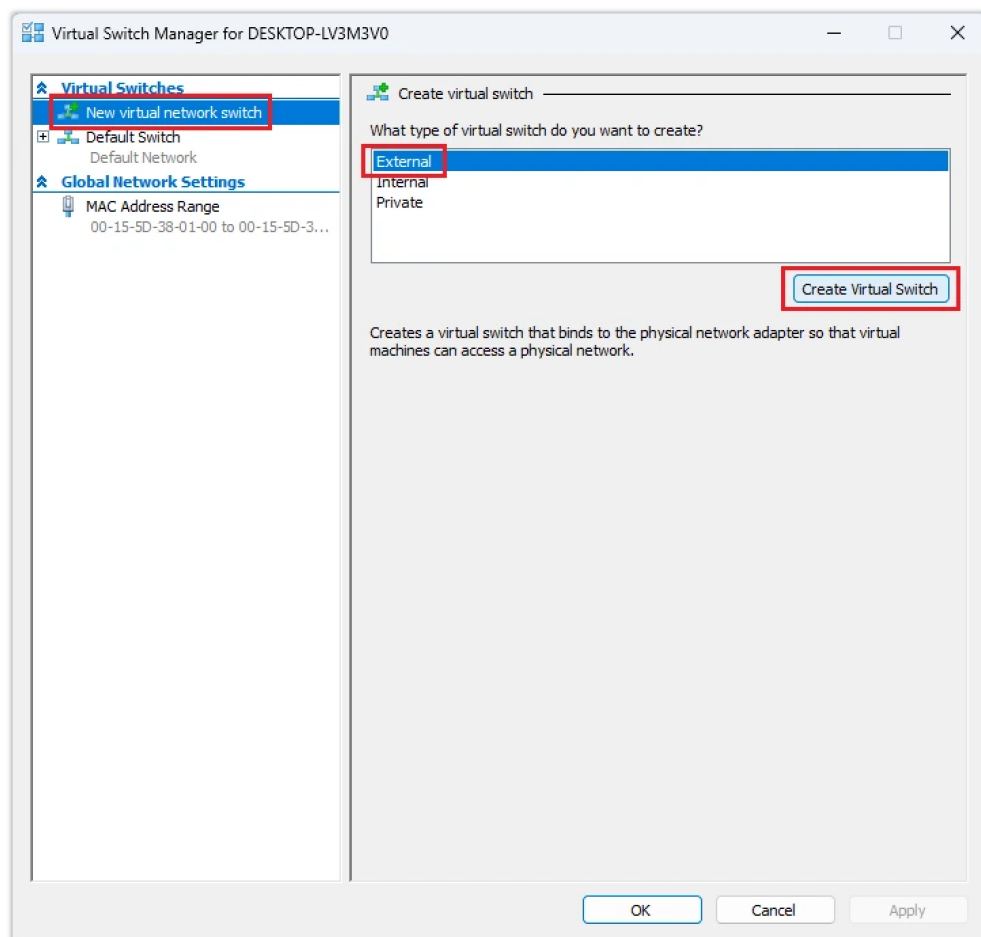
2. Select **Local computer**, then click on OK.



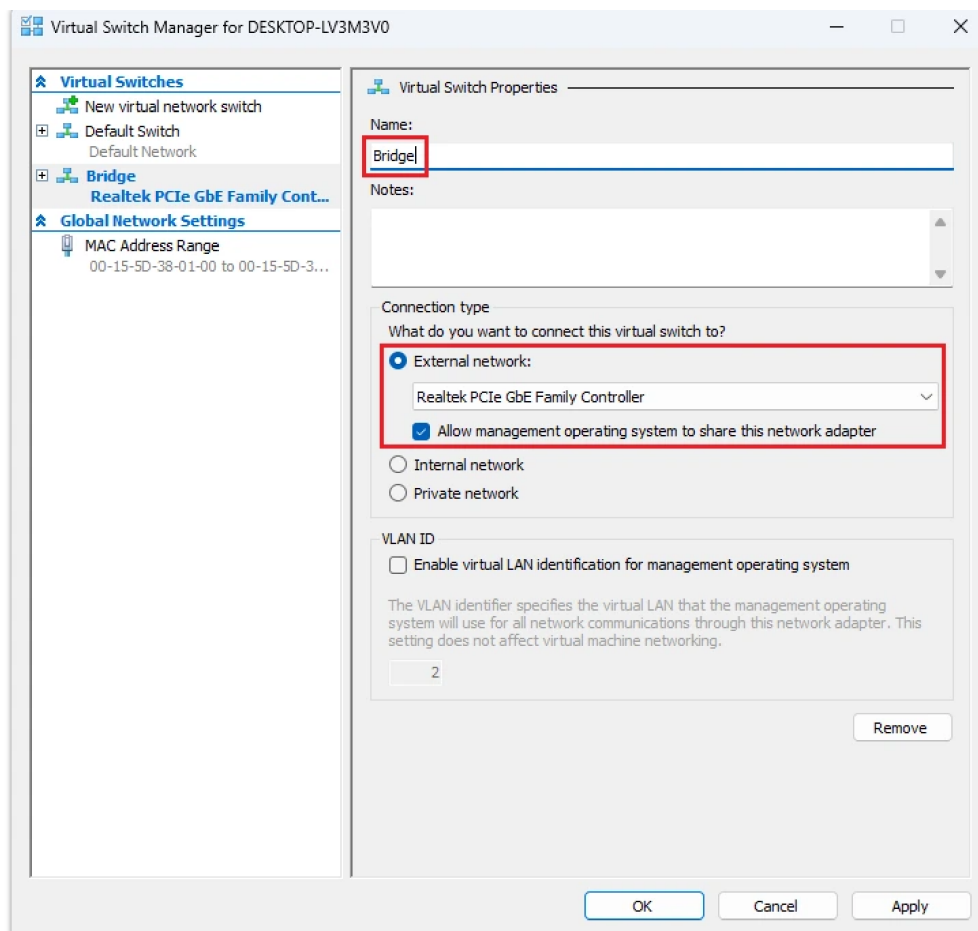
3. Click **Action**→**Virtual Switch Manager** to create a virtual switch.



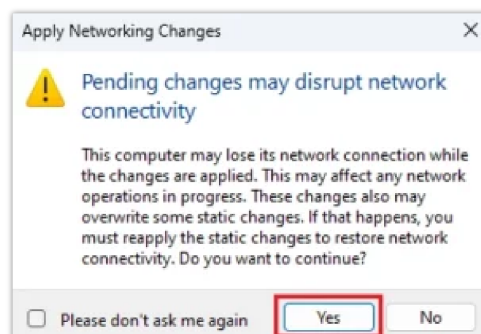
4. Create a virtual switch by selecting **New virtual network switch**. In the type field of virtual switch select **External**, then click on **Create Virtual Switch**.



5. In the **Name field**, enter a name for the virtual switch and select **External network** as **Connection type**. Choose the **physical network card** to be paired with the virtual switch, then click on OK.



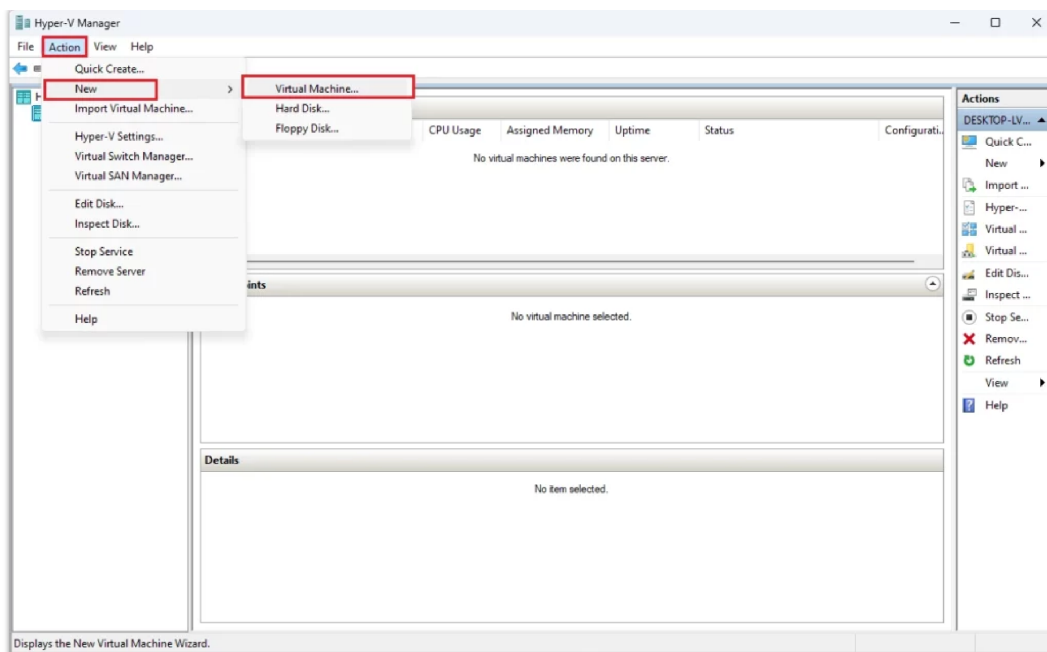
6. Click on **Yes** to apply the previous changes.



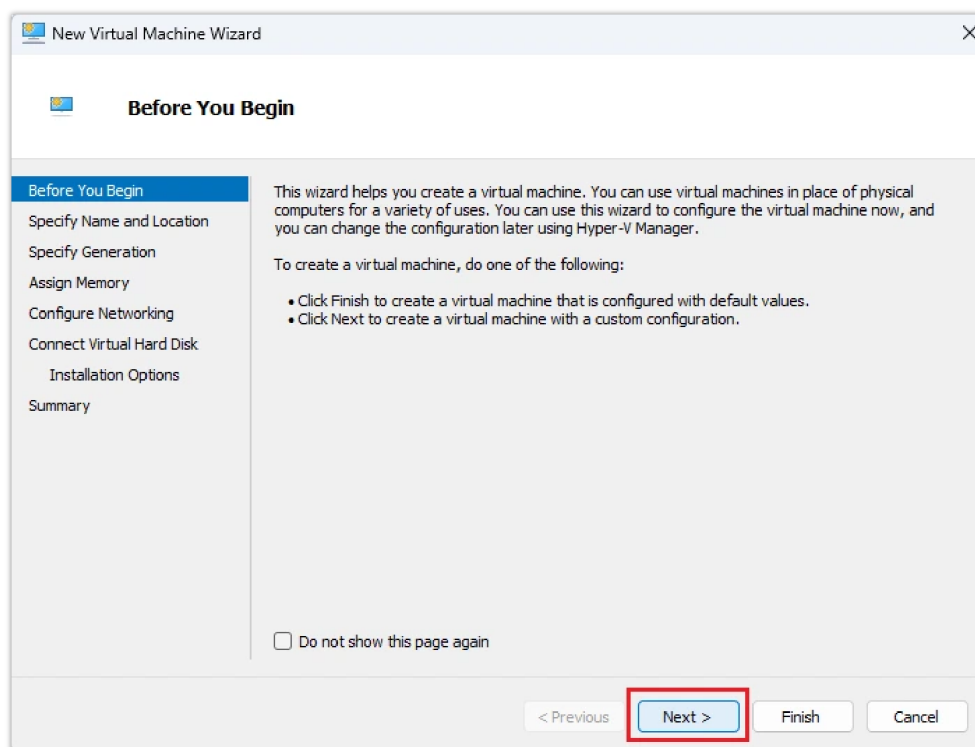
Creating the Virtual Machine on Hyper-V

To create a virtual machine on Hyper-V, please follow the steps below:

1. On Hyper-V Manager, go to **Action**→**New**→**Virtual Machine**.



2. Review the information on the “**Before You Begin**” page and click **Next**.



3. Specify a **Name** to help you identify the virtual machine, choose a **Location** to store configuration files of the virtual machine, and click **Next**.

Specify Name and Location

Before You Begin
Specify Name and Location
 Specify Generation
 Assign Memory
 Configure Networking
 Connect Virtual Hard Disk
 Installation Options
 Summary

Choose a name and location for this virtual machine.

The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the guest operating system or workload.

Name:

You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server.

☒ Store the virtual machine in a different location

Location:

 If you plan to take checkpoints of this virtual machine, select a location that has enough free space. Checkpoints include virtual machine data and may require a large amount of space.

< Previous Next > Finish Cancel

4. Select a generation for the machine and click **Next**.

Specify Generation

Before You Begin
 Specify Name and Location
Specify Generation
 Assign Memory
 Configure Networking
 Connect Virtual Hard Disk
 Installation Options
 Summary

Choose the generation of this virtual machine.

☒ Generation 1
 This virtual machine generation supports 32-bit and 64-bit guest operating systems and provides virtual hardware which has been available in all previous versions of Hyper-V.

☐ Generation 2
 This virtual machine generation provides support for newer virtualization features, has UEFI-based firmware, and requires a supported 64-bit guest operating system.

 Once a virtual machine has been created, you cannot change its generation.

[More about virtual machine generation support](#)

< Previous Next > Finish Cancel

5. Set the **Startup Memory**, uncheck the checkbox of **Use Dynamic Memory for this virtual machine**, and click **Next**.

New Virtual Machine Wizard

Assign Memory

Before You Begin
Specify Name and Location
Specify Generation
Assign Memory
Configure Networking
Connect Virtual Hard Disk
Installation Options
Summary

Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 32 MB through 251658240 MB. To improve performance, specify more than the minimum amount recommended for the operating system.

Startup memory: MB

☐ Use Dynamic Memory for this virtual machine.

i When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run.

< Previous Next > Finish Cancel

6. In the **Connection** drop-down list, select the virtual switch created for the virtual machine, and click **Next**.

New Virtual Machine Wizard

Configure Networking

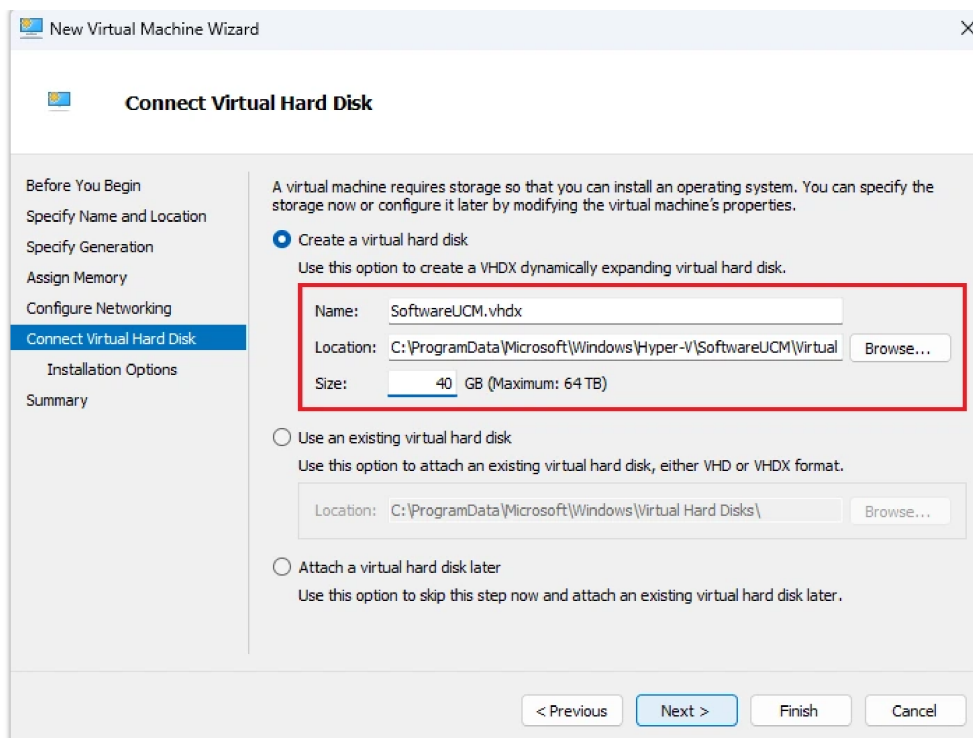
Before You Begin
Specify Name and Location
Specify Generation
Assign Memory
Configure Networking
Connect Virtual Hard Disk
Installation Options
Summary

Each new virtual machine includes a network adapter. You can configure the network adapter to use a virtual switch, or it can remain disconnected.

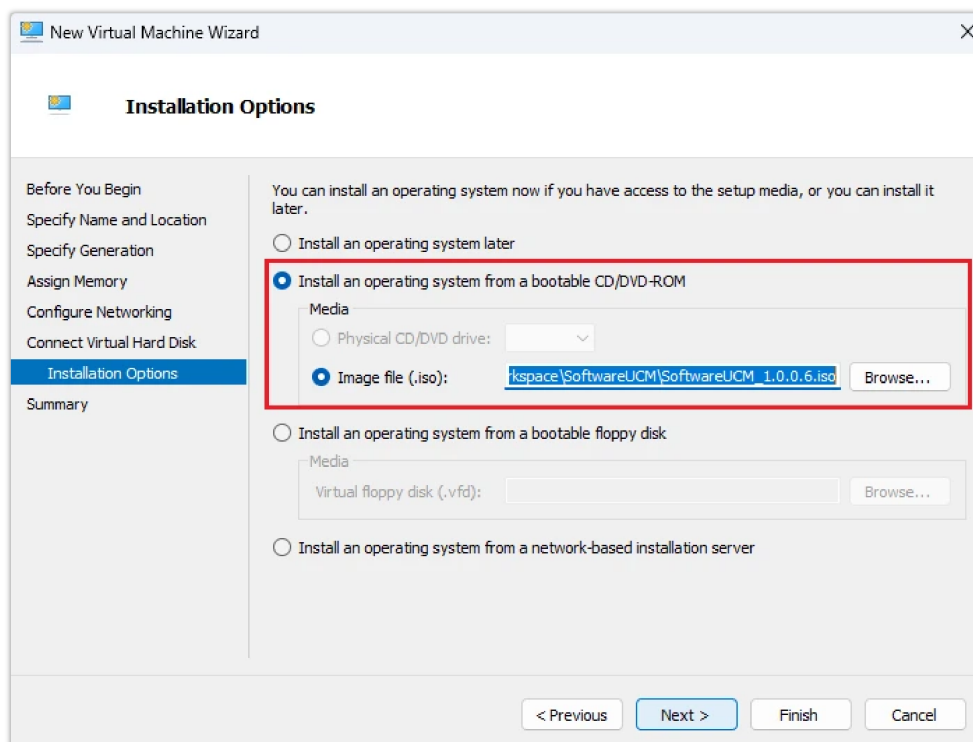
Connection:

< Previous Next > Finish Cancel

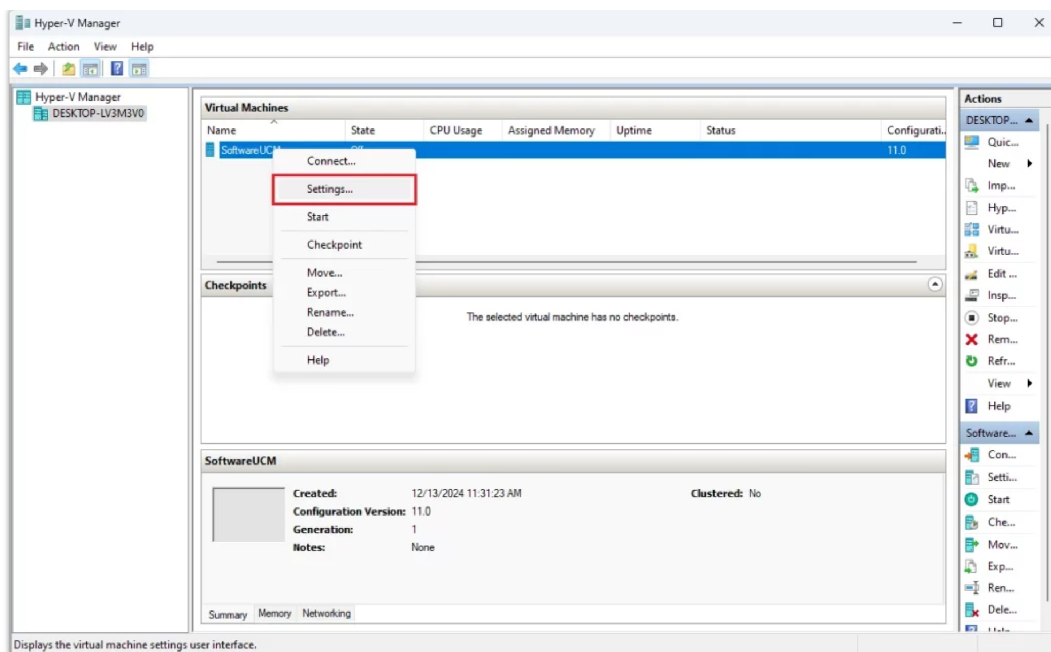
7. Specify a name for the **virtual hard disk**, select a **location**, specify a **size**, and click **Next**.



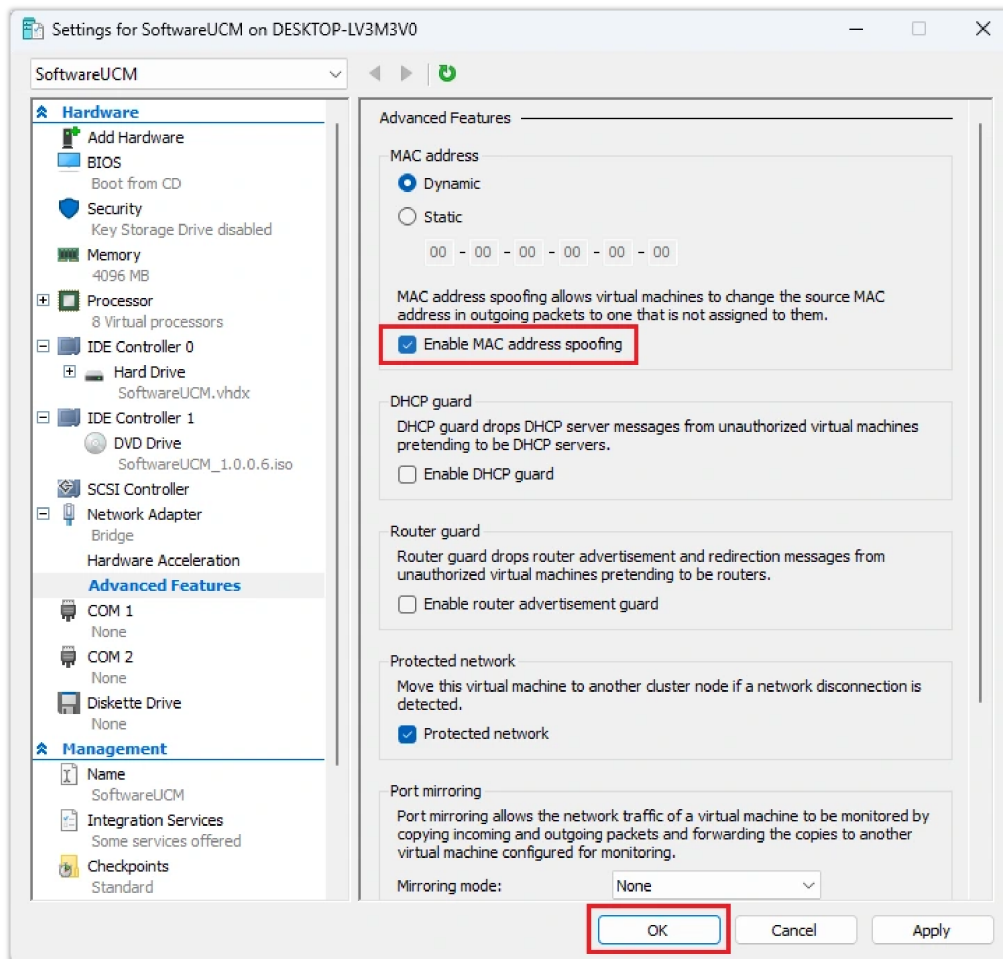
8. Select **Install an operating system from a bootable CD/DVD-ROM**, select an .iso file, and then click **Finish**.



9. Right click the virtual machine, click **Settings** to open the virtual machine settings page.

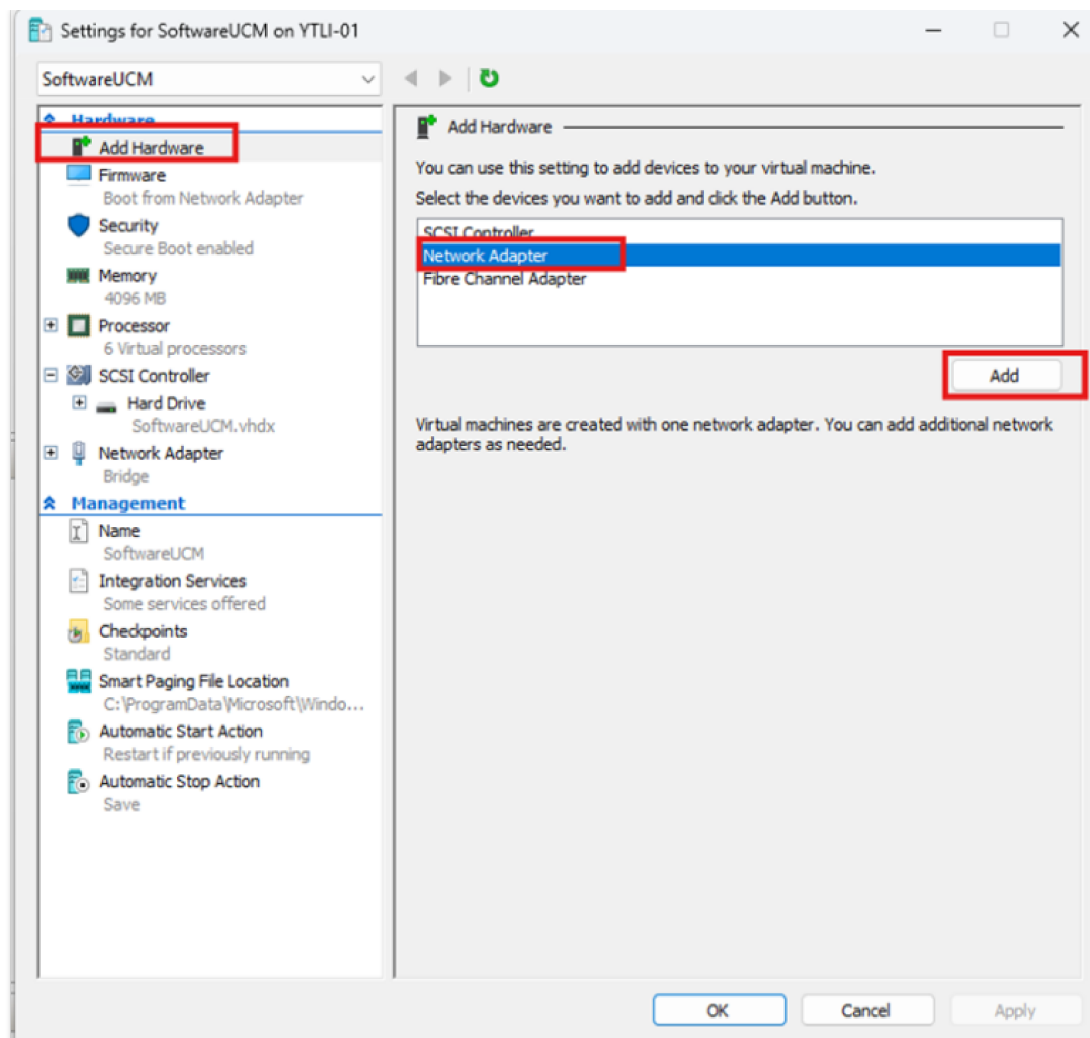


10. Go to **Network Adapter**→**Advanced Features**, select **Enable MAC Address spoofing**, then click OK.

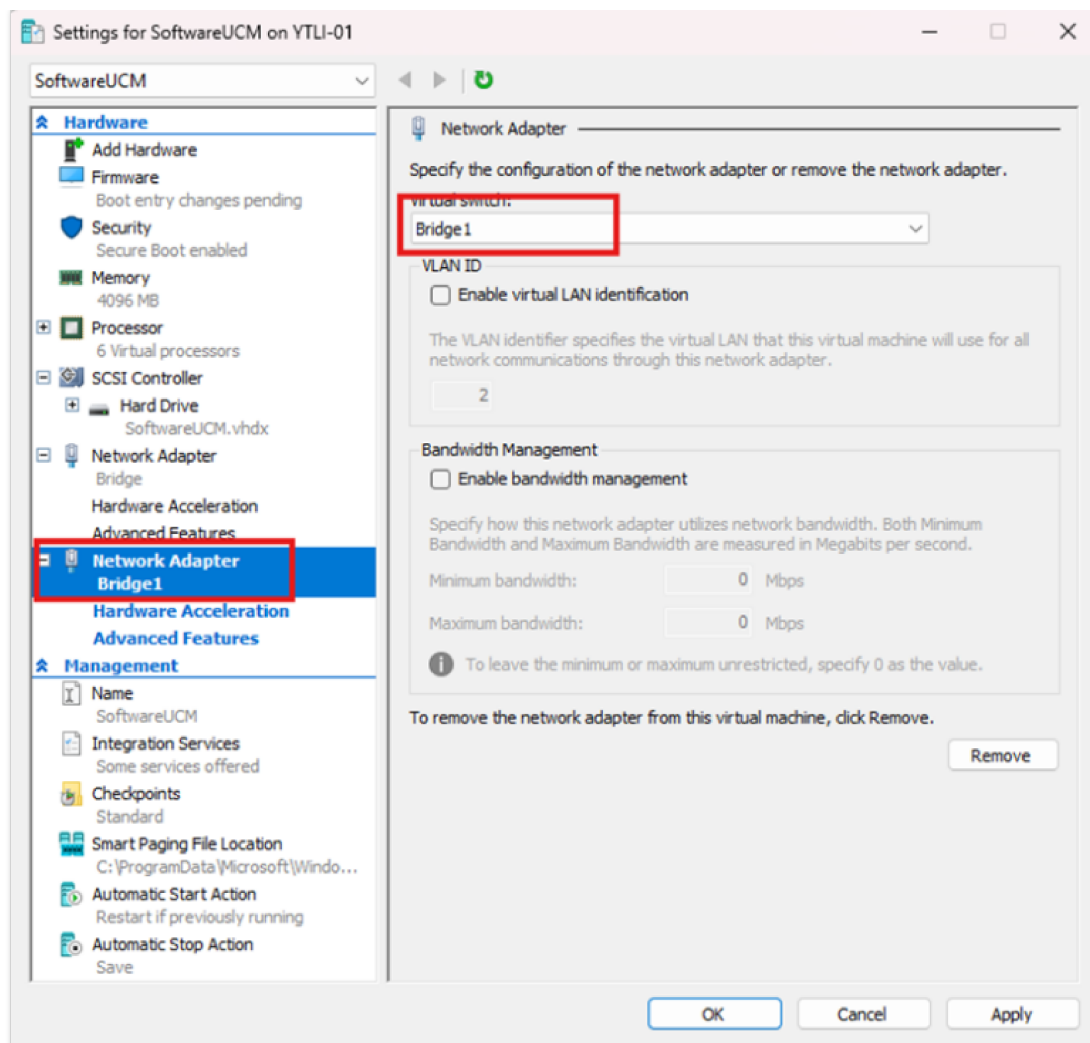


11. Optional: Add a second network interface to the virtual machine.

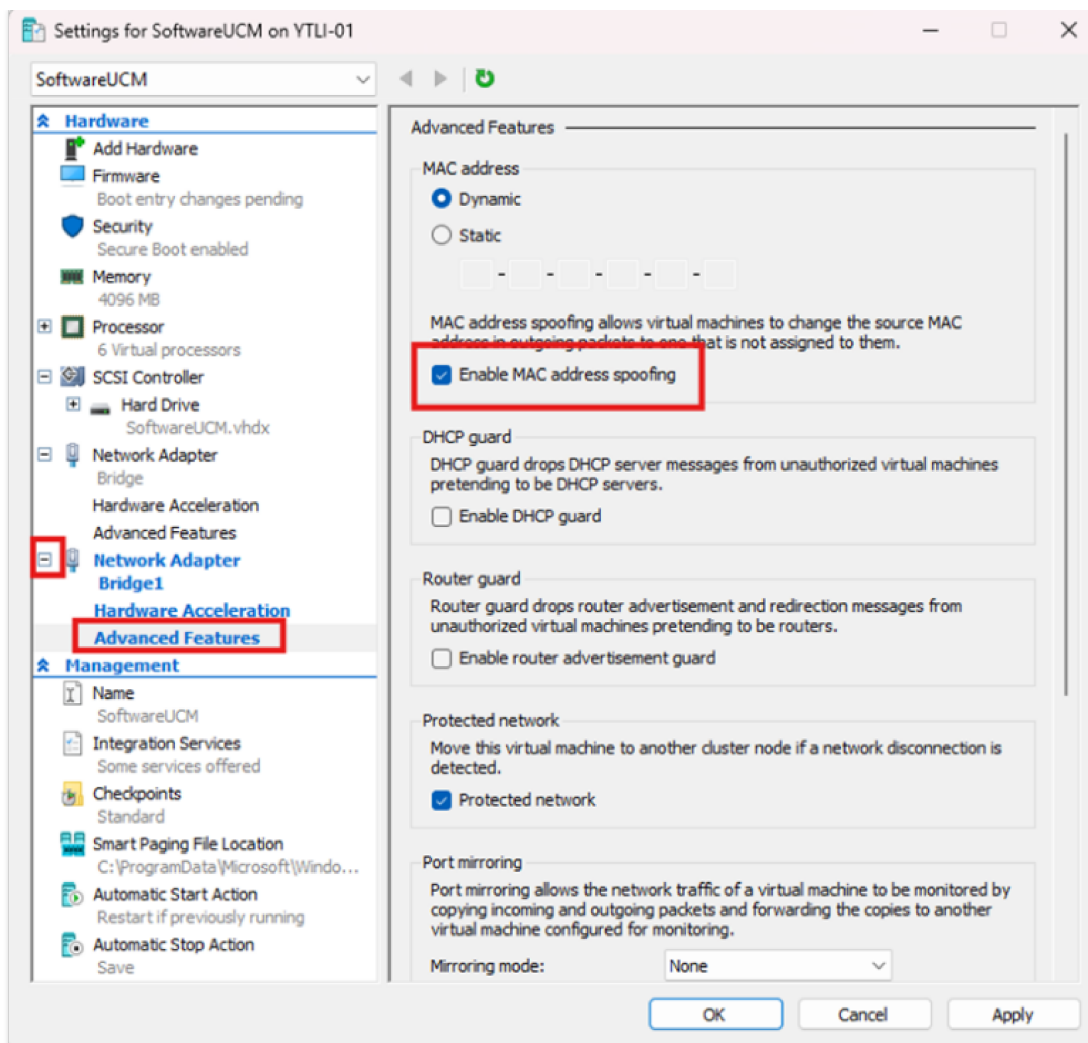
a. Add **Network Adapter**



Select the virtual switch.



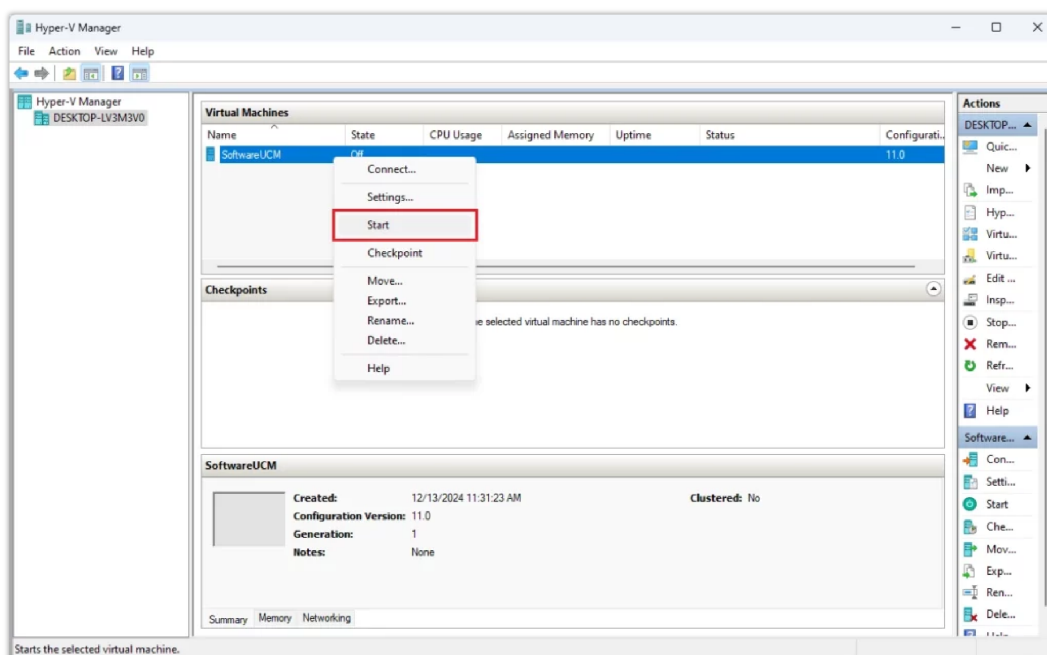
Click on **Network Adapter > Advanced Features**, the select **Enable MAC Address Spoofing**, then click "OK".



Installing and Configuring SoftwareUCM

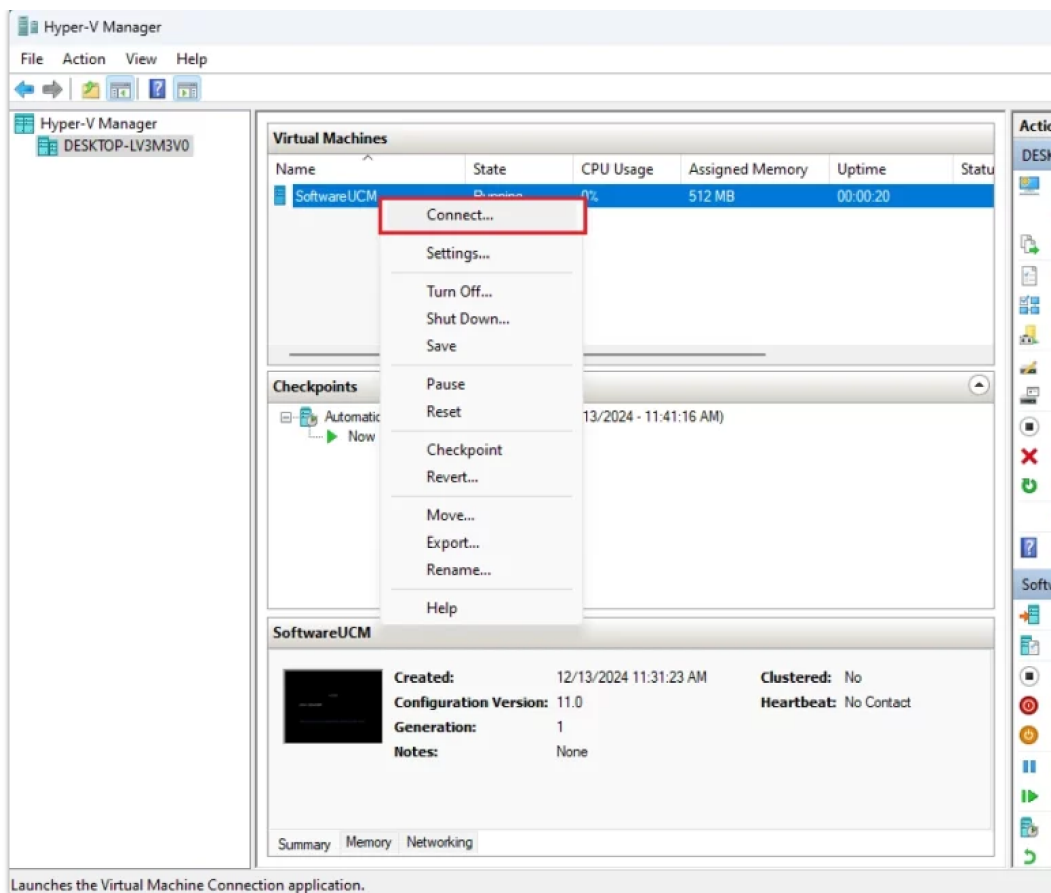
Once the virtual machine is successfully created, users can install SoftwareUCM by following the steps below:

1. Right-click the virtual machine, and click **Start** to start the virtual machine.



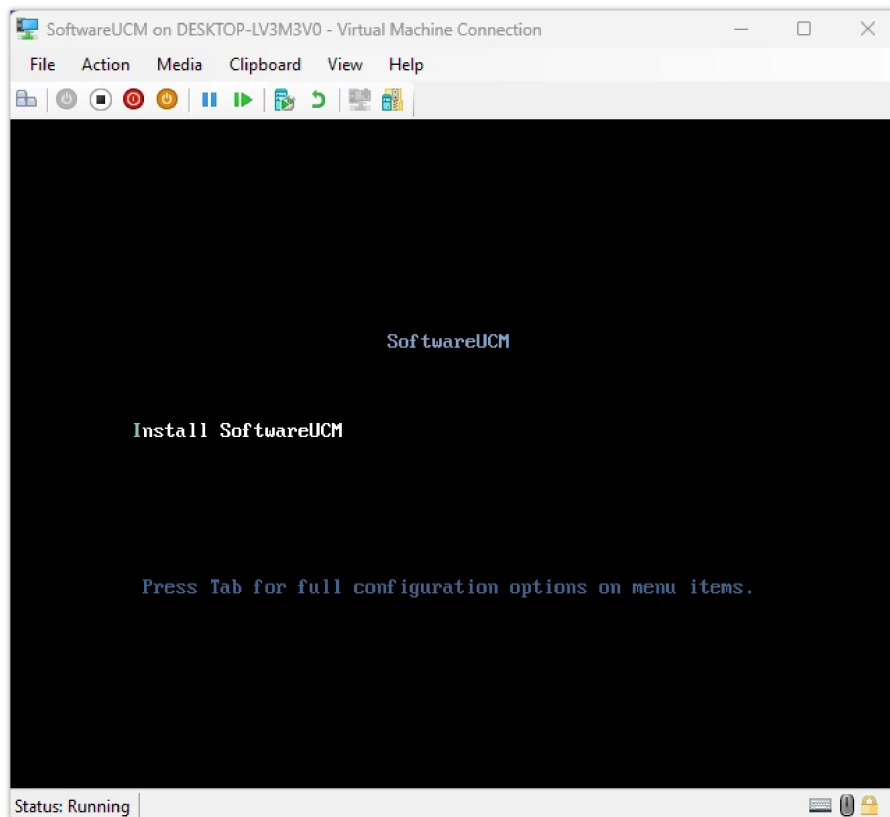
Starting the VM

2. Right-click the virtual machine, and click **Connect** to connect to the virtual machine.



Connecting to the VM

3. Press **Enter** and wait until the installation process is not running.



SoftwareUCM Installation Menu

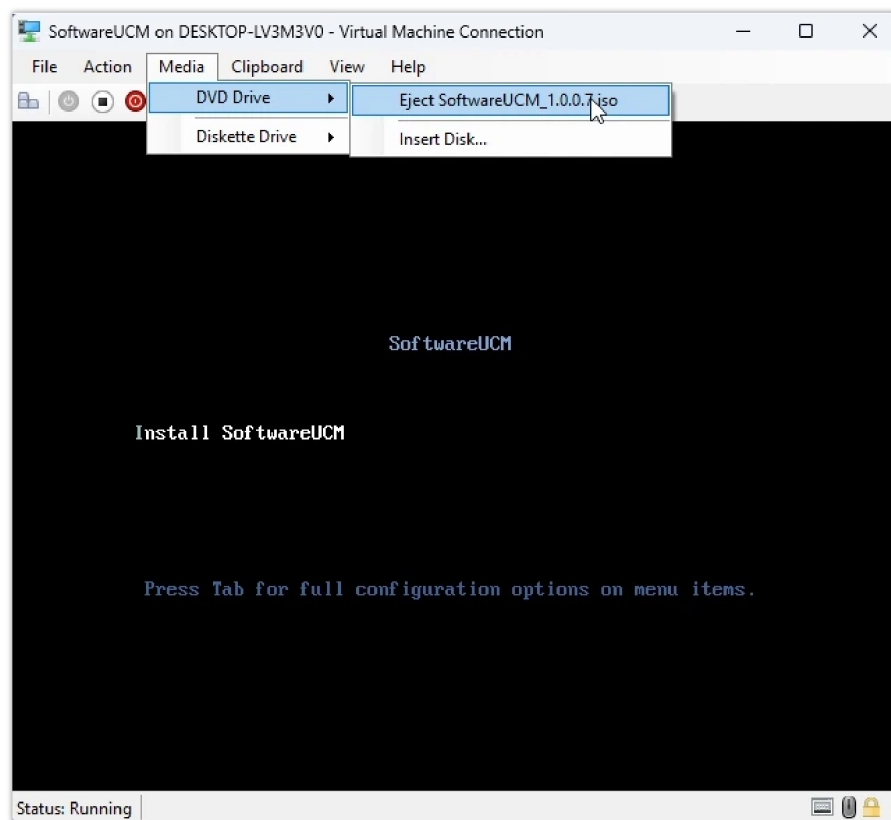
```

installing kpartx.x86_64 (194/351)
installing grub2-pc-modules.noarch (195/351)
installing authselect-libs.x86_64 (196/351)
installing elfutils-default-yama-scope.noarch (197/351)
installing elfutils-libs.x86_64 (198/351)
installing initscripts-service.noarch (199/351)
installing lputils.x86_64 (200/351)
installing libkcapi.x86_64 (201/351)
installing libkcapi-hmaccalc.x86_64 (202/351)
installing kbd.x86_64 (203/351)
installing libndp.x86_64 (204/351)
installing libnhttp2.x86_64 (205/351)
installing libpath_utils.x86_64 (206/351)
installing libini_config.x86_64 (207/351)
installing libpipeline.x86_64 (208/351)
installing libsss_nss_idmap.x86_64 (209/351)
installing libsss_sudo.x86_64 (210/351)
installing libxerto.x86_64 (211/351)
installing krb5-libs.x86_64 (212/351)
installing cyrus-sasl-lib.x86_64 (213/351)
installing openldap.x86_64 (214/351)
installing libssh.x86_64 (215/351)
installing libcurl.x86_64 (216/351)
installing elfutils-debuginfod-client.x86_64 (217/351)
installing binutils-gold.x86_64 (218/351)
installing binutils.x86_64 (219/351)
installing tpm2-tss.x86_64 (220/351)
installing systemd-udev.x86_64 (221/351)
installing dracut.x86_64 (222/351)
installing kernel-modules-core.x86_64 (223/351)
installing kernel-core.x86_64 (224/351)
installing kernel-modules.x86_64 (225/351)

```

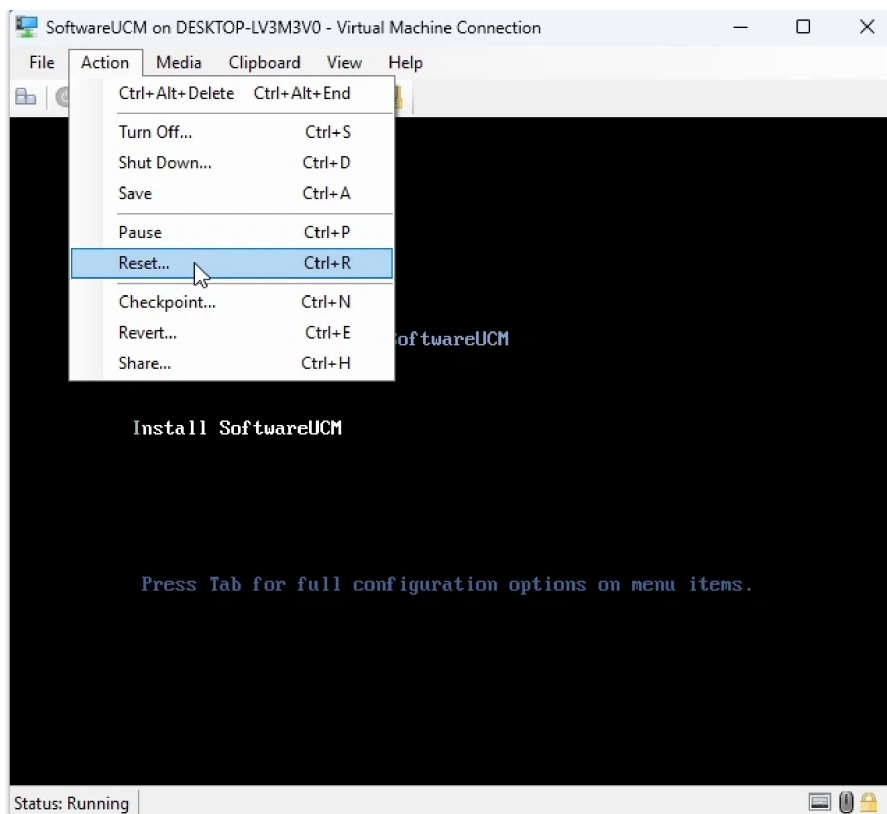
Installation Process

4. After the installation is complete, click **Media**→**DVD Drive**→**Eject** to move out the iso.



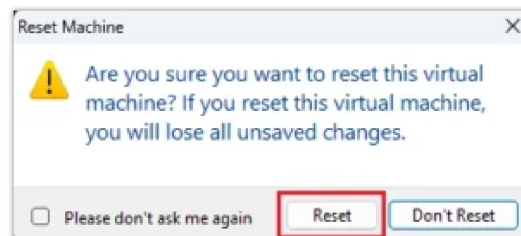
Eject SoftwareUCM Image file

5. Click **Action**→**Reset** to reboot the virtual machine.



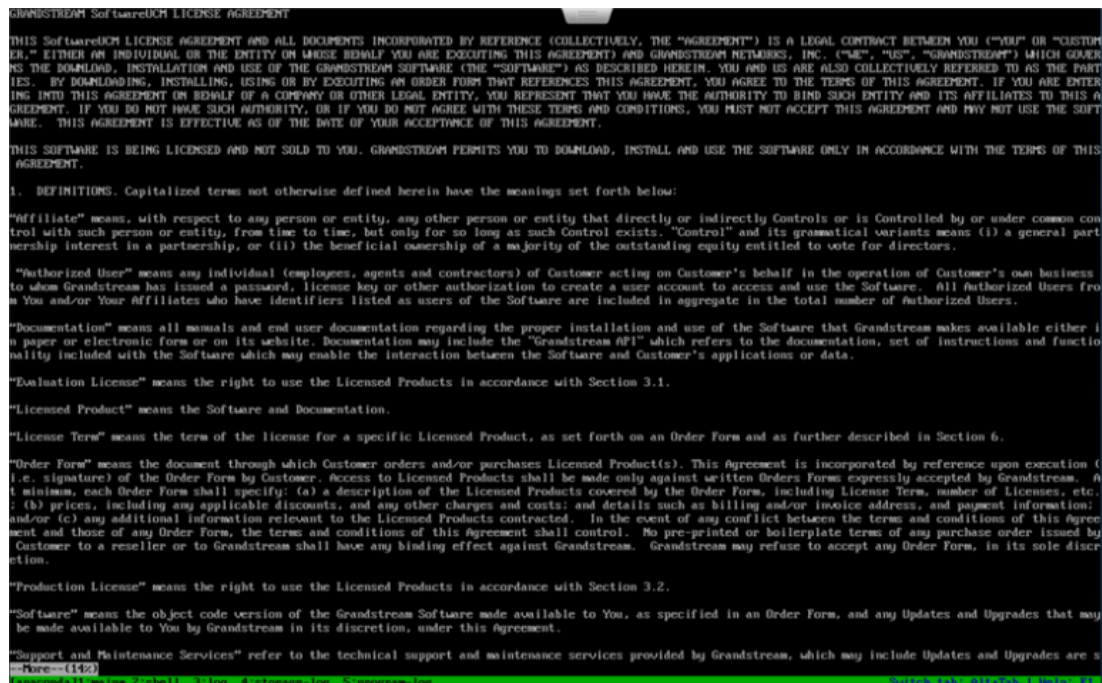
Install SoftwareUCM

Press Tab for full configuration options on menu items.



Resetting the VM

6. Read and accept the license agreement to proceed. Press **Enter** or **PageDown** to scroll down.



7. Enter "y" and press **Enter** to accept the license agreement.

15.3. Export. You will comply fully with all relevant export laws and regulations of the United States of America and any other country ("Export Laws") and will not use any of the Licensed Products. You certify that You are not on any of the relevant U.S. Government Lists of prohibited persons, including but not limited to the Treasury Department's List of Specially Designated Nationals, and the Commerce Department's List of Denied Persons or Entity List. You further certify that You shall not export, re-export, ship, transfer or otherwise use the Licensed Products in any country subject to an embargo or other sanction by the United States of America and that You shall not use the Licensed Products for any purpose prohibited by the Export Laws, including, but not limited to, nuclear, chemical, missile or biological weapons related end uses.

15.4. Publicity. You agree that Grandstream may publish a brief description highlighting your deployment of the Licensed Products and identify You as a Licensee Products evaluator (if applicable) on any of Grandstream's websites, press releases, and/or other marketing materials.

15.5. Feedback. If You send or transmit any communications, comments, questions, suggestions, or related materials to Grandstream, whether by letter, e-mail, telephone, or otherwise ("Feedback"), suggesting or recommending changes to the Licensed Products, including, without limitation, new features or functionality relating thereto, all such Feedback is, and will be exclusively owned by Grandstream. You hereby assign all right, title, and interest in, and Grandstream is free to use, without any attribution or compensation to You, any ideas, know-how, concepts, techniques, and all applicable intellectual property rights relating to the Feedback, whether or not patentable or copyrightable, for any purpose whatsoever, including but not limited to, developing, manufacturing, having manufactured, licensing, marketing, and selling, directly or indirectly, products and services using such Feedback. You agree and understand that Grandstream is not obligated to use, display, reproduce, or distribute any such ideas, know-how, concepts, or techniques contained in the Feedback, and You have no right to compel such use, display, reproduction, or distribution.

15.6. Choice Of Law and Disputes; Injunctive Relief. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, as if performed wholly within the state and without giving effect to the principles of conflict of law rules of any jurisdiction or the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. Any legal action or proceeding arising under this Agreement will be brought exclusively in the federal or state courts located in Massachusetts and the parties hereby consent to personal jurisdiction and venue therein. If a dispute arises between You and Grandstream, and either You or Grandstream files suit in any court of competent jurisdiction to enforce rights under this Agreement, then the prevailing party shall be entitled to recover from the other party all costs of such action or suit, including, but not limited to, investigative costs, court costs and reasonable attorneys' fees (including expenses incurred to collect those expenses). You acknowledge and agree that any use of the Licensed Products in breach of this Agreement is likely to cause Grandstream irreparable harm for which damages will not be an adequate remedy, and that Grandstream will, therefore, be entitled to temporary, preliminary, and permanent injunctive relief in any court of competent jurisdiction to restrain such breach, without prejudice to any other right or remedy.

15.7. General. All notices required or permitted under this Agreement will be in writing and delivered by email, and in each instance will be deemed given upon receipt. Please note that at all times You are responsible for providing Grandstream with Your most current e-mail address. In the event that the last e-mail address that You have provided Grandstream is not valid, or for any reason Grandstream is not capable of delivering notice to You, Grandstream's dispatch of an e-mail containing such notice will nonetheless constitute effective notice. You may not assign, delegate or transfer this Agreement, in whole or in part, by agreement, operation of law or otherwise. Any attempt to assign this Agreement other than as permitted herein will be null and void. Grandstream may assign this Agreement freely. Subject to the foregoing, this Agreement will bind and inure to the benefit of the parties' permitted successors and assigns. This Agreement constitutes the complete and exclusive understanding and agreement between the parties and supersedes any and all prior or contemporaneous agreements, communications and understandings, written or oral, relating to the subject matter hereof. Any waiver, modification or amendment of any provision of this Agreement will be effective only if in writing and signed by duly authorized representatives of both parties.

16. QUESTIONS OR ADDITIONAL INFORMATION. If you have questions regarding this Agreement, or wish to obtain additional information, please contact us at: Grandstream Networks Inc., 126 Brookline Ave, 3rd Floor, Boston, MA 02215 USA and/or <https://helpdesk.grandstream.com/>.

Do you accept the license agreement?(y/n) y

16:28:38 Not asking for UNC because of an automated install

16:28:38 Not asking for UNC because text mode was explicitly asked for in kickstart

Starting automated install.Saving storage configuration...

8. If you have multiple disks, you can choose to install the system on one of them. However, you must set that disk as the first boot device. Tip: In the virtual machine, the displayed disk order represents the current disk boot order.

15.5. Feedback. If You send or transmit any communications, comments, questions, suggestions, or related materials to Grandstream, whether by letter, e-mail, telephone, or otherwise ("Feedback"), suggesting or recommending changes to the Licensed Products, including, without limitation, new features or functionality relating thereto, all such Feedback is, and will be exclusively owned by Grandstream. You hereby assign all right, title, and interest in, and Grandstream is free to use, without any attribution or compensation to You, any ideas, know-how, concepts, techniques, and all applicable intellectual property rights relating to the Feedback, whether or not patentable or copyrightable, for any purpose whatsoever, including but not limited to, developing, manufacturing, having manufactured, licensing, marketing, and selling, directly or indirectly, products and services using such Feedback. You agree and understand that Grandstream is not obligated to use, display, reproduce, or distribute any such ideas, know-how, concepts, or techniques contained in the Feedback, and You have no right to compel such use, display, reproduction, or distribution.

15.6. Choice Of Law and Disputes; Injunctive Relief. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, as if performed wholly within the state and without giving effect to the principles of conflict of law rules of any jurisdiction or the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. Any legal action or proceeding arising under this Agreement will be brought exclusively in the federal or state courts located in Massachusetts and the parties hereby consent to personal jurisdiction and venue therein. If a dispute arises between You and Grandstream, and either You or Grandstream files suit in any court of competent jurisdiction to enforce rights under this Agreement, then the prevailing party shall be entitled to recover from the other party all costs of such action or suit, including, but not limited to, investigative costs, court costs and reasonable attorneys' fees (including expenses incurred to collect those expenses). You acknowledge and agree that any use of the Licensed Products in breach of this Agreement is likely to cause Grandstream irreparable harm for which damages will not be an adequate remedy, and that Grandstream will, therefore, be entitled to temporary, preliminary, and permanent injunctive relief in any court of competent jurisdiction to restrain such breach, without prejudice to any other right or remedy.

15.7. General. All notices required or permitted under this Agreement will be in writing and delivered by email, and in each instance will be deemed given upon receipt. Please note that at all times You are responsible for providing Grandstream with Your most current e-mail address. In the event that the last e-mail address that You have provided Grandstream is not valid, or for any reason Grandstream is not capable of delivering notice to You, Grandstream's dispatch of an e-mail containing such notice will nonetheless constitute effective notice. You may not assign, delegate or transfer this Agreement, in whole or in part, by agreement, operation of law or otherwise. Any attempt to assign this Agreement other than as permitted herein will be null and void. Grandstream may assign this Agreement freely. Subject to the foregoing, this Agreement will bind and inure to the benefit of the parties' permitted successors and assigns. This Agreement constitutes the complete and exclusive understanding and agreement between the parties and supersedes any and all prior or contemporaneous agreements, communications and understandings, written or oral, relating to the subject matter hereof. Any waiver, modification or amendment of any provision of this Agreement will be effective only if in writing and signed by duly authorized representatives of both parties.

16. QUESTIONS OR ADDITIONAL INFORMATION. If you have questions regarding this Agreement, or wish to obtain additional information, please contact us at: Grandstream Networks Inc., 126 Brookline Ave, 3rd Floor, Boston, MA 02215 USA and/or <https://helpdesk.grandstream.com/>.

Do you accept the license agreement?(y/n) y

Installation Destination:

1. vda (25.8GB)

2. vdb (28.9GB)

anaconda11:~# 2:shell 3:log 4:storage-log 5:program-log

Switch Tab: Alt+Tab | Help: F1

9. Wait until the installation is completed before proceeding.

```

installing kpartx.x86_64 (194/351)
installing grub2-pc-modules.noarch (195/351)
installing authselect-libs.x86_64 (196/351)
installing elfutils-default-yama-scope.noarch (197/351)
installing elfutils-libs.x86_64 (198/351)
installing initscripts-service.noarch (199/351)
installing iputils.x86_64 (200/351)
installing libkcapi.x86_64 (201/351)
installing libkcapi-hmaccalc.x86_64 (202/351)
installing kbd.x86_64 (203/351)
installing libndp.x86_64 (204/351)
installing libnhttp2.x86_64 (205/351)
installing libpath_utils.x86_64 (206/351)
installing libini_config.x86_64 (207/351)
installing libpipeline.x86_64 (208/351)
installing libsss_nss_idmap.x86_64 (209/351)
installing libsss_sudo.x86_64 (210/351)
installing libxerto.x86_64 (211/351)
installing krb5-libs.x86_64 (212/351)
installing cyrus-sasl-lib.x86_64 (213/351)
installing openldap.x86_64 (214/351)
installing libssh.x86_64 (215/351)
installing libcurl.x86_64 (216/351)
installing elfutils-debuginfod-client.x86_64 (217/351)
installing binutils-gold.x86_64 (218/351)
installing binutils.x86_64 (219/351)
installing tpm2-tss.x86_64 (220/351)
installing systemd-udev.x86_64 (221/351)
installing dracut.x86_64 (222/351)
installing kernel-modules-core.x86_64 (223/351)
installing kernel-core.x86_64 (224/351)
installing kernel-modules.x86_64 (225/351)

```

Installation Process

Configure a Static IP

SoftwareUCM is now installed with a DHCP-assigned IP address and an instance set up. If you prefer a static IP address or if your network does not support DHCP, you can easily change SoftwareUCM's IP address by following these instructions:

SoftwareUCM is now installed with a DHCP-assigned IP address and an instance set up. If you prefer a static IP address or if your network does not support DHCP, you can easily change SoftwareUCM's IP address by following these instructions:

1. Login with user **"support"**, and set the password.

```

AlmaLinux 9.4 (Seafoam Ocelot)
Kernel 5.14.0-427.13.1.el9_4.x86_64 on an x86_64

SoftwareUCM login: support
Please set password for user "support" (8-32 characters).
New Password:
Retype new password:
Password configured successfully.

Please enter select:
[1] SoftwareUCM Management.
[2] System Information.
[3] System Settings.
[4] Maintenance.
[5] API Configuration.
[0] Exit.

```

SoftwareUCM Support User

2. Press "1" followed by **Enter** , to access SoftwareUCM Management.
3. Select **Network Settings**→**Update network configuration** to set up an IP address, netmask, gateway IP address, and a preferred DNS server.

```

Please enter select:
[1] List SoftwareUCMs.
[2] Create SoftwareUCM.
[3] Delete SoftwareUCM.
[4] Restart SoftwareUCM.
[5] Network Settings.
[6] Show Resource Usage.
[7] Change Resource Limit.
[8] Reset Factory Password.
[9] Factory Reset.
[0] Exit.
5

When using Single Tenant mode, modifying the SoftwareUCM instance's network will also affect the host's. Do you want to continue? (y/n) y

Please enter SoftwareUCM instance name:
ucm1

Please enter the IP assignment method:
[1] DHCP.
[2] Static.
[0] Exit.
2

Please enter IP address:
192.168.130.159
Please enter netmask:
255.255.255.0
Please enter gateway:
192.168.130.1
Please enter DNS server:
8.8.8.8

Configuring the network.
Configured the network successfully.

Waiting for SoftwareUCM instance initialization to complete.
The SoftwareUCM instance ucm1 is already accessible.

```

SoftwareUCM Network Configuration

4. Choose the Exit option "0" to return to the initial selection page, then go to **SoftwareUCM Manage** → **List SoftwareUCM** to view the access information of the instance. (Make sure the status is "Running").

Note:

If the instance did not get assigned an IP address, "Admin Portal" will appear blank.

```

Please enter select:
[1] List SoftwareUCMs
[2] Create SoftwareUCM.
[3] Delete SoftwareUCM.
[4] Restart SoftwareUCM.
[5] Network Settings.
[6] Show Resource Usage.
[7] Change Resource Limit.
[8] Reset Factory Password.
[9] Factory Reset.
[0] Exit.
1

Current Mode: Single Tenant

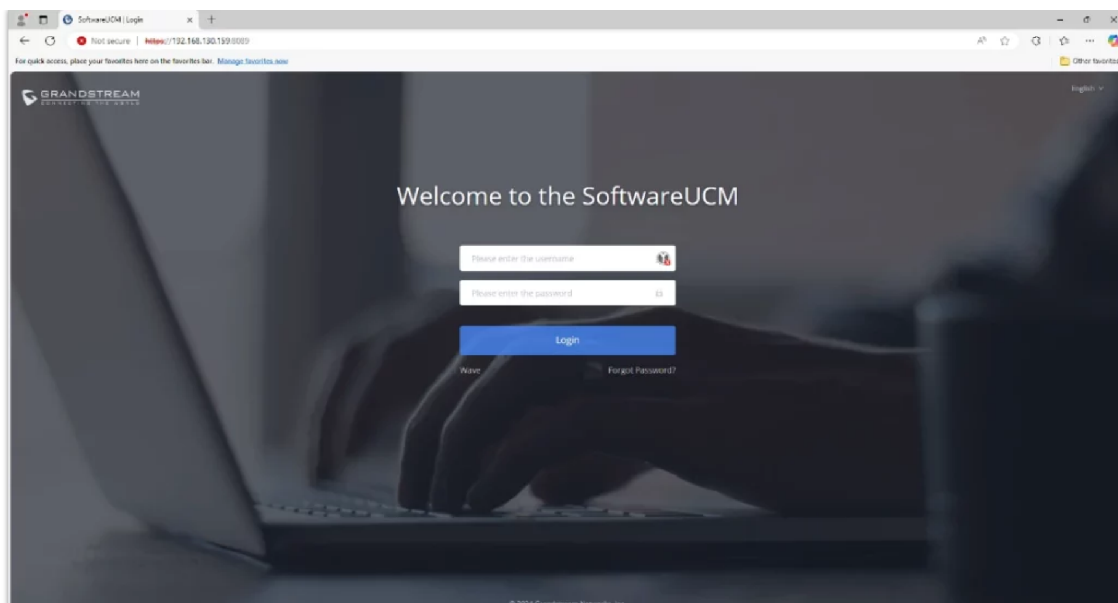
SoftwareUCM Information:
  Instance Name: ucm1
  Status: running
  Version: 1.0.27.15
  Admin Portal: https://192.168.130.159:8089
  Initial Username: admin
  Initial Password: SoftUCM@admin

```

List SoftwareUCM Information

Accessing SoftwareUCM

To access SoftwareUCM, users need to enter the IP-based URL listed under **Admin Portal** and log in using the **initial username** and **password**.



SoftwareUCM Login Page
