



INSTALLING OPERATING SYSTEMS  
FOR NVIDIA SERVERS  
ARS-111GL-NHR  
ARS-111GL-SHR

USER'S MANUAL

Revision 1.0

The information in this User's Manual has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, and makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates. Please Note: For the most up-to-date version of this manual, please see our website at [www.supermicro.com](http://www.supermicro.com).

Super Micro Computer, Inc. ("Supermicro") reserves the right to make changes to the product described in this manual at any time and without notice. This product, including software and documentation, is the property of Supermicro and/or its licensors, and is supplied only under a license. Any use or reproduction of this product is not allowed, except as expressly permitted by the terms of said license.

IN NO EVENT WILL Super Micro Computer, Inc. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, SPECULATIVE OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT OR DOCUMENTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, SUPER MICRO COMPUTER, INC. SHALL NOT HAVE LIABILITY FOR ANY HARDWARE, SOFTWARE, OR DATA STORED OR USED WITH THE PRODUCT, INCLUDING THE COSTS OF REPAIRING, REPLACING, INTEGRATING, INSTALLING OR RECOVERING SUCH HARDWARE, SOFTWARE, OR DATA.

Any disputes arising between manufacturer and customer shall be governed by the laws of Santa Clara County in the State of California, USA. The State of California, County of Santa Clara shall be the exclusive venue for the resolution of any such disputes. Supermicro's total liability for all claims will not exceed the price paid for the hardware product.

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.

Manual Revision 1.0

Release Date: September 09, 2024

mk

Unless you request and receive written permission from Super Micro Computer, Inc., you may not copy any part of this document. Information in this document is subject to change without notice. Other products and companies referred to herein are trademarks or registered trademarks of their respective companies or mark holders.

Copyright © 2024 by Super Micro Computer, Inc.  
All rights reserved.

**Printed in the United States of America**

# Preface

## About this Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of this module. Installation and maintenance should be performed by experienced technicians only.

## Notes

If you have any questions, please contact our support team at:

[support@supermicro.com](mailto:support@supermicro.com)

This manual may be periodically updated without notice. Please check the Supermicro website for possible updates to the manual revision level.

# Contents

## **1. Installing Ubuntu 22.04**

<b>Prerequisites</b> .....	<b>7</b>
Obtaining the Ubuntu 22.04 ISO.....	7
Connecting to BMC Network.....	7
Connecting to Ethernet Using a Network Card .....	7
Step 1: Obtaining the BMC Address .....	8
Step 2. Accessing the BMC Remote Server.....	9
Log in to BMC Remote Server.....	9
Step 3. Remote Controlling the BMC.....	10
Launch an HTML5 Remote Browser .....	11
Step 4. Mounting the ISO image.....	12
Mount the ISO Image Using a Local File .....	12
Mount the ISO Image through a Shared Server.....	17
Step 5. Setting Boot Override in UEFI BIOS .....	19
Step 6. Installing Ubuntu 22.04 OS .....	22

## **2. Installing Red Hat Enterprise Linux 9.3**

<b>Prerequisites</b> .....	<b>30</b>
Obtaining the Red Hat Enterprise Linux (RHEL) 9.3 ISO .....	30
Connecting to BMC network .....	30
Step 1: Obtaining the BMC Address .....	30
Step 2. Accessing the BMC Remote Server.....	31
Log in to BMC Remote Server.....	31
Step 3. Remote Controlling the BMC.....	32
Launch an HTML5 Remote Browser .....	33
Step 4. Mounting the ISO image.....	34
Mount the ISO Image Using a Local File .....	34
Mount the ISO Image through Shared Server.....	38
Step 5. Setting Boot Override in UEFI BIOS .....	40
Step 6. Installing RHEL 9.3 OS .....	43

---

---

### **3. Installing SUSE Linux Enterprise Server 15**

<b>Prerequisites</b> .....	<b>53</b>
Obtaining the SLES ISO .....	53
Connecting to BMC network .....	53
Opening SSH to the BMC from PuTTY terminal .....	53
Step 1. Obtaining the BMC IP Address .....	54
Step 2. Accessing the BMC Remote Server.....	55
Log in to BMC Remote Server.....	55
Step 3. Remote Controlling the BMC.....	56
Launch an HTML5 Remote Browser .....	57
Step 4. Mounting the ISO image.....	58
Mount the ISO Image Using a Local File .....	58
Mount the ISO Image through Shared Server.....	62
Step 5. Setting Boot Override in UEFI BIOS .....	64
Step 6. Opening a SSH SOL Connection in PuTTY .....	65
Step 7. Setting the Boot Option in the PuTTY terminal.....	67
Step 8. Installing SLES 15 OS.....	70

---

---

## Contacting Supermicro

### Headquarters

Address: Super Micro Computer, Inc.  
980 Rock Ave.  
San Jose, CA 95131 U.S.A.

Tel: +1 (408) 503-8000

Fax: +1 (408) 503-8008

Email: marketing@supermicro.com (General Information)  
Sales-USA@supermicro.com (Sales Inquiries)  
Government\_Sales-USA@supermicro.com (Gov. Sales Inquiries)  
support@supermicro.com (Technical Support)  
RMA@supermicro.com (RMA Support)  
Webmaster@supermicro.com (Webmaster)

Website: [www.supermicro.com](http://www.supermicro.com)

### Europe

Address: Super Micro Computer B.V.  
Het Sterrenbeeld 28, 5215 ML  
's-Hertogenbosch, The Netherlands

Tel: +31 (0) 73-6400390

Fax: +31 (0) 73-6416525

Email: Sales\_Europe@supermicro.com (Sales Inquiries)  
Support\_Europe@supermicro.com (Technical Support)  
RMA\_Europe@supermicro.com (RMA Support)

Website: [www.supermicro.nl](http://www.supermicro.nl)

### Asia-Pacific

Address: Super Micro Computer, Inc.  
3F, No. 150, Jian 1st Rd.  
Zhonghe Dist., New Taipei City 235  
Taiwan (R.O.C)

Tel: +886-(2) 8226-3990

Fax: +886-(2) 8226-3992

Email: Sales-Asia@supermicro.com.tw (Sales Inquiries)  
Support@supermicro.com.tw (Technical Support)  
RMA@supermicro.com.tw (RMA Support)

Website: [www.supermicro.com.tw](http://www.supermicro.com.tw)

# 1. Installing Ubuntu 22.04

## Prerequisites

This section outlines the required (or recommended) prerequisites.

### Obtaining the Ubuntu 22.04 ISO

Obtain the Ubuntu Server ISO for ARM image (aarch64) and save it to your local disk or a shared server. It is recommended to use Ubuntu Server 22.04.4 LTS. Please refer to the "Ubuntu Server for ARM" for the ISO packages.

### Connecting to BMC Network

To utilize BMC remote functionality, ensure that the network is connected to the BMC.

### Connecting to Ethernet Using a Network Card

During the Ubuntu 22.04 installation process, network configuration is essential to test the connection to mirror locations for Ubuntu repositories and archives. Ensure Ethernet connectivity by using a network card. If there is a firewall configuration within your network, the mirror location test may fail. In such cases, disconnect the Ethernet cable for the OS installation. The OS installation can still be successful without an Ethernet connection for obtaining the latest updates. For further details, please refer to Step 6. Installing Ubuntu 22.04 OS.

## Step 1: Obtaining the BMC Address

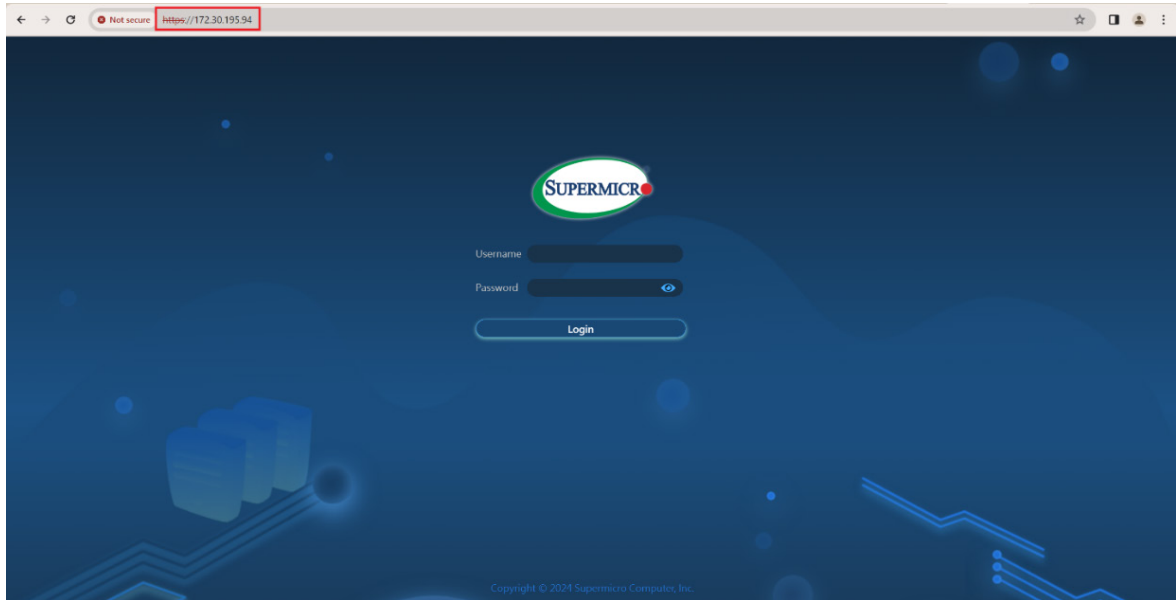
Connect the system to a monitor or display using a Mini DisplayPort (Mini DP) or a Mini DisplayPort-to-DisplayPort (DP) adapter. Ensure that network is connected to BMC using a network cable and power on the system. The BMC IP address will appear on the right corner of the Supermicro Logo screen.



## Step 2. Accessing the BMC Remote Server

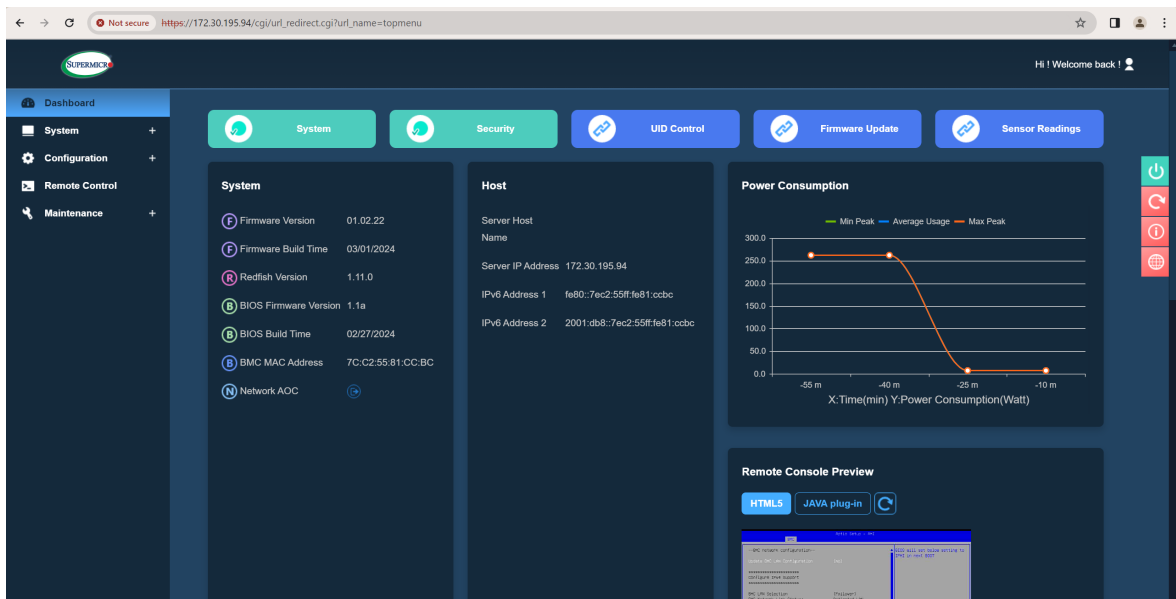
### Log in to BMC Remote Server

1. In the terminal, execute a ping command to the BMC IP address, such as 172.30.195.94, to verify its connectivity.
2. Launch a new web browser and input the BMC IP address into the URL field. The BMC Remote Console login screen is displayed.



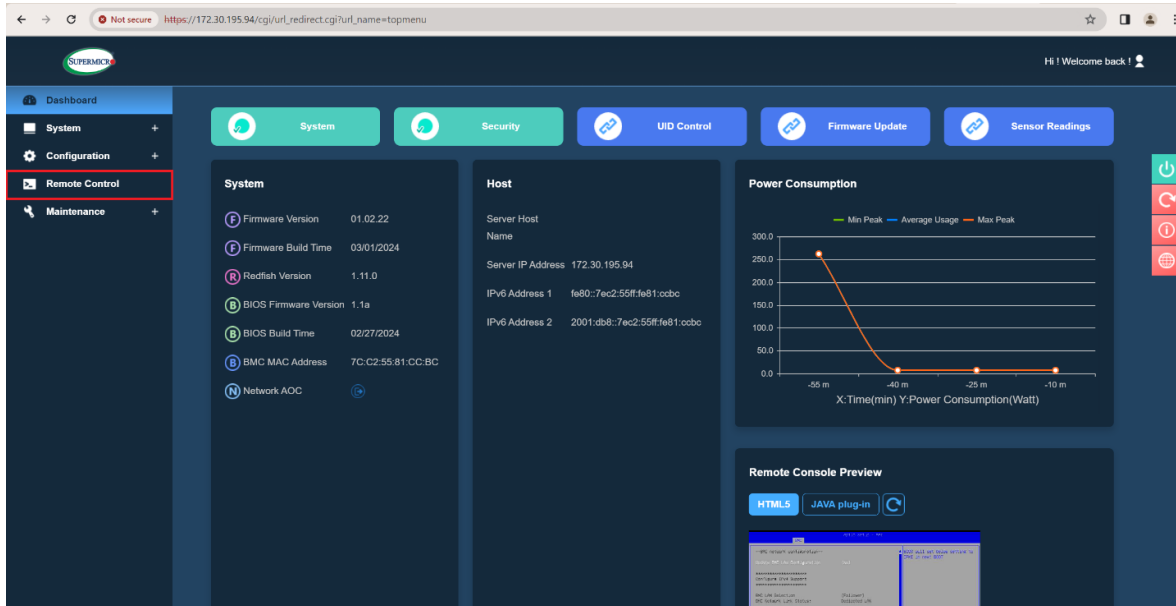
3. Input the username 'ADMIN' and the unique BMC password, which is located on the label on the opposite side of the service tag of the system. Click **Login** to proceed.

The BMC Dashboard appears with insights into system overview, configuration, health status, and maintenance.

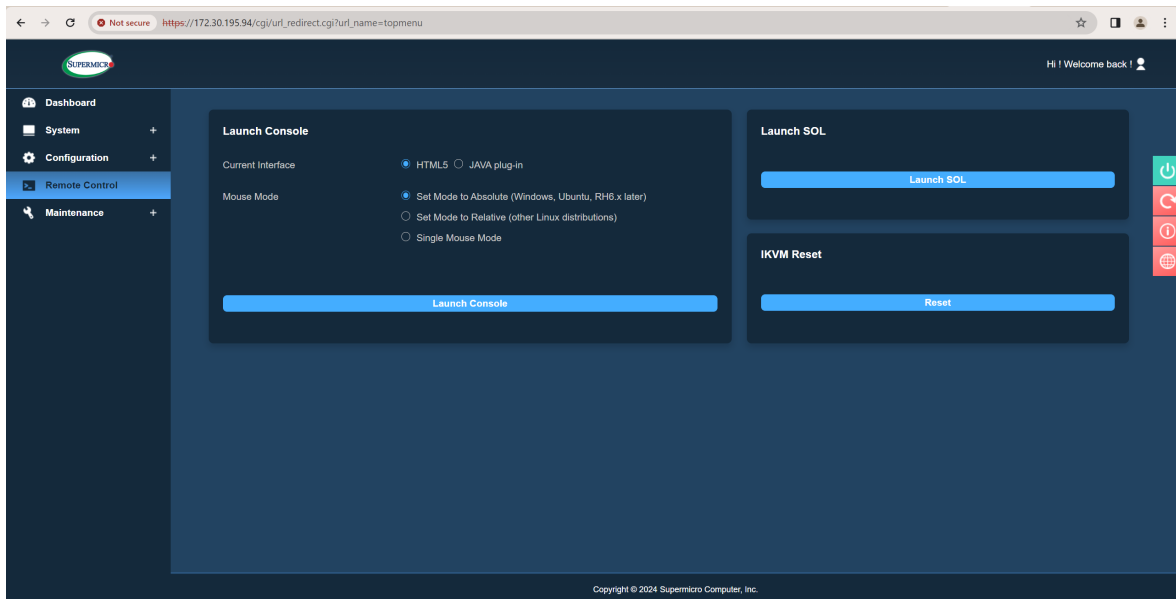


## Step 3. Remote Controlling the BMC

1. Click the Remote Control menu in the BMC Remote Server to enable remote server operations.



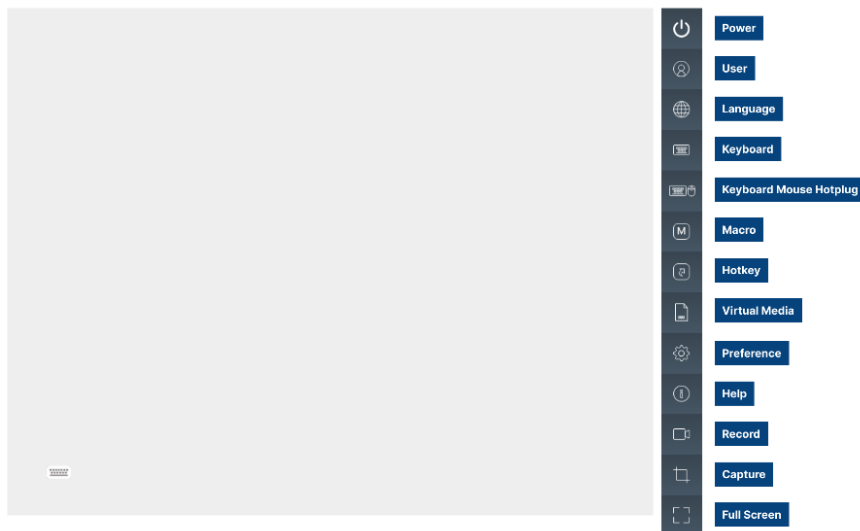
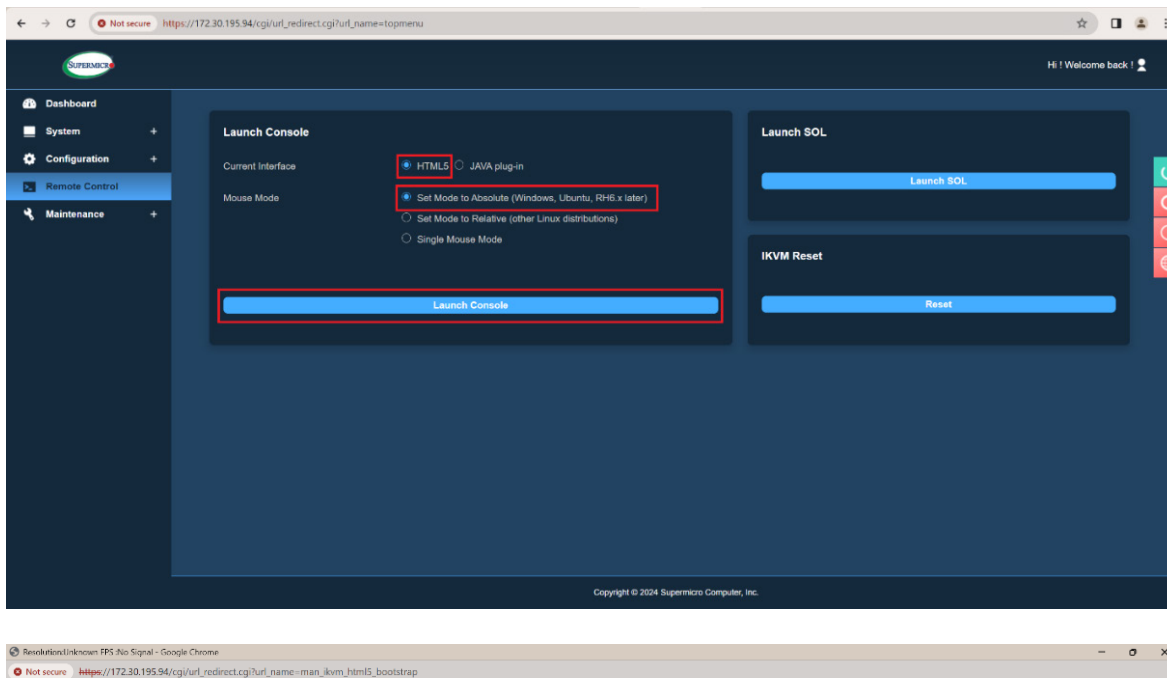
2. Use the Launch Console section to configure the remote console interface settings. Choose between the HTML5 interface or a JAVA plug-in.



## Launch an HTML5 Remote Browser

To launch an HTML5 remote browser:

1. Set HTML5 as the current interface.
2. Choose the mouse mode according to your operating system, such as "Set Mode to Absolute" (Windows, Ubuntu, RH6.x, or later)".
3. Click the **Launch Console** button to open a console in a new browser window

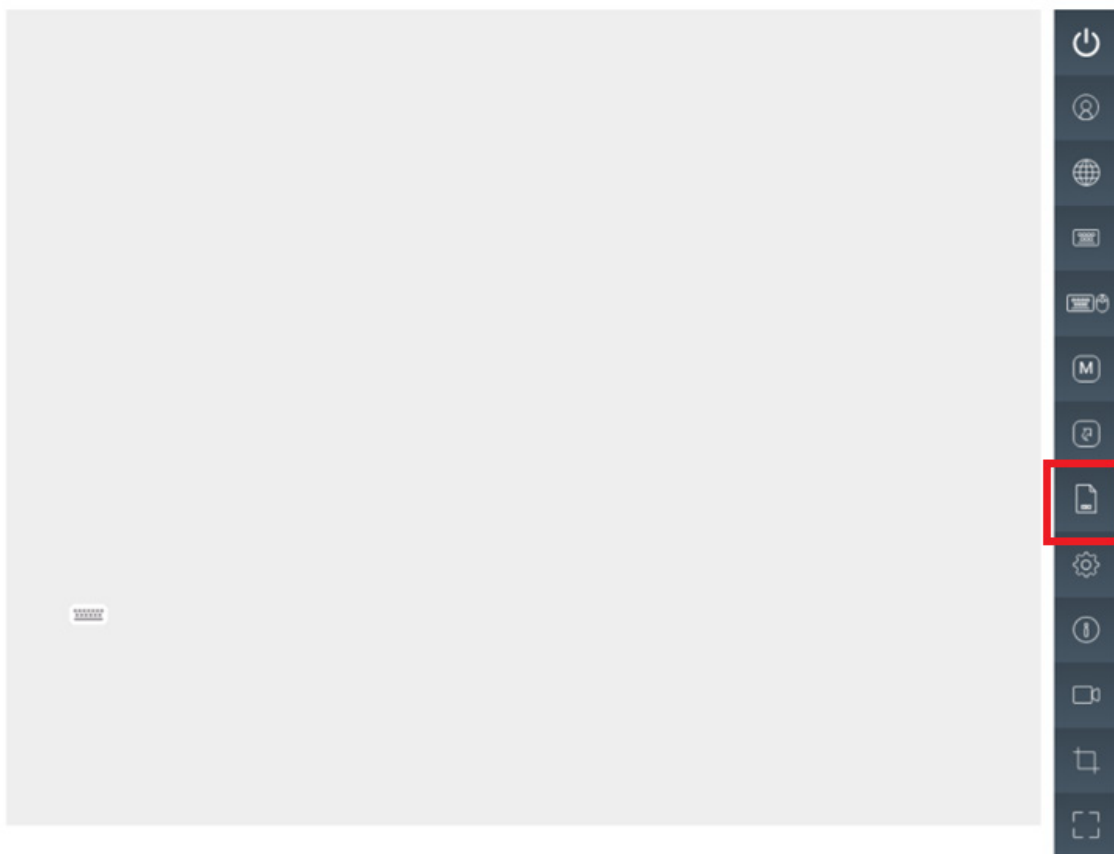


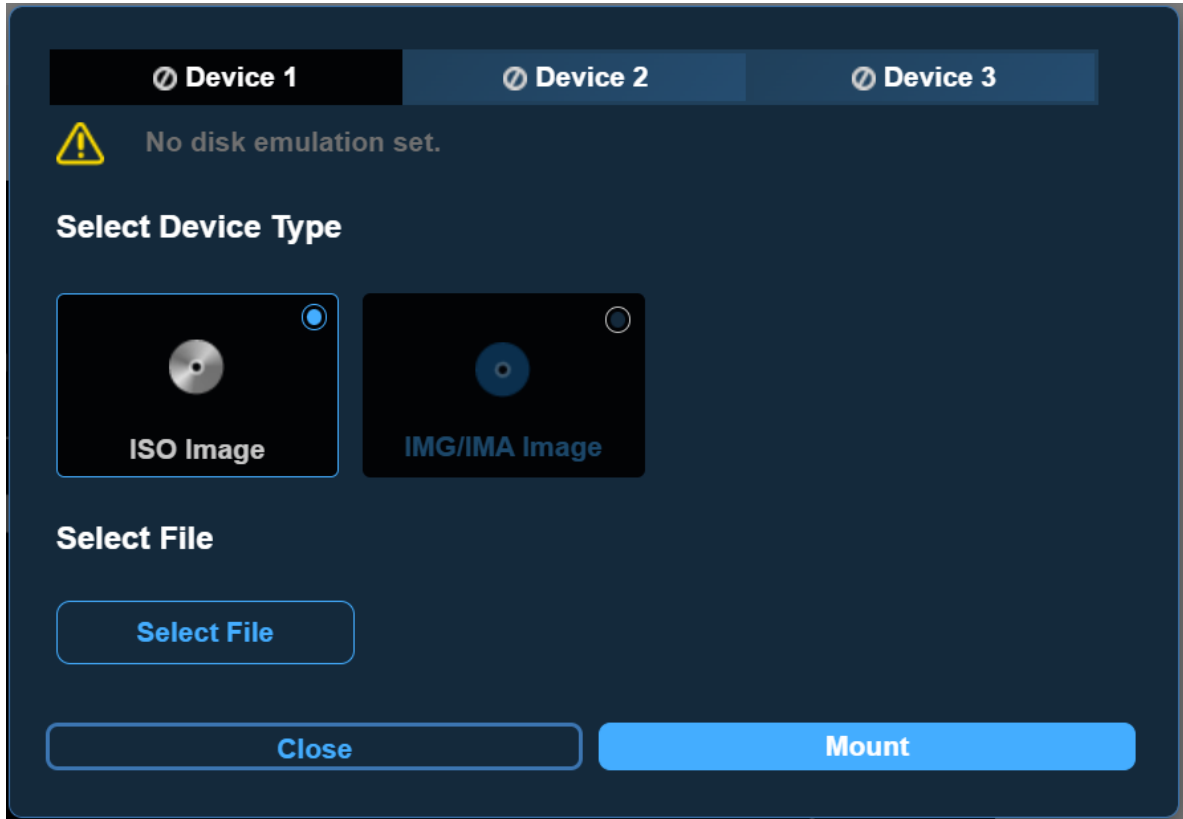
## Step 4. Mounting the ISO image

There are two methods to mount ISO images. If the ISO files are stored locally on your disk, you can mount them directly within the remote control browser. Alternatively, if the ISO files are located on a shared server, you can mount them via the Configuration > Virtual Media menu.

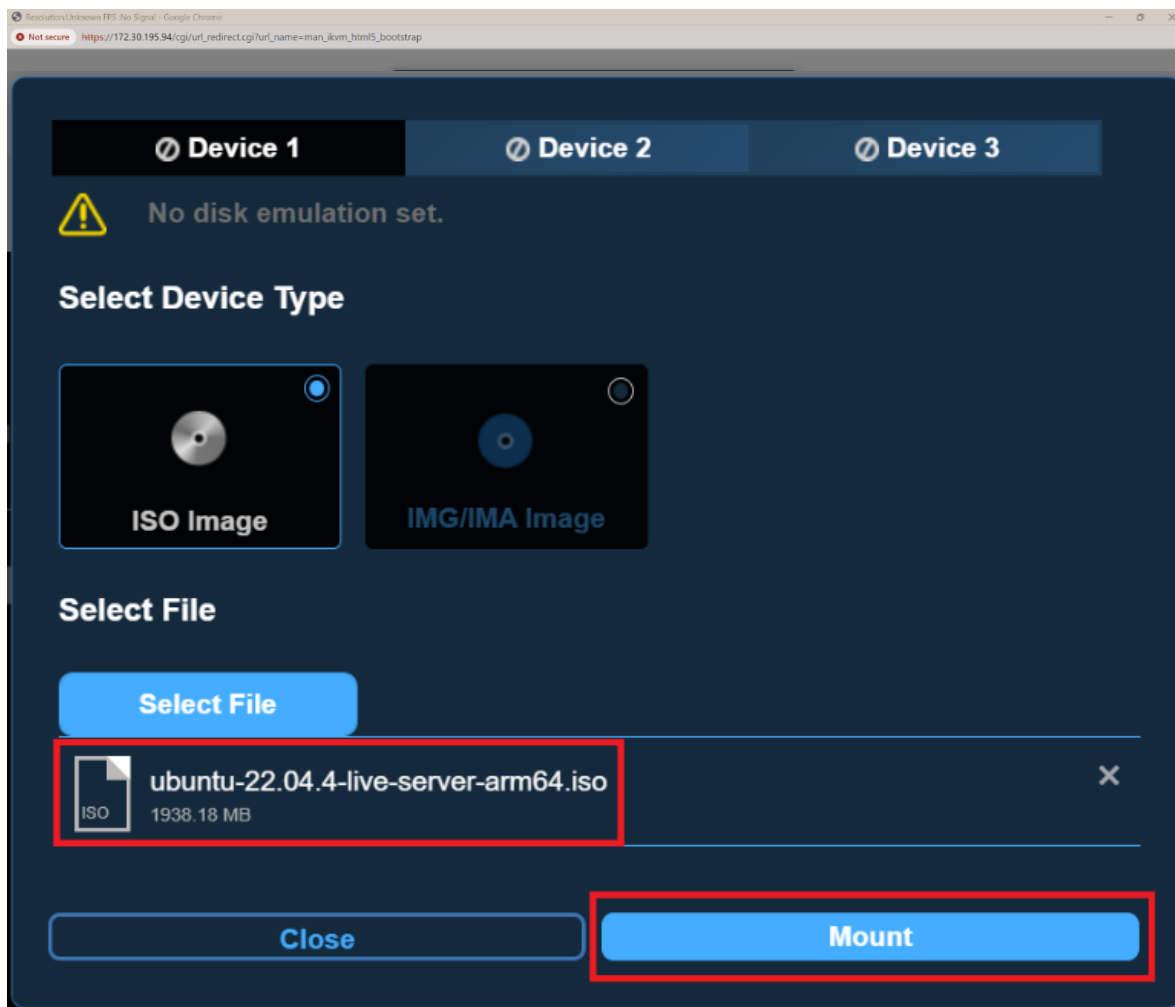
### Mount the ISO Image Using a Local File

1. In the remote control browser, click the “Virtual Media” icon. A dialog box appears. Select the image type and files for mounting.



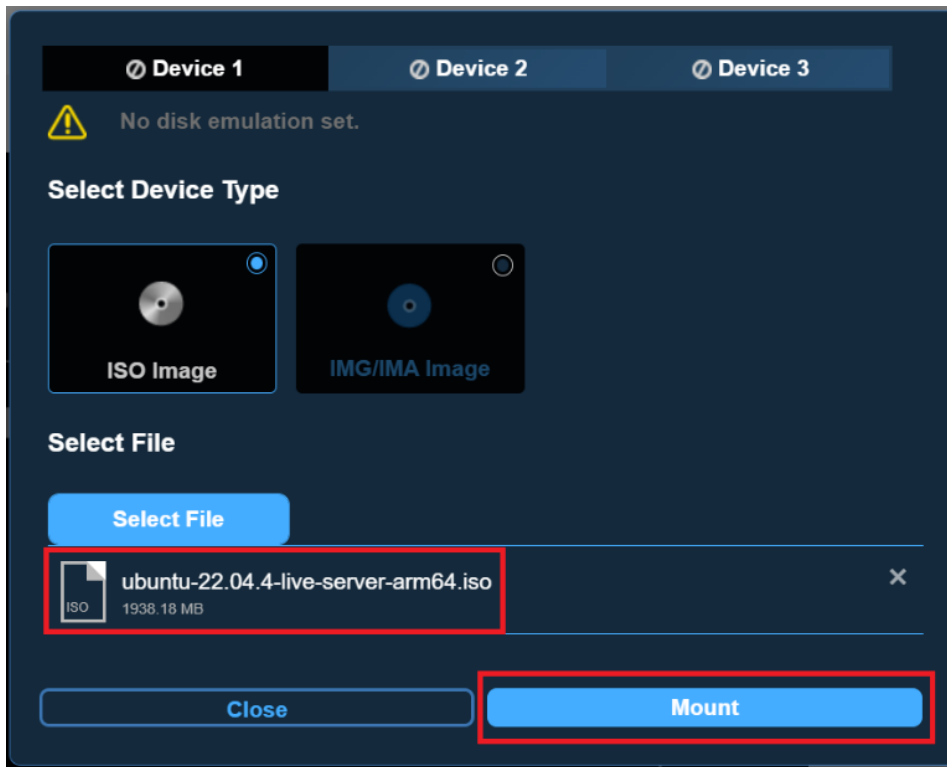


2. Click the **Select File** button to browse and select the Ubuntu ISO image on your local disk for use.

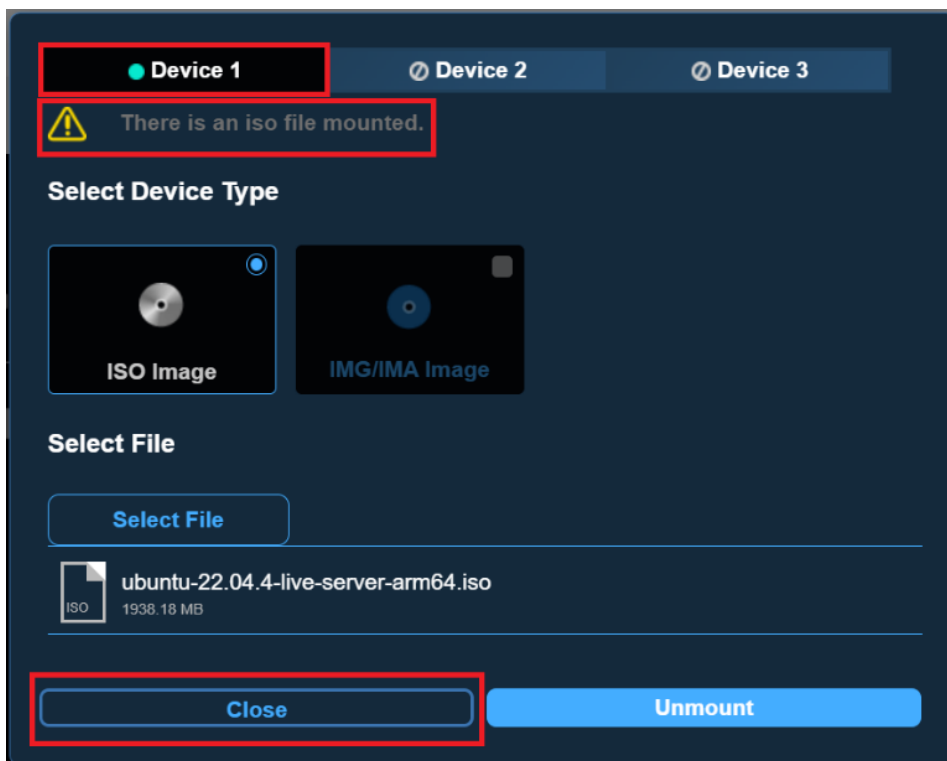




3. Click the **Mount** button to attach the chosen ISO image.

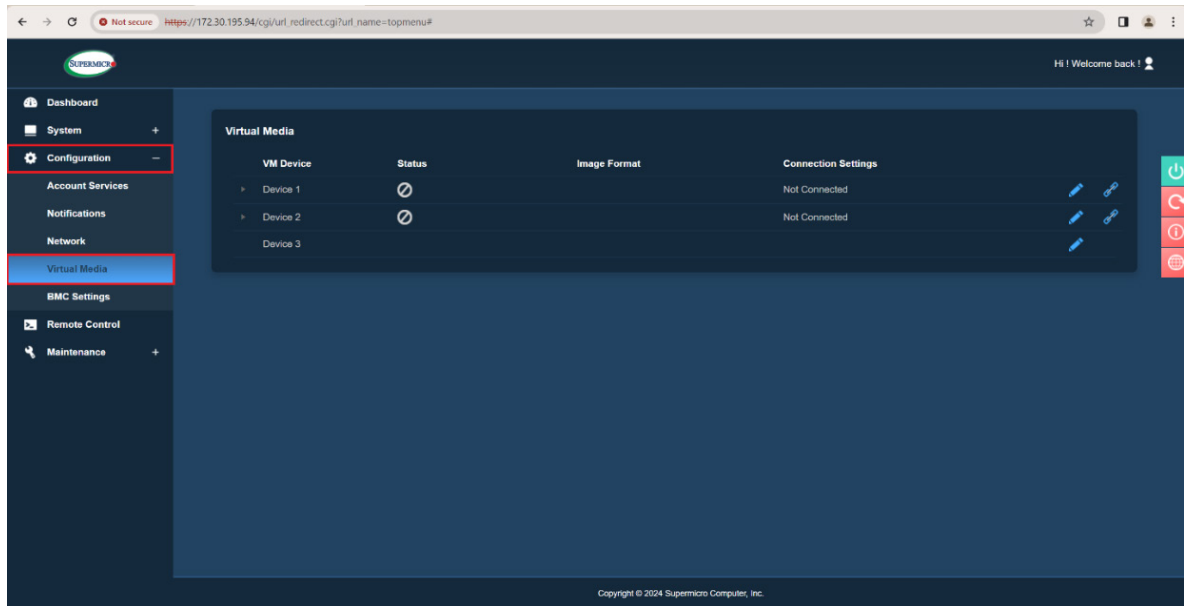


4. Upon successful mounting of the ISO image, a green indicator will appear in the **Device** tab. Close the dialog to continue.

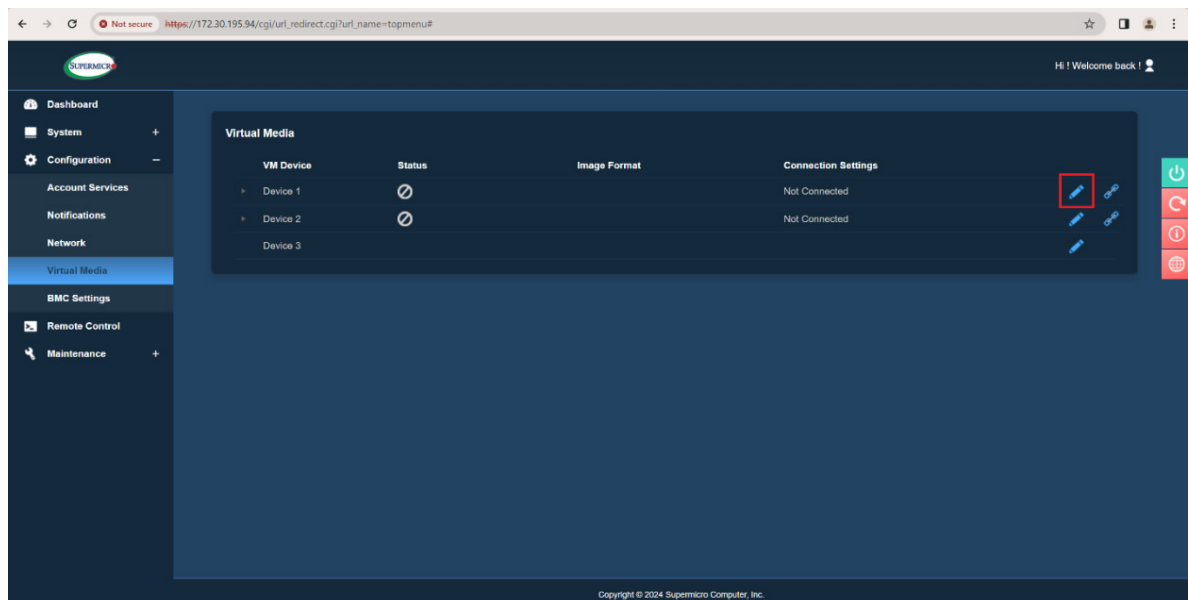


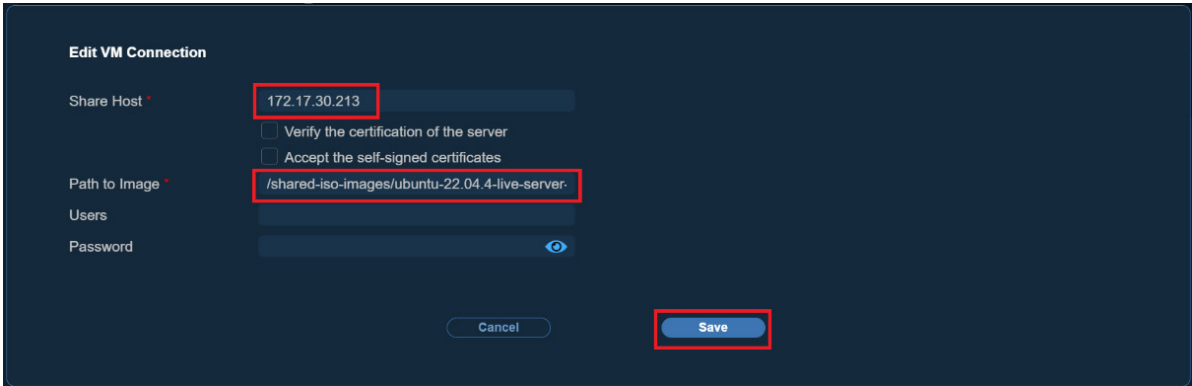
## Mount the ISO Image through a Shared Server

1. In BMC dashboard, go to **Configuration > Virtual Media**. This allows you to attach an ISO image from the server.



2. Click the “Edit” icon to adjust the VM configuration. Enter the server host address and the path to the ISO image. Then, click **Save** to apply the changes.





**Edit VM Connection**

Share Host \*

Verify the certification of the server

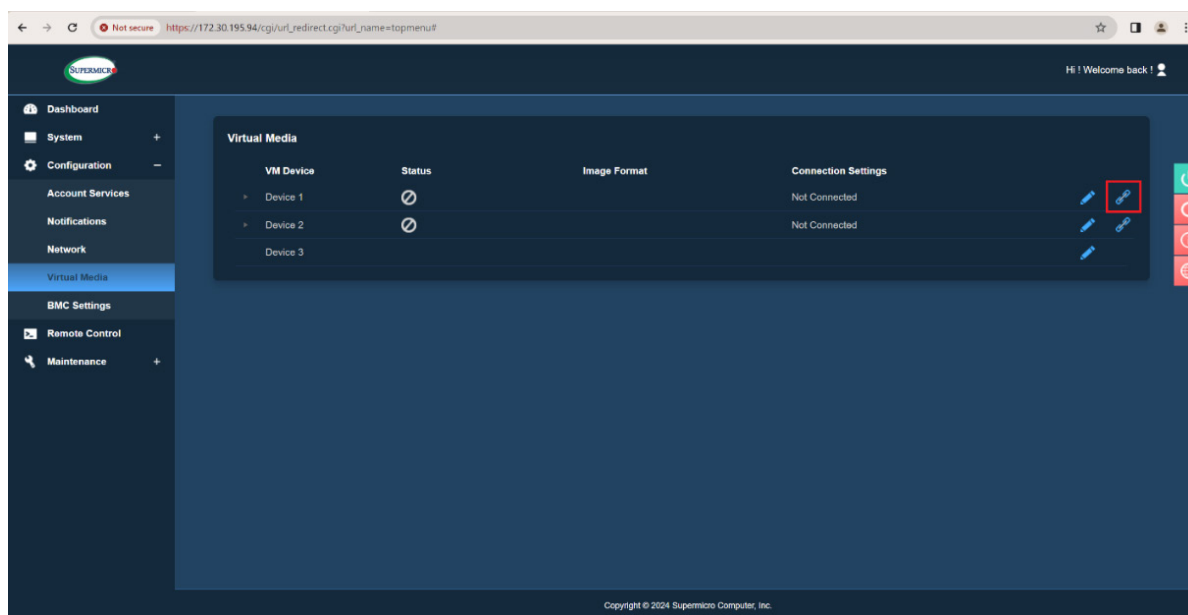
Accept the self-signed certificates

Path to Image \*

Users

Password

3. Click the “Connect” icon to mount the virtual media.



The device **Status** will display as green once the VM is successfully configured.

## Step 5. Setting Boot Override in UEFI BIOS

To configure the boot option from the mounted image in virtual media, users must manually adjust the boot settings in the BIOS setup.

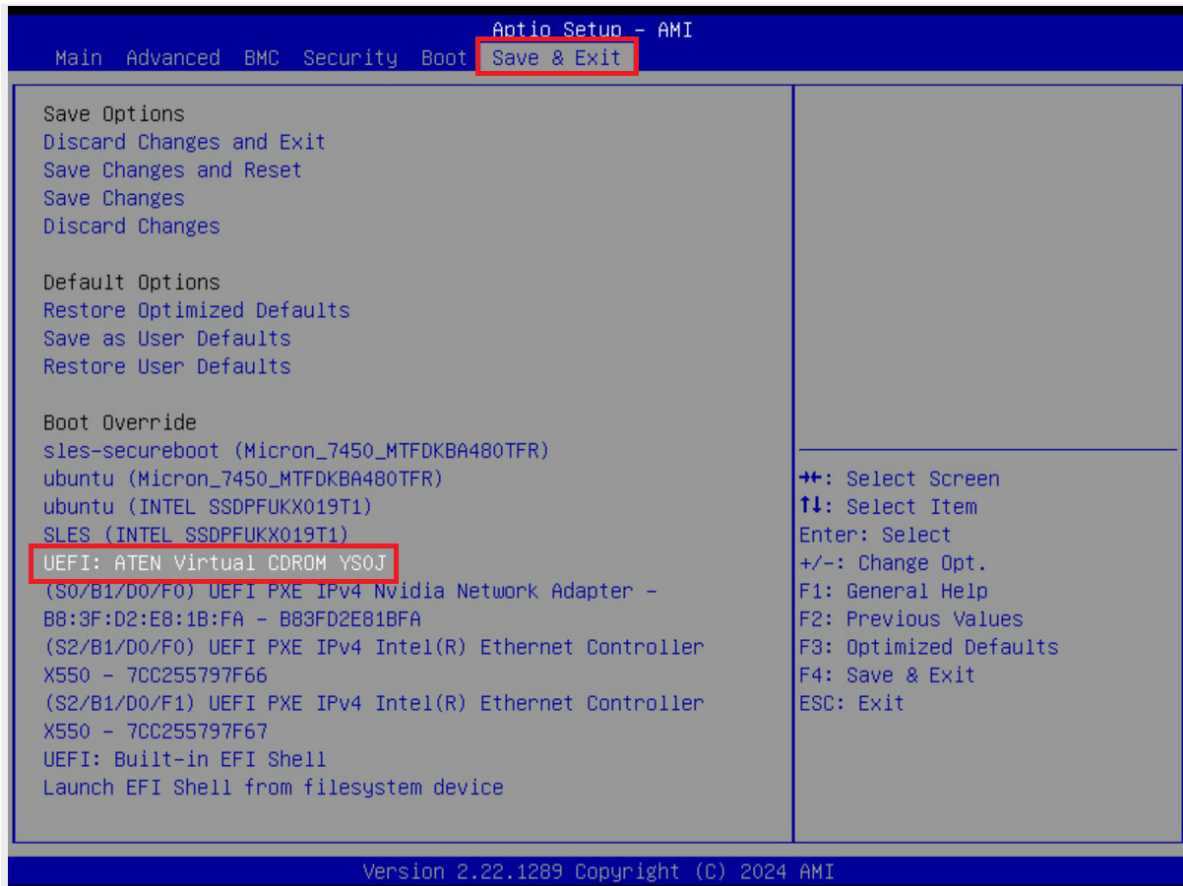
1. Power on the system and wait for the Log screen to display. To access the BIOS setup menu, repeatedly press <DEL> until "Entering Setup..." appears at the bottom left corner of the screen.



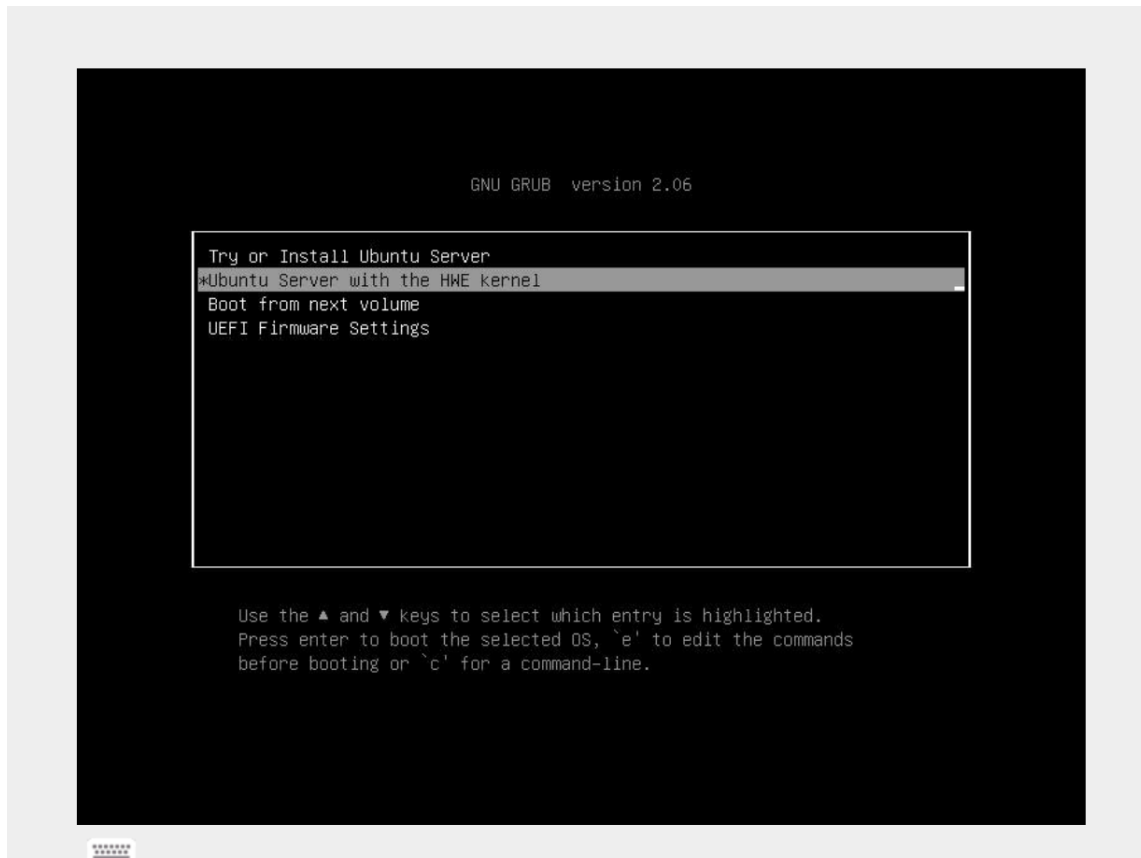
Subsequently, the UEFI BIOS screen is displayed.



2. Navigate to the **Save & Exit** menu using the arrow keys, then select "UEFI: ATEN Virtual CDROM YSOJ" as the boot option. This selection presents the ISO image mounted in Virtual Media. Press <Enter> to proceed.

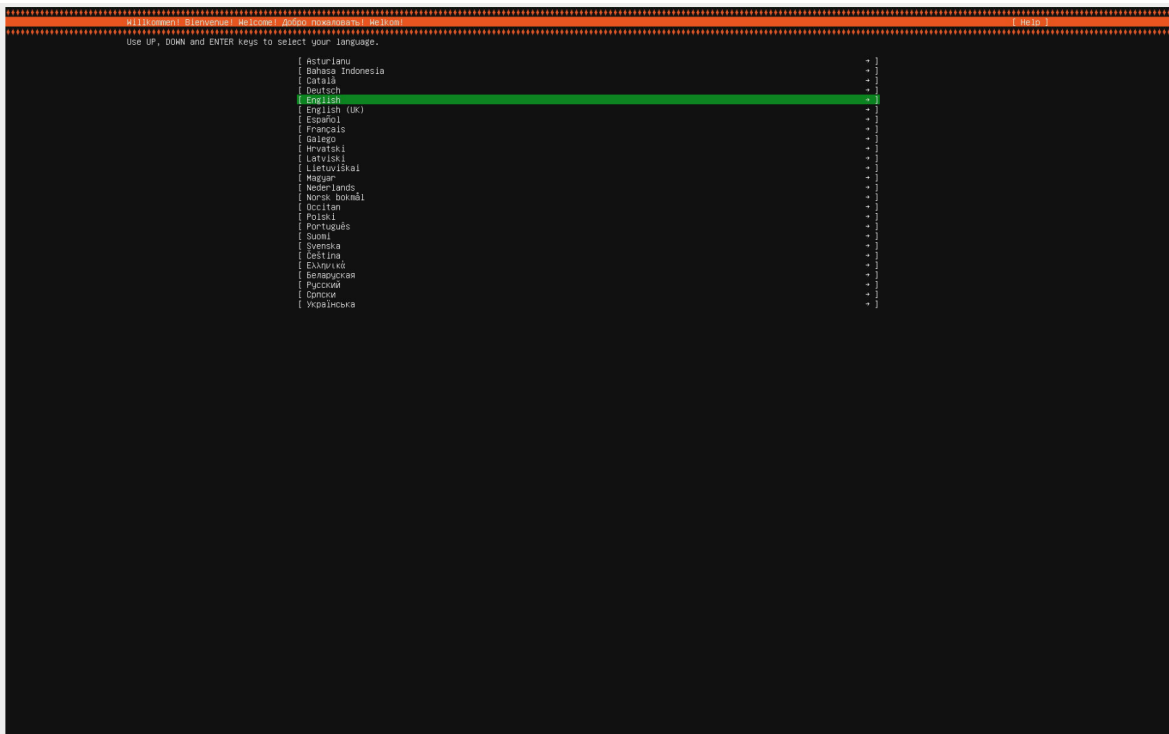


3. Follow the Ubuntu installer steps to continue installation. Choose “Ubuntu Server with the HWE kernel” to proceed.

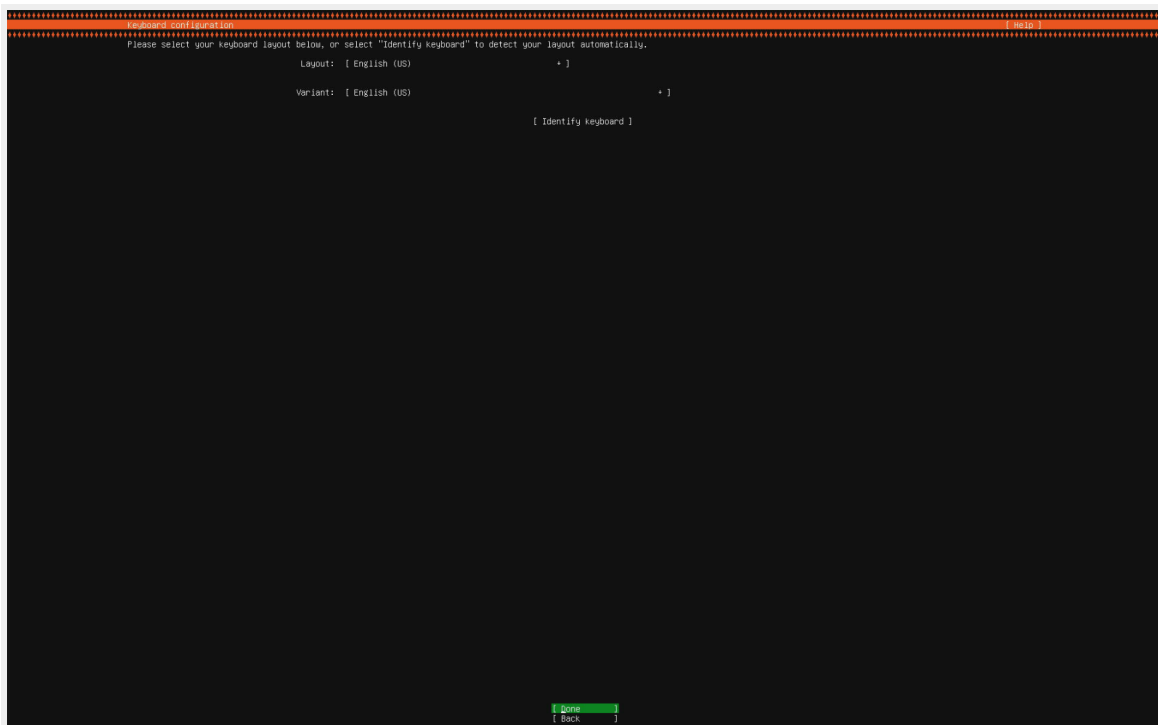


## Step 6. Installing Ubuntu 22.04 OS

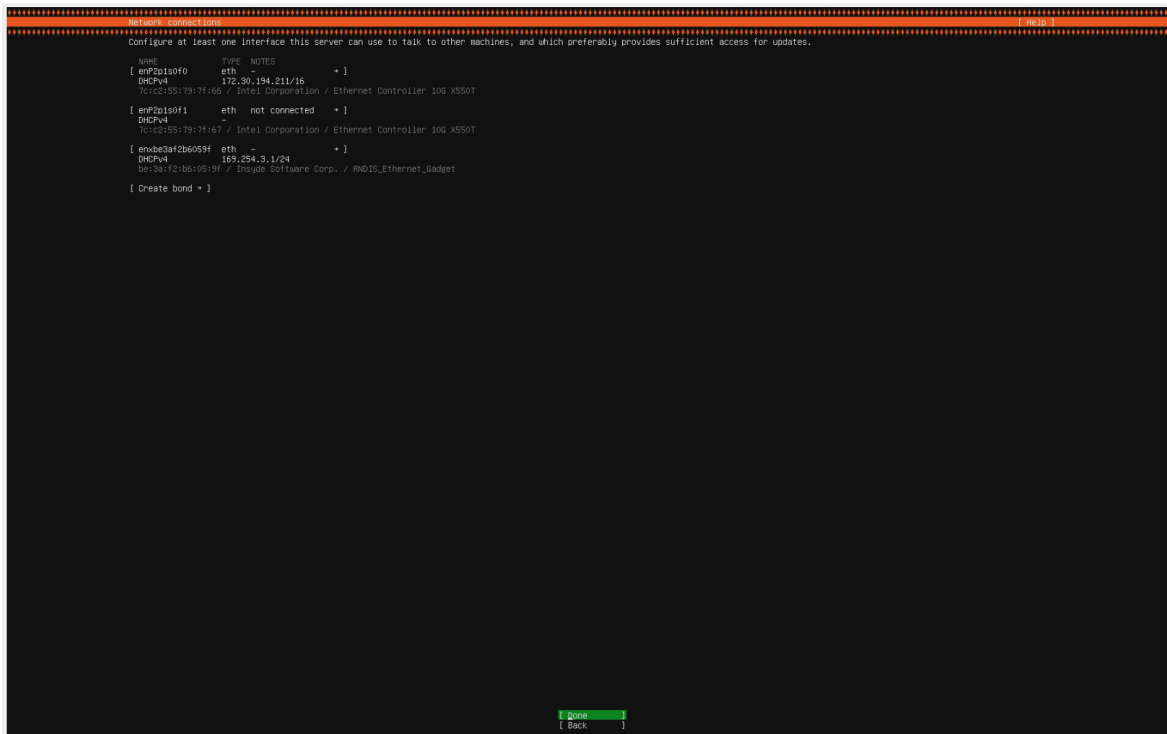
1. In the Ubuntu installer, select the language.



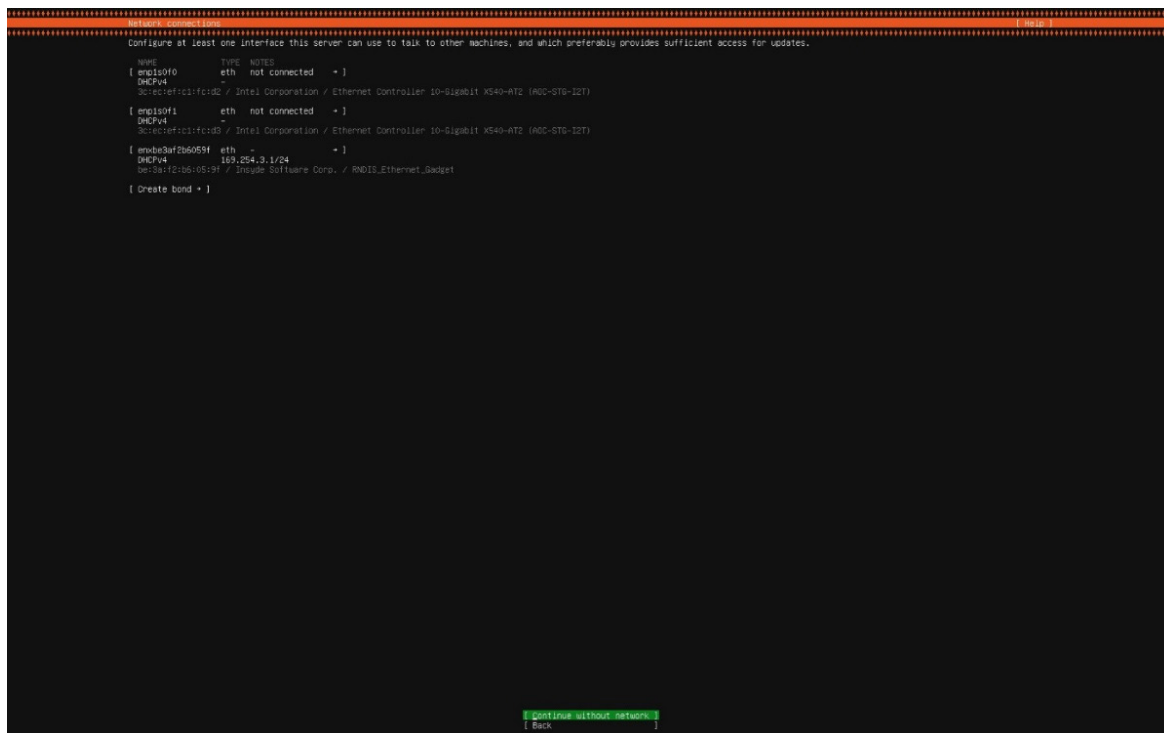
2. Configure the keyboard options.



3. Select “Ubuntu Server” as the base for the installation.
4. Configure the network connection. If an Ethernet network connection is available, select at least one network configuration option displayed.



If Ethernet is not available or disconnected during the installation process, select the “Continue without network” button.



5. In a network is available, configure the Ubuntu archive mirror address and run the test. Proceed with the following message “This mirror location passed tests.”

```
configure ubuntu archive mirror [ help ]
-----
If you use an alternative mirror for ubuntu, enter its details here.
Mirror address: http://ports.ubuntu.com/ubuntu-ports
                You may provide an archive mirror that will be used instead of the default.
This mirror location passed tests.

Get:1 http://ports.ubuntu.com/ubuntu-ports jammy InRelease [270 kB]
Get:2 http://ports.ubuntu.com/ubuntu-ports jammy-updates InRelease [119 kB]
Get:3 http://ports.ubuntu.com/ubuntu-ports jammy-backports InRelease [109 kB]
Error: timeout was reached
Fetched 497 kB in 5s (149 kB/s)
Reading package lists...

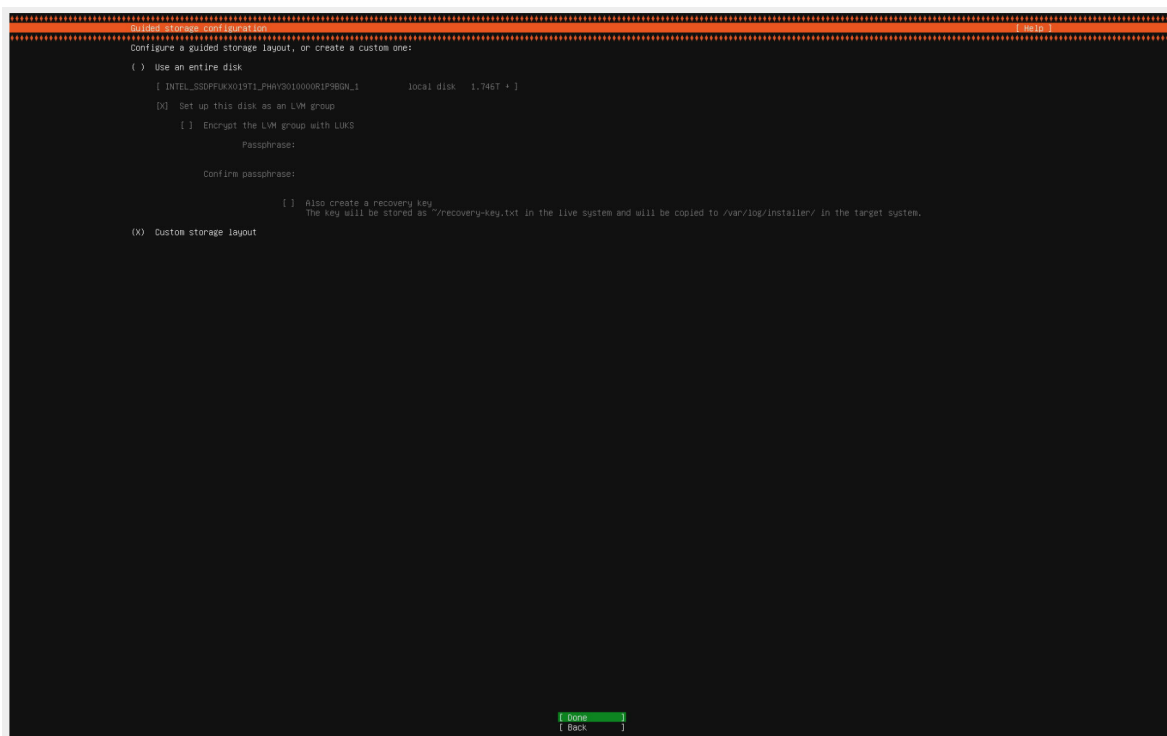
[ done ]
[ Back ]
```

If Ethernet is not available, proceed with the following message: "The mirror location cannot be checked because no network has been configured."

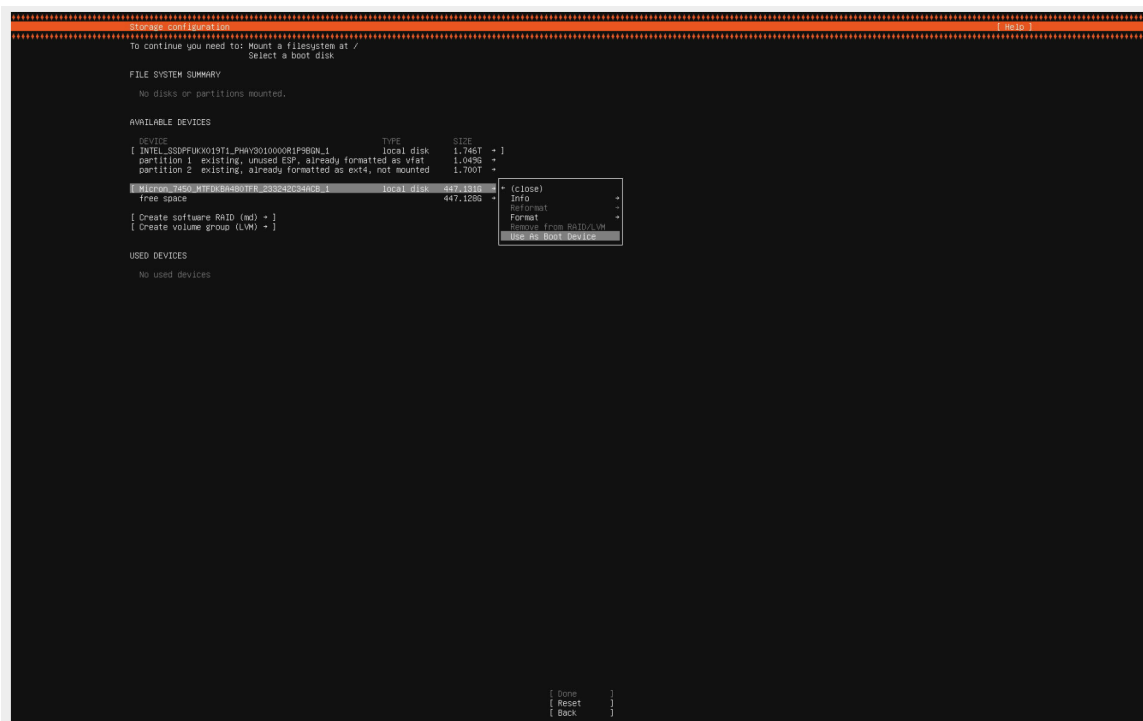
```
configure ubuntu archive mirror [ help ]
-----
If you use an alternative mirror for ubuntu, enter its details here.
Mirror address: http://ports.ubuntu.com/ubuntu-ports
                You may provide an archive mirror that will be used instead of the default.
The mirror location cannot be checked because no network has been configured.

[ done ]
[ Back ]
```

## 6. Configure the storage layout.



## 7. Set one of the drives as the boot device. You may choose either a hard disk or a USB drive as your boot device.



8. Create GPT partitions from the free space in the disk. At least two partitions are required: one mount point at “/boot/efi” and the other mount point at “/”.

```

Storage configuration
-----
To continue you need to: Mount a filesystem at /

FILE SYSTEM SUMMARY
-----
MOUNT POINT      SIZE  TYPE  DEVICE TYPE
[ /boot/efi      1,049G new fat32 new partition of local disk - ]

AVAILABLE DEVICES
-----
DEVICE                                     TYPE  SIZE
[ INTEL_SSDPFUK019T1_PHWV9010000R1P960M_1  local disk  1,746T + ]
partition 1 existing, unused ESP, already formatted as vfat
partition 2 existing, already formatted as ext4, not mounted
[ Micron_7450_MTFDKB940TFR_233242C94ACB_1  local disk  447,131G + ]
free space                                     446,079G
[ Create software RAID (md) + ]
[ Create volume group (LVM) + ]

USED DEVICES
-----
DEVICE                                     TYPE  SIZE
[ Micron_7450_MTFDKB940TFR_233242C94ACB_1  local disk  447,131G + ]
partition 1 new, primary ESP, to be formatted as fat32, mounted at /boot/efi
partition 2 existing, already formatted as ext4, not mounted

[ Done ]
[ Reset ]
[ Back ]

```

9. Select the size, format, and mount point when adding a GPT partition to the boot disk.

```

Storage configuration [ Help ]
-----
To continue you need to: Mount a filesystem at /

FILE SYSTEM SUMMARY

MOUNT POINT    SIZE    TYPE    DEVICE TYPE
[ /boot/efi    1.049G new fat32 new partition of local disk + ]

AVAILABLE DEVICES

DEVICE                                TYPE    SIZE
[ INTEL_SSDPFUKX019T1_PHAY3010000R1P9BGN_1    local disk    1.746T + ]
partition 1 existing, unused ESP, already formatted as vfat    1.049G + ]
partition 2 existing, already formatted as ext4, not mounted    1.700T + ]

[ Micron_74 free spac                                + ]
[ Create so
[ Create vo

USED DEVICE

DEVICE                                TYPE    SIZE
[ Micron_74 partition                                + ]
[ Create so
[ Create vo

Adding GPT partition to Micron_7450_MTFDKBA480TFR_233242C34ACB_1
Size (max 446.079G): 48G

Format: [ ext4 + ]
Mount: [ / + ]

[ Create ]
[ Cancel ]

[ Done ]
[ Reset ]
[ Back ]

```

```

Storage configuration [ Help ]
-----
FILE SYSTEM SUMMARY

MOUNT POINT    SIZE    TYPE    DEVICE TYPE
[ /            48.000G new ext4 new partition of local disk + ]
[ /boot/efi    1.049G new fat32 new partition of local disk + ]

AVAILABLE DEVICES

DEVICE                                TYPE    SIZE
[ INTEL_SSDPFUKX019T1_PHAY3010000R1P9BGN_1    local disk    1.746T + ]
partition 1 existing, unused ESP, already formatted as vfat    1.049G + ]
partition 2 existing, already formatted as ext4, not mounted    1.700T + ]

[ Micron_7450_MTFDKBA480TFR_233242C34ACB_1    local disk    447.131G + ]
free space                                398.079G + ]

[ Create software RAID (md) + ]
[ Create volume group (LVM) + ]

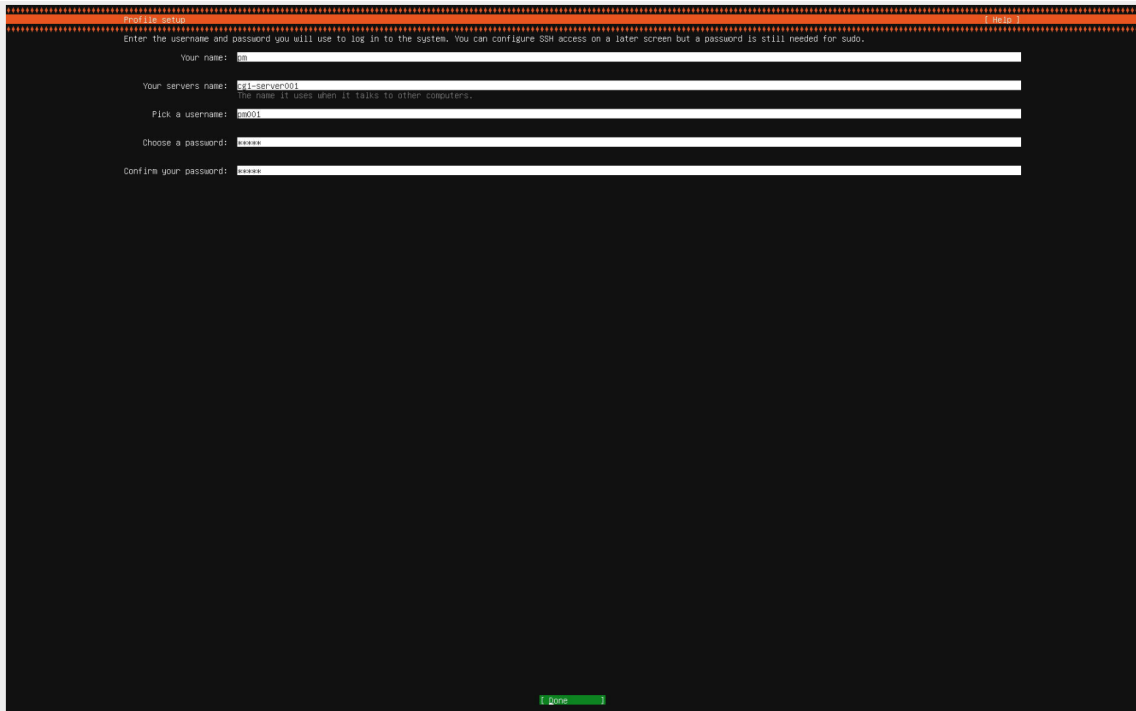
USED DEVICES

DEVICE                                TYPE    SIZE
[ Micron_7450_MTFDKBA480TFR_233242C34ACB_1    local disk    447.131G + ]
partition 1 new, primary ESP, to be formatted as fat32, mounted at /boot/efi    1.049G + ]
partition 2 new, to be formatted as ext4, mounted at /    48.000G + ]

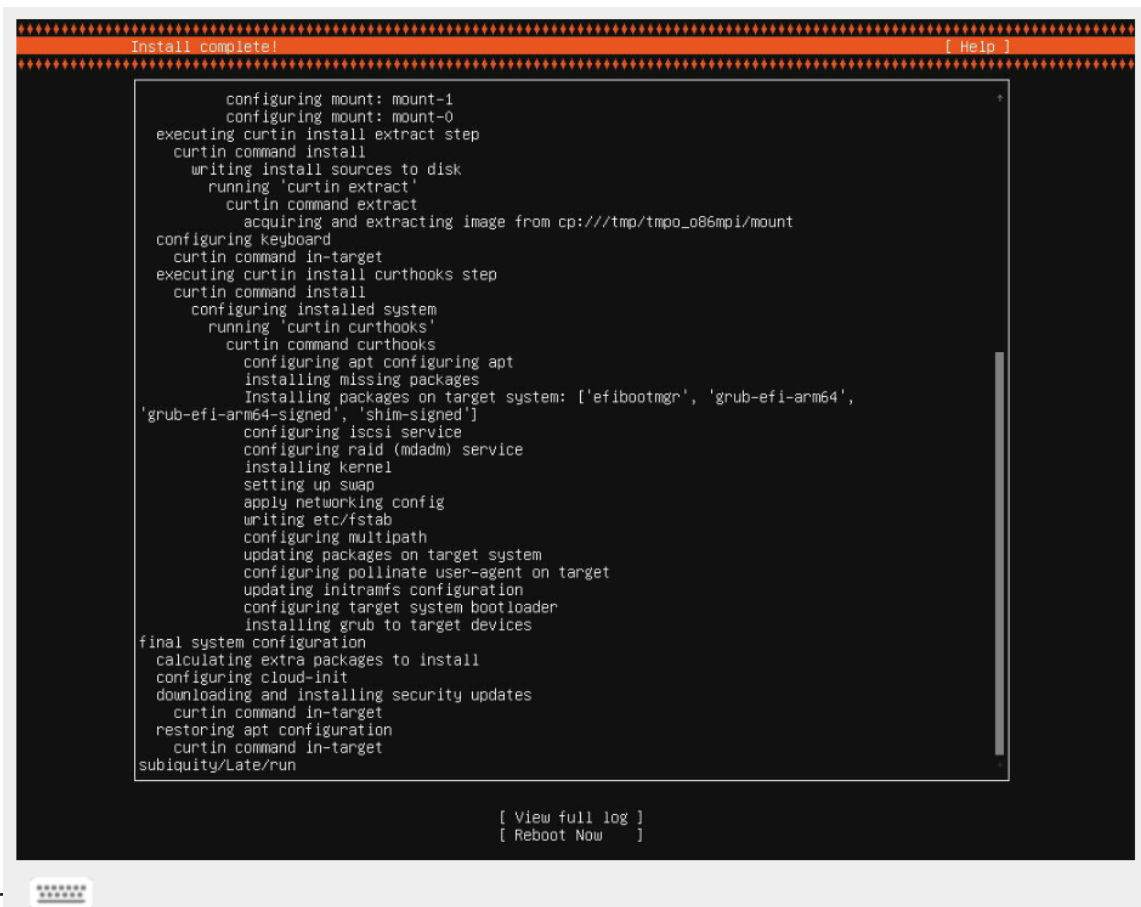
[ Done ]
[ Cancel ]
[ Back ]

```

10. Create the profile name, server name, username, and password.



11. Wait until the installation is complete and reboot the system.



## 12. Enter username and password to log in.

```
Ubuntu 22.04.4 LTS cg1-server001 tty1
cg1-server001 login: _
```

```
Ubuntu 22.04.4 LTS cg1-server001 tty1
cg1-server001 login: pm002
Password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.0-101-generic aarch64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Thu Mar 21 10:03:16 PM UTC 2024

System load:          0.06494140625
Usage of /:           23.4% of 46.95GB
Memory usage:        0%
Swap usage:          0%
Temperature:         56.0 C
Processes:           764
Users logged in:     0
IPv4 address for enP2p1s0f0: 172.30.181.251
IPv6 address for enP2p1s0f0: 2001:db8::7ec2:55ff:fe79:7f66

Expanded Security Maintenance for Applications is not enabled.

11 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

pm002@cg1-server001:~$ _
```

## 2. Installing Red Hat Enterprise Linux 9.3

### Prerequisites

This section outlines the required (or recommended) prerequisites.

#### Obtaining the Red Hat Enterprise Linux (RHEL) 9.3 ISO

Obtain the RHEL 9.3 ISO for ARM image (aarch64) and save it to your local disk or a shared server. It is recommended to use RHEL 9.3 AArch64 DVD ISO image file. Please refer to [Downloading an RHEL installation ISO image for the ISO packages](#).

#### Connecting to BMC network

To utilize BMC remote functionality, ensure that the network is connected to the BMC.

### Step 1: Obtaining the BMC Address

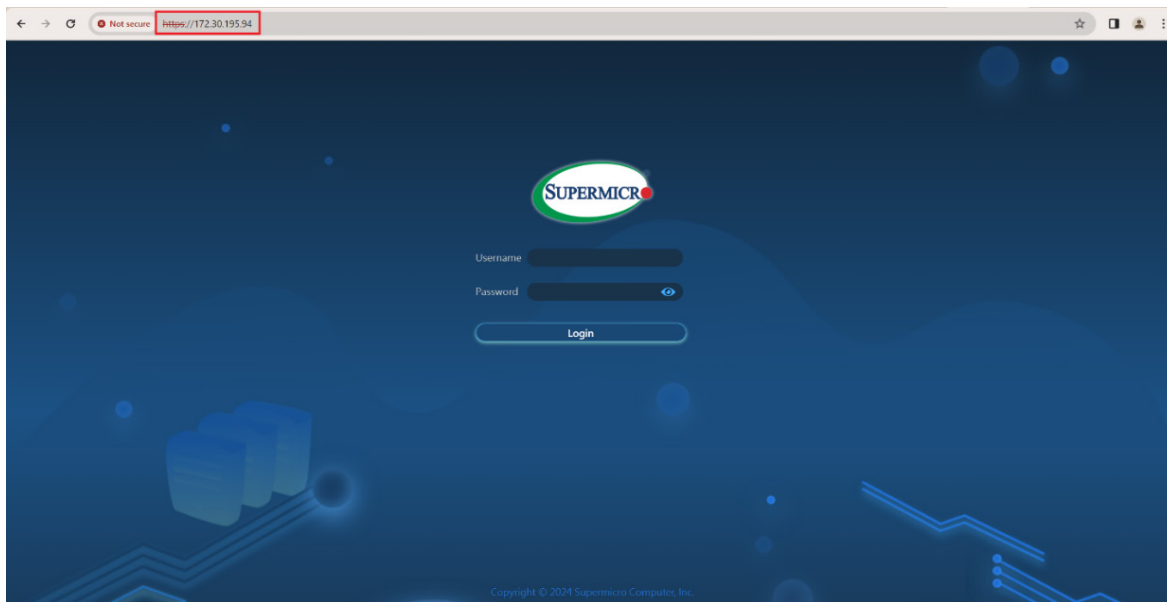
Connect the system to a monitor or display using a Mini DisplayPort (Mini DP) or a Mini DisplayPort-to-DisplayPort (DP) adapter. Ensure that network is connected to BMC using a network cable and power on the system. The BMC IP address will appear on the right corner of the Supermicro Logo screen.



## Step 2. Accessing the BMC Remote Server

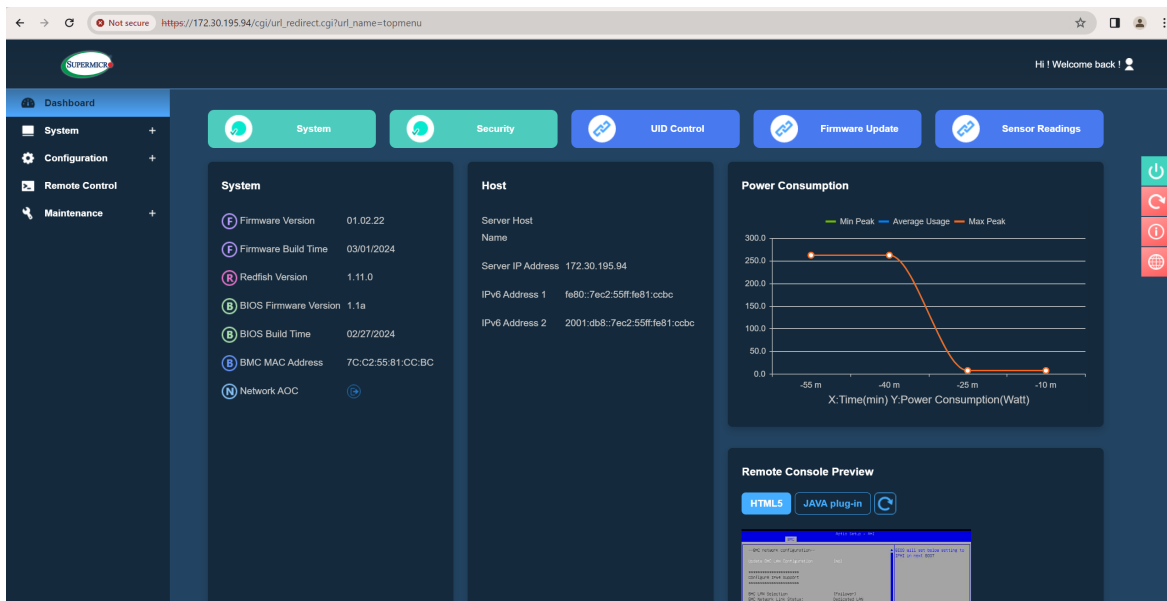
### Log in to BMC Remote Server

1. In the terminal, execute a ping command to the BMC IP address, such as 172.30.195.94, to verify its connectivity.
2. Launch a new web browser and input the BMC IP address into the URL field. The BMC Remote Console login screen is displayed.



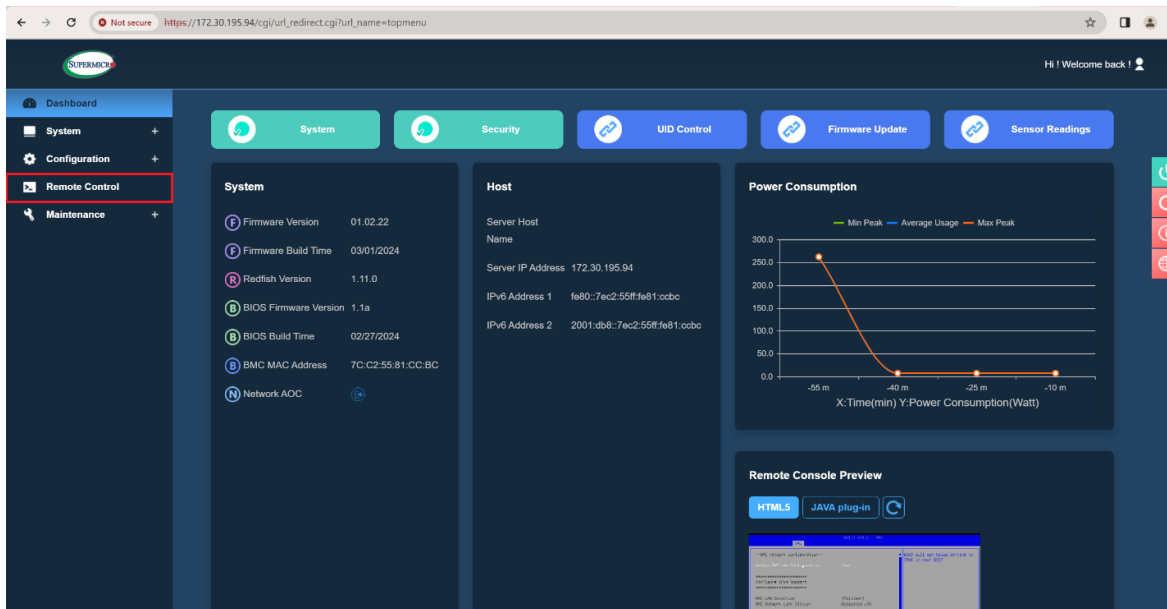
3. Input the username 'ADMIN' and the unique BMC password, which is located on the label on the opposite side of the service tag of the system. Click **Login** to proceed.

The BMC Dashboard appears with insights into system overview, configuration, health status, and maintenance.

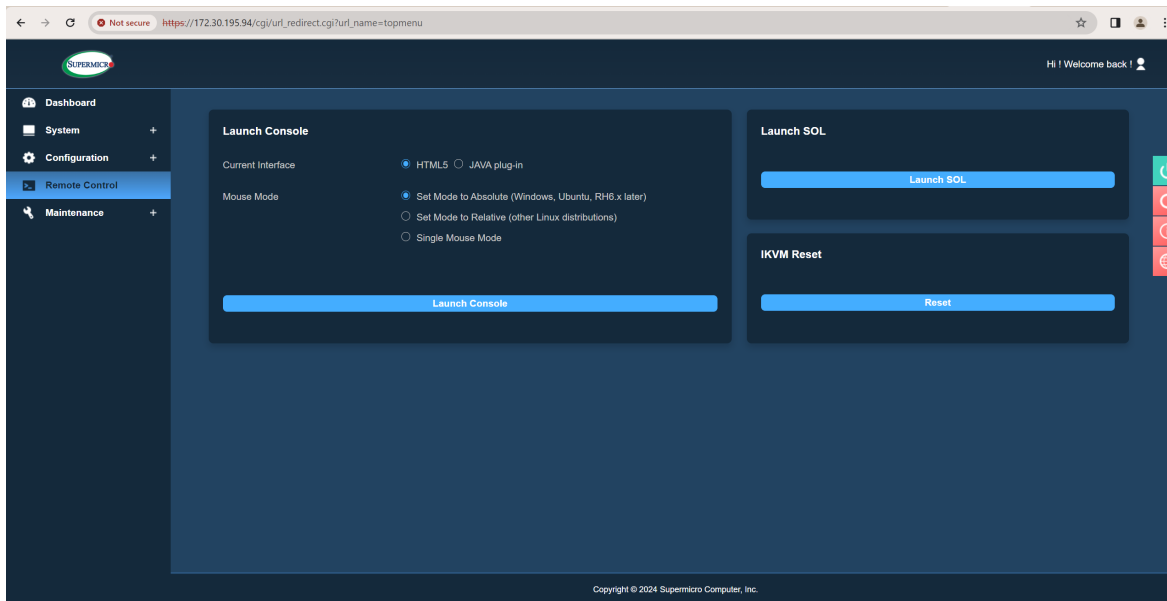


## Step 3. Remote Controlling the BMC

1. Click the Remote Control menu in the BMC Remote Server to enable remote server operations.



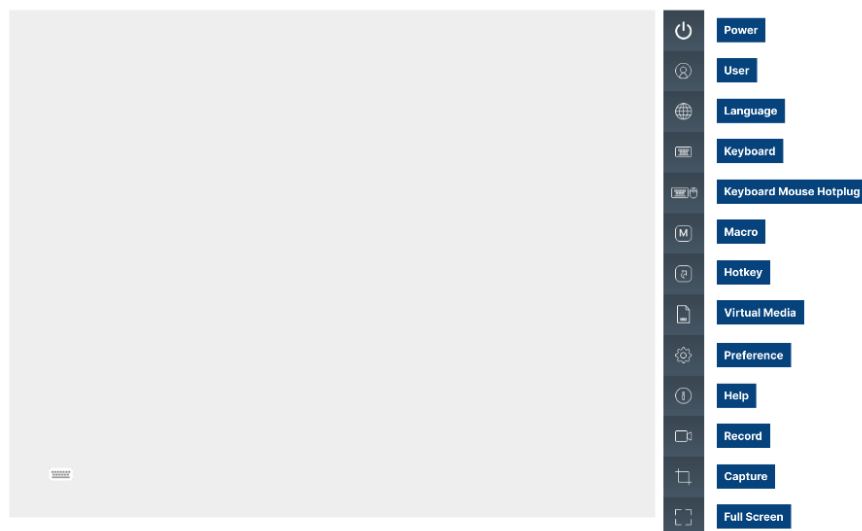
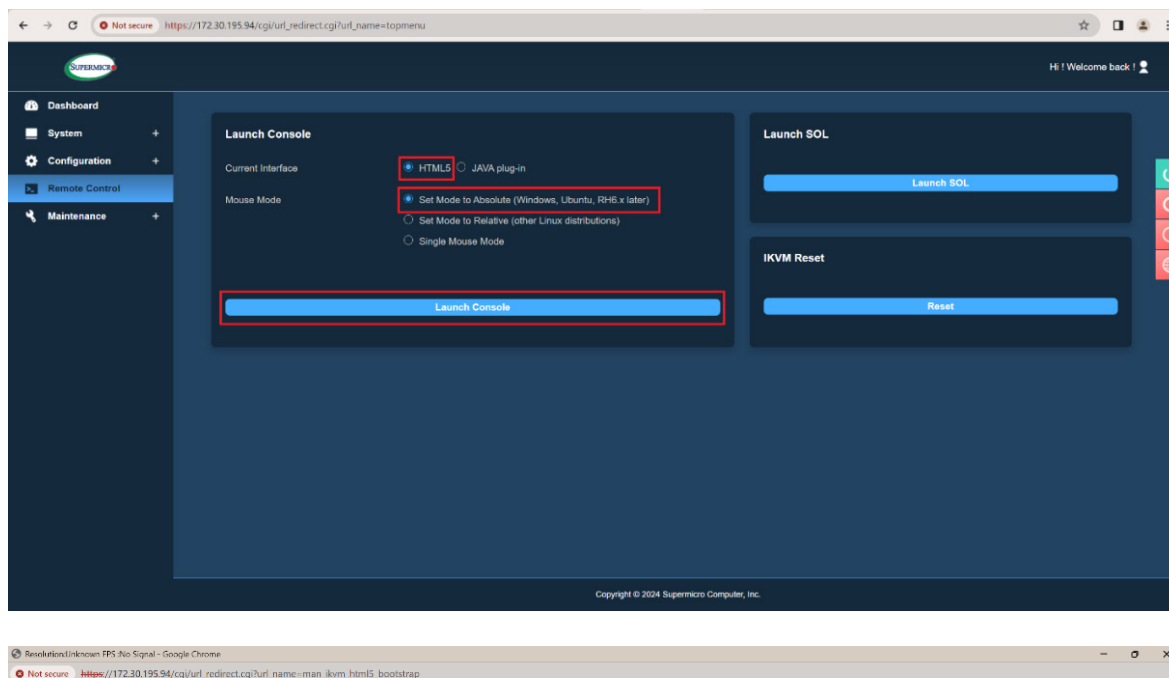
2. Use the Launch Console section to configure the remote console interface settings. Choose between the HTML5 interface or a JAVA plug-in.



## Launch an HTML5 Remote Browser

To launch an HTML5 remote browser:

1. Set HTML5 as the current interface.
2. Choose the mouse mode according to your operating system, such as "Set Mode to Absolute" (Windows, Ubuntu, RH6.x, or later)".
3. Click the **Launch Console** button to open a console in a new browser window

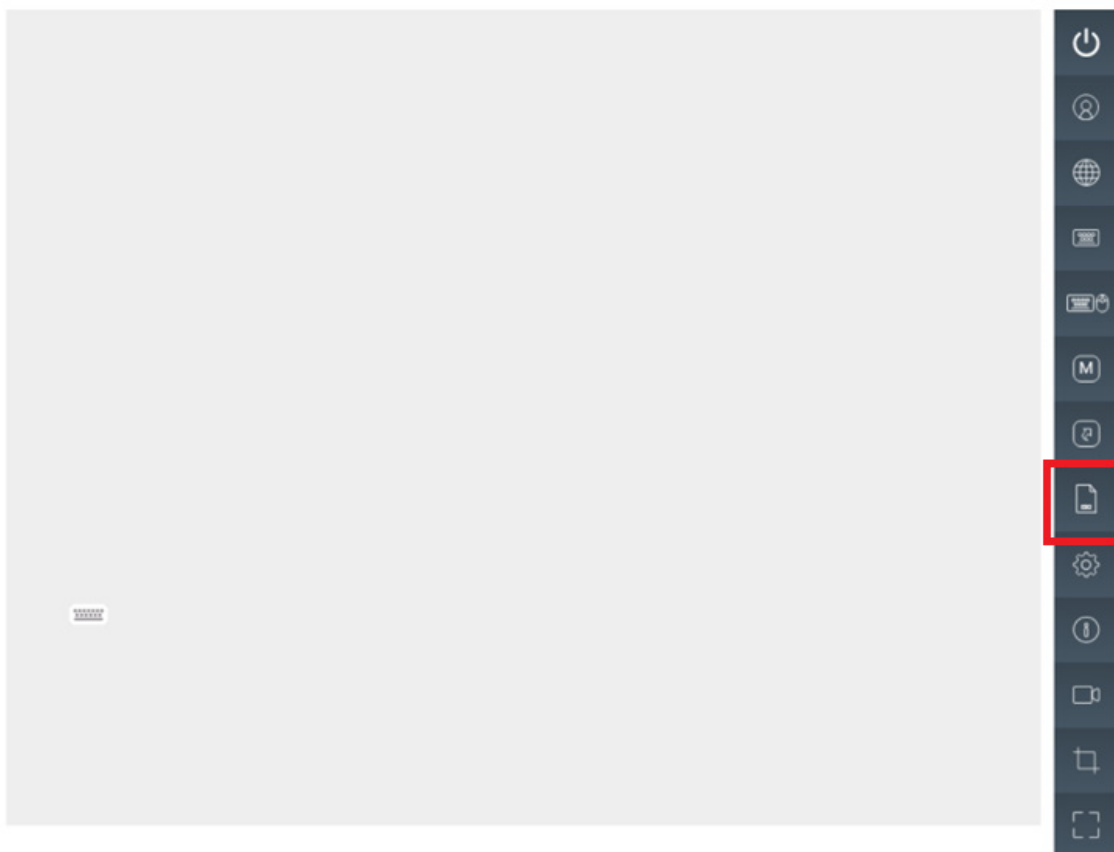


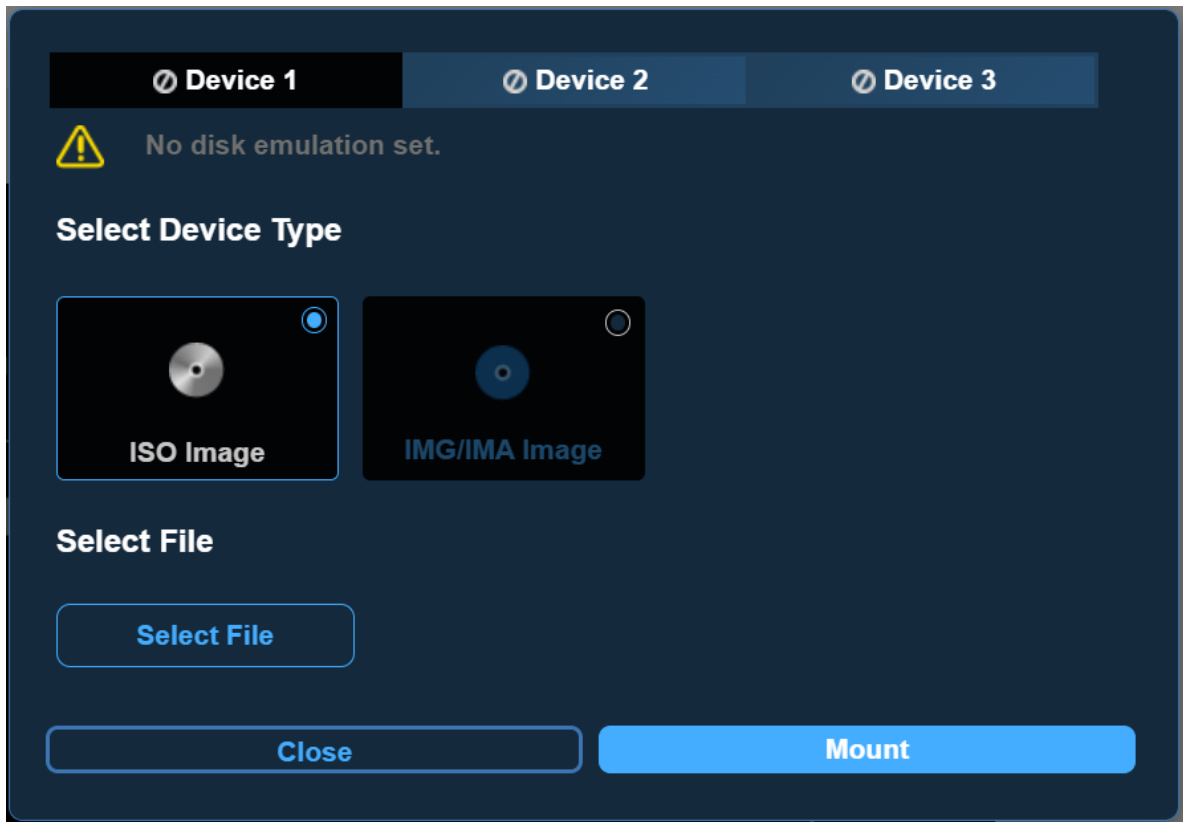
## Step 4. Mounting the ISO image

There are two methods to mount ISO images. If the ISO files are stored locally on your disk, you can mount them directly within the remote control browser. Alternatively, if the ISO files are located on a shared server, you can mount them via the Configuration > Virtual Media menu.

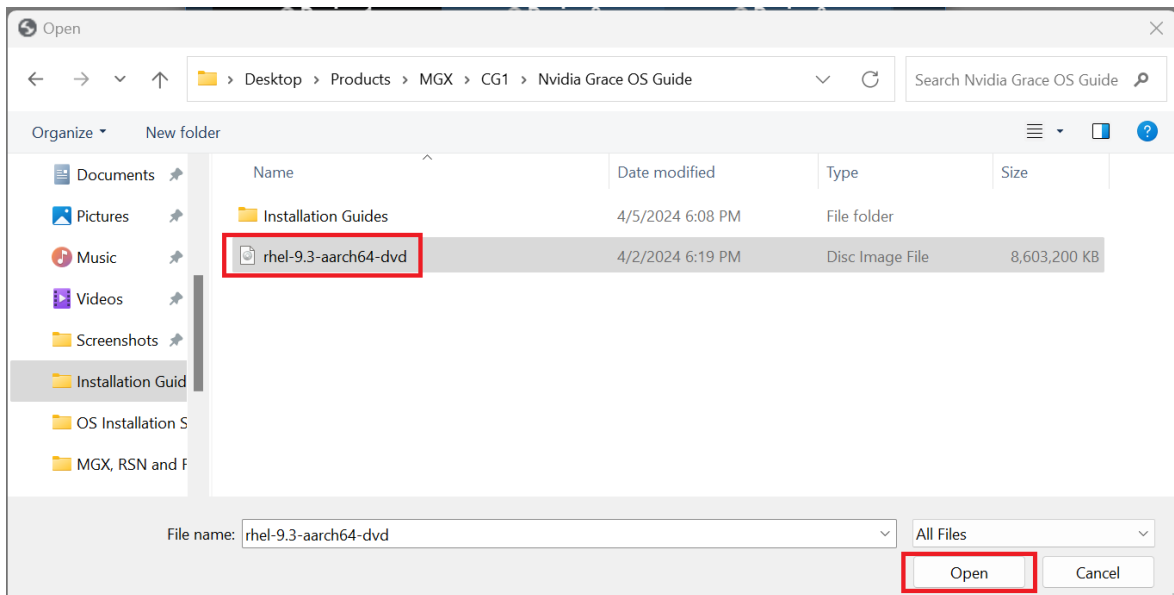
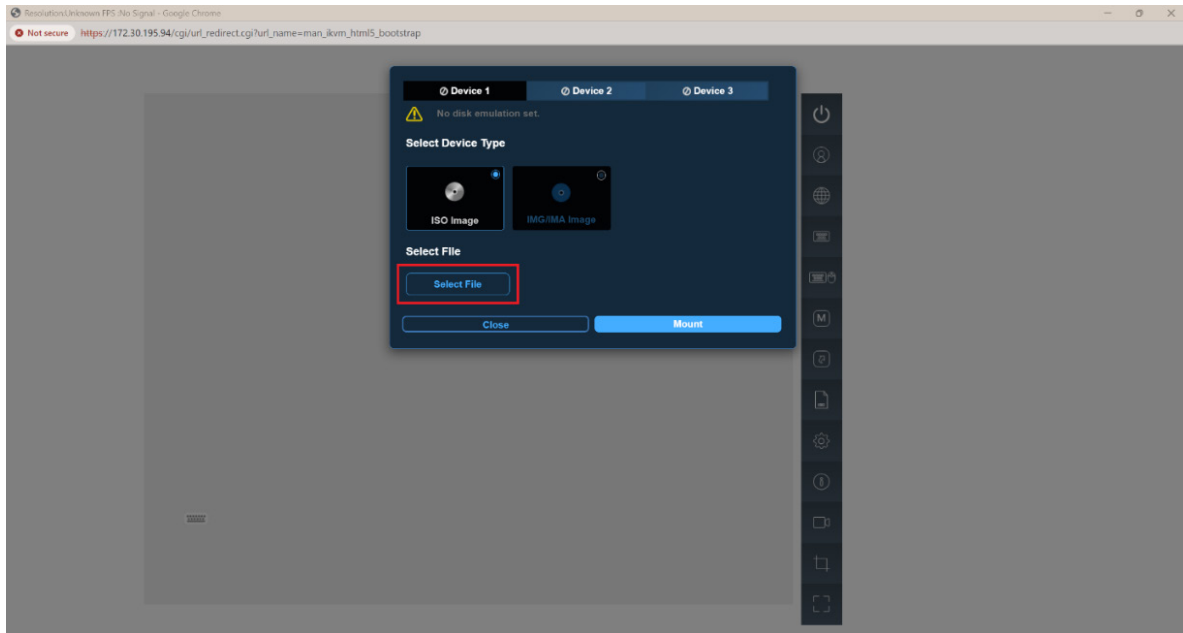
### Mount the ISO Image Using a Local File

1. In the remote control browser, click the “Virtual Media” icon. A dialog box appears. Select the image type and files for mounting.

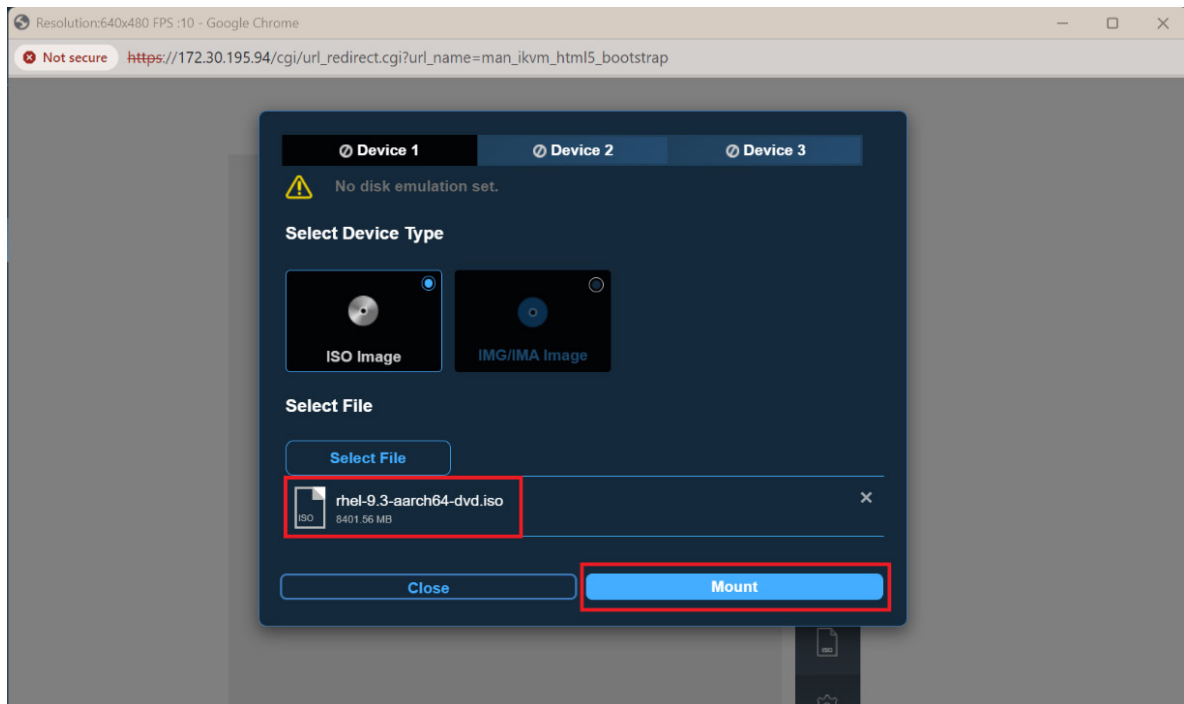




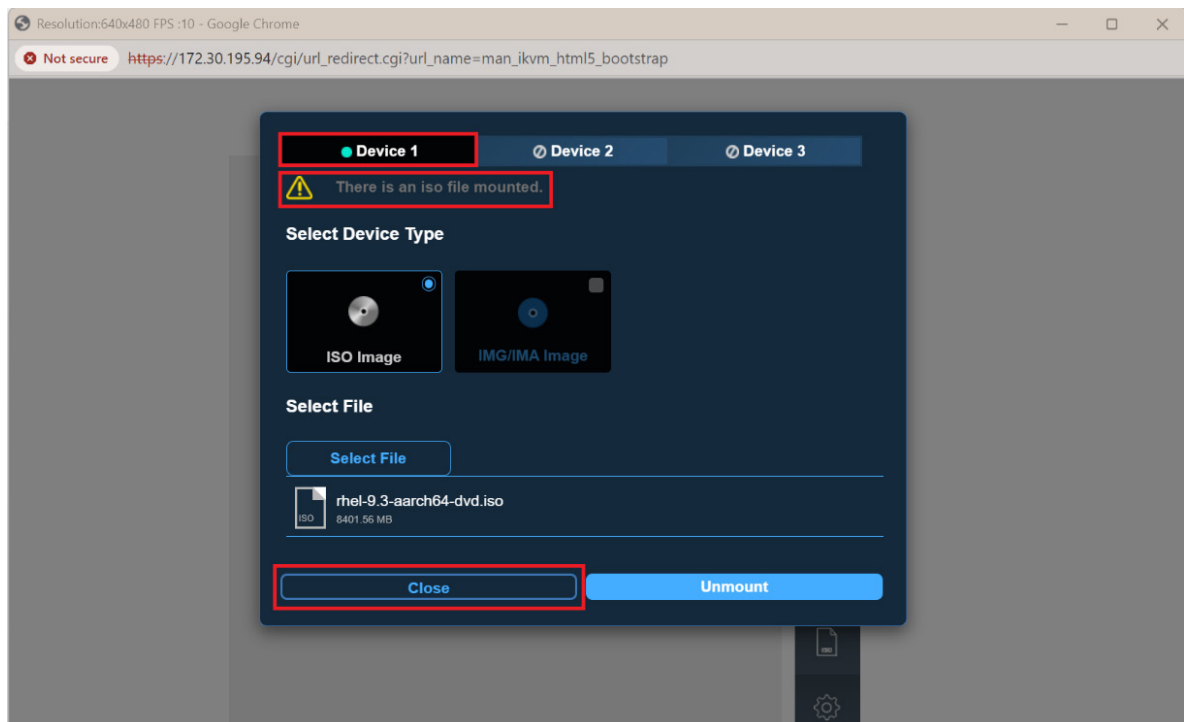
2. Click the **Select File** button to browse and select the RHEL ISO image on your local disk for use.



3. Click the **Mount** button to attach the chosen ISO image.

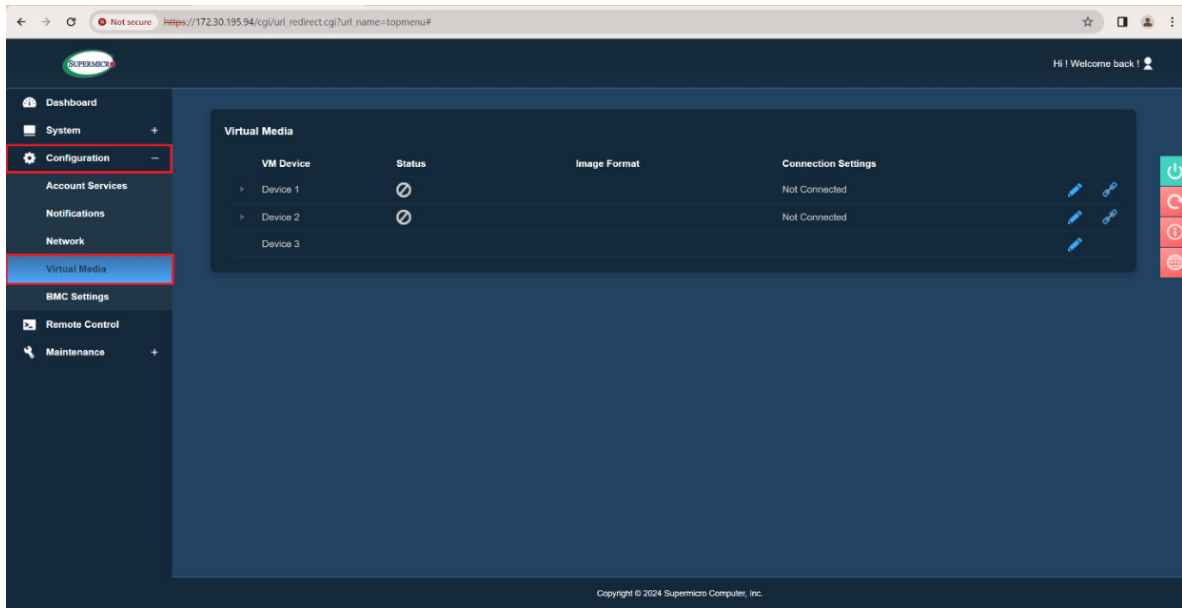


4. Upon successful mounting of the ISO image, a green indicator will appear in the **Device** tab. Close the dialog to continue.

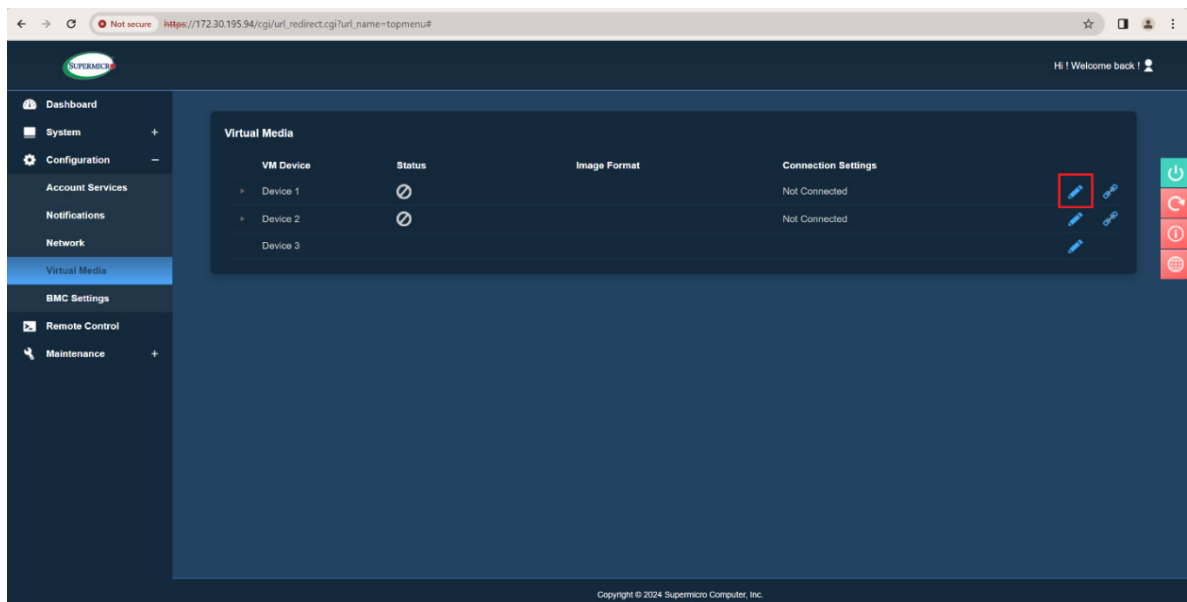


## Mount the ISO Image through Shared Server

1. In BMC dashboard, go to **Configuration > Virtual Media**. This allows you to attach an ISO image from the server.



2. Click the “Edit” icon to adjust the VM configuration. Enter the server host address and the path to the ISO image. Then, click **Save** to apply the changes.



**Edit VM Connection**

Share Host \*

Verify the certification of the server  
 Accept the self-signed certificates

Path to Image \*

Users

Password

3. Click the “Connect” icon to mount the virtual media.

VM Device	Status	Image Format	Connection Settings
Device 1	Not Connected		Not Connected
Device 2	Not Connected		Not Connected
Device 3			

The device **Status** will display as green once the VM is successfully configured.

## Step 5. Setting Boot Override in UEFI BIOS

To configure the boot option from the mounted image in virtual media, users must manually adjust the boot settings in the BIOS setup.

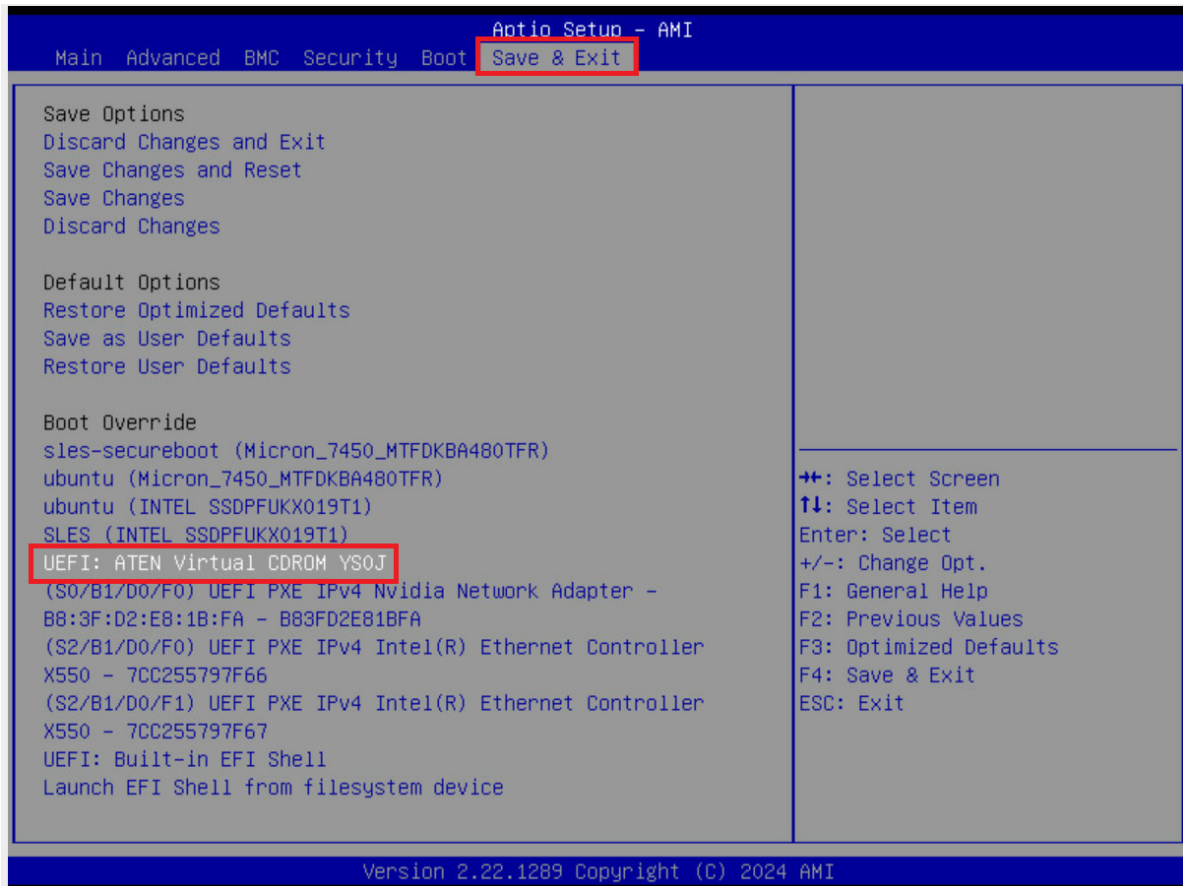
1. Power on the system and wait for the Log screen to display. To access the BIOS setup menu, repeatedly press <DEL> until "Entering Setup..." appears at the bottom left corner of the screen.



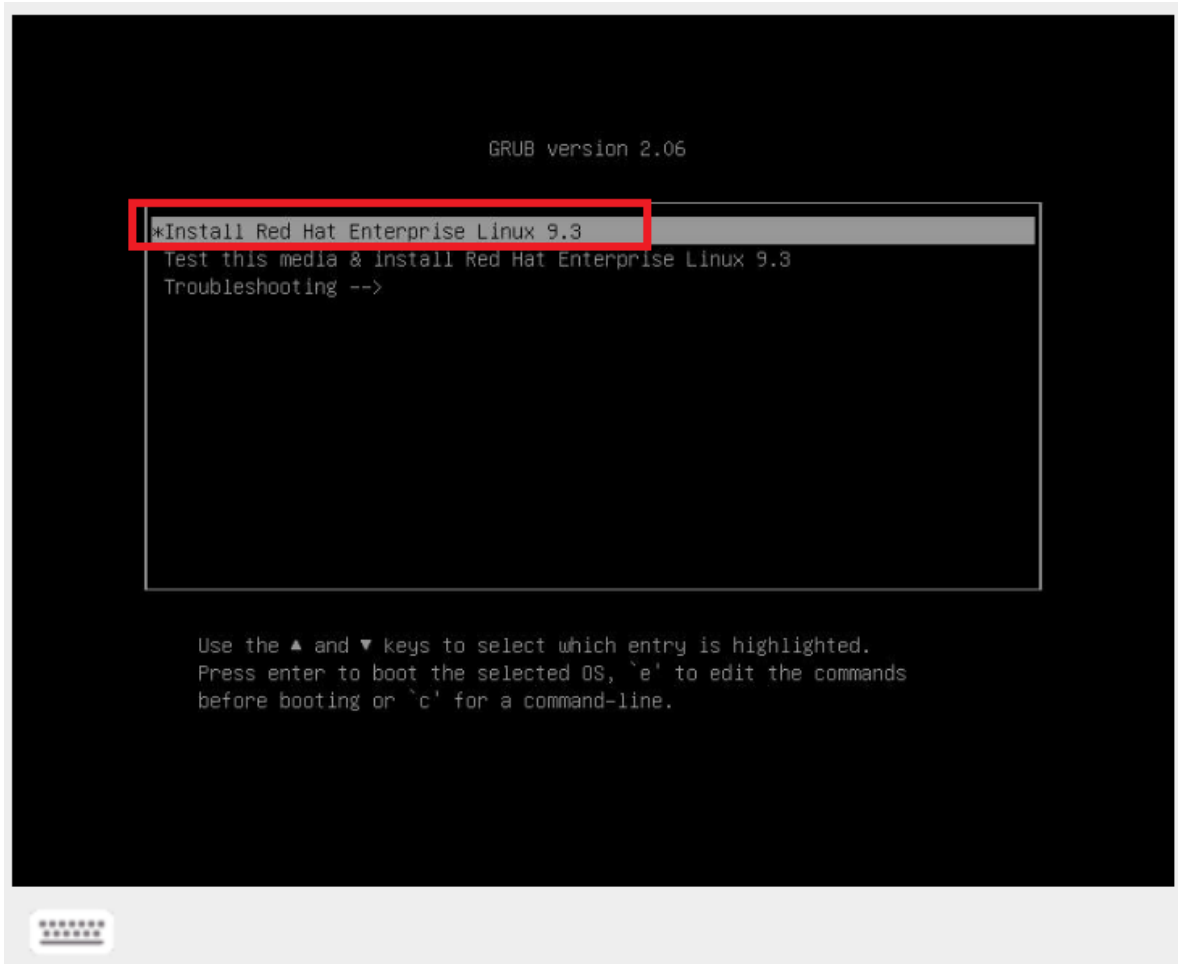
Subsequently, the UEFI BIOS screen is displayed.



2. Navigate to the **Save & Exit** menu using the arrow keys, then select "UEFI: ATEN Virtual CDROM YSOJ" as the boot option. This selection presents the ISO image mounted in Virtual Media. Press <Enter> to proceed.

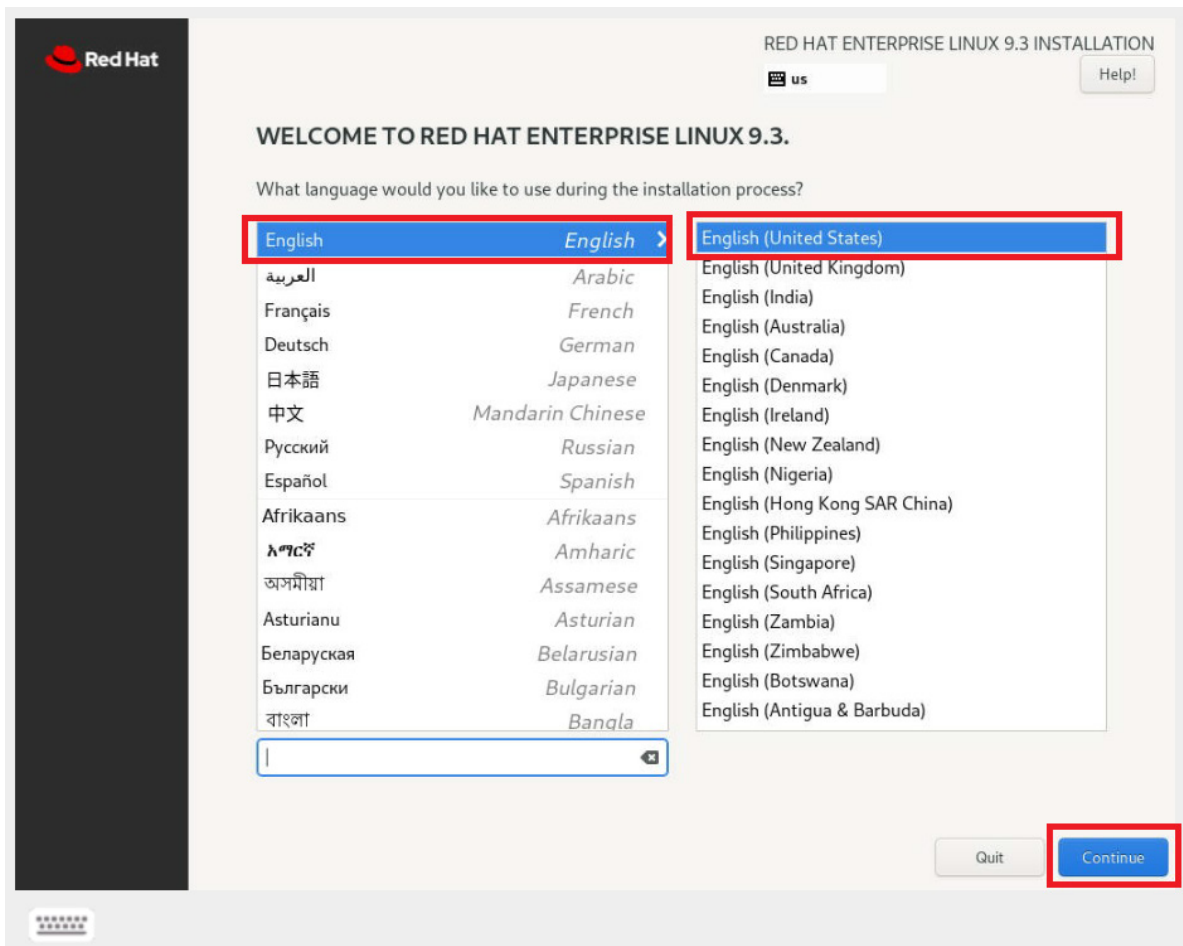


3. Follow the RHEL installer steps to continue installation. Choose “Install Red Hat Enterprise Linux 9.3” to proceed.

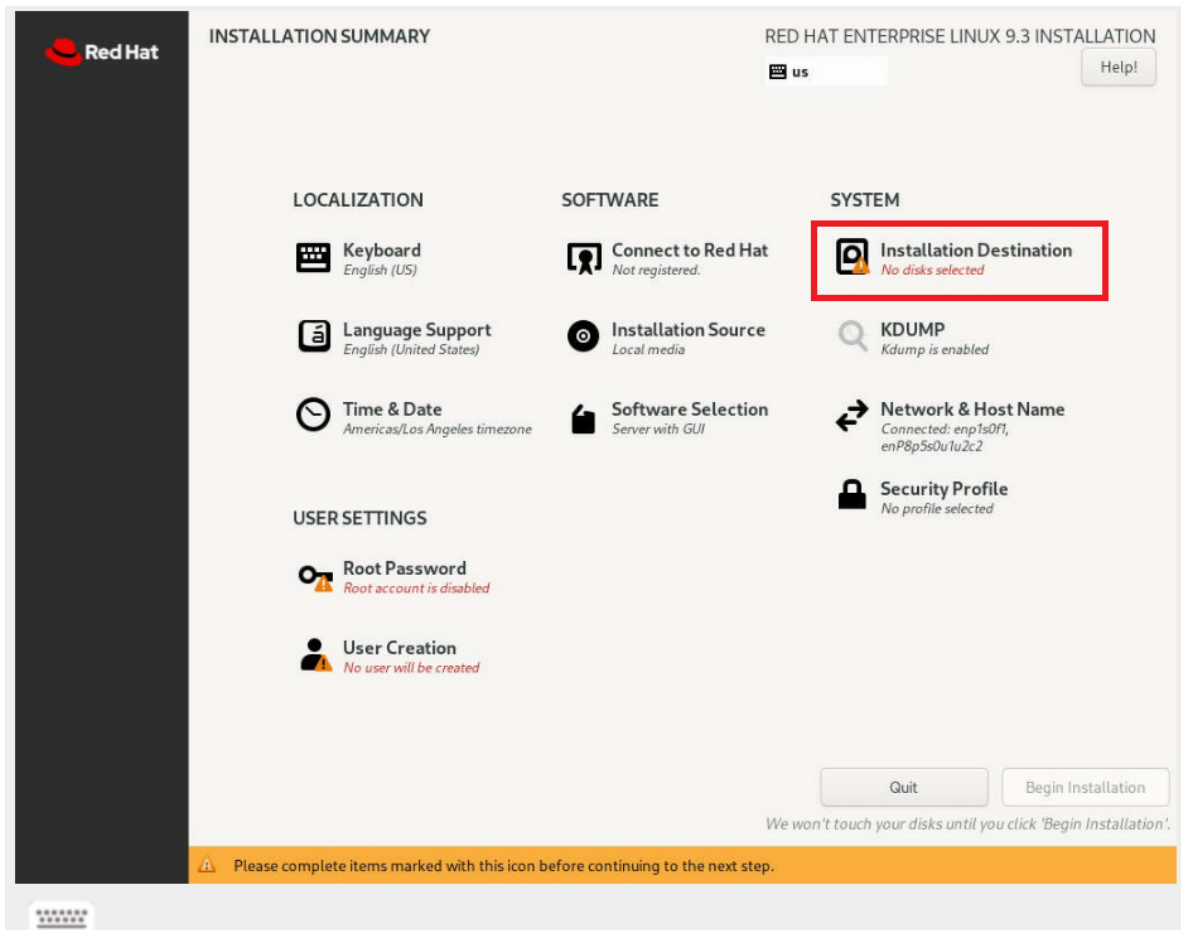


## Step 6. Installing RHEL 9.3 OS

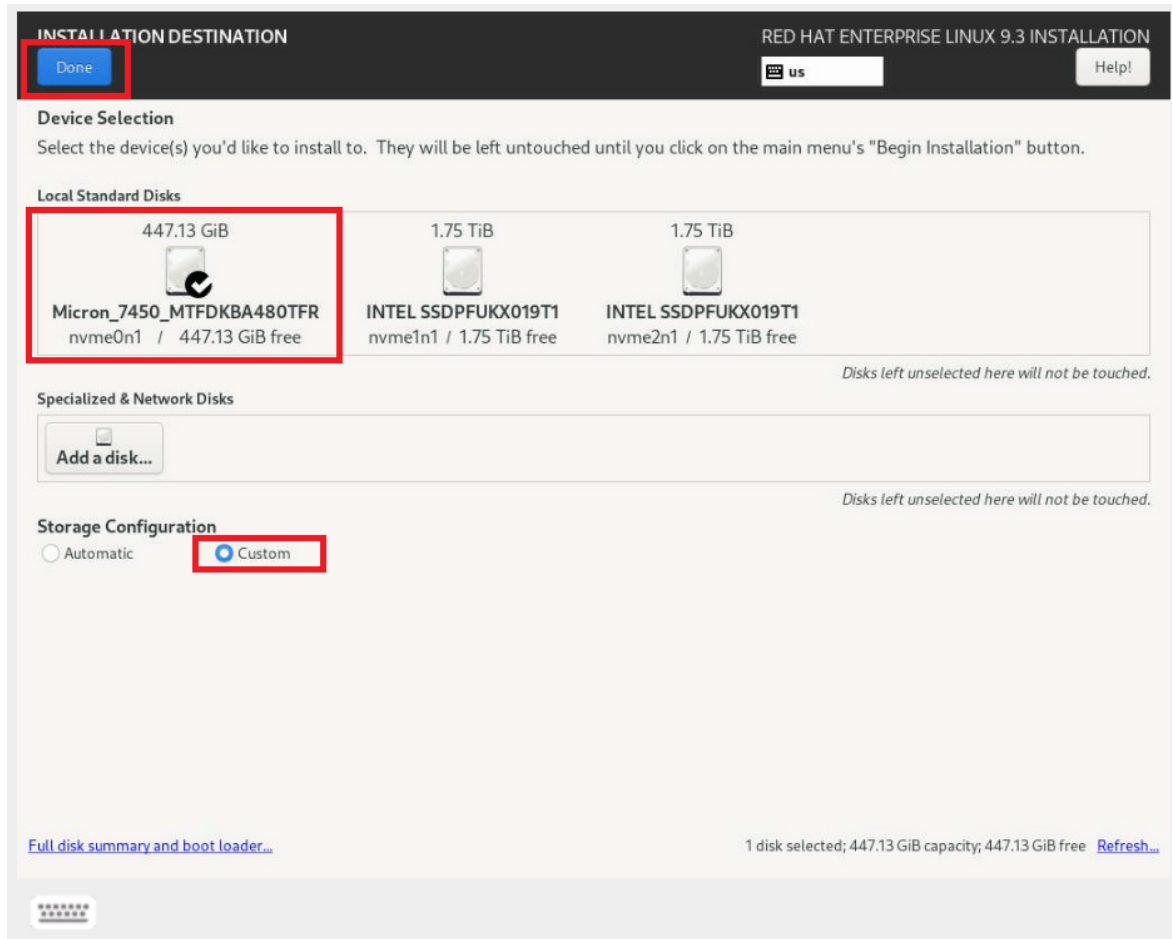
1. In the RHEL installer, select the language, then **Continue**.



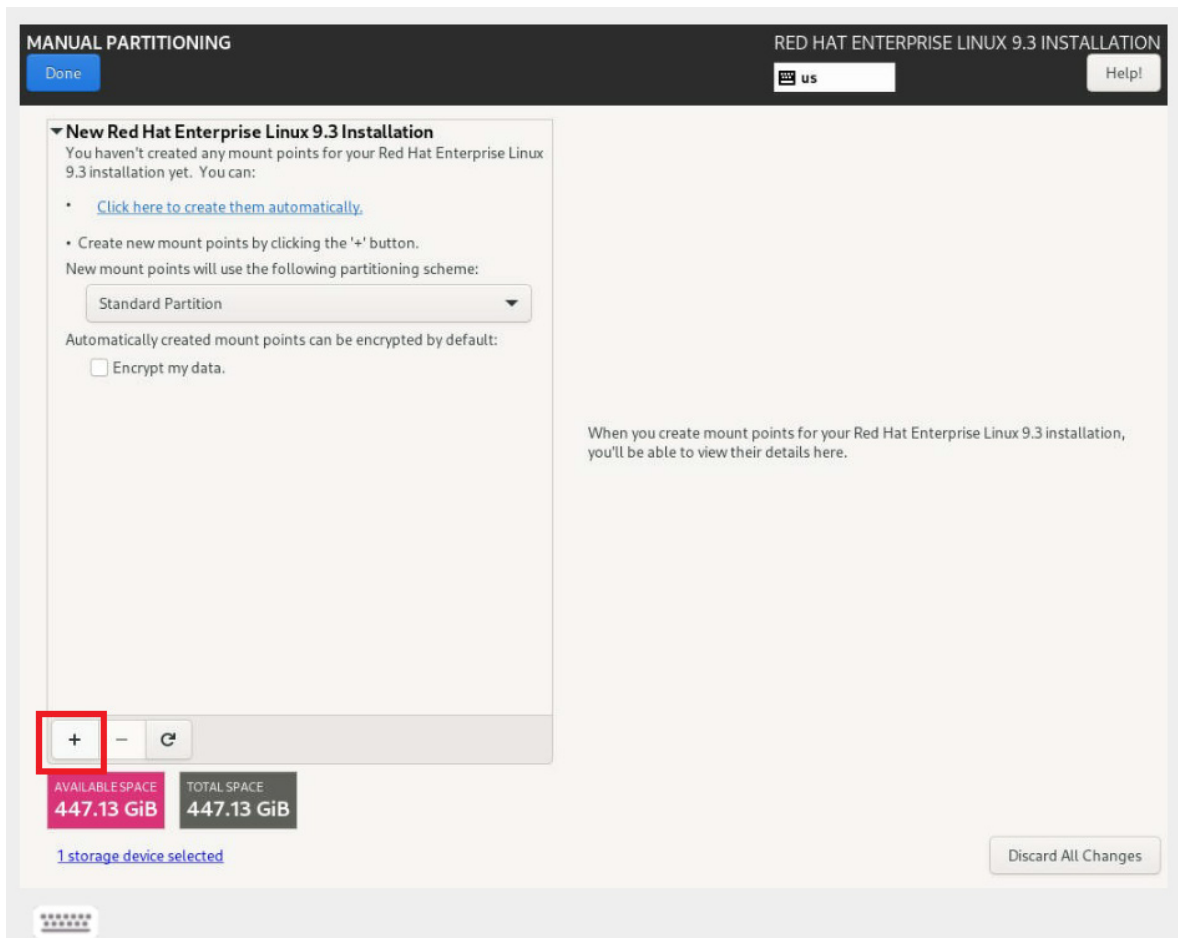
2. The **Installation Summary** window the configuration needed before you begin the installation. Select the **Installation Destination** button to select the storage disk.



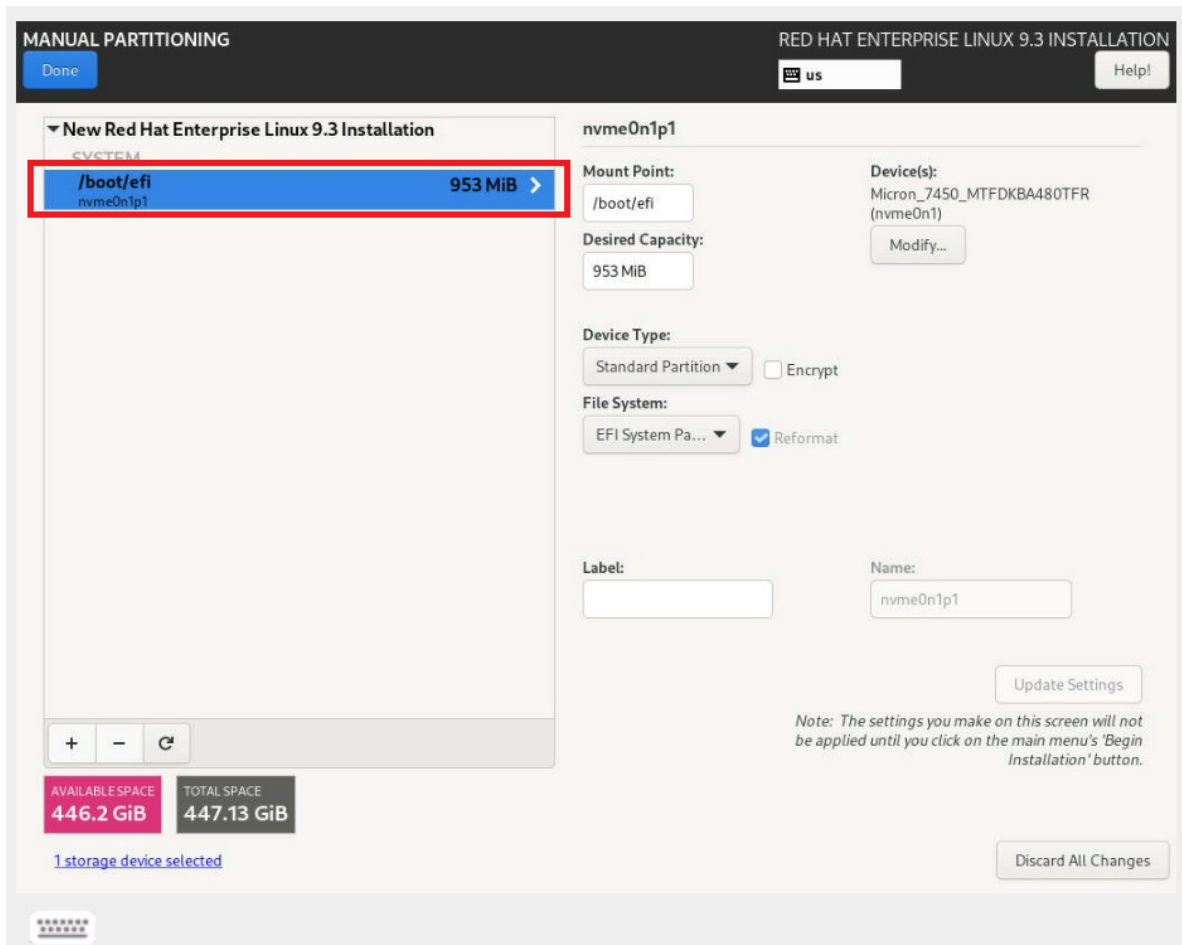
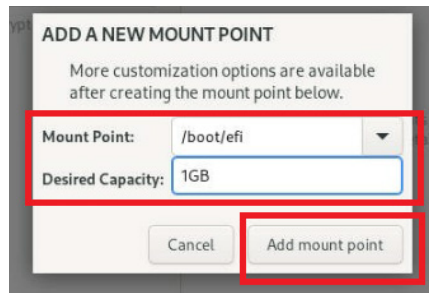
3. Select the disk on which you want to install this RHEL OS. Then select **Custom** if you want to customize the volume of the disk. This shows the space on the disk.



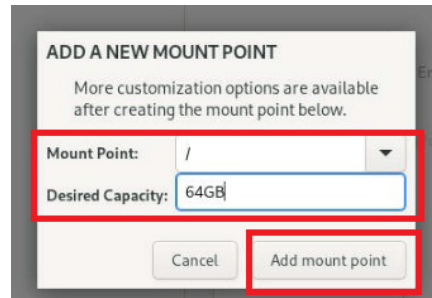
4. For RHEL, you must have at least three mount points (/boot/efi, / and swap). Click “+” button to create new mount point “/boot/efi” as the boot partition for EFI system.



- The ADD A NEW MOUNT POINT dialog appears. Select the mount point “/boot/efi” and the storage size. Then, click the **Add mount point** button. The new mount point “/boot/efi” will be added to accordion of New Red Hat Enterprise Linux 9.3 Installation.



6. Click the “+” button to create another new mount point, “/” as the root directory. Configure the mount point “/” and the desired storage size. Then, click **Add mount point** button. The newly mount point “/” will be added to accordion of “New Red Hat Enterprise Linux 9.3 Installation.”



ADD A NEW MOUNT POINT

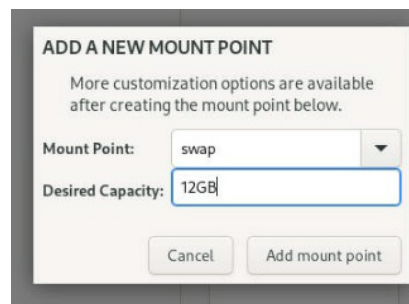
More customization options are available after creating the mount point below.

Mount Point: /

Desired Capacity: 64GB

Cancel Add mount point

7. Click “+” button to create another new mount point “swap” for virtual memory space. Configure the mount point “swap” and the desired storage size. Then, click **Add mount point** button. The newly mount point “swap” will be added to accordion of “New Red Hat Enterprise Linux 9.3 Installation”



ADD A NEW MOUNT POINT

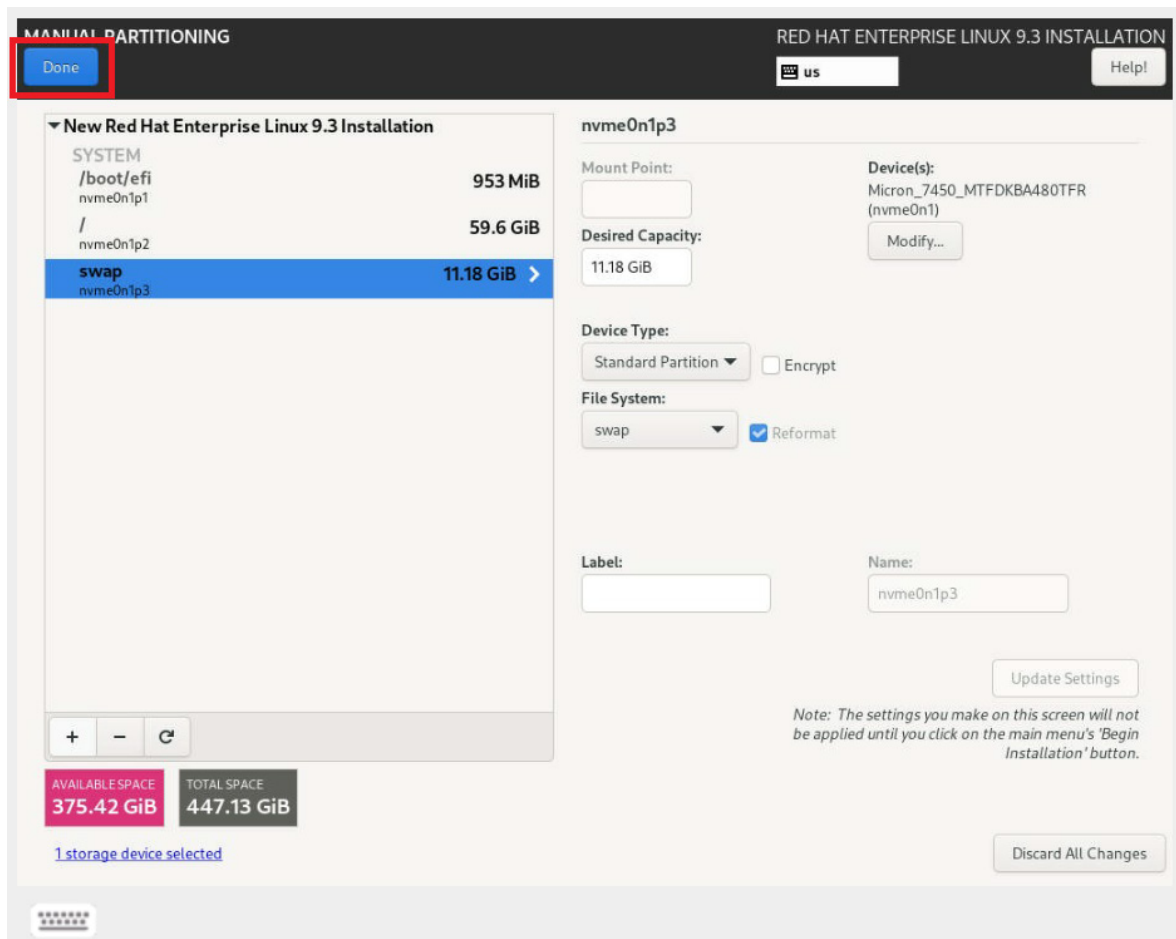
More customization options are available after creating the mount point below.

Mount Point: swap

Desired Capacity: 12GB

Cancel Add mount point

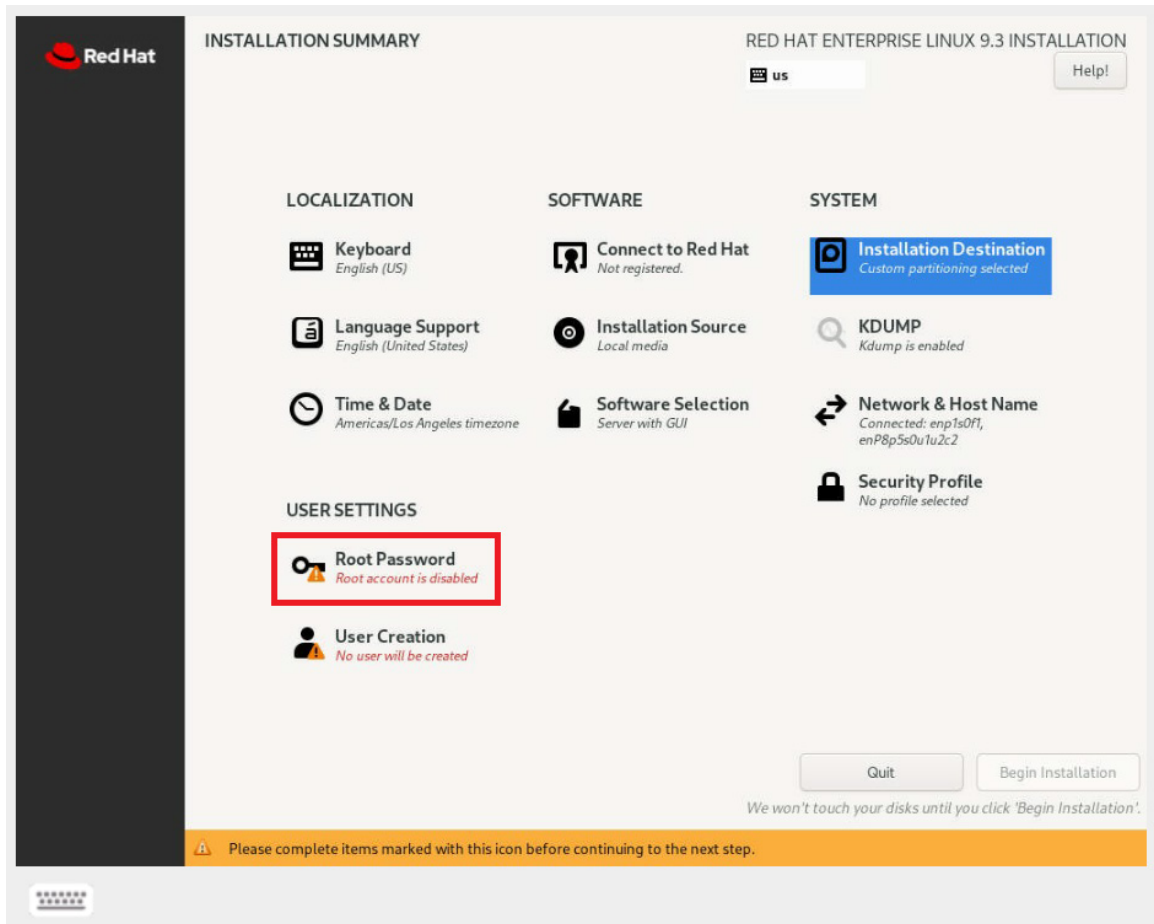
8. Click the **Done** button at the left top corner after all the required partitions are created.



9. In the Summary of Changes dialog, accept the changes for the customized partitions.

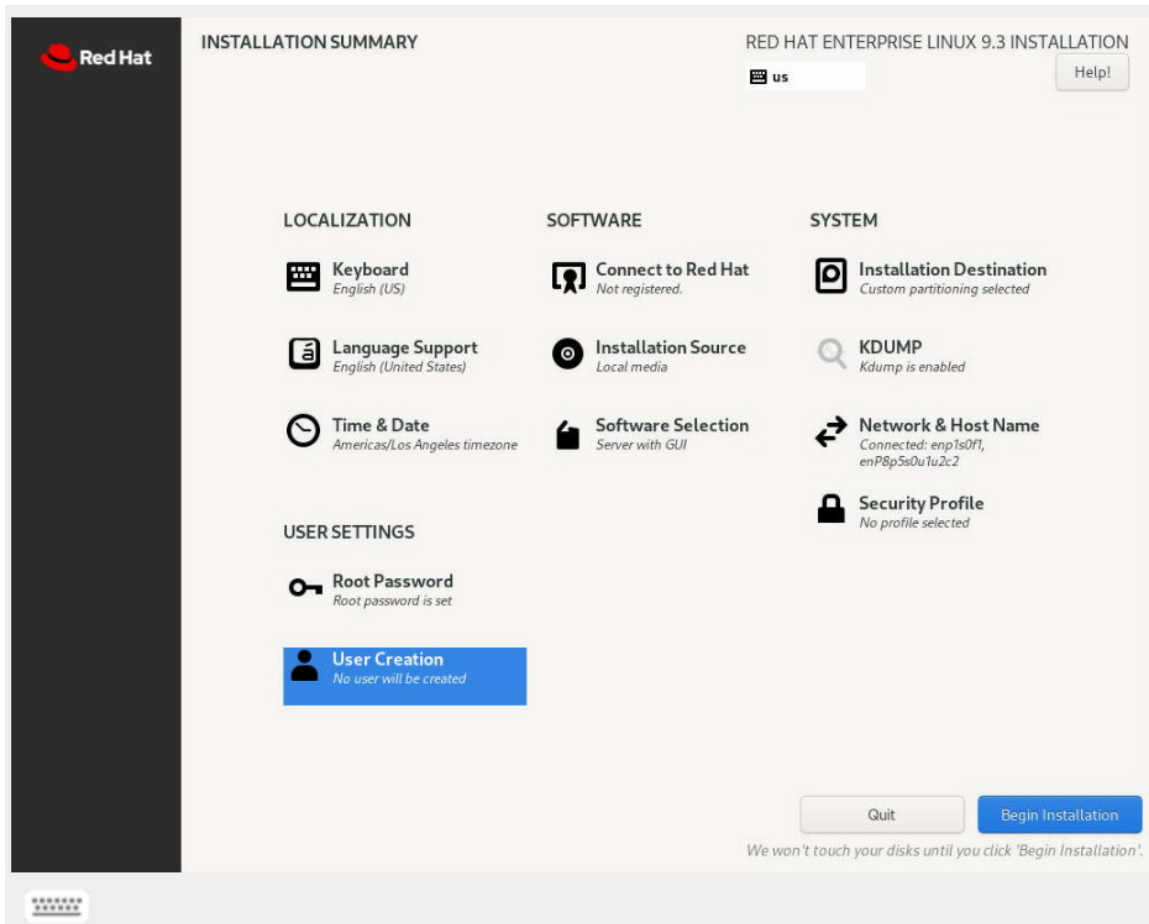
In the Installation Summary screen, **Installation Destination** has been updated to “Custom partitioning selected.”

10. Click “Root Password.”

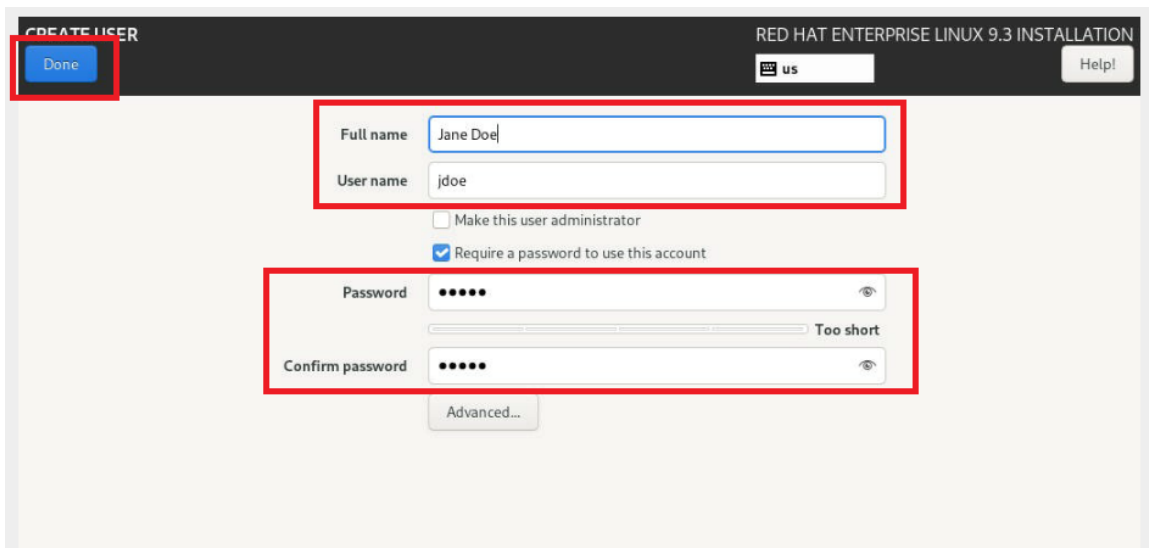


11. Enter the password for the root user and confirm. Then click the **Done** button.

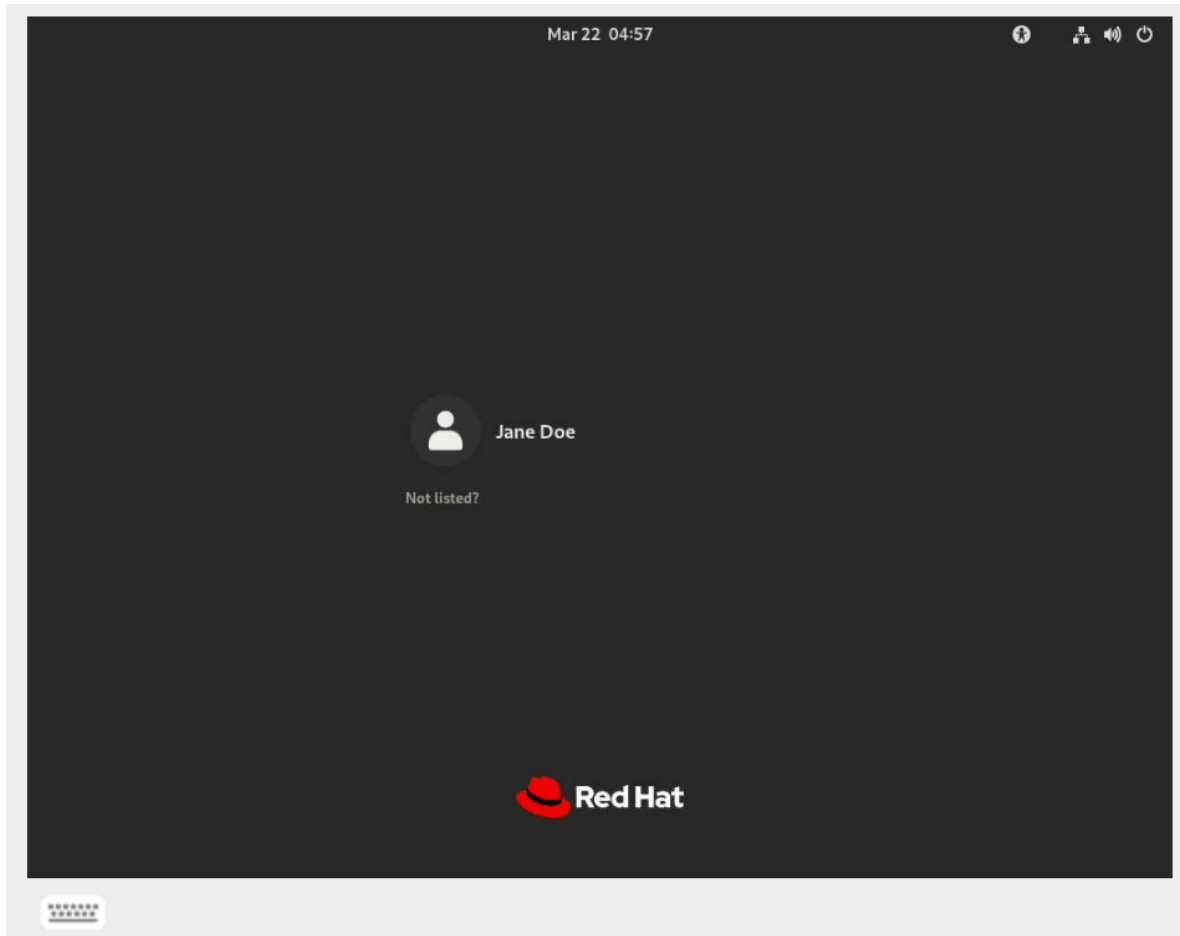
12. Click "User Creation."



13. Enter "Full Name", "User Name", "Password", and "Confirm Password" details. Then click the **Done** button.



14. After completing all the above steps, click **Begin Installation** to start the installation process.
15. After the installation is complete, click **Reboot System** to reboot.
16. After rebooting, the user login page appears. Click the user name, then enter the user password to log in.



Installation is finished. The system is available.

## 3. Installing SUSE Linux Enterprise Server 15

### Prerequisites

This section outlines the required (or recommended) prerequisites.

#### Obtaining the SLES ISO

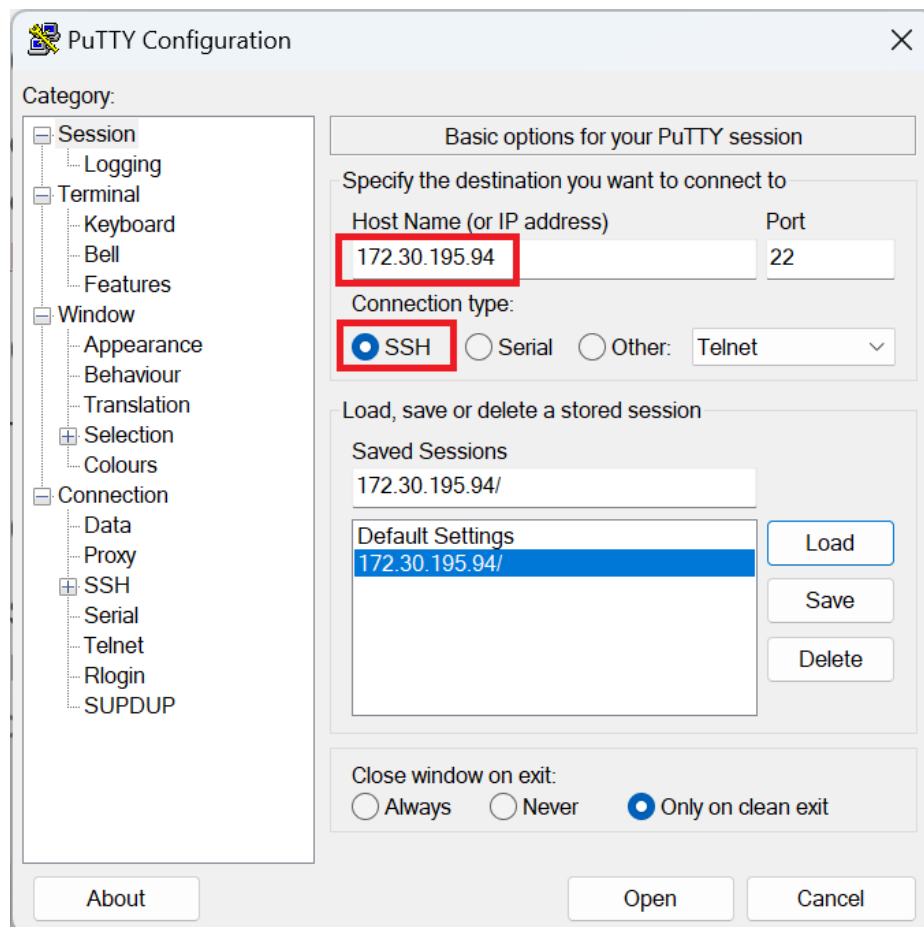
Obtain the SUSE Linux Enterprise Server 15 ISO for ARM image (aarch64) and save it to your local disk or a shared server. It is recommended to use SLES 15SP5 ISO image file. Please refer to [Downloading a SLES 15 installation ISO image for the ISO packages](#).

#### Connecting to BMC network

To utilize BMC remote functionality, ensure that the network is connected to the BMC.

#### Opening SSH to the BMC from PuTTY terminal

Set up a SSH connection to the BMC IP Address (See Step 1. Obtaining BMC IP Address) through the PuTTY terminal.



## Step 1. Obtaining the BMC IP Address

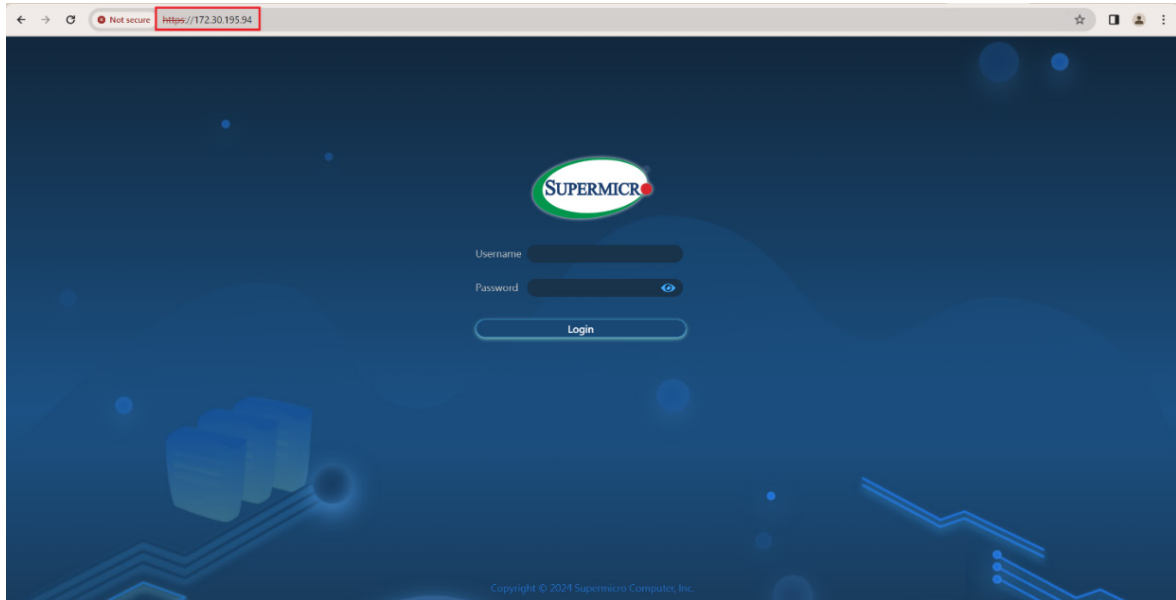
Connect the system to a monitor or display using a Mini DisplayPort (Mini DP) or a Mini DisplayPort-to-DisplayPort (DP) adapter. Ensure that network is connected to BMC using a network cable and power on the system. The BMC IP address will appear on the right corner of the Supermicro Logo screen.



## Step 2. Accessing the BMC Remote Server

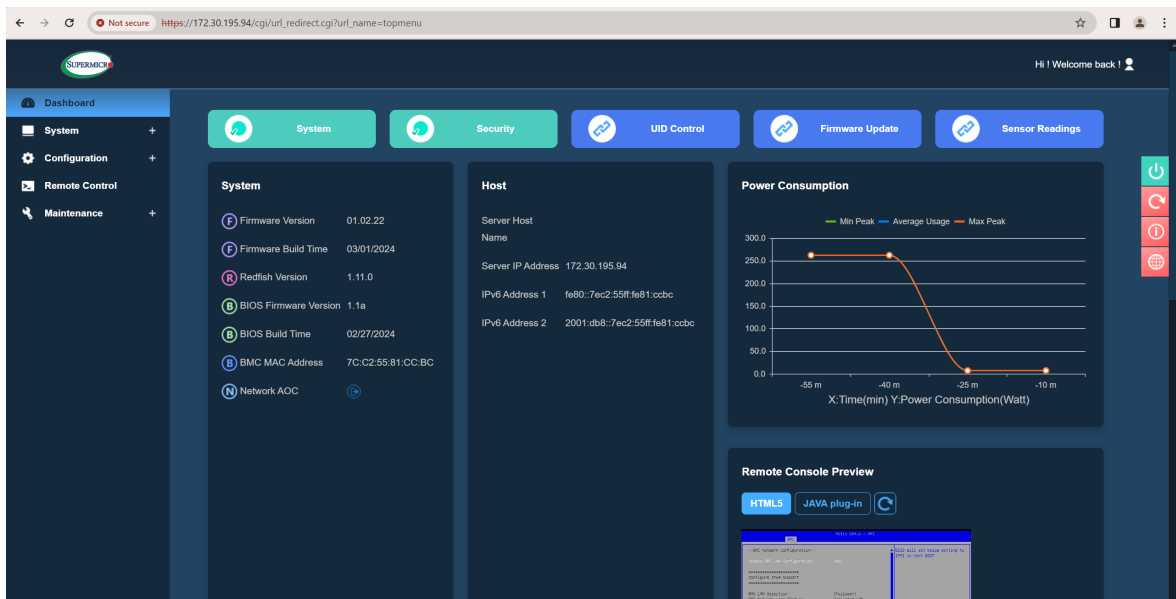
### Log in to BMC Remote Server

1. In the terminal, execute a ping command to the BMC IP address, such as 172.30.195.94, to verify its connectivity.
2. Launch a new web browser and input the BMC IP address into the URL field. The BMC Remote Console login screen is displayed.



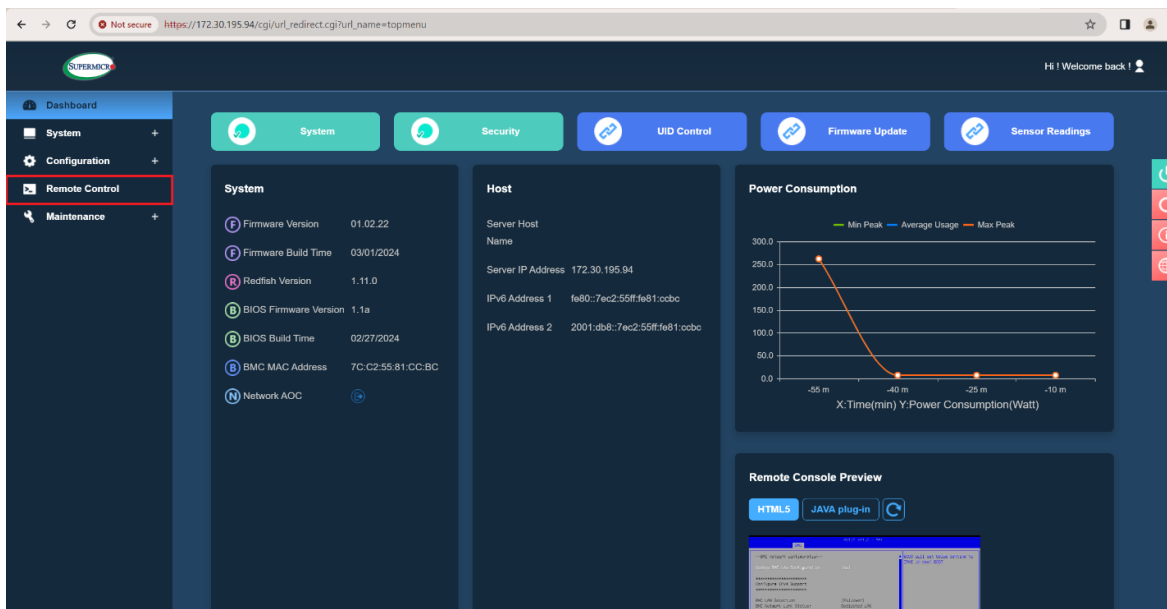
3. Input the username 'ADMIN' and the unique BMC password, which is located on the label on the opposite side of the service tag of the system. Click **Login** to proceed.

The BMC Dashboard appears with insights into system overview, configuration, health status, and maintenance.

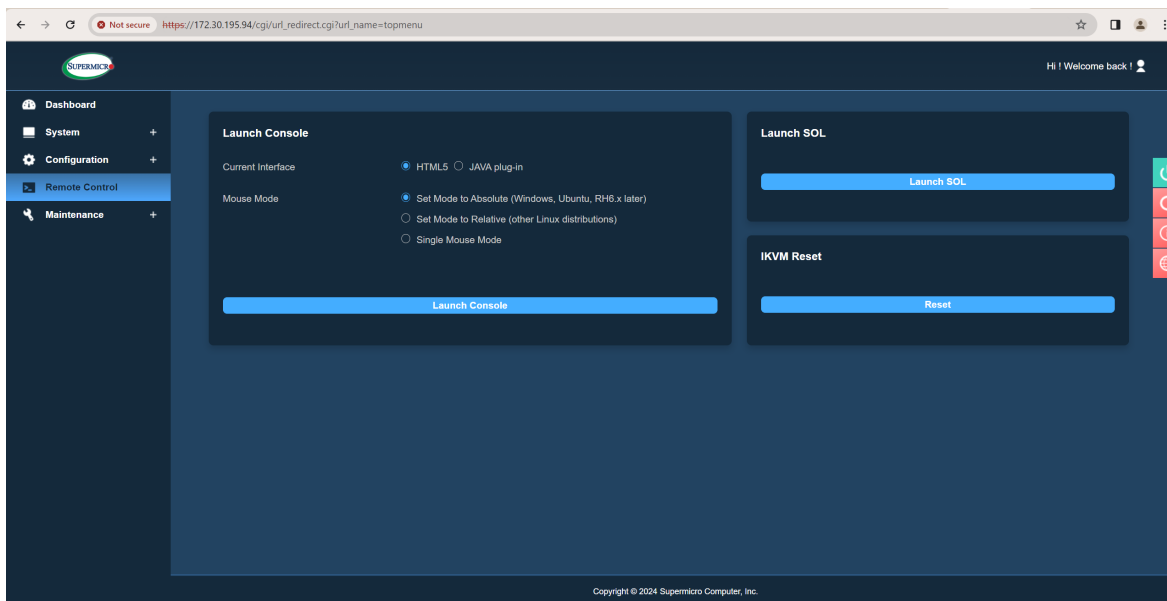


## Step 3. Remote Controlling the BMC

1. Click the Remote Control menu in the BMC Remote Server to enable remote server operations.



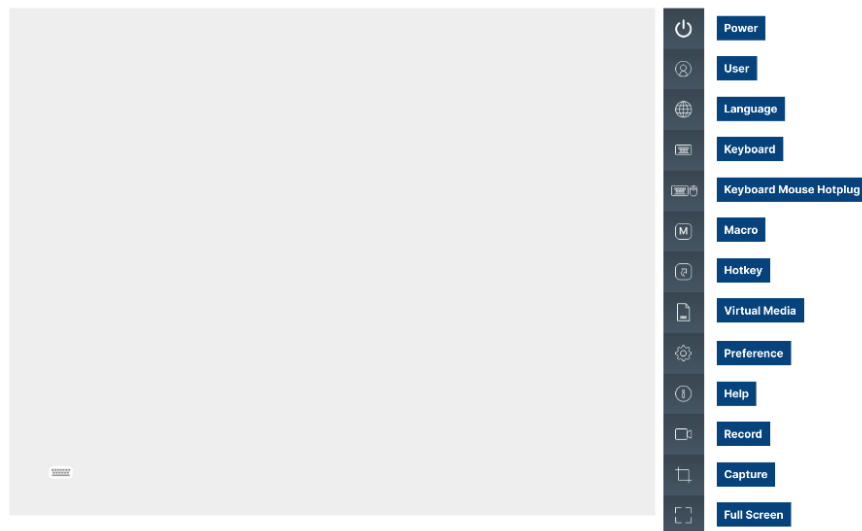
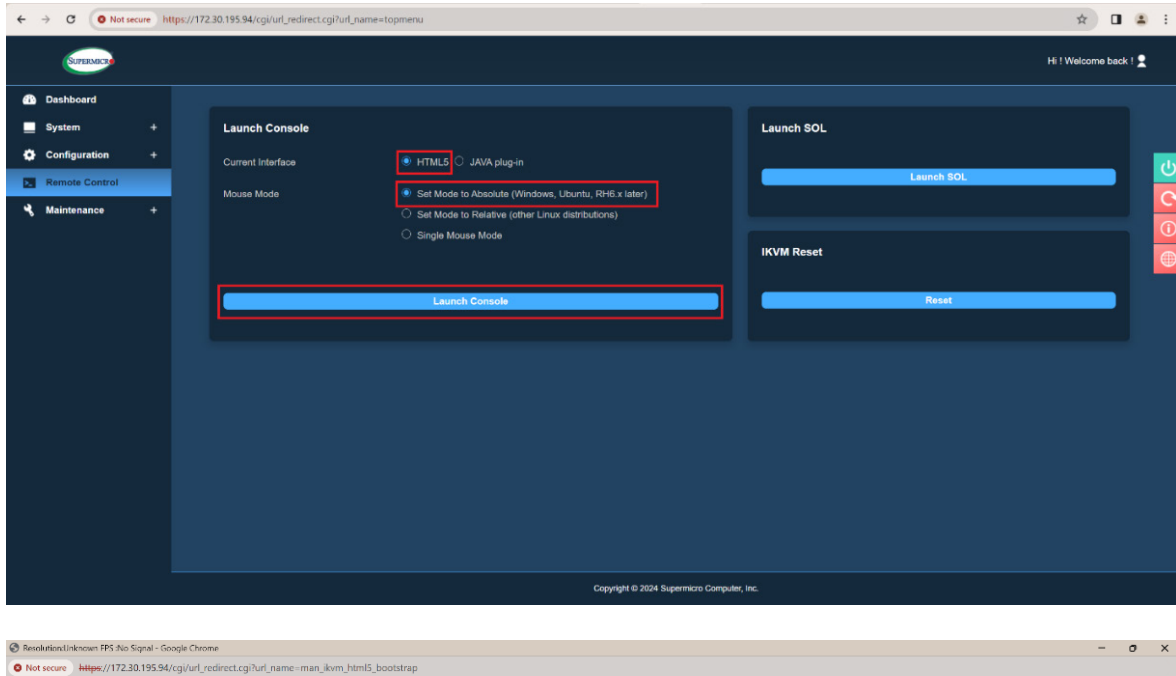
2. Use the Launch Console section to configure the remote console interface settings. Choose between the HTML5 interface or a JAVA plug-in.



## Launch an HTML5 Remote Browser

To launch an HTML5 remote browser:

1. Set HTML5 as the current interface.
2. Choose the mouse mode according to your operating system, such as "Set Mode to Absolute" (Windows, Ubuntu, RH6.x, or later)".
3. Click the **Launch Console** button to open a console in a new browser window

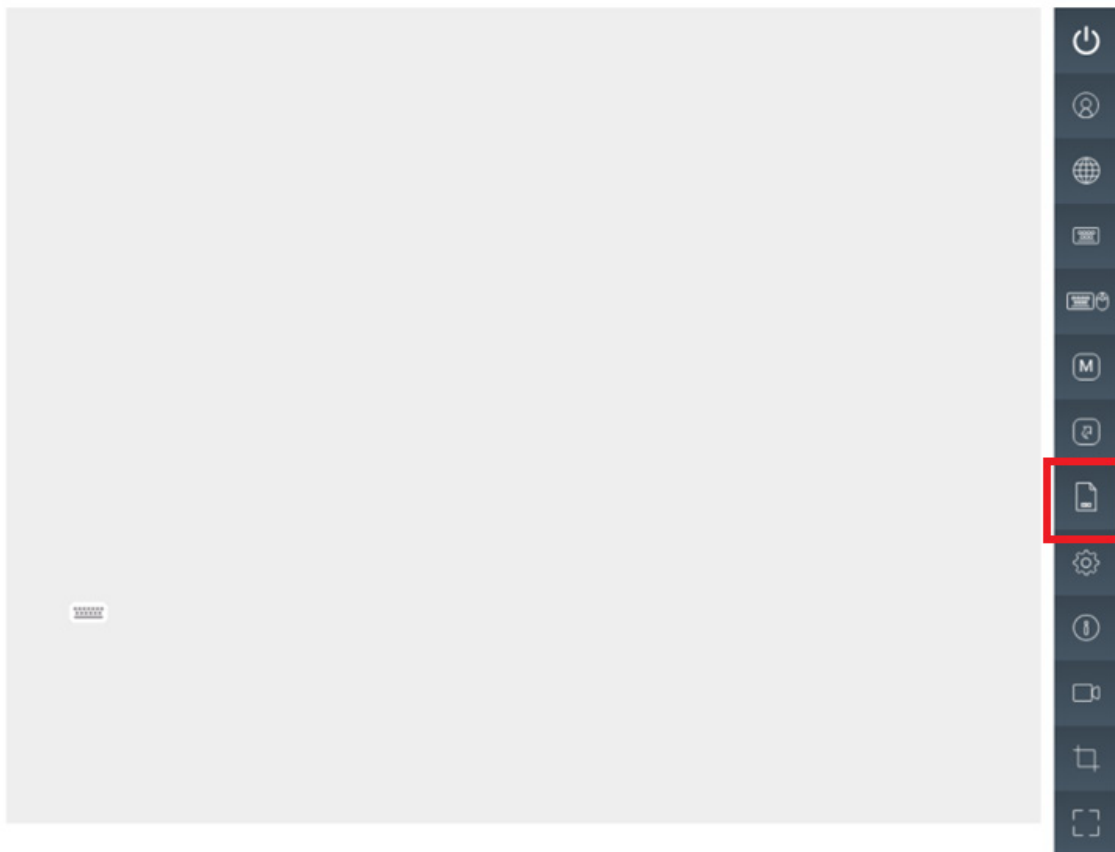


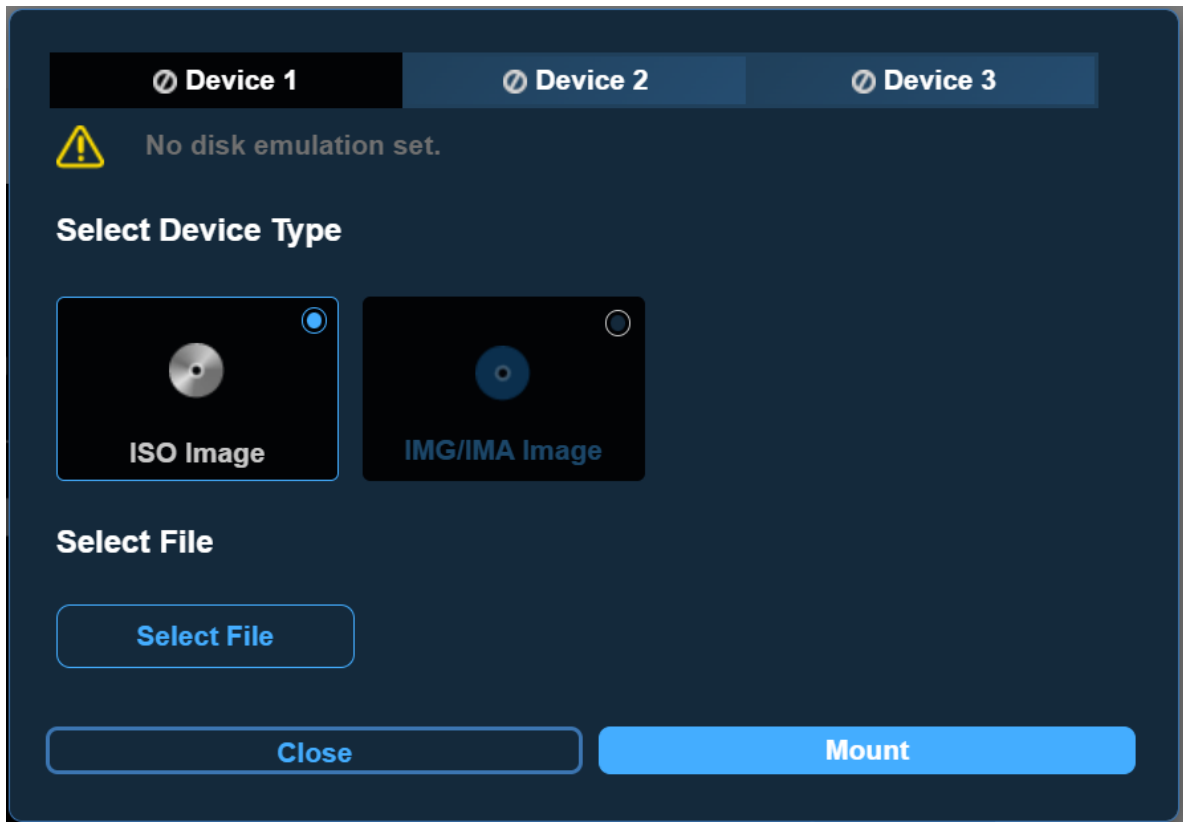
## Step 4. Mounting the ISO image

There are two methods to mount ISO images. If the ISO files are stored locally on your disk, you can mount them directly within the remote control browser. Alternatively, if the ISO files are located on a shared server, you can mount them via the Configuration > Virtual Media menu.

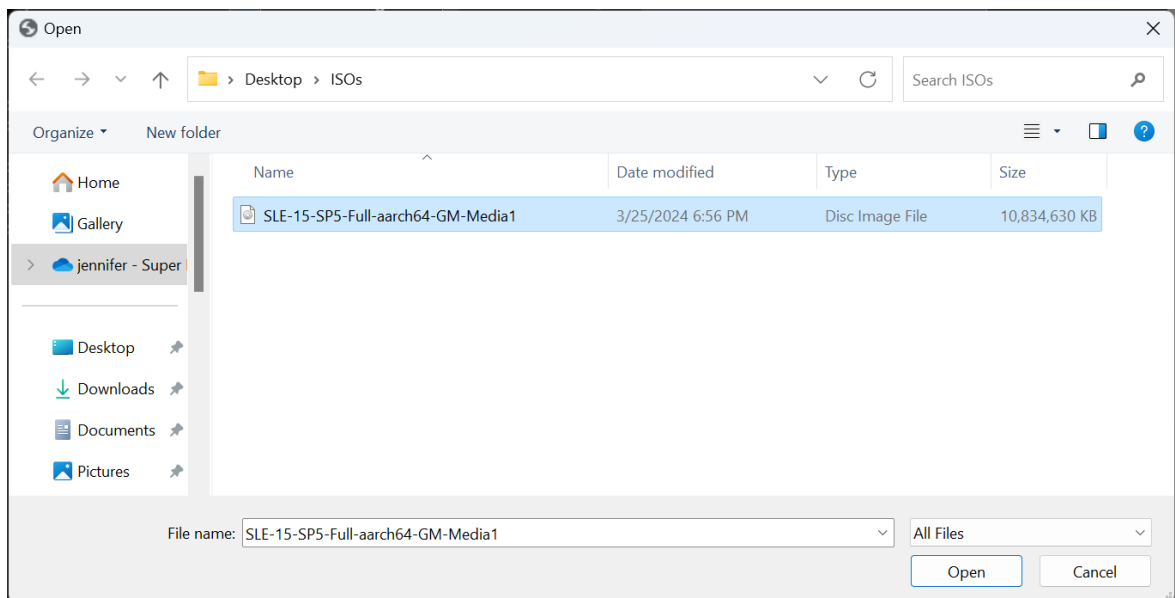
### Mount the ISO Image Using a Local File

1. In the remote control browser, click the “Virtual Media” icon. A dialog box appears. Select the image type and files for mounting.

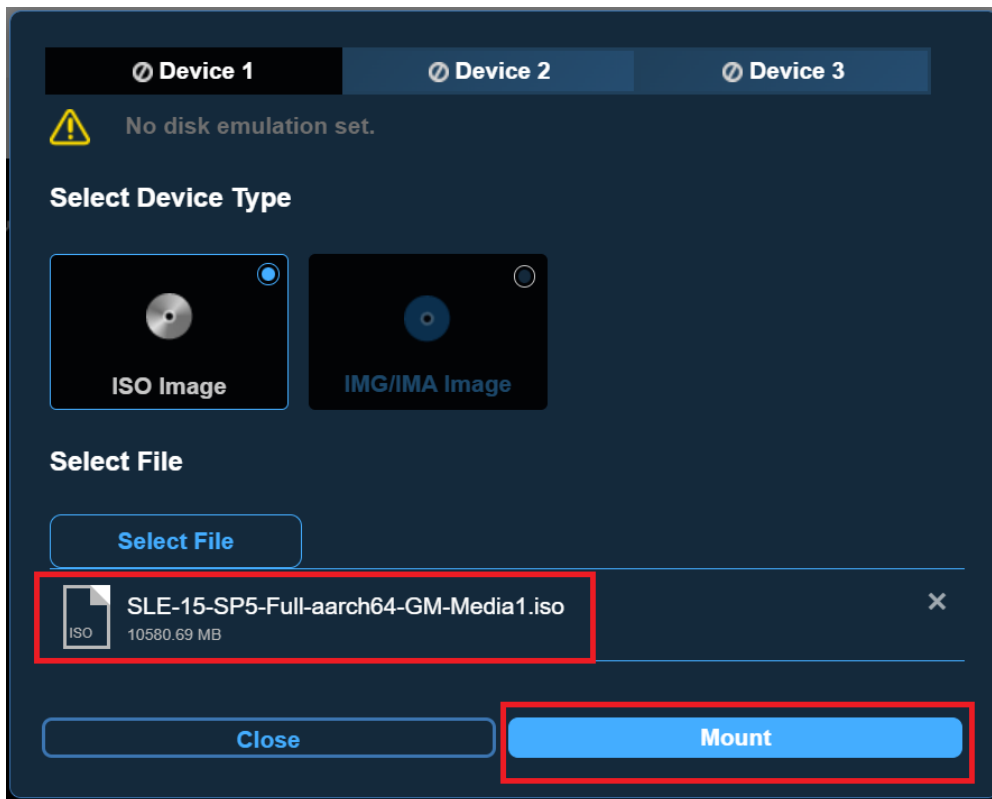




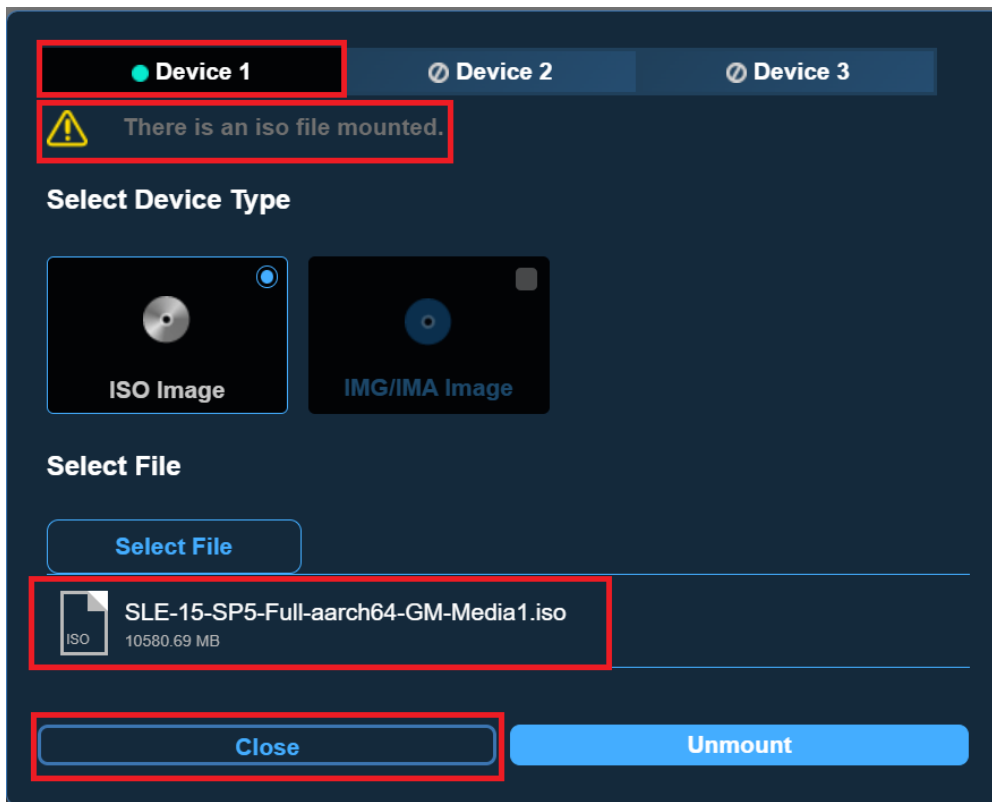
2. Click the **Select File** button to browse and select the SLES ISO image on your local disk for use.



3. Click the **Mount** button to attach the chosen ISO image.

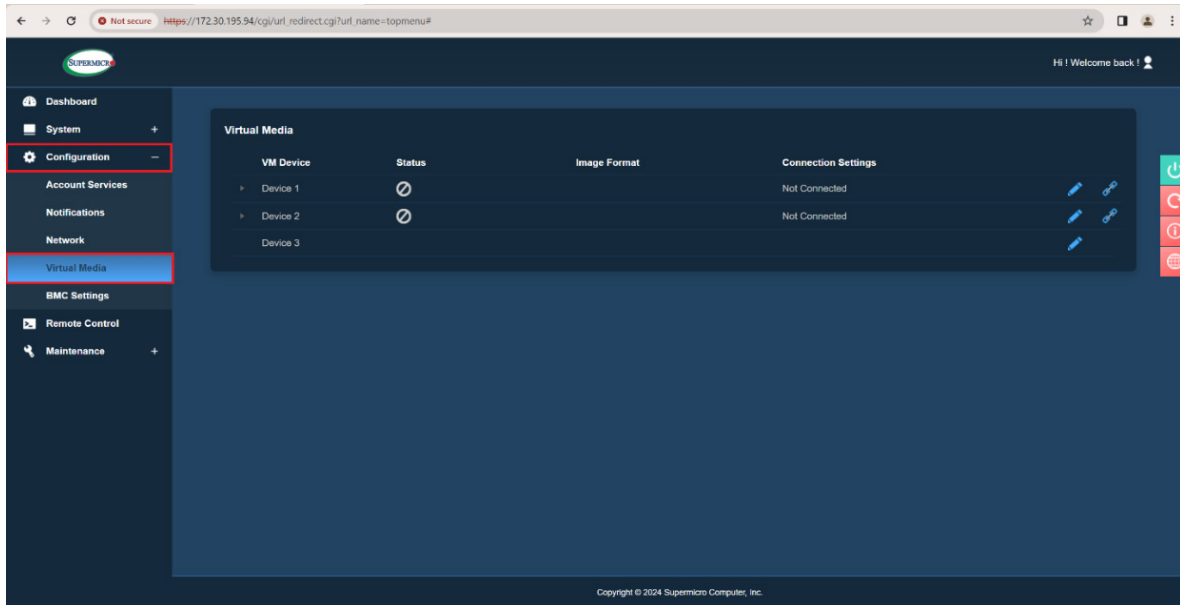


4. Upon successful mounting of the ISO image, a green indicator will appear in the **Device** tab. Close the dialog to continue.

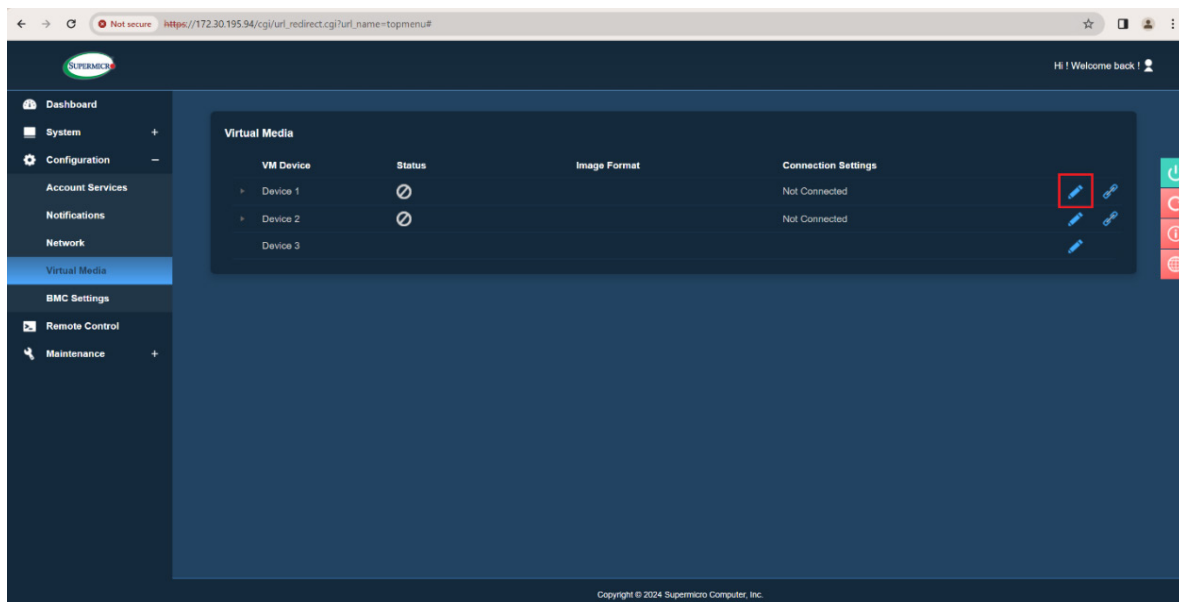


## Mount the ISO Image through Shared Server

1. In BMC dashboard, go to **Configuration > Virtual Media**. This allows you to attach an ISO image from the server.



2. Click the “Edit” icon to adjust the VM configuration. Enter the server host address and the path to the ISO image. Then, click **Save** to apply the changes.



**Edit VM Connection**

Share Host \*

Verify the certification of the server  
 Accept the self-signed certificates

Path to Image \*

Users

Password

3. Click the “Connect” icon to mount the virtual media.

Virtual Media

VM Device	Status	Image Format	Connection Settings
Device 1	Not Connected		Not Connected
Device 2	Not Connected		Not Connected
Device 3			

The device **Status** will display as green once the VM is successfully configured.

## Step 5. Setting Boot Override in UEFI BIOS

To configure the boot option from the mounted image in virtual media, users must manually adjust the boot settings in the BIOS setup.

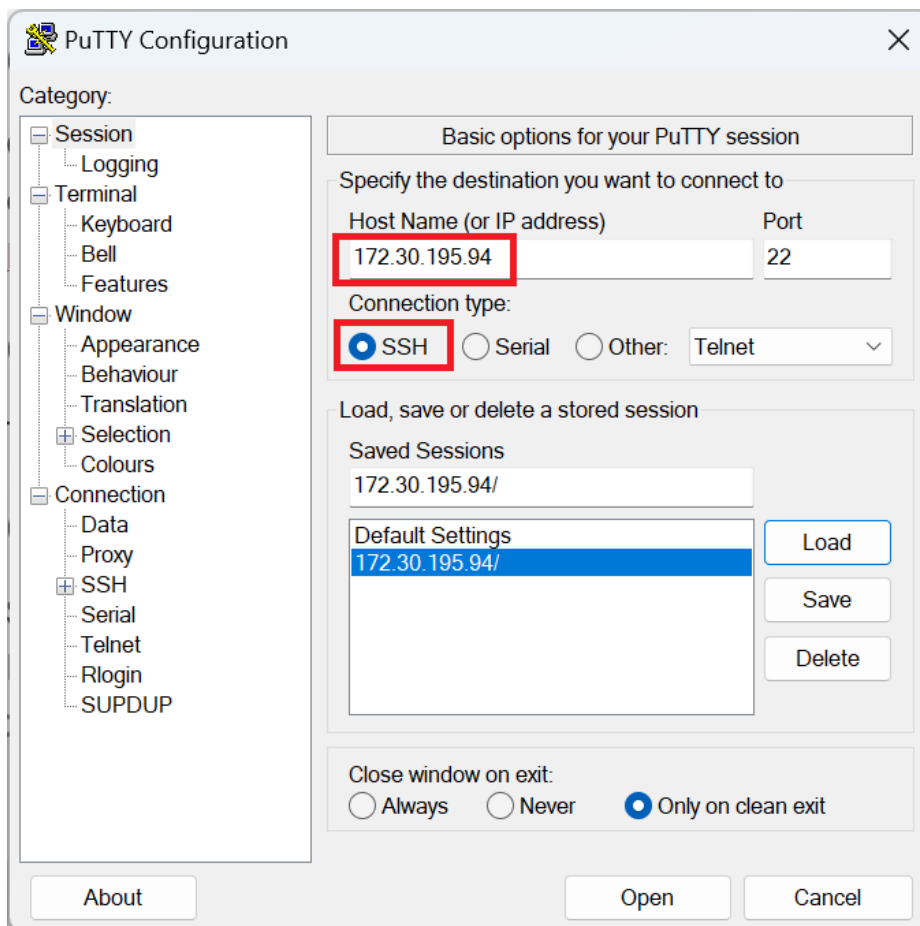
- Power on the system and wait for the Log screen to display. To access the BIOS setup menu, repeatedly press <DEL> until "Entering Setup..." appears at the bottom left corner of the screen.

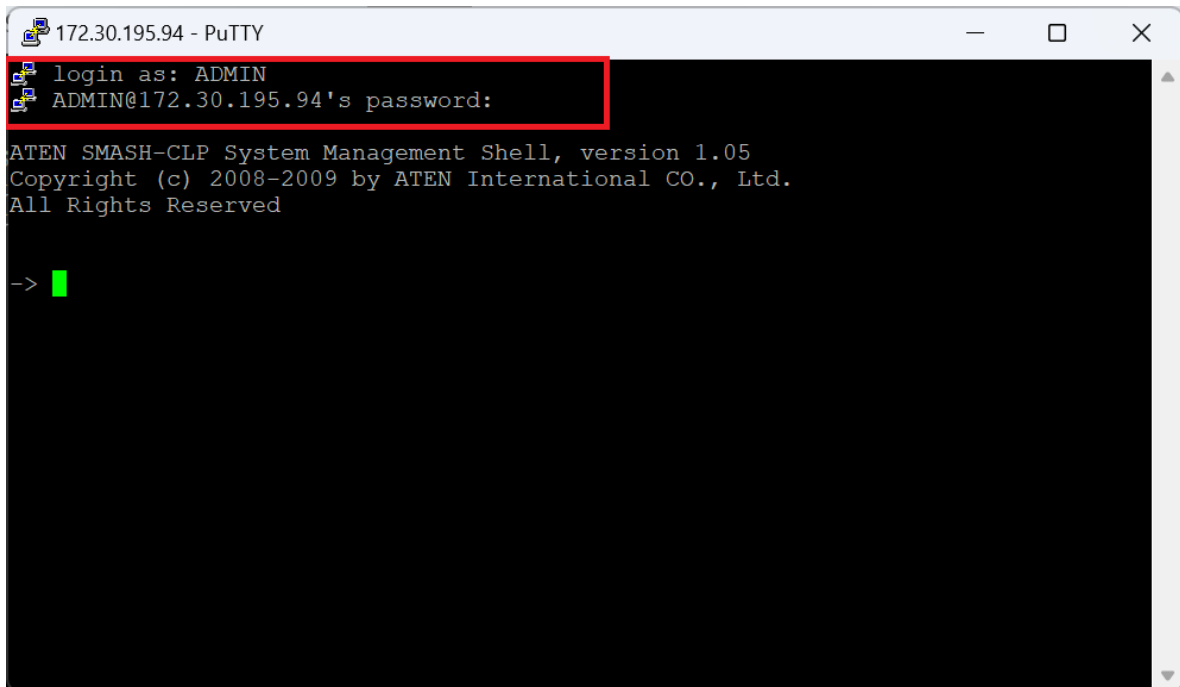


Subsequently, the UEFI BIOS screen is displayed.

## Step 6. Opening a SSH SOL Connection in PuTTY

Open a connection to the BMC IP address (For detailed instructions, refer to Step 1. Obtaining BMC IP Address.) and log in using the provided username and the unique BMC password through PuTTY. Once logged in, navigate to the directory by typing the command 'cd system1/sol1'. Then, initiate the SOL session by entering the command 'start'."

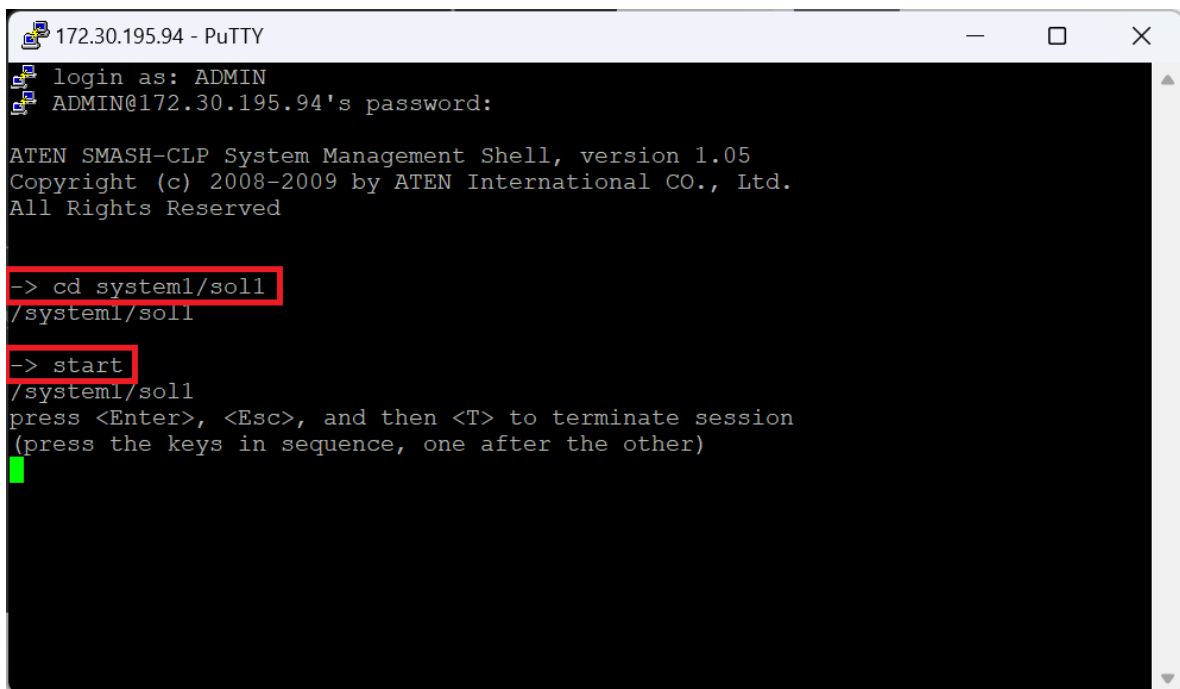




```
172.30.195.94 - PuTTY
login as: ADMIN
ADMIN@172.30.195.94's password:

ATEN SMASH-CLP System Management Shell, version 1.05
Copyright (c) 2008-2009 by ATEN International CO., Ltd.
All Rights Reserved

-> █
```



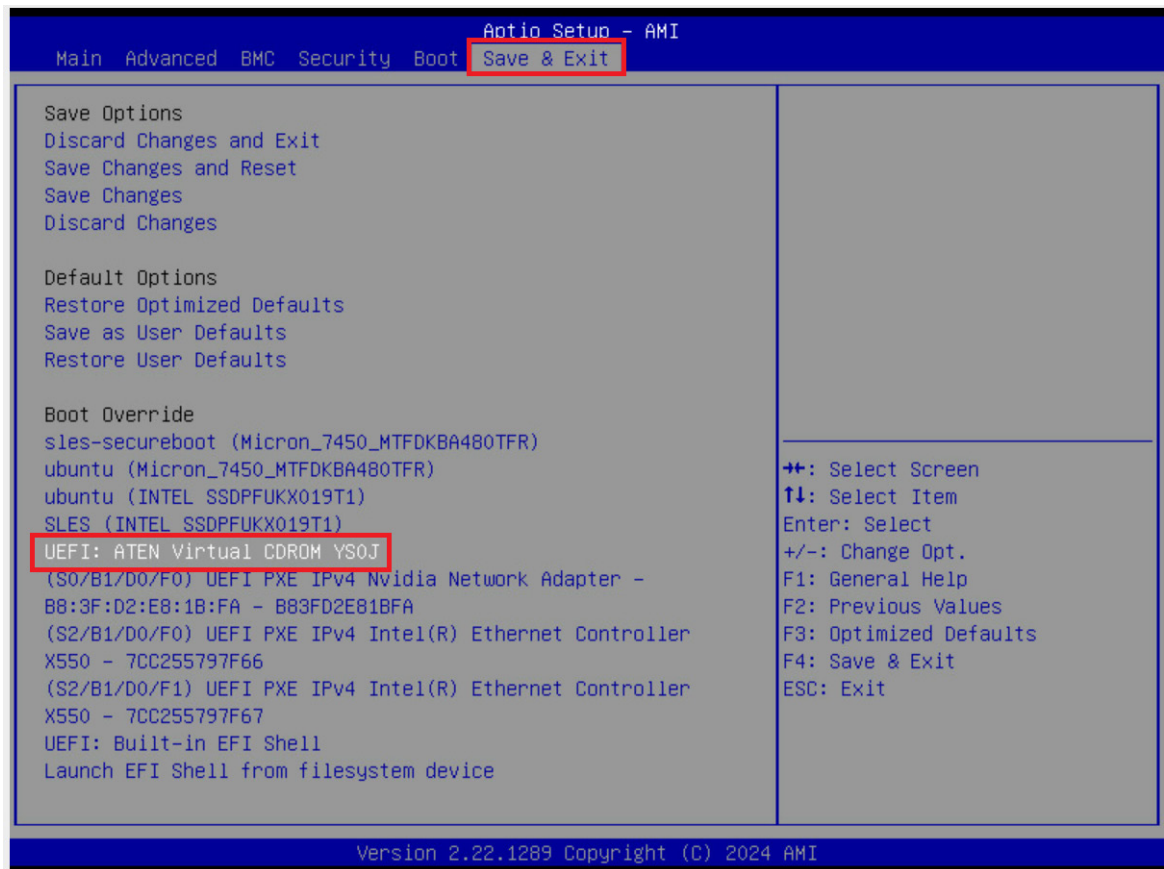
```
172.30.195.94 - PuTTY
login as: ADMIN
ADMIN@172.30.195.94's password:

ATEN SMASH-CLP System Management Shell, version 1.05
Copyright (c) 2008-2009 by ATEN International CO., Ltd.
All Rights Reserved

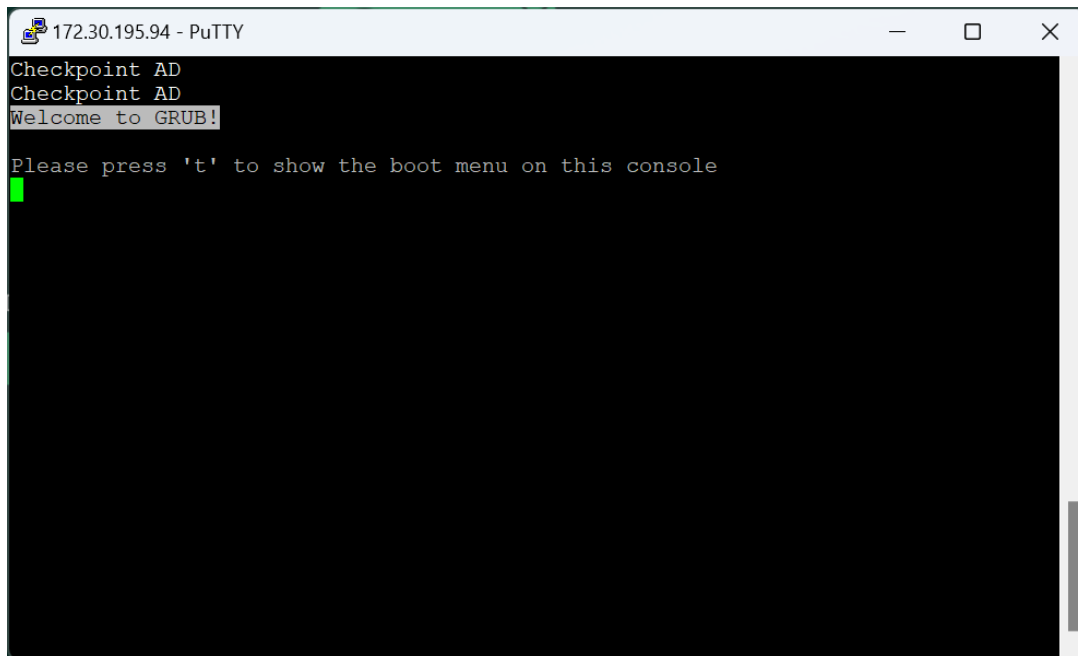
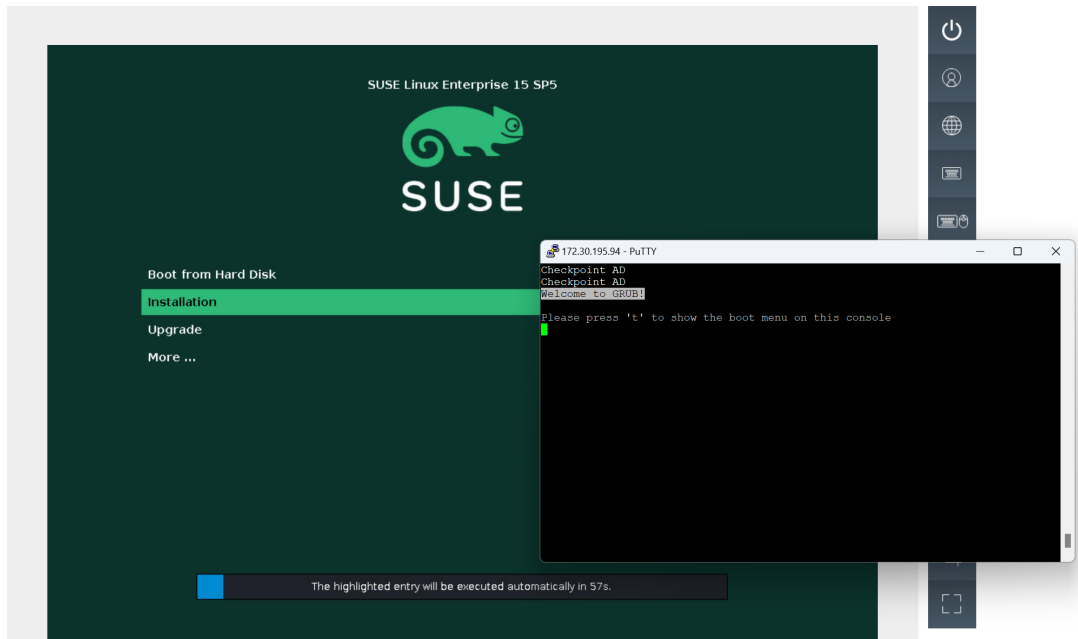
-> cd system1/soll
/system1/soll
-> start
/system1/soll
press <Enter>, <Esc>, and then <T> to terminate session
(press the keys in sequence, one after the other)
█
```

## Step 7. Setting the Boot Option in the PuTTY terminal

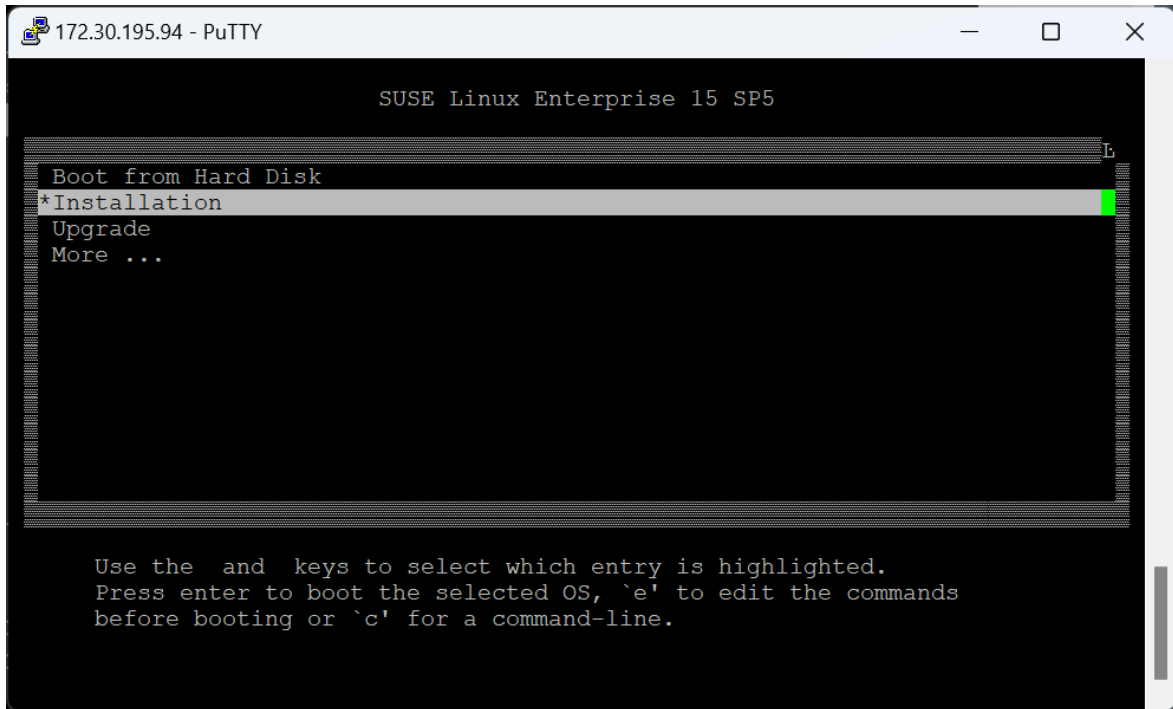
1. Navigate to the **Save & Exit** menu using the arrow keys in PuTTY terminal, then select “UEFI: ATEN Virtual CDROM YSOJ” as the boot option. This selection presents the ISO image mounted in Virtual Media. Press <Enter> to proceed.



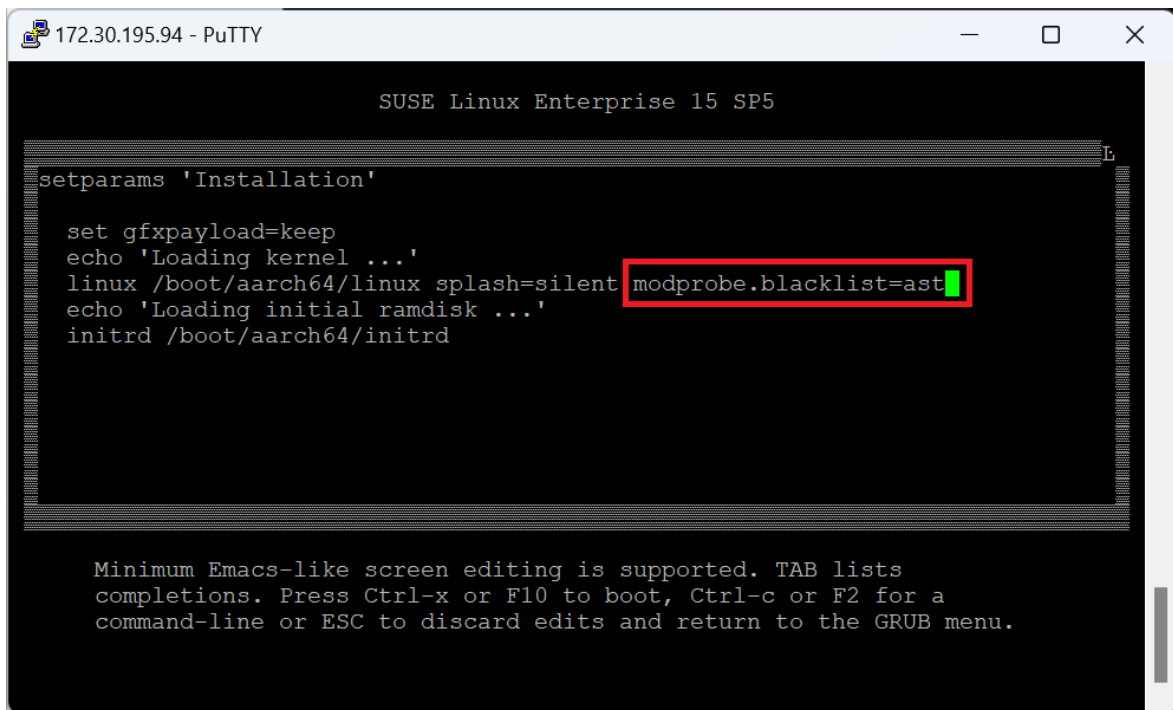
2. Select **Installation** and press <t> to show the boot menu in the PuTTY terminal.



3. Highlight **Installation** and press <e> to edit the commands.



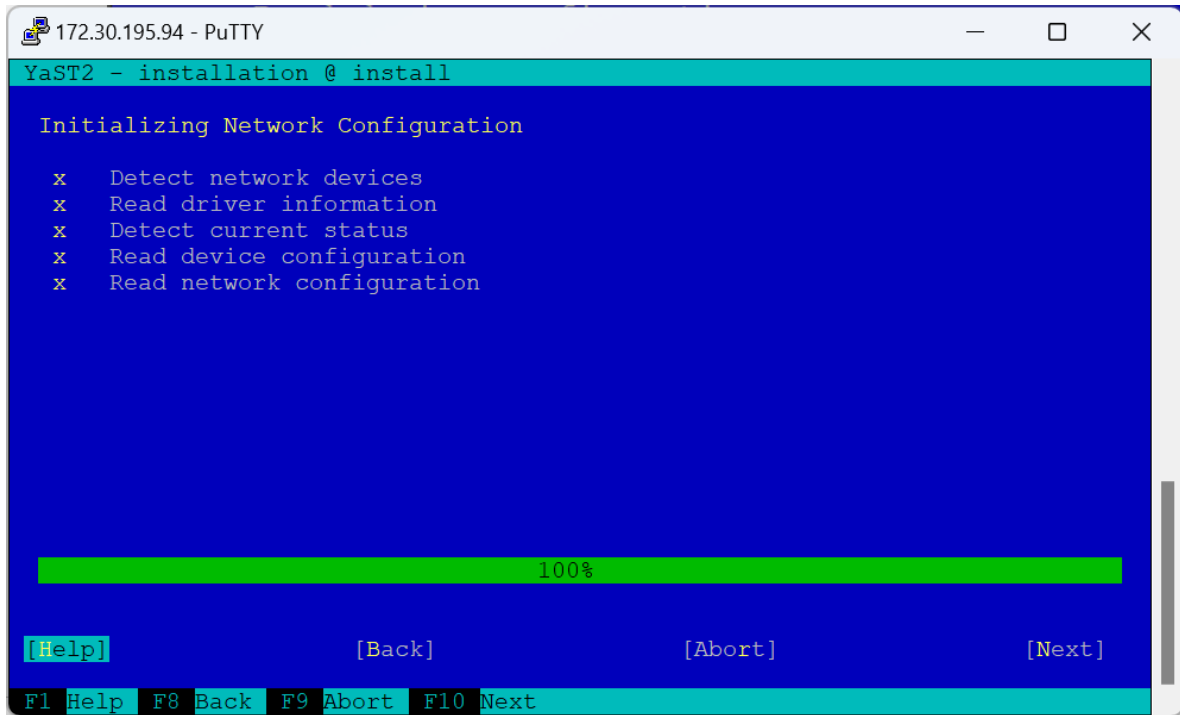
4. Append "modprobe.blacklist=ast" to the end of the list of kernel boot parameters. Boot the entry by pressing Ctrl-x or pressing F10.



## Step 8. Installing SLES 15 OS

Follow the SLES installer steps in PuTTY to continue installation.

1. Initialize the network configuration.



The screenshot shows a PuTTY window titled "172.30.195.94 - PuTTY" displaying the YaST2 installation interface. The title bar of the window is highlighted in cyan. The main window has a blue background with white text. At the top, it says "YaST2 - installation @ install". Below that, it says "Initializing Network Configuration". A list of five steps is shown, each preceded by an 'x' character: "Detect network devices", "Read driver information", "Detect current status", "Read device configuration", and "Read network configuration". A green progress bar is shown at the bottom of the list, labeled "100%". At the bottom of the window, there are four buttons: "[Help]", "[Back]", "[Abort]", and "[Next]". Below these buttons, a cyan bar contains the keyboard shortcuts: "F1 Help", "F8 Back", "F9 Abort", and "F10 Next".

```
172.30.195.94 - PuTTY
YaST2 - installation @ install

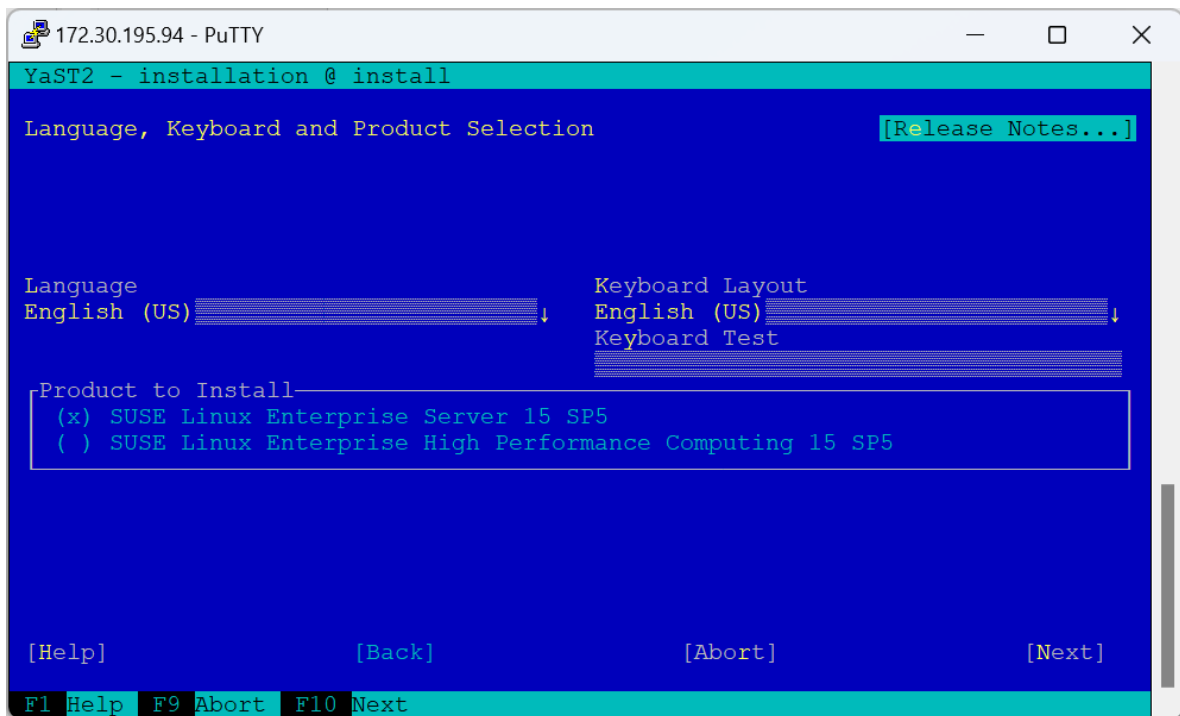
Initializing Network Configuration

x Detect network devices
x Read driver information
x Detect current status
x Read device configuration
x Read network configuration

100%

[Help] [Back] [Abort] [Next]
F1 Help F8 Back F9 Abort F10 Next
```

2. Select the **Language**, **Keyboard** and **Product to Install**.



The screenshot shows a PuTTY window titled "172.30.195.94 - PuTTY" displaying the YaST2 installation interface. The title bar of the window is highlighted in cyan. The main window has a blue background with white text. At the top, it says "YaST2 - installation @ install". Below that, it says "Language, Keyboard and Product Selection" with a "[Release Notes...]" button to the right. There are two dropdown menus: "Language" set to "English (US)" and "Keyboard Layout" set to "English (US)". Below these is a "Keyboard Test" button. A box titled "Product to Install" contains two options: "(x) SUSE Linux Enterprise Server 15 SP5" and "( ) SUSE Linux Enterprise High Performance Computing 15 SP5". At the bottom of the window, there are four buttons: "[Help]", "[Back]", "[Abort]", and "[Next]". Below these buttons, a cyan bar contains the keyboard shortcuts: "F1 Help", "F9 Abort", and "F10 Next".

```
172.30.195.94 - PuTTY
YaST2 - installation @ install

Language, Keyboard and Product Selection [Release Notes...]

Language: English (US)
Keyboard Layout: English (US)
Keyboard Test

Product to Install:
(x) SUSE Linux Enterprise Server 15 SP5
( ) SUSE Linux Enterprise High Performance Computing 15 SP5

[Help] [Back] [Abort] [Next]
F1 Help F9 Abort F10 Next
```

- Review the End User Agreement and proceed if you agree to the license terms.

```

172.30.195.94 - PuTTY
YaST2 - installation @ install

SUSE Linux Enterprise Server 15 SP5 License Agreement [Release Notes...]
Language
English (US) ↓

End User License Agreement
for SUSE products

End User License Agreement for SUSE Products
PLEASE READ THIS AGREEMENT CAREFULLY. BY PURCHASING, INSTALLING,
DOWNLOADING OR OTHERWISE USING THE SOFTWARE (INCLUDING ITS
COMPONENTS), YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF YOU DO NOT
AGREE WITH THESE TERMS, YOU ARE NOT PERMITTED TO DOWNLOAD, INSTALL
OR USE THE SOFTWARE AND YOU SHOULD NOTIFY THE PARTY FROM WHICH YOU
PURCHASED THE SOFTWARE TO OBTAIN A REFUND. AN INDIVIDUAL ACTING ON
BEHALF OF AN ENTITY REPRESENTS THAT HE OR SHE HAS THE AUTHORITY TO
ENTER INTO THIS AGREEMENT ON BEHALF OF THAT ENTITY.

[x] I Agree to the License Terms.
[Help] [Back] [Abort] [Next]

F1 Help F8 Back F9 Abort F10 Next

```

- Configure the Network Settings.

```

172.30.195.94 - PuTTY
YaST2 - installation @ install

Network Settings [Release Notes...]
Overview—Hostname/DNS—Routing

Name | IP Address | Device | Note
-----|-----|-----|-----
Ethernet Controller 10G X550T | Not configured | eth0 |
Ethernet Controller 10G X550T | Not configured | eth1 |
RNDIS/Ethernet Gadget | Not configured | usb0 |

Ethernet Controller 10G X550T
MAC : 7c:c2:55:79:7f:66
BusID : 0002:01:00.0
Device Name: eth0
The device is not configured. Press Edit to configure.

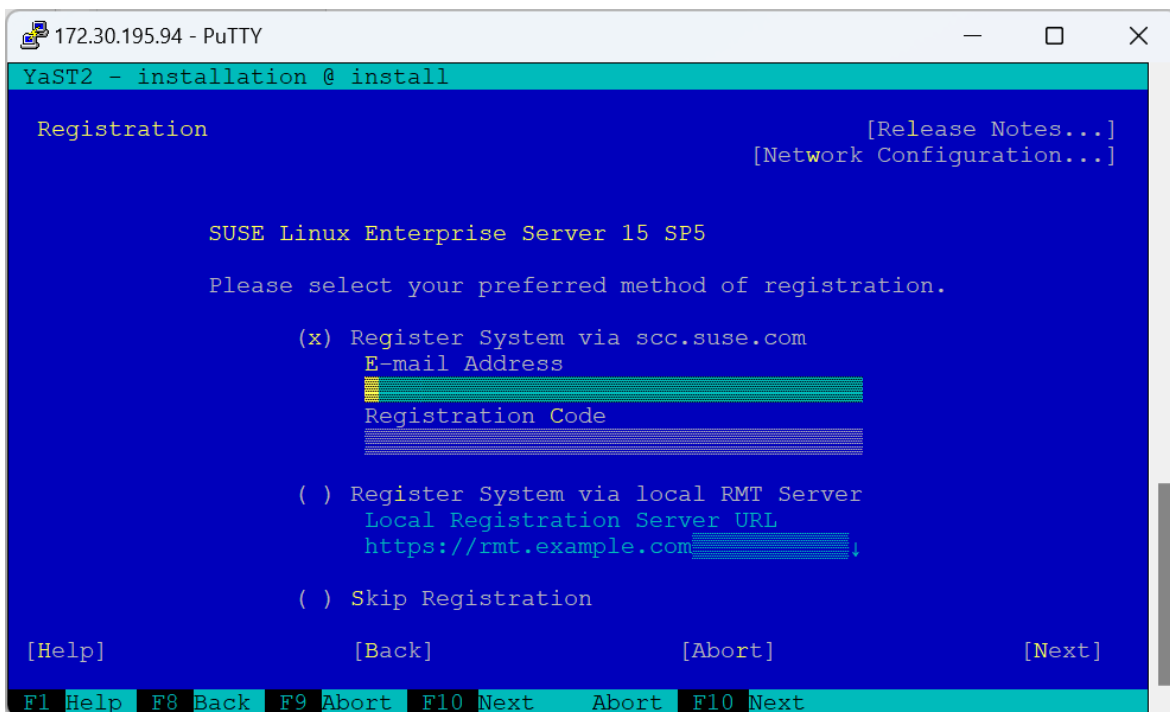
[Add] [Edit] [Delete]

[Help] [Back] [Abort] [Next]

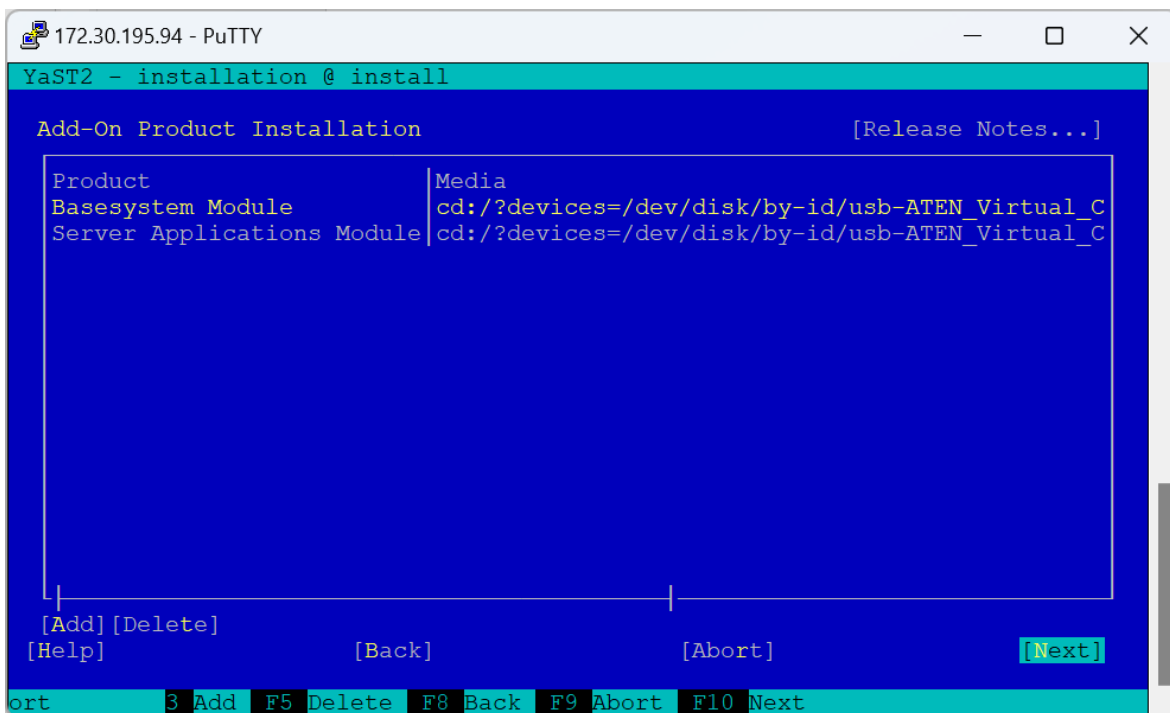
F1 Help F3 Add F4 Edit F5 Delete F8 Back F9 Abort F10 Next

```

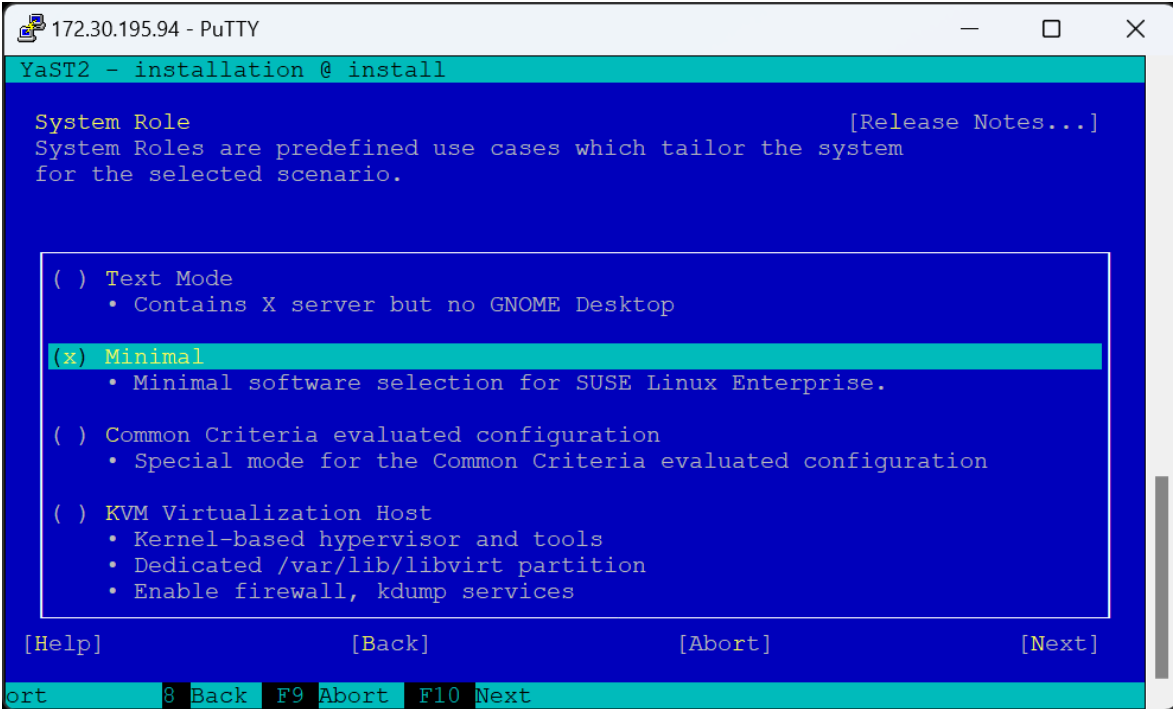
## 5. Fill in the Registration details.



## 6. Select Add-on Products if want to install them.



7. Define the **System Role** based on your specific use case. This role will dictate the installation selections tailored to your requirements.



```

172.30.195.94 - PuTTY
YaST2 - installation @ install

System Role [Release Notes...]
System Roles are predefined use cases which tailor the system
for the selected scenario.

( ) Text Mode
  • Contains X server but no GNOME Desktop

(x) Minimal
  • Minimal software selection for SUSE Linux Enterprise.

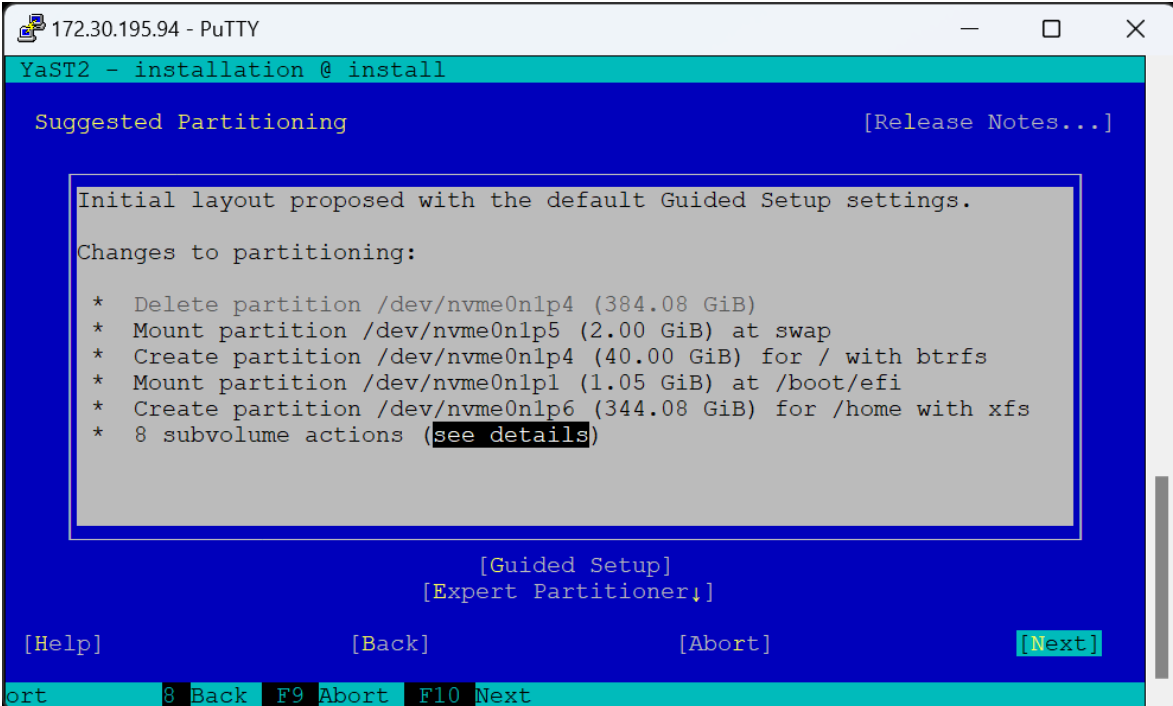
( ) Common Criteria evaluated configuration
  • Special mode for the Common Criteria evaluated configuration

( ) KVM Virtualization Host
  • Kernel-based hypervisor and tools
  • Dedicated /var/lib/libvirt partition
  • Enable firewall, kdump services

[Help] [Back] [Abort] [Next]
ort 8 Back F9 Abort F10 Next

```

8. Choose the partitioning scheme that best suits your requirements.



```

172.30.195.94 - PuTTY
YaST2 - installation @ install

Suggested Partitioning [Release Notes...]

Initial layout proposed with the default Guided Setup settings.

Changes to partitioning:

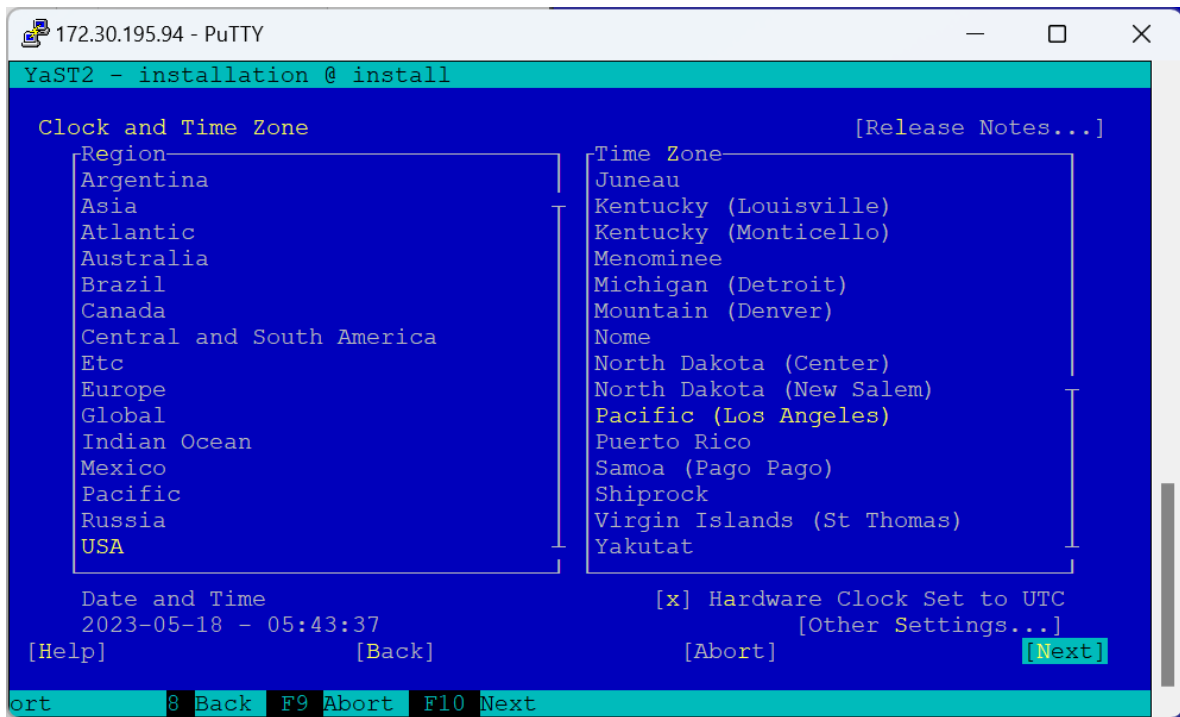
* Delete partition /dev/nvme0nlp4 (384.08 GiB)
* Mount partition /dev/nvme0nlp5 (2.00 GiB) at swap
* Create partition /dev/nvme0nlp4 (40.00 GiB) for / with btrfs
* Mount partition /dev/nvme0nlp1 (1.05 GiB) at /boot/efi
* Create partition /dev/nvme0nlp6 (344.08 GiB) for /home with xfs
* 8 subvolume actions (see details)

[Guided Setup]
[Expert Partitioner↓]

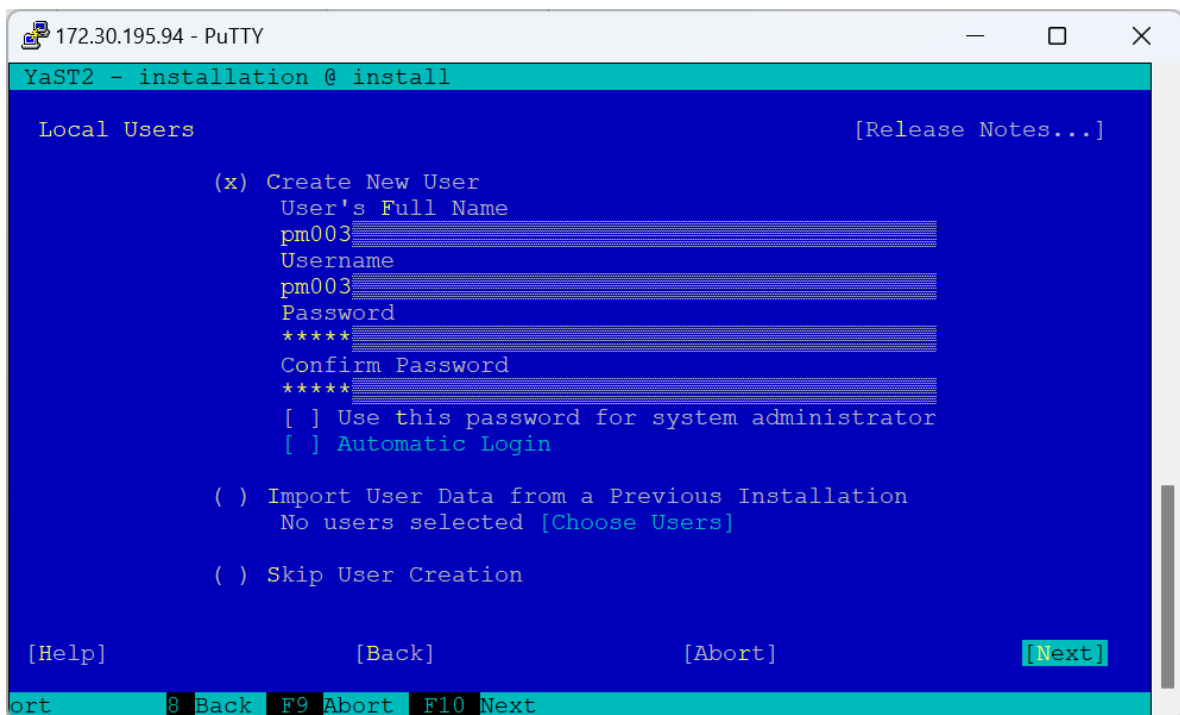
[Help] [Back] [Abort] [Next]
ort 8 Back F9 Abort F10 Next

```

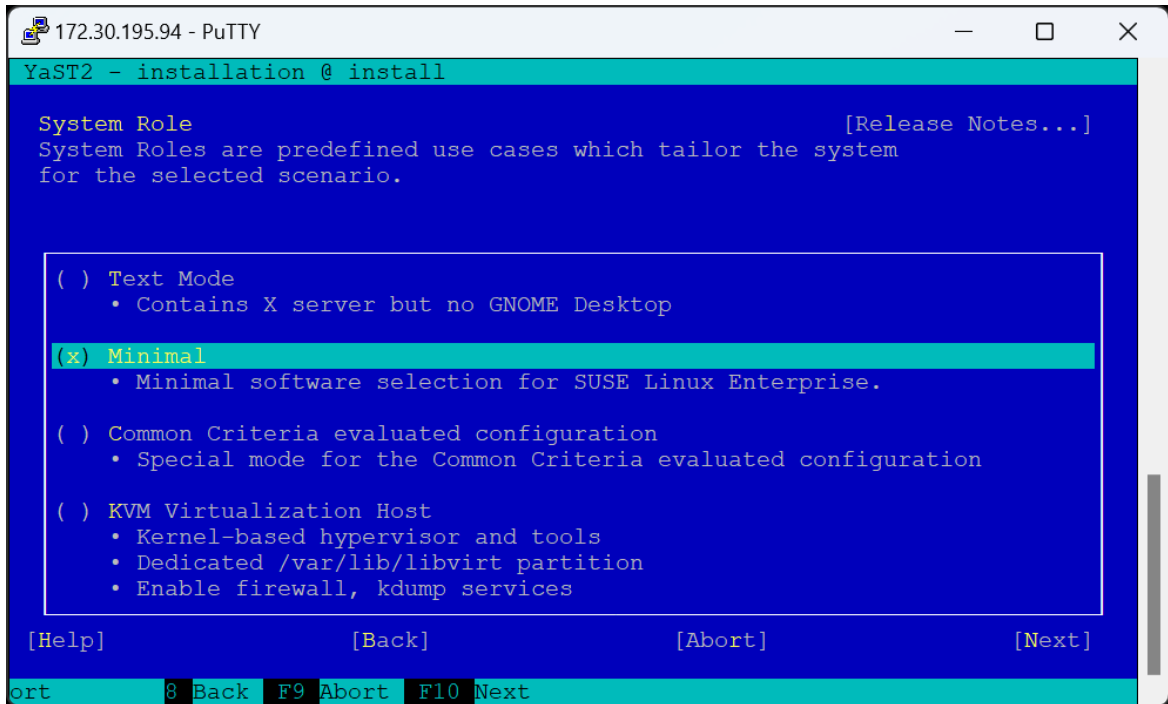
## 9. Select the Clock and Time Zone.



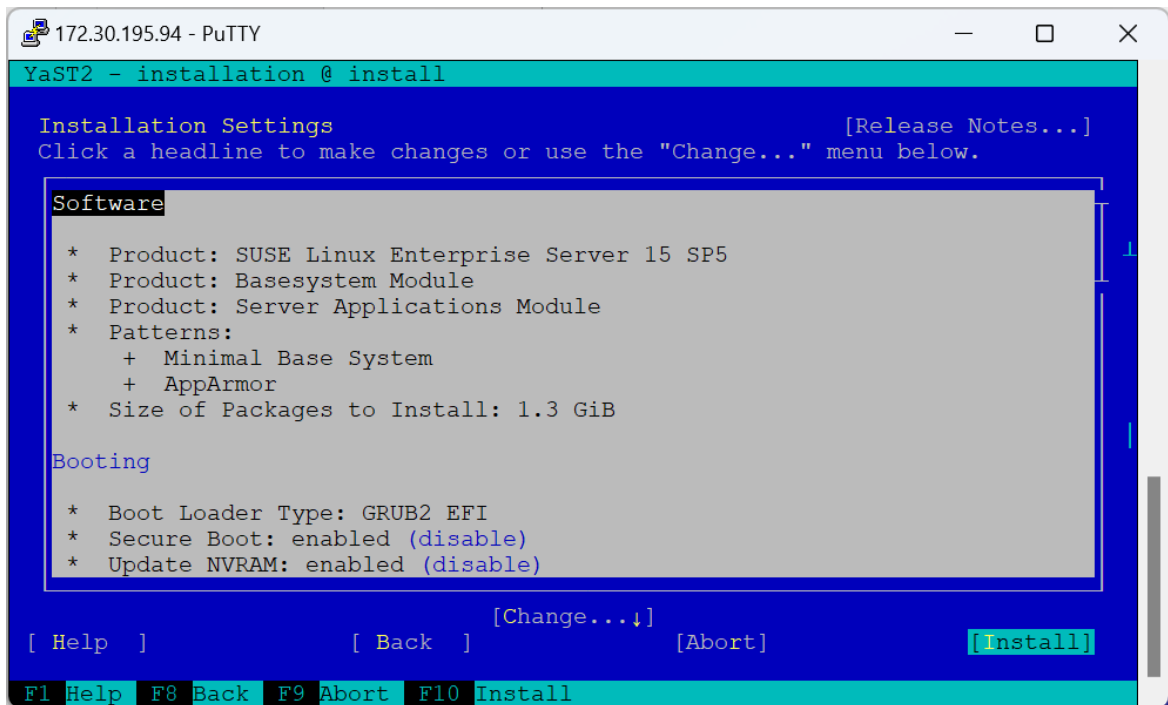
## 10. Set up a local username and password.



11. Set up System administrator “root” and its password.

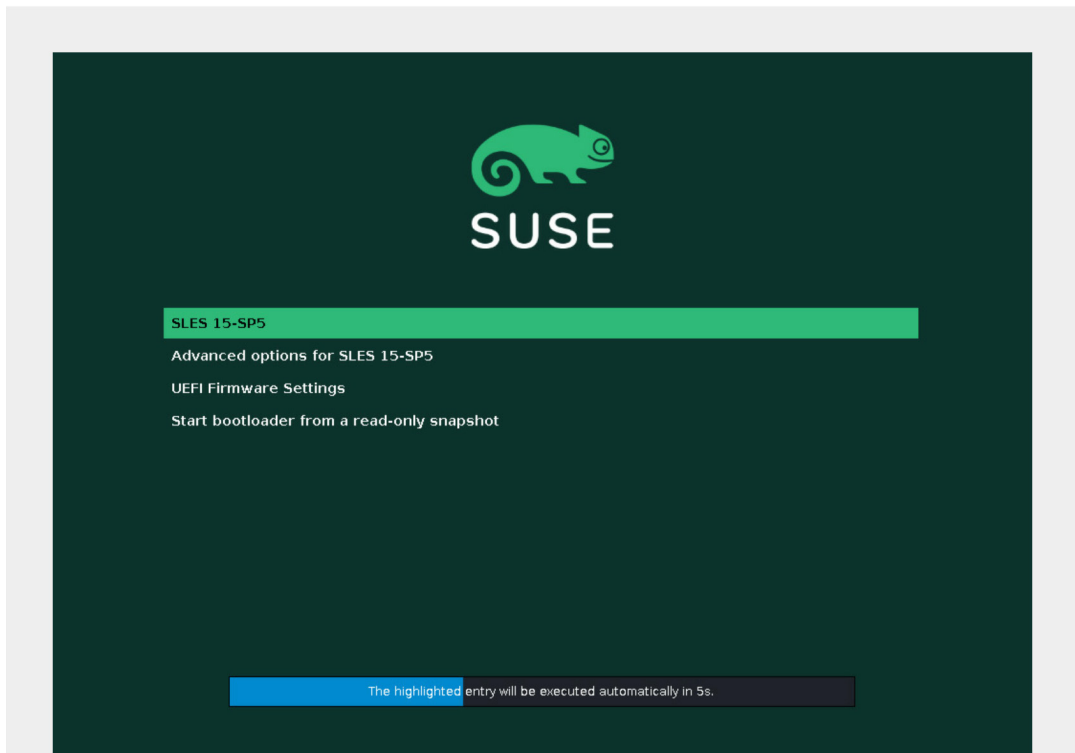


12. Review the Installation Settings and click Install to start the installation process.



Once installation is complete, the system will reboot.

13. Select "SLES 15-SP5" and press <Enter> to proceed in the remote control.



14. Enter the username and password to log in.

