flexAIserver - Overview

- Physical Installation
- Software Installation Guide Dell
- Software Installation Guide HPE
- Safety Information

Physical Installation

> **Note -** The information below applies to the pre-configured flexAIserver hardware supplied by Jünger Audio. If flexAI is installed on different server hardware, refer to the manufacturer's documentation for model-specific installation, cooling, power, and safety requirements.

The pre-configured **flexAIserver** is a **1RU, 19-inch rack-mount server** intended for installation in a standard equipment rack.

Install the server using the appropriate rack-mounting hardware and make sure that it is adequately supported.

The server is actively cooled. Keep all ventilation openings clear and ensure sufficient airflow through the rack. Additional spacing above or below the server is normally not required unless specified by the server manufacturer or required by the cooling concept of the installation.

Power

The pre-configured flexAIserver is equipped with redundant power supplies.

Connect both power supplies for redundant operation. If one power supply fails, the remaining supply can continue to power the server.

For installations requiring high availability, connect the two power supplies to **independent mains circuits** whenever possible. Ideally, the circuits should also be backed by separate UPS feeds or other suitable backup power arrangements. This provides protection not only against a power supply failure, but also against the loss of one mains circuit.

Each power supply has its own mains connection and power control, depending on the installed server hardware.

> **Important -** Please read Safety Information on proper grounding and electrical safety.

Software Installation Guide Dell

Installing flexAIserver

This guide describes two methods for installing the **flexAIserver** software on a supported Dell PowerEdge server:

- **Method A:** Installation from a bootable USB drive
- **Method B:** Remote installation using Dell iDRAC Virtual Console and Virtual Media

Both methods use the same flexAIserver installation image. Once the installer has started, the remaining installation procedure is identical.

Prerequisites

Before starting the installation, make sure the following are available:

- flexAIserver ISO image. The ISO may be supplied inside a ZIP archive and must be extracted before use.
- Access to the Dell PowerEdge server.

Required BIOS and iDRAC Settings

Before installing flexAI, verify that the following server settings are configured correctly.

Necessary Setting
Configuration → BIOS Settings → Boot Settings → Boot Mode = **UEFI**
Configuration → BIOS Settings → System Profile Settings = **Performance**
Configuration → BIOS Settings → Processor Settings → Virtualization Technology = **Enabled**
Storage → Virtual Disks → Layout = **RAID-1**
iDRAC Settings → Connectivity → Network → IPv4 Settings → DHCP = **Enabled**
iDRAC Settings → Connectivity → OS to iDRAC Pass-through → State = **Disabled**

For **Method A – USB**, you also need:

- A USB flash drive
- Physical access to the server
- A keyboard and, if required, a local display

For **Method B – iDRAC**, you need:

- Access to the Dell iDRAC interface
- Permission to use **Virtual Console** and **Virtual Media**

> **Important -** Installing flexAIserver erases the selected target disk. Make sure that the correct server and target disk have been selected before continuing.

Method A – USB Drive

1. Create a Bootable USB Drive

Use a suitable image-writing tool such as **balenaEtcher** to write the flexAIserver ISO image to a USB flash drive:

https://www.balena.io/etcher/

> **Important -** Writing the ISO image erases all existing data on the USB drive.

When the USB drive is ready:

1. Insert it into a USB port on the server.
2. Connect a keyboard.
3. Power on or restart the server.

2. Open the Boot Manager

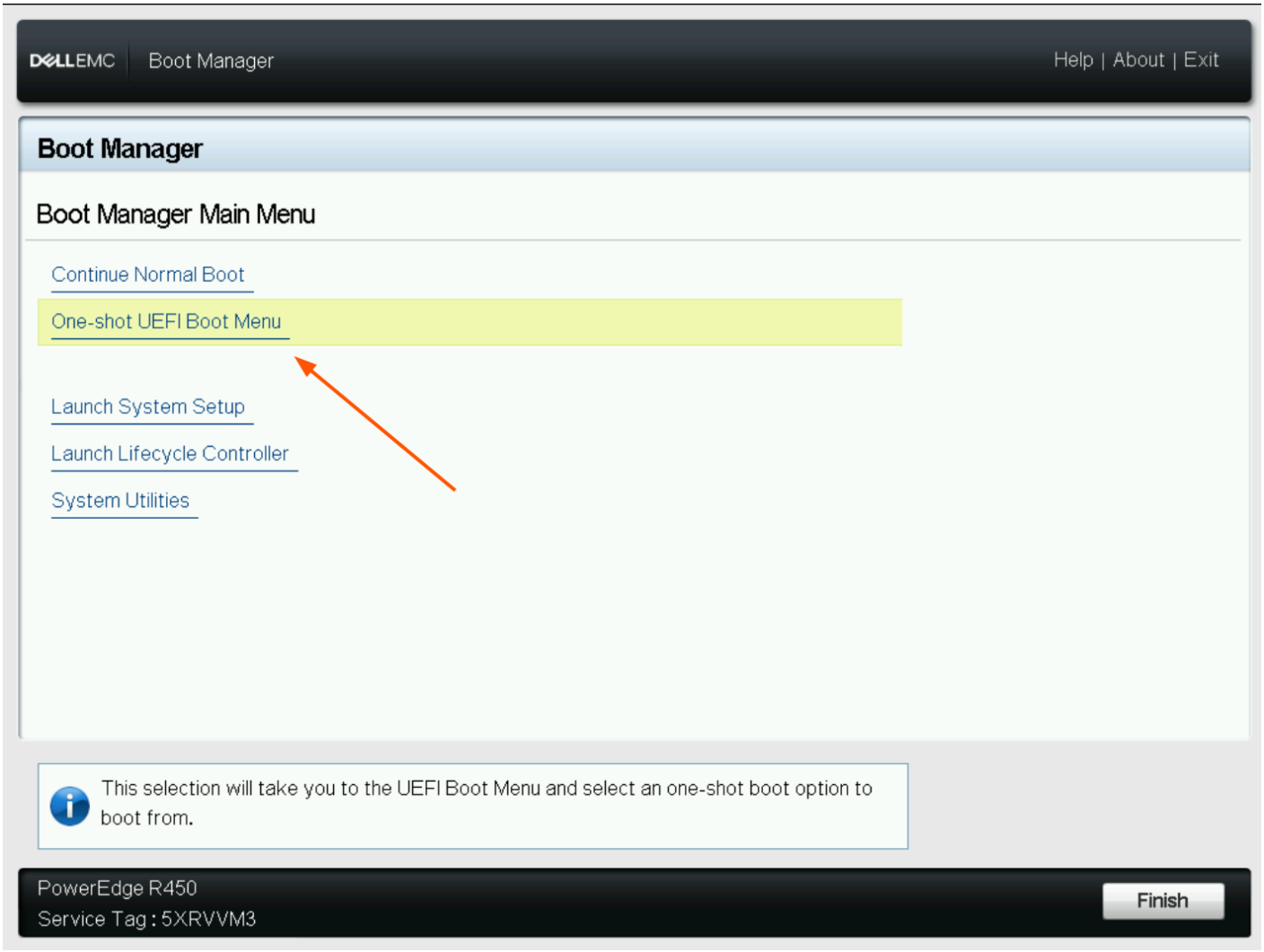
During server startup, press **F11** to open the Dell Boot Manager.



Dell PowerEdge boot screen – press F11 to open the Boot Manager.

3. Open the One-shot UEFI Boot Menu

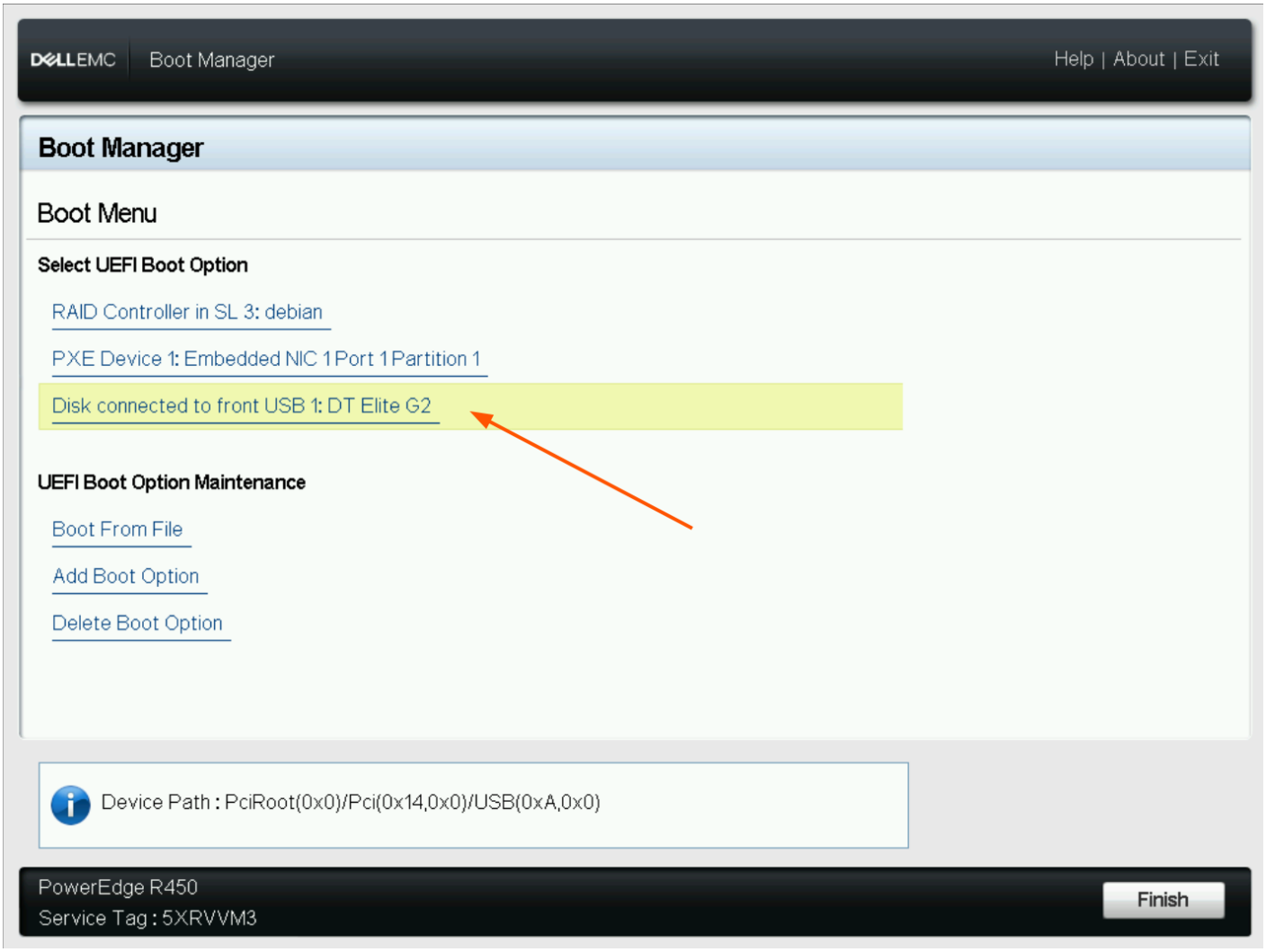
Select **One-shot UEFI Boot Menu**.



Boot Manager – select One-shot UEFI Boot Menu.

4. Select the USB Drive

In the UEFI boot list, select the entry corresponding to the connected USB drive.



Select the USB installation drive. USB installation only.

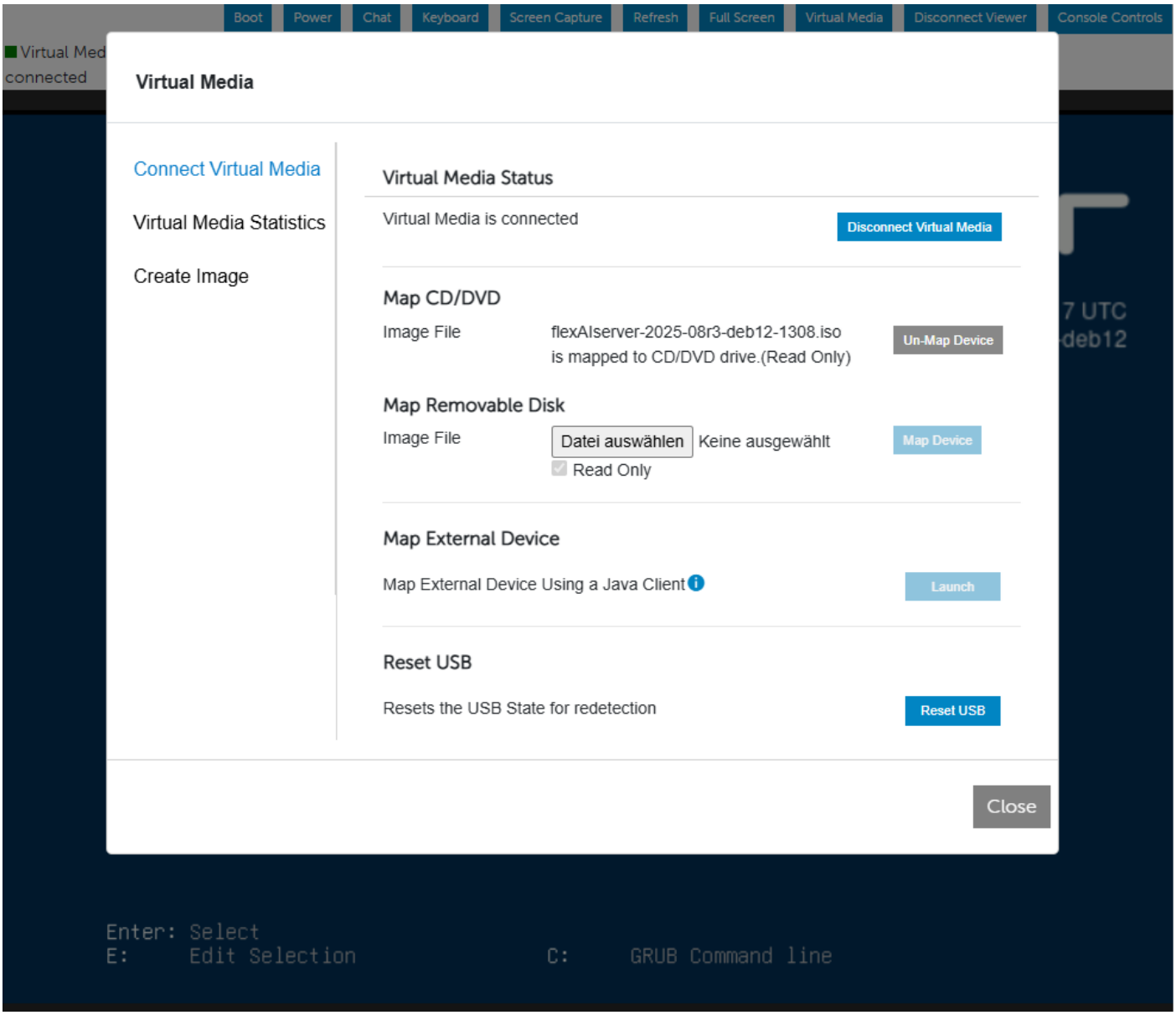
Continue with **Common Installation Steps** below.

Method B – Dell iDRAC Virtual Media

1. Map the ISO as Virtual Media

Open the Dell **iDRAC Virtual Console**.

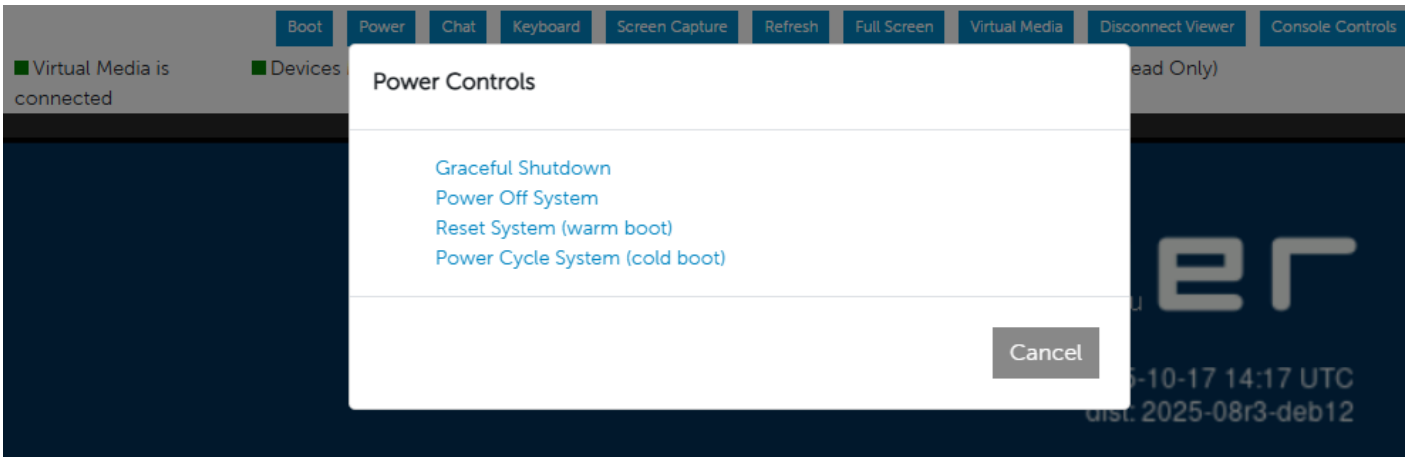
In the Virtual Console, open **Virtual Media** and map the flexAIserver ISO image as a virtual CD/DVD.



iDRAC – flexAIserver ISO mapped as Virtual CD/DVD. iDRAC installation only.

2. Restart the Server

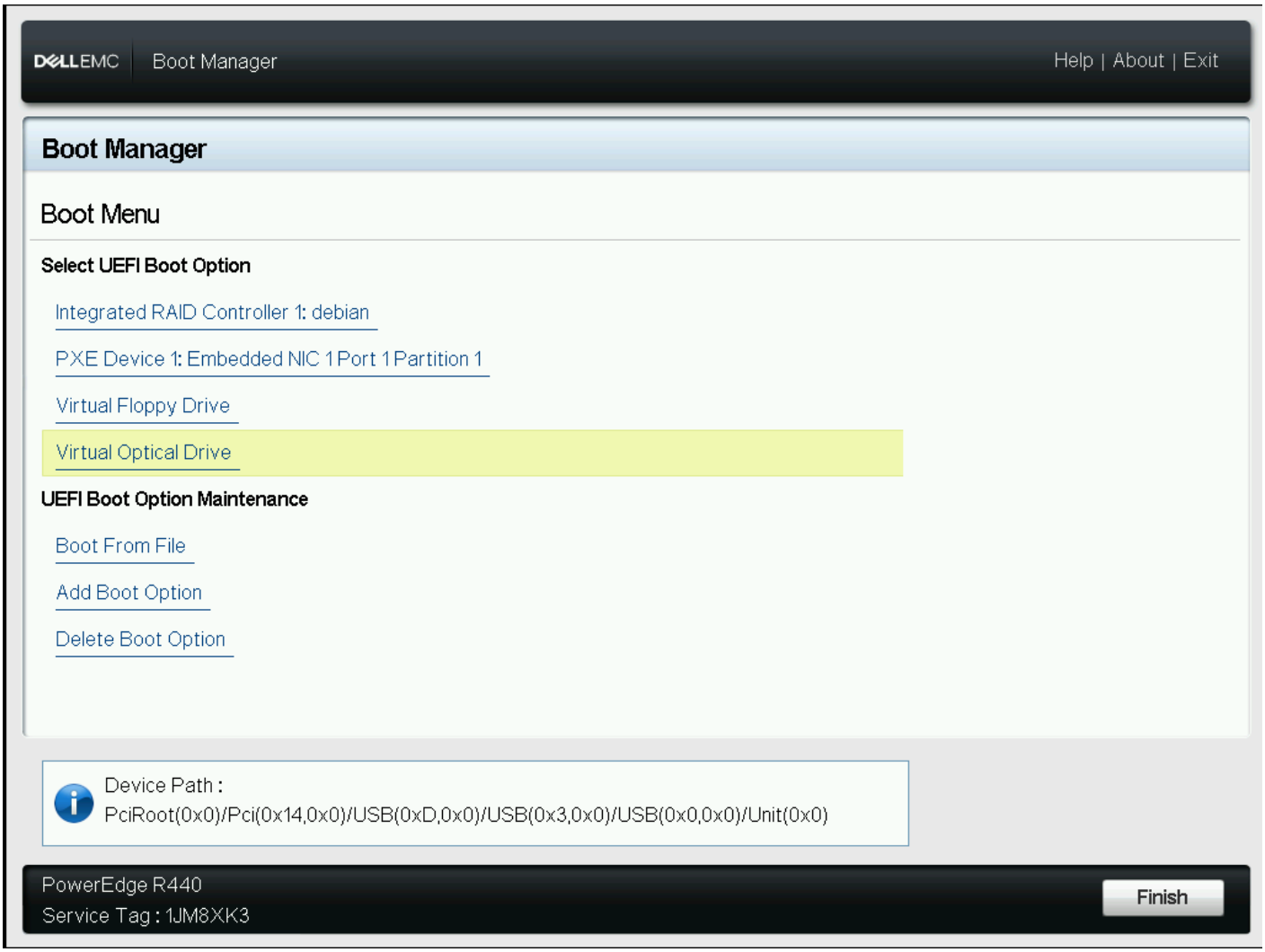
From iDRAC, select **Power > Reset System (warm boot)** to restart the server and make the virtual installation media available during boot.



iDRAC – restart the server using Reset System (warm boot). iDRAC installation only.

3. Boot from the Virtual Optical Drive

During startup, open the **Boot Manager**, select **One-shot UEFI Boot Menu**, and then select **Virtual Optical Drive**.



Boot from Virtual Optical Drive. iDRAC installation only.

Continue with **Common Installation Steps** below.

Common Installation Steps

The following steps are identical for USB and iDRAC installations.

1. Start the Installer

In the Jünger Setup menu (GRUB menu), select **Graphical install** and press **Enter**.



GRUB – select Graphical install. Applies to both installation methods.

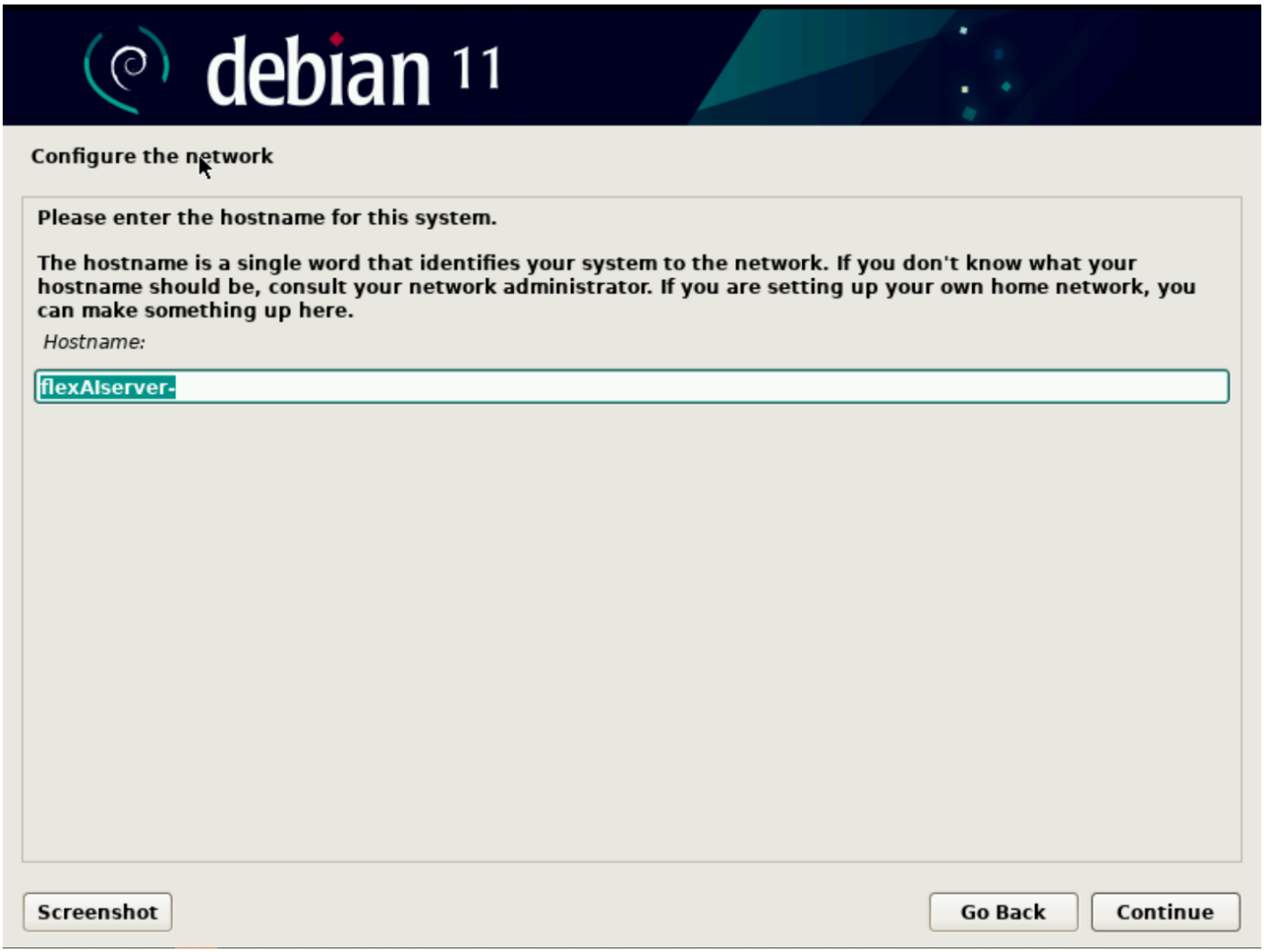
2. Set the Host Name

When prompted, enter the host name to be used by the flexAIserver.

For a Jünger Audio pre-configured system, the host name can follow the device serial number, for example:

`flexAIserver-00119`

Alternatively, use a suitable host name according to the naming conventions of your network environment.



Enter the host name for the flexAIserver. Applies to both installation methods.

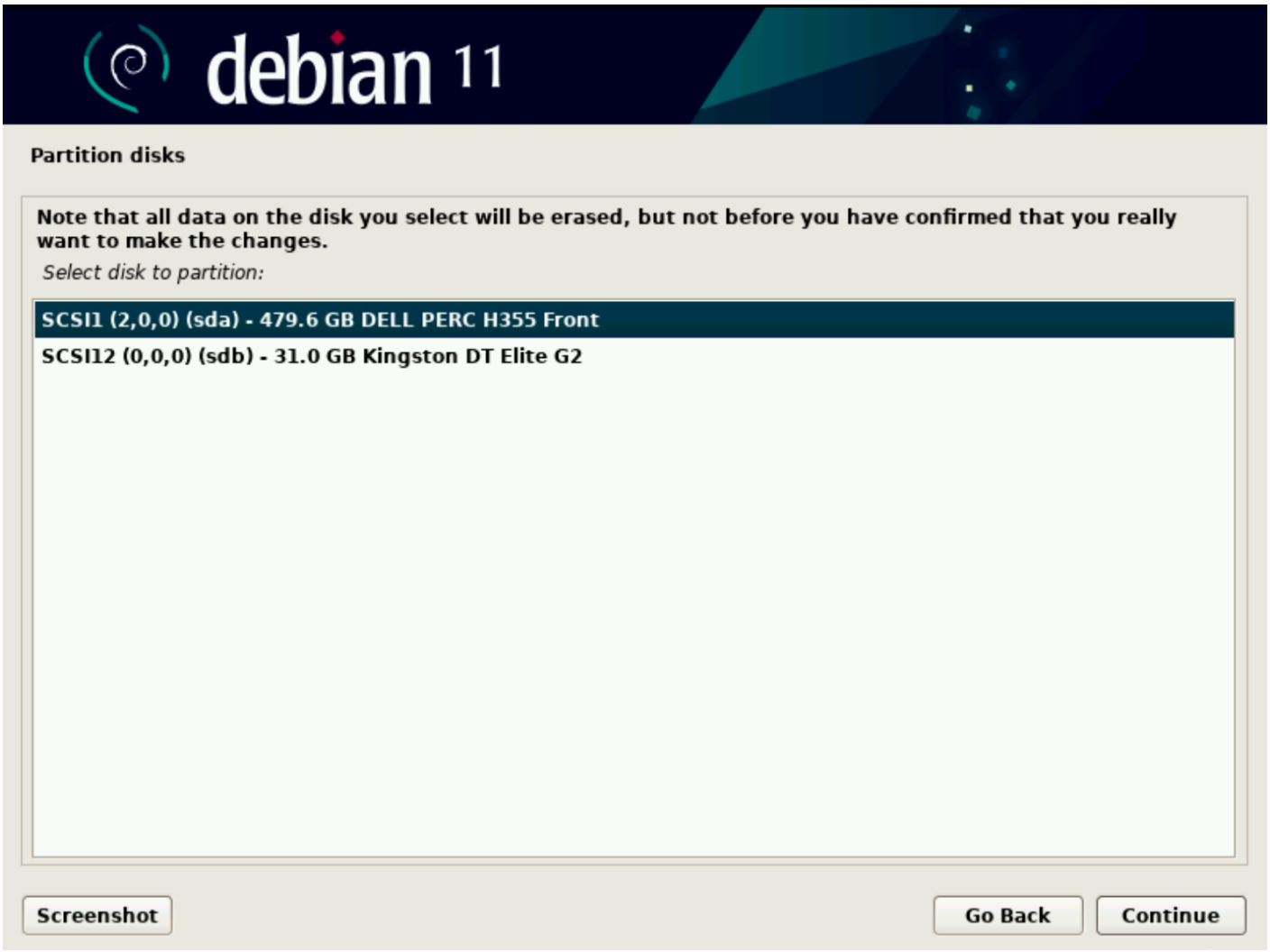
3. Select the Target Disk

Select the internal system disk on which flexAIserver should be installed.

On Dell PowerEdge systems with a PERC RAID controller, the internal storage may appear with a name such as **DELL PERC**.

If you encounter messages such as “Failed to create a file system” or “The following partitions are going to be formatted:”, select “Continue” and then “Yes” when asked “Write the changes to disk?”.

For USB installations, make sure that you do **not** select the USB installation drive.



Select the internal system disk. Do not select the USB installation drive. Applies to both installation methods.

> **Important -** All existing data on the selected target disk will be erased during installation. Verify the selected disk carefully before continuing.

4. Complete the Installation

Allow the installer to complete the installation process.



Installation complete. Applies to both installation methods.

Before rebooting:

- **USB installation:** Remove the USB installation drive.
- **iDRAC installation:** Unmap or disconnect the virtual installation media.

Restart the server and allow it to boot from the newly installed system disk.

Continue with the **Initial Setup** procedure to complete the flexAIserver configuration.

Software Installation Guide HPE

HPE ProLiant DL360 Gen11

This guide describes the initial hardware configuration and installation of **flexAIserver** on the qualified **HPE ProLiant DL360 Gen11** platform.

The server can be configured locally using a VGA monitor and USB keyboard or remotely using **HPE iLO**.

> **Important -** This guide applies only to the HPE ProLiant DL360 Gen11 server qualified for flexAIserver. Do not apply the server-specific RAID, BIOS, or remote-management instructions to other hardware platforms.

Prerequisites

Before starting, make sure the following are available:

- The flexAIserver ISO image. If supplied inside a ZIP archive, extract the ISO before use.
- Two internal SSDs installed in the server for the RAID1 system volume.
- For local access: a VGA monitor and USB keyboard.
- For USB installation: a USB flash drive with sufficient capacity. Its existing contents will be erased.
- For remote access: a network connection to the dedicated iLO port and access to the iLO credentials printed on the server top lid.

> **Warning -** Creating the RAID volume and installing flexAIserver will erase data on the selected internal drives.

---

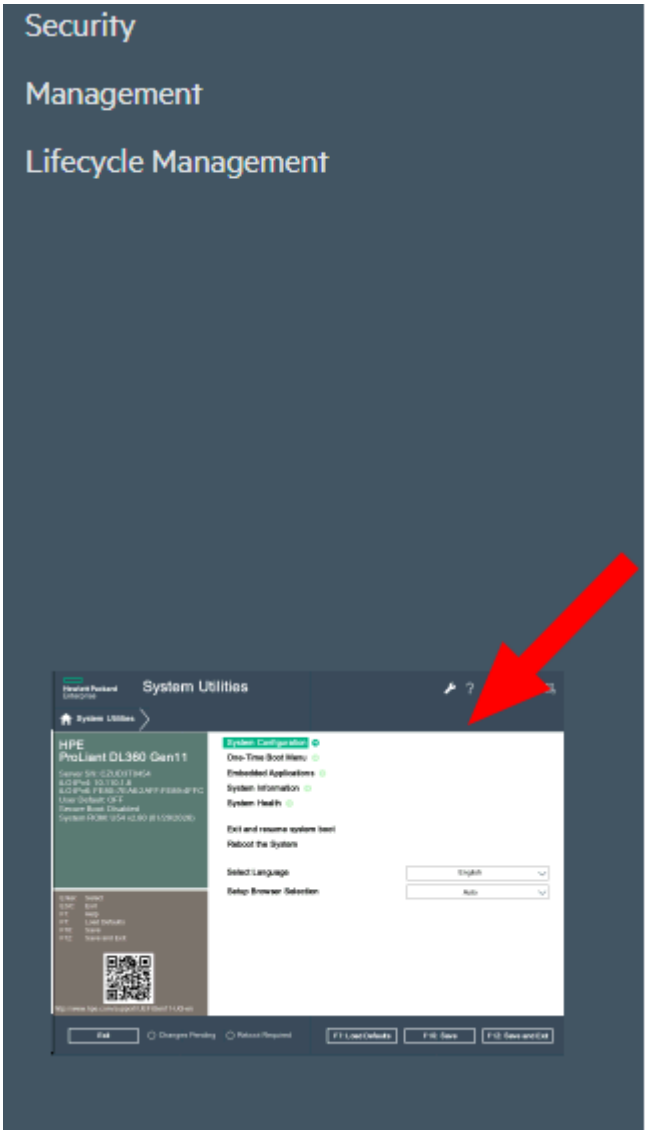
1. Initial Server Configuration

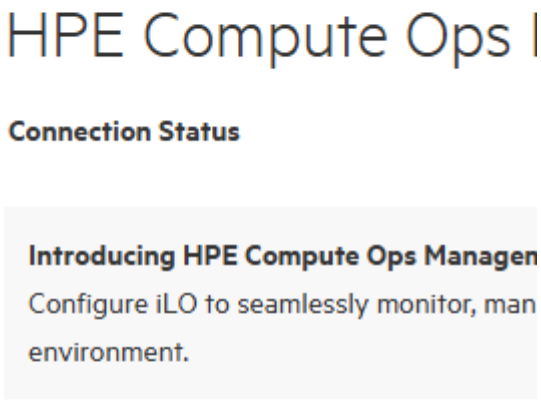
Access the Server

The server can be configured remotely through **HPE iLO** or locally using a monitor and keyboard.

Option A – HPE iLO Remote Access

1. Connect a network cable to the port labelled **iLO**.
2. For the initial connection, connect a monitor to the VGA port and power on the server.
3. Note the iLO IP address shown during startup.
4. Open the iLO IP address in a web browser.
5. Log in using **Administrator** as the user name. The initial password is printed on the server top lid.
6. In the iLO interface, open the **Remote Console** from the preview tile.





Launch the HPE iLO Remote Console from the preview tile.

Option B – Local Access

1. Connect a monitor to the VGA port.
2. Connect a USB keyboard.
3. Perform the following configuration steps directly on the local server console.

Open System Utilities

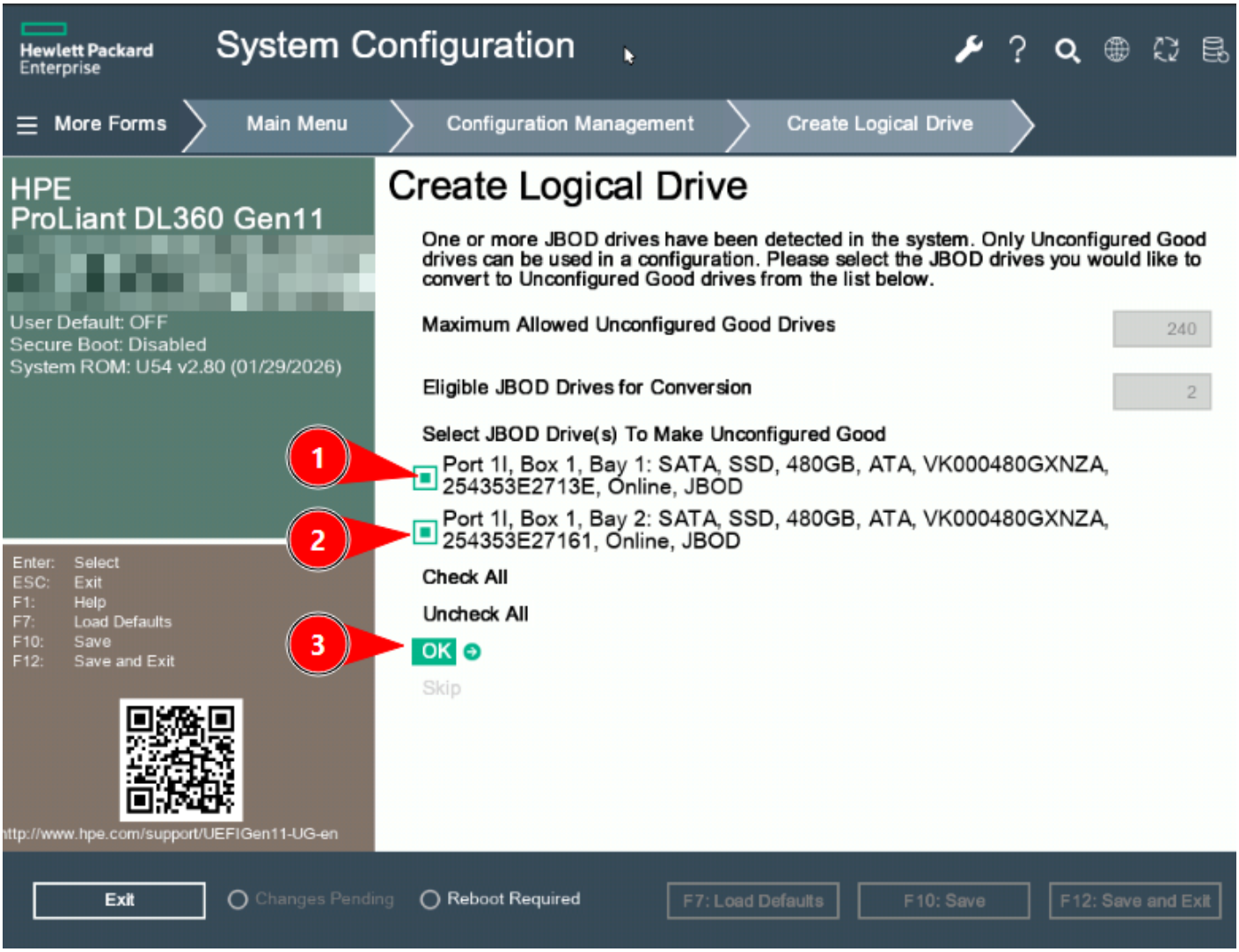
Power on or restart the server. During startup, press **F9** to open **System Utilities**.

Prepare the SSDs for RAID1

Open:

System Utilities > System Configuration > HPE MR216io Gen11 > Main Menu > Configuration Management > Create Logical Drive

If the SSDs are listed as JBOD drives, select both internal SSDs and confirm the selection so that they can be used for the logical drive.

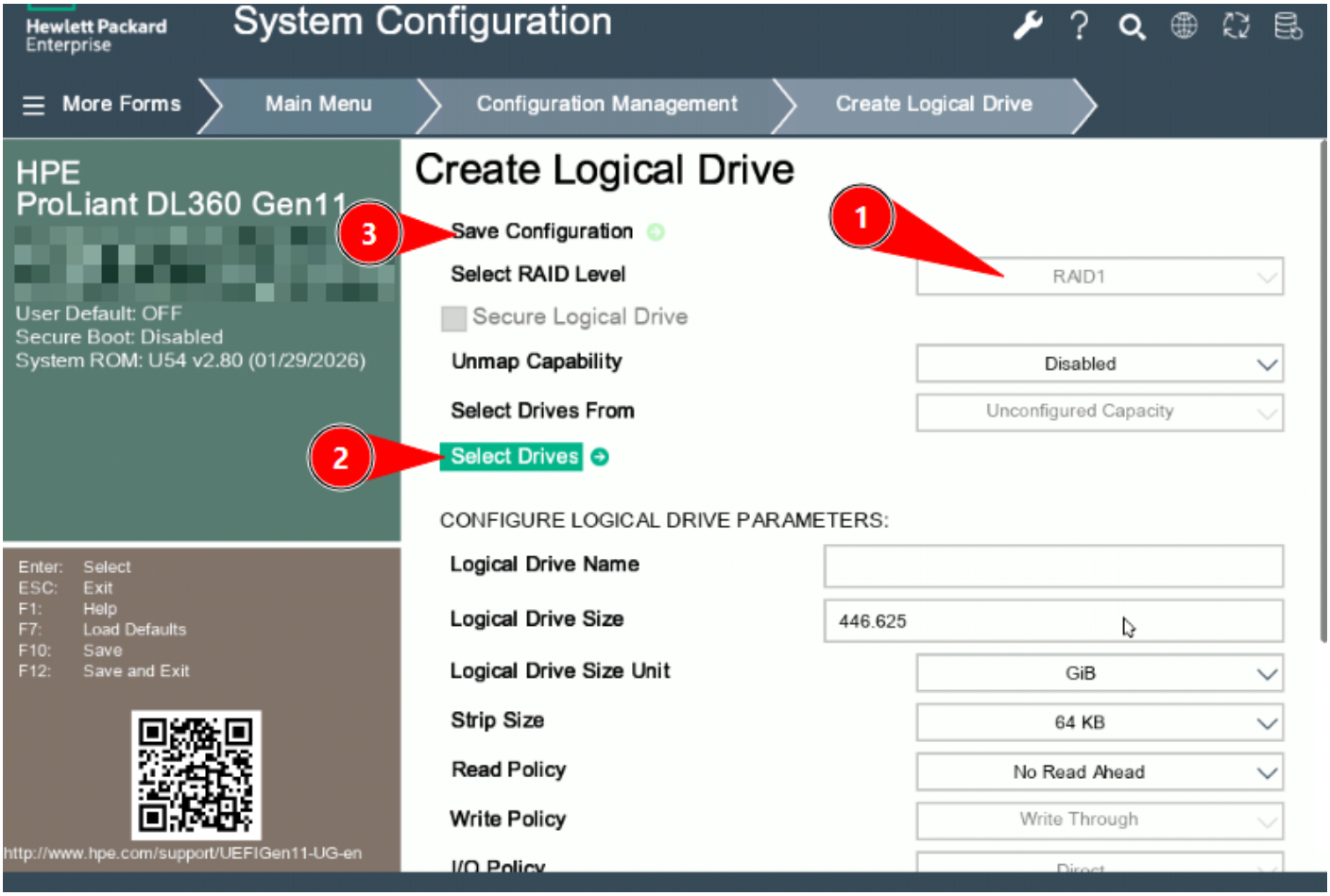


Select both internal SSDs and confirm the selection.

Create the RAID1 Logical Drive

Set **Select RAID Level** to **RAID1**.

Choose **Select Drives** and verify that both internal SSDs are selected. Then select **Save Configuration**.



Select RAID1, verify both drives, and save the configuration.

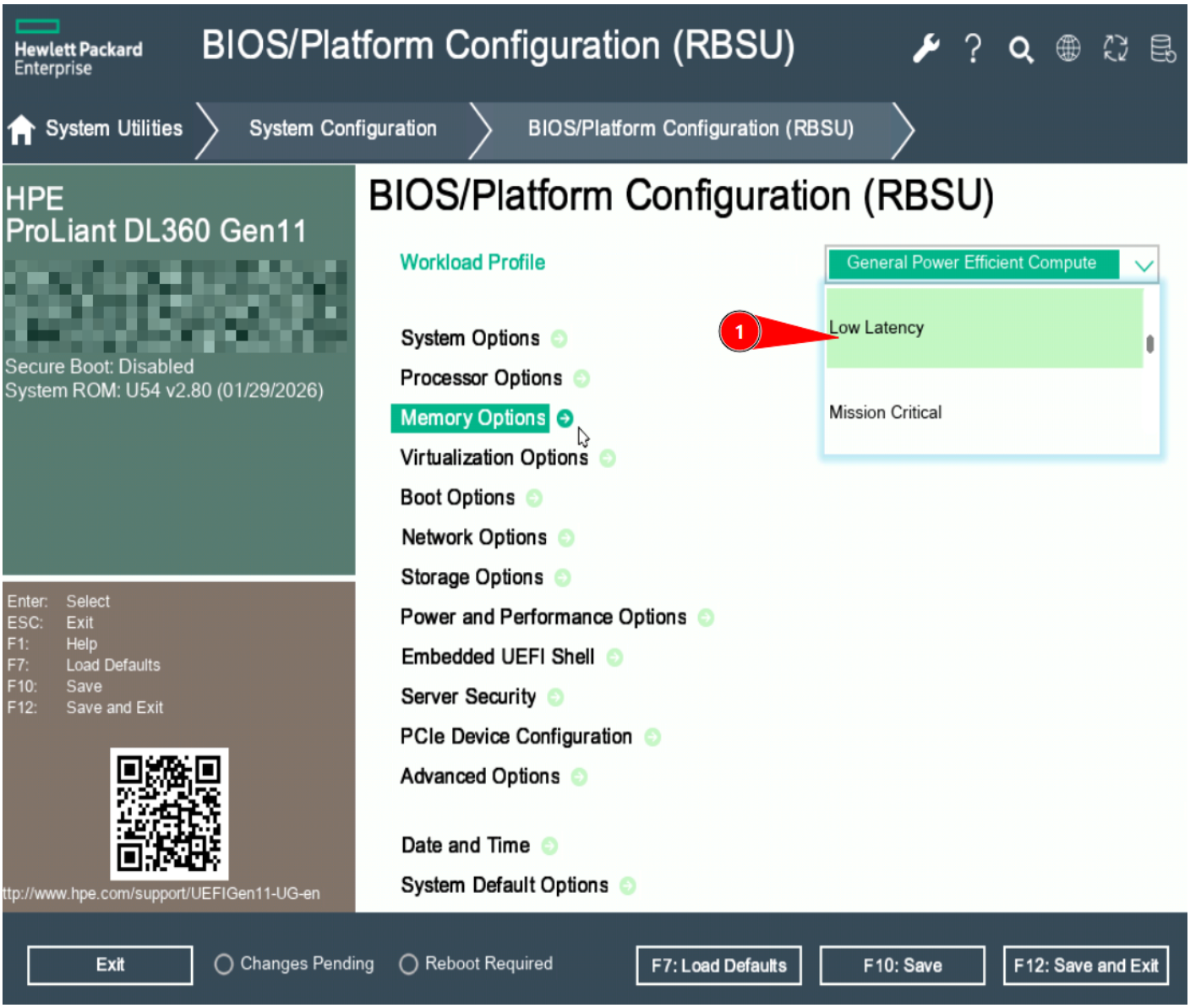
Confirm the configuration. When the logical drive has been created successfully, press **Esc** to return to the previous menu.

Apply the Low Latency Workload Profile

In **System Utilities**, open:

System Configuration > BIOS/Platform Configuration (RBSU) > Workload Profile

Select **Low Latency** and confirm the message.



Select the Low Latency workload profile.

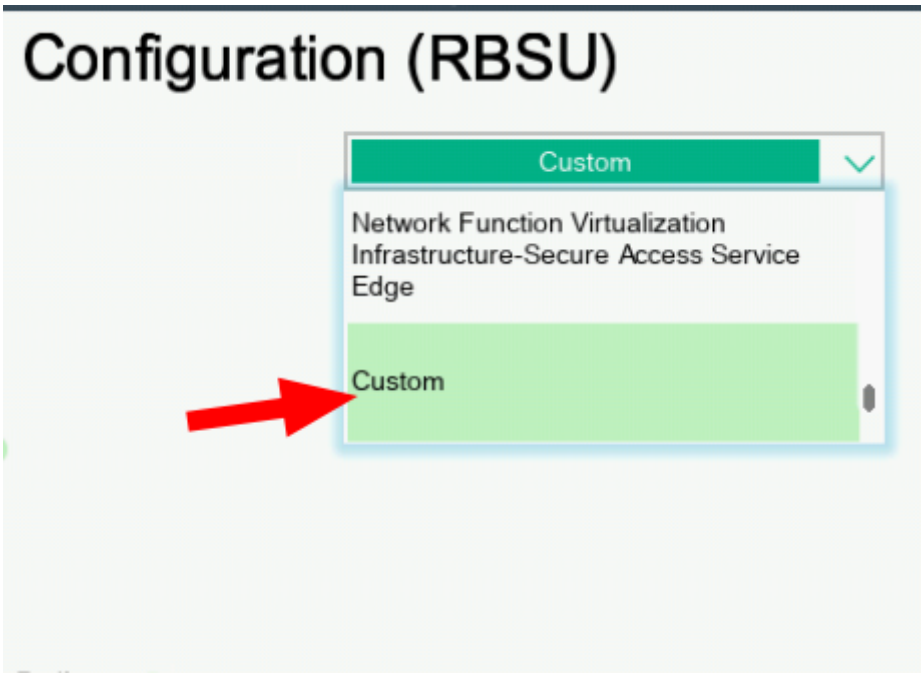
Press **F12** to save the configuration and exit. The server restarts.

Change the Workload Profile to Custom

During the next startup, press **F9** again and open:

System Utilities > System Configuration > BIOS/Platform Configuration (RBSU) > Workload Profile

Select **Custom**, which is the last entry in the list, and confirm the message.

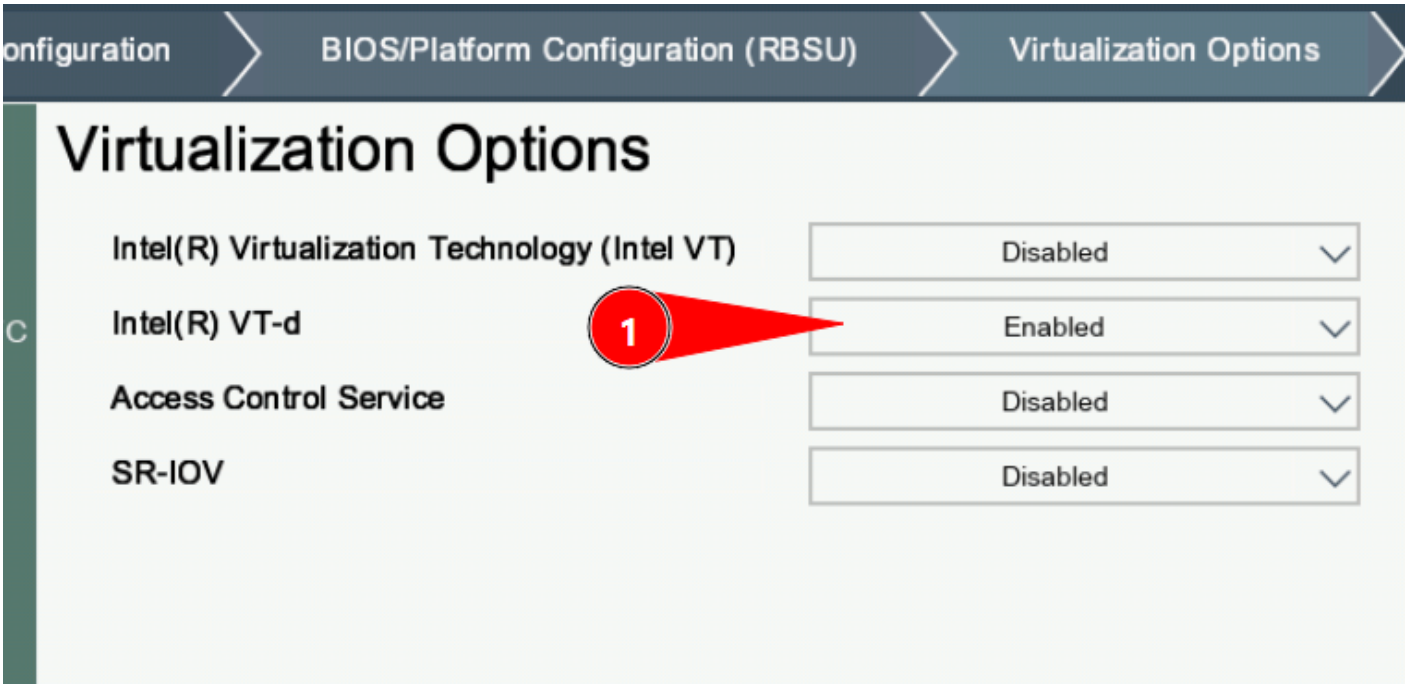


Select Custom as the workload profile.

Configure Virtualization Options

Open **Virtualization Options** and configure the settings as follows:

- **Intel(R) Virtualization Technology (Intel VT):** Disabled
- **Intel(R) VT-d:** Enabled
- **Access Control Service:** Disabled
- **SR-IOV:** Disabled



Enable Intel VT-d and keep the other virtualization options disabled.

Press **F12** to save the configuration and exit.

---

2. flexAIserver Software Installation

The flexAIserver software can be installed either from a bootable USB drive or remotely through **HPE iLO Virtual Media**.

Once the Jünger installation menu appears, the remaining installation procedure is identical for both methods.

Method A – USB Drive

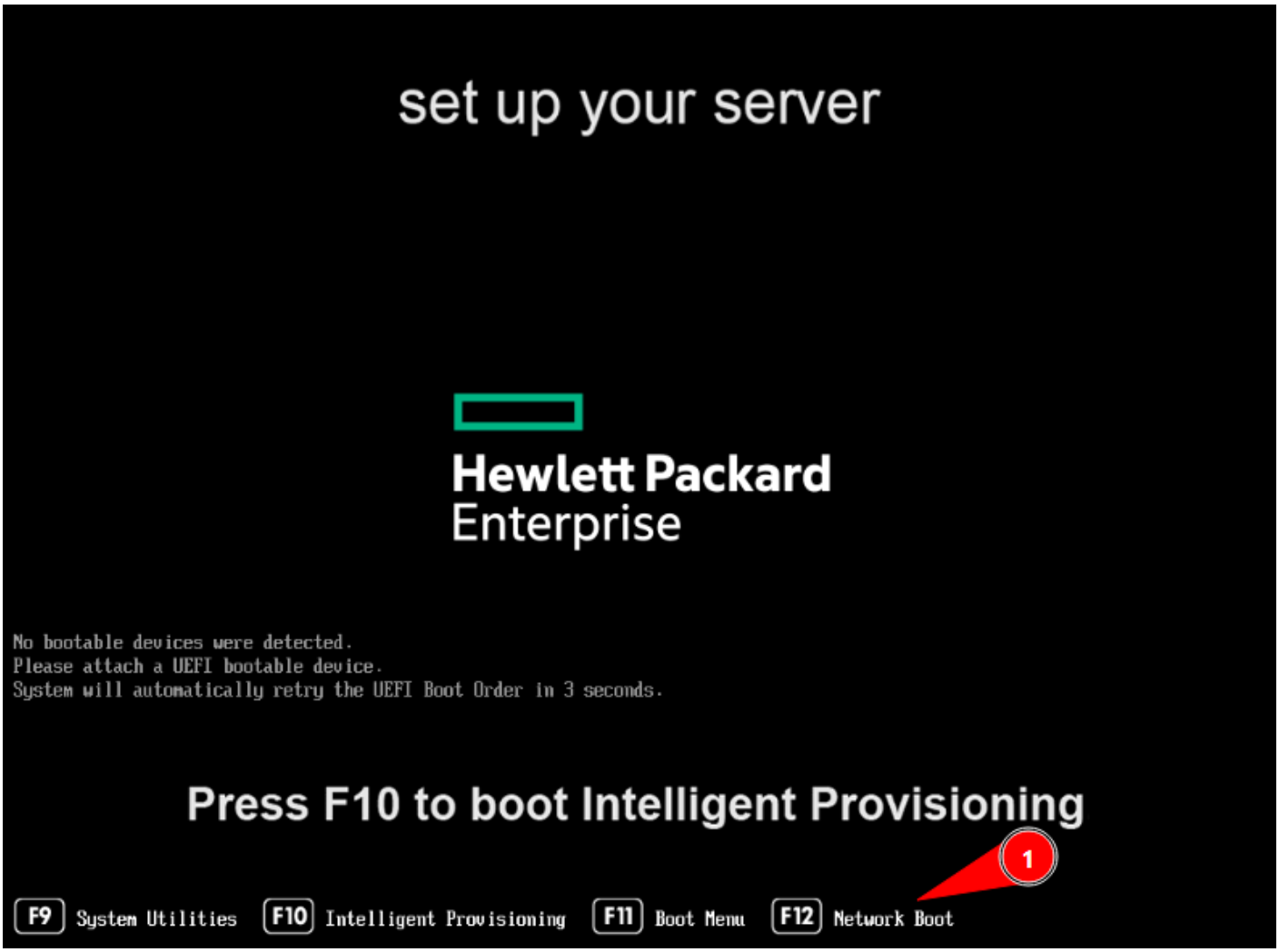
Create a Bootable USB Drive

Use a suitable image-writing tool such as **balenaEtcher** to write the flexAIserver ISO image to the USB drive:

https://www.balena.io/etcher/

The USB drive will be erased.

1. Insert the USB drive into a front USB port.
2. Connect a keyboard.
3. Power on or restart the server.
4. During startup, press **F11** to open the Boot Menu.
5. Select the UEFI entry corresponding to the USB installation drive.



Press F11 during startup and select the USB installation media.

Continue with **Installation Procedure – Applies to Both Methods** below.

Method B – HPE iLO Virtual Media

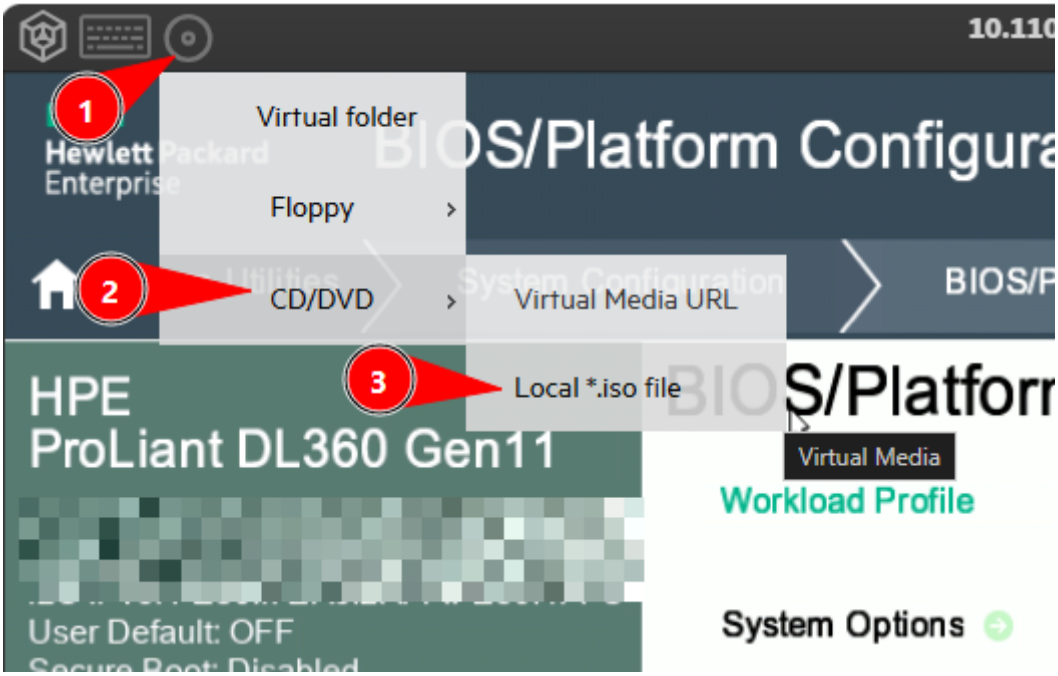
Map the ISO as Virtual Media

Make sure the server is powered off. If it is currently running, shut it down using the iLO power controls or the physical front-panel power button.

Launch the **Remote Console** as described above.

In the Remote Console:

1. Select **Virtual Media**.
2. Select **CD/DVD**.
3. Select **Local .iso file*.
4. Select the flexAIserver ISO image.



Open Virtual Media, select CD/DVD, and map the flexAIserver ISO image.

Boot from the Virtual Media

Keep the **Remote Console** open during installation. Closing it may disconnect the virtual installation media.

Power on the server using **Power > Momentary Press** in iLO.

Wait for the Jünger installation menu to appear.

If the server does not boot from the virtual media automatically, press **F11** during startup, open the Boot Menu, and select the virtual CD/DVD or corresponding virtual-media source.

Installation Procedure – Applies to Both Methods

The following steps are identical whether the installation media is connected by USB or through HPE iLO.

Start the flexAIserver Installer

When the Jünger installation menu appears on the local display or in the Remote Console, select the available installation option, such as **Graphical Install** or **Install**, and press **Enter**.



Select the installation option and press Enter.

> **Note -** The Debian version and build information shown in the following example screenshots may differ from the delivered flexAIserver ISO. The installation procedure remains the same.

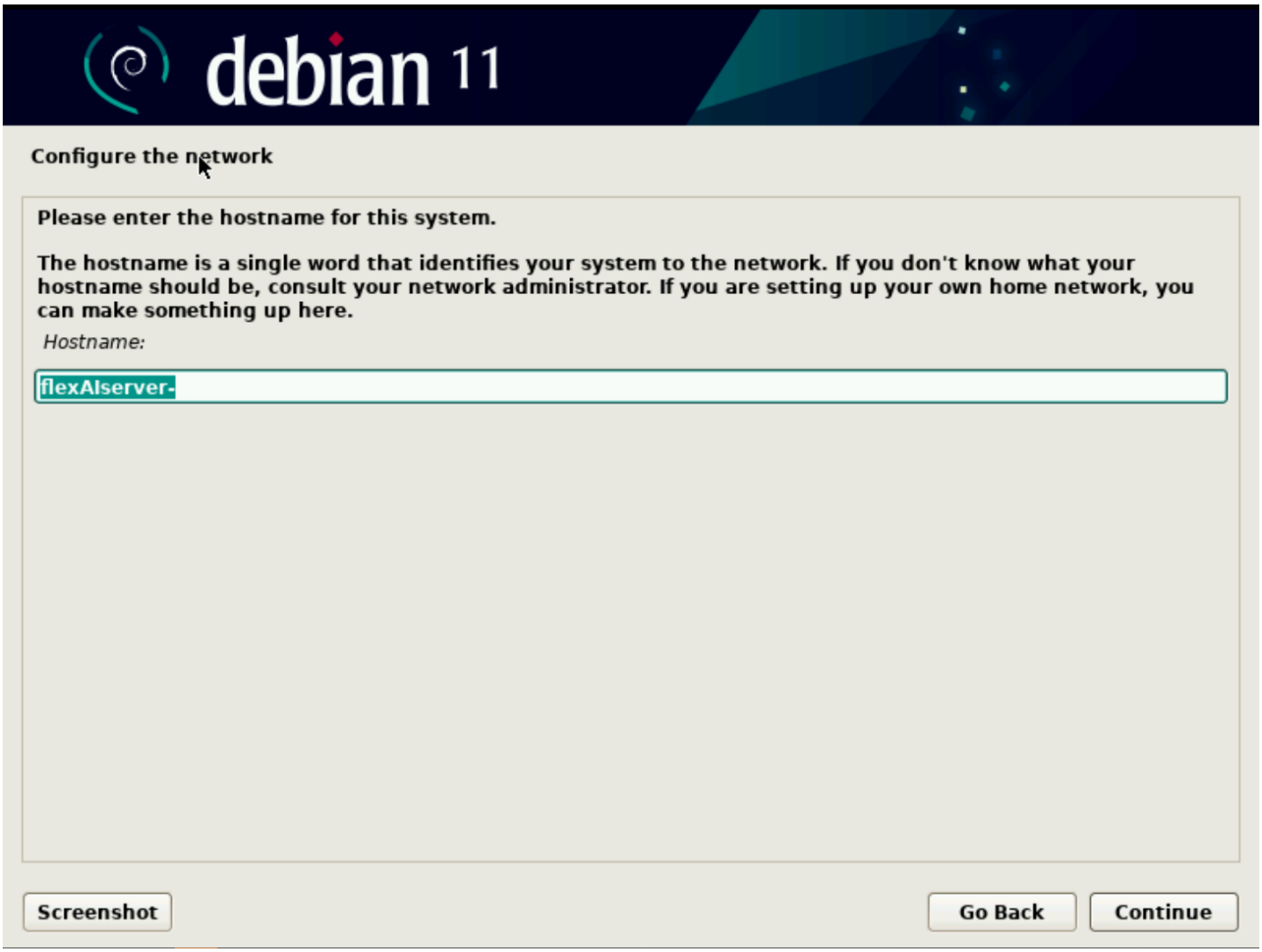
Set the Hostname

When prompted, enter the hostname for the flexAIserver.

For example:

`flexAIserver-00119`

The final digits of the device serial number may be used, or another hostname can be chosen according to the naming convention of the network environment.



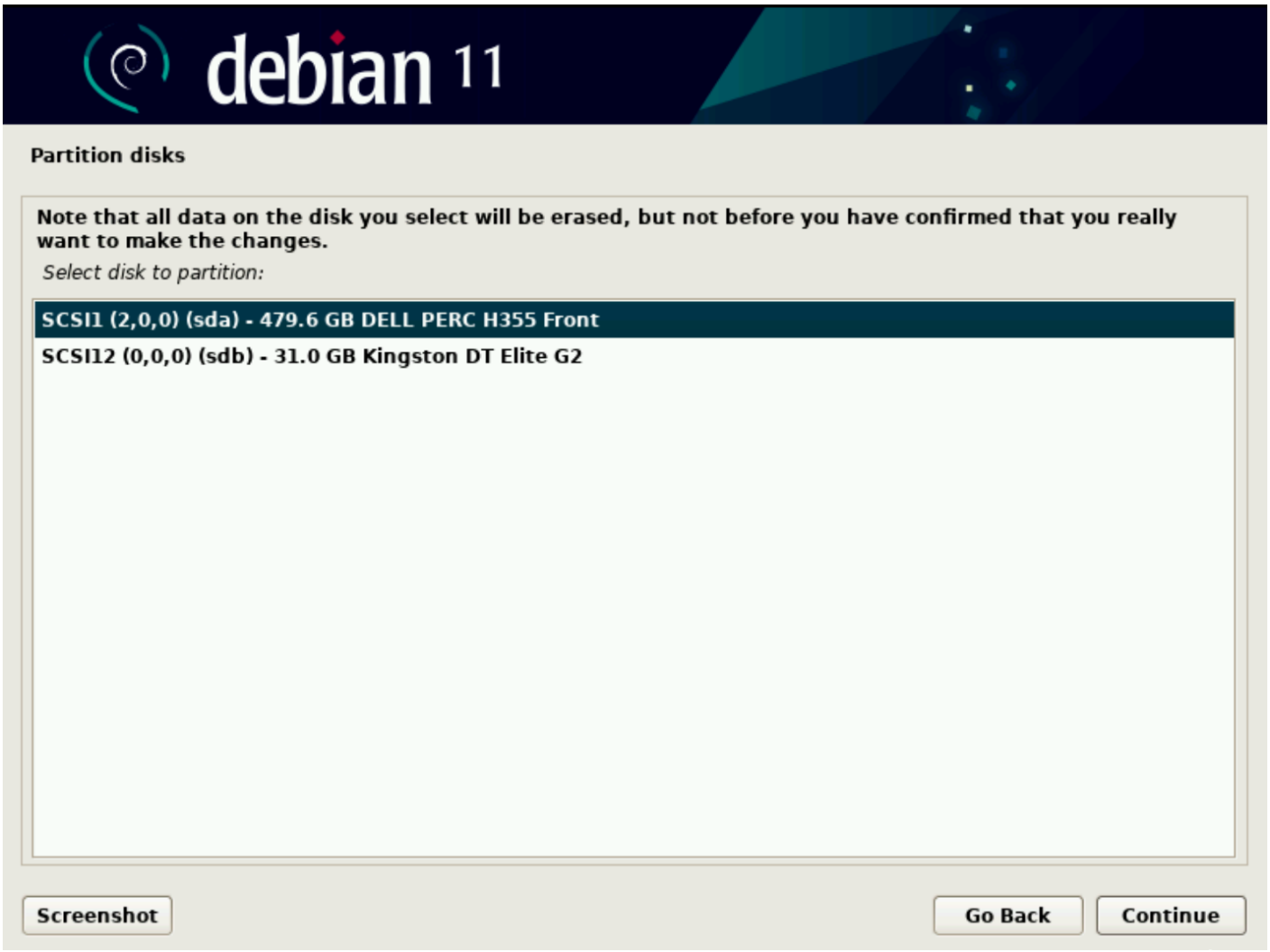
Enter the hostname for the flexAIserver.

Select the Target Disk

Select the internal **RAID1 logical volume** created during the initial server configuration.

Do not select the USB installation drive.

> **Important -** The device names and capacities shown on the HPE server may differ from the generic example below. Identify the internal RAID1 logical volume by its capacity and controller information before continuing.



Select the internal RAID1 logical volume, not the USB installation drive.

> **Warning -** All existing data on the selected target disk will be erased during installation.

Finish the Installation

When the installer reports that the installation is complete:

- **USB installation:** Remove the USB drive before continuing.
- **HPE iLO installation:** Unmount or disconnect the virtual CD/DVD image before continuing. Keep the Remote Console open until the reboot has completed.

Select **Continue** to reboot into the newly installed system.



Installation complete – remove the physical or virtual installation media before rebooting.

After the server has booted, continue with the **flexAIserver Initial Setup**.

Safety Information

Critical information - Please read the following safety information carefully before installing, operating, or servicing the flexAIserver hardware.

Electrical Safety

- Connect the server only to mains outlets that provide a protective earth connection.
- Make sure that the mains power cords remain accessible so that the server can be disconnected from mains power when required.
- Servers equipped with redundant power supplies use separate mains connections for each power supply. All connected power cords must be disconnected to completely remove mains power from the server.
- Use only power cords that are suitable for the server hardware and approved for use in the country or region of installation.
- Do not expose the server to dripping or splashing water and do not place containers filled with liquid on or directly above the unit.

Note - The exact mains connections, power controls, and electrical specifications depend on the installed server hardware. Refer to the safety and installation documentation supplied by the server manufacturer.

Service Safety

Service work must only be carried out by suitably qualified personnel.

Before opening or servicing the server:

1. Shut down the operating system when possible.
2. Switch off the server.
3. Disconnect all mains power cords.
4. Make sure that the power cords cannot be reconnected accidentally while service work is in progress.

Do not perform internal service work while the server is connected to mains power unless the procedure is explicitly specified by the server manufacturer and is carried out by suitably qualified personnel.

Installation and Operation

- Install the server in a standard 19-inch equipment rack using the rack-mounting hardware specified for the server model.
- Make sure that the server is adequately supported and securely installed in the rack.
- The server is actively cooled. Keep all ventilation openings clear and maintain the airflow specified by the server manufacturer.
- Additional empty rack units above or below the server are normally not required unless specified by the server manufacturer or by the cooling concept of the installation.
- Do not operate the server with covers, panels, or other safety components removed.
- If the server, power cords, connectors, or other components appear damaged, disconnect the server from mains power and have it inspected by qualified service personnel before further use.

Internal Battery

Server hardware may contain one or more internal lithium batteries.

> **Warning -** Internal batteries must only be replaced with the type specified by the server manufacturer. Incorrect replacement or installation may present a risk of fire or explosion. Follow the manufacturer's instructions for replacement and disposal.

Manufacturer Safety Information

The flexAIserver software may be supplied on different qualified server platforms. Hardware-specific safety instructions, rack-mounting requirements, environmental limits, servicing procedures, and regulatory information are provided by the respective server manufacturer.

> **Important -** Always follow the safety and installation documentation supplied with the installed server hardware. Where hardware-specific instructions differ from the general information on this page, the server manufacturer's instructions take precedence.