



Dell R-Series

Installation Guide

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1 Introduction

The Kemp LoadMaster is a purpose-built, hardware load balancing and Application Delivery Controller (ADC).

The LoadMaster enables data center clusters which power Internet sites and large intranets to intelligently and efficiently distribute network traffic among web and application servers. A resource optimization layer in front of applications and infrastructure servers gives IT administrators greater control to adapt to network changes and enable the best network and infrastructure performance.

The LoadMaster delivers on these requirements through the inclusion of the latest advancements in Layer 4 and 7 load balancing, content switching, SSL acceleration, Layer 7 content switching, caching, compression, Intrusion Prevention System (IPS), IP and Layer 7 persistence. All Kemp load balancers are optimized for a broad range of IP applications including core Microsoft Enterprise workloads such as Exchange, Lync, SharePoint, RDS and Dynamics.

2 Connect the Dell R-Series

To connect the Dell R-Series, follow the steps below:

1. Install the Dell R-Series into a 19 inch rack or another safe location.
2. Connect Ethernet cables to the ports on the Dell R-Series. Please use the worksheet included in the pack to determine which ports to connect. For single-arm setups, the switch only needs to be connected to port 0 (or eth0).
3. Connect the monitor and keyboard to the Dell R-Series (or just a serial cable).
4. Connect the power cable to the Dell R-Series.
5. Turn on power to the unit.

2.1 Install the LoadMaster

To install the LoadMaster, follow the steps below:

1. Insert the CD into the CD-ROM drive.
2. Boot the server.

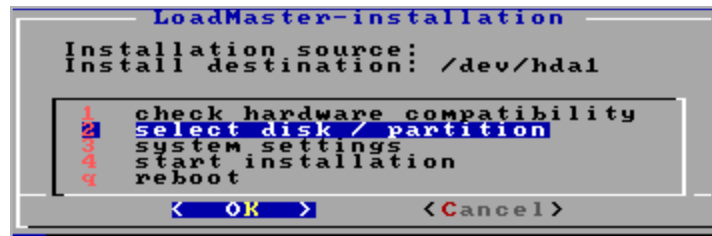
```
LoadMaster Installion:  
Boot Menu:  
<install> to start installation with no boot parameters  
<acpinoirq> to boot with acpi=noirq  
<acpino> to boot with acpi=no  
<pcibiosirq> to boot with pci=biosirq  
boot: _
```

3. Once the server boots from the CD, the LoadMaster installation begins automatically with no parameters if no boot parameters are entered.

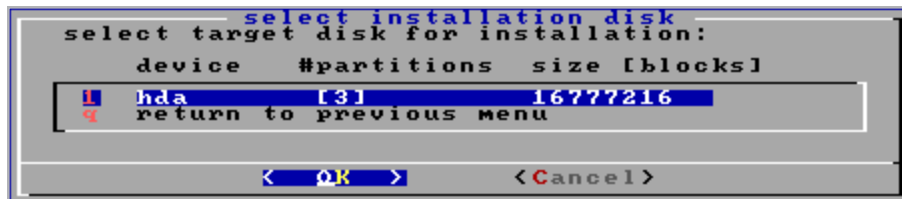
For further information on the different boot options that are available, refer to the [Bare Metal Boot Options, Technical Note](#).

The serial number should be automatically pulled from the LoadMaster. If it is not, please enter it when prompted.

2 Connect the Dell R-Series



4. Select disk/partition and press **OK**.



5. Select the target disk for installation and press **OK**.



6. Select delete existing partition(s) and press **OK**.



7. Select start installation and press **OK**.
8. Press **OK**. The installation should complete successfully.

PXE and USB booting options are also supported by the LoadMaster installation ISO file.

2.2 Boot the Installed LoadMaster

The server is now ready to be rebooted with the LoadMaster software installed on the local disk. Within the console, select the **Ctrl-Alt-Del** option from the **Macros** drop-down menu.

The server should now begin to boot from the local disk.

Occasionally, call trace code may appear while the LoadMaster is booting up. This can be ignored.

The LoadMaster should obtain an IP address using DHCP, please note this value.

If the LoadMaster does not obtain an IP address using DHCP then the LoadMaster must be manually configured using the console once the license key has been obtained.

Please refer to the **Configuring the LoadMaster Using the Console** section for further information regarding manually configuring the LoadMaster.

```
#####  
#  
# Your LoadMaster has finished booting.  
# UUID: 31159ab6-5da4-4b92-8ee2-b8922cc08dfe  
# Serial Number: 446312  
# IP address of LoadMaster is 10.154.11.180  
#  
# Point your browser at https://10.154.11.180 to configure your LoadMaster.  
#  
#####
```

2.3 License and Configure the LoadMaster

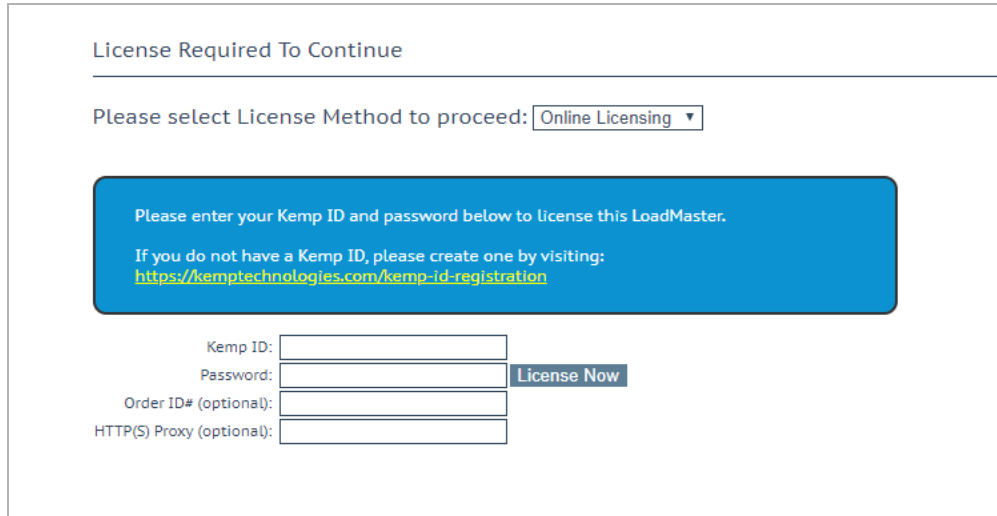
The LoadMaster must now be configured to operate within the network configuration.

1. In an internet browser, enter the IP address that was previously noted.

Ensure to enter **https://** before the IP address.

2. A warning may appear regarding website security certificates. Please click the continue/ignore option.
3. The LoadMaster End User License Agreement screen appears.

Please read the license agreement and, if you are willing to accept the conditions therein, click on the **Agree** button to proceed.



License Required To Continue

Please select License Method to proceed: Online Licensing ▼

Please enter your Kemp ID and password below to license this LoadMaster.

If you do not have a Kemp ID, please create one by visiting:
<https://kemptechnologies.com/kemp-id-registration>

Kemp ID:

Password: License Now

Order ID# (optional):

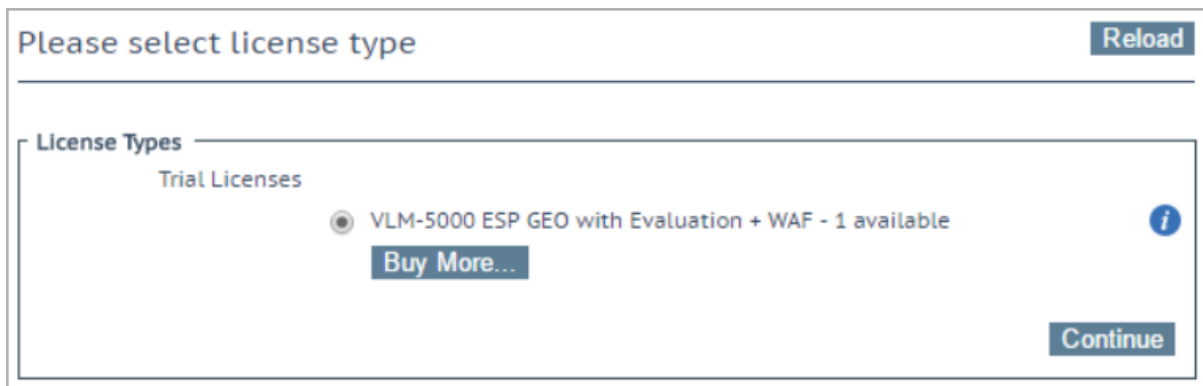
HTTP(S) Proxy (optional):

4. If using the **Online** licensing method, fill out the fields and click **License Now**.

If you are starting with a trial license, there is no need to enter an Order ID. If you are starting with a permanent license, enter the Kemp **Order ID#** if this was provided to you.

If using the **Offline Licensing** method, select **Offline Licensing**, obtain the license text, paste it into the **License** field and click **Apply License**.

For detailed instructions on how to register for a Kemp ID and license the LoadMaster, refer to the **Licensing, Feature Description** on the [Kemp Documentation Page](#).



Please select license type Reload

License Types

Trial Licenses

☒ VLM-5000 ESP GEO with Evaluation + WAF - 1 available i

Buy More...

Continue

5. If you entered an **Order ID**, a screen appears that provides a list of available licenses for that order ID, in addition to any licenses registered for the Kemp ID based on the LoadMaster platform type. Select the license type you want to apply to this LoadMaster.

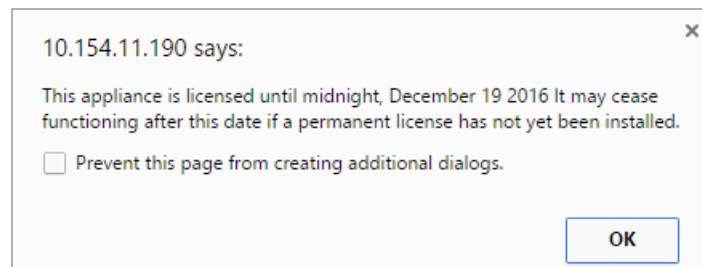
If the license type you want is not displayed, please contact your Kemp representative.

6. Click **Continue**.

7. The login screen appears, enter the **bal** user name and the password.

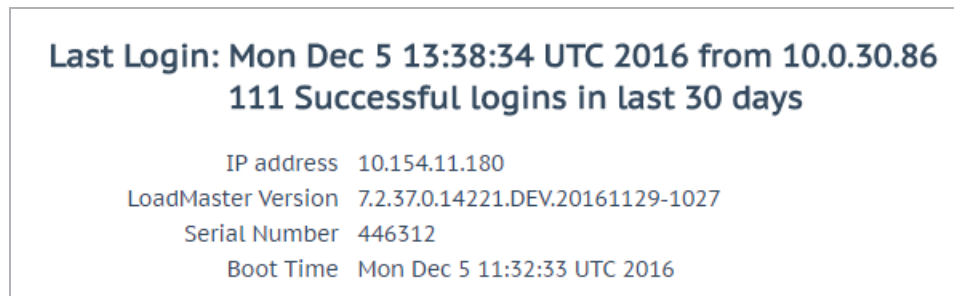
8. In the screen informing you that the password has changed, press the **Continue** button.

9. If your machine has shipped with a temporary license you should get a warning informing you that a temporary license has been installed on your machine and for how long the license is valid.



10. Click **OK**.

11. You should now connect to the **Home** screen of the LoadMaster.



12. Go to **System Configuration > Network Setup** in the main menu.

13. Click the **eth0** menu option within the **Interfaces** section.

| Network Interface 0 | |
|--|--|
| Interface Address (address[/prefix]) | <input type="text"/> Set Address |
| Link Status | Speed: 10000Mb/s, Full Duplex Automatic Force Link |
| MTU: | <input type="text" value="1500"/> Set MTU |
| Additional addresses (address[/prefix]) | <input type="text"/> Add Address |
| VLAN Configuration Interface Bonding | |

14. In the **Network Interface 0** screen, enter the IP address of the eth0 interface, the network facing interface of the LoadMaster, in the **Interface Address** input field.

15. Click the **Set Address** button.

16. Click the **eth1** menu option within the **Interfaces** section.

17. In the **Network Interface 1** screen, enter the IP address of the eth1 interface, the farm-side interface of the LoadMaster, in the **Interface Address** input field.

18. Click on the **Set Address** button.

This interface is optional, depending on the network configuration.

19. Click on the **Local DNS Configuration > Hostname Configuration** menu option.

| Set Hostname | |
|--------------|--|
| Hostname | <input type="text"/> Set Hostname |

20. In the **Hostname configuration** screen, enter the hostname into the **Current Hostname** input field.

21. Click the **Set Hostname** button.

22. Click the **Local DNS Configuration > DNS Configuration** menu option.

| DNS Servers | |
|---------------------------------|-------------------------|
| DNS NameServer (IP Address) | Operation |
| 10.154.75.25 | <button>Delete</button> |
| Add Nameserver | |
| IP Address <input type="text"/> | <button>Add</button> |
| Add Search Domain | |
| Domain <input type="text"/> | <button>Add</button> |

23. In the **DNS configuration** screen, enter the IP address(es) of the DNS Server(s) which is used to resolve names locally on the LoadMaster into the **DNS NameServer** input field.

24. Click the **Add** button.

25. Enter the domain name that is to be prepended to requests to the DNS nameserver into the **DNS NameServer** input field.

26. Click the **Add** button.

27. Click the **System Configuration > Network Setup > Default Gateway** menu option.

| The IPv4 default gateway must be on the 10.154.0.0/16 network | |
|--|---|
| IPv4 Default Gateway Address <input type="text" value="10.154.0.1"/> | <button>Set IPv4 Default Gateway</button> |

28. In the **DNS configuration** screen, enter the IP address of the default gateway into the **IPv4 Default Gateway Address** input field.

If you have an IPv6 Default Gateway, please enter the value in the **IPv6 Default Gateway Address** input field.

29. Click the **Set IPv4 Default Gateway** button.

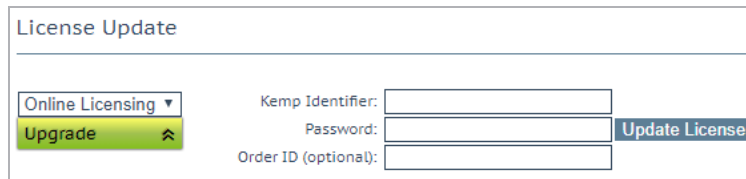
The LoadMaster is now fully installed and ready to be used. For further information on how to configure and implement the Virtual LoadMaster, please refer to the LoadMaster documentation which can be downloaded from the <http://kemptechnologies.com/documentation> page.

2.4 Update from Temporary to Permanent License

Depending on the terms and conditions of purchase, the LoadMaster will be entitled to either a temporary or permanent license. If the LoadMaster has a temporary license, a permanent license will be automatically issued by email upon receipt of payment.

To upgrade the license from temporary to permanent please complete the following steps:

1. Select the **System Configuration** menu option.
2. Select the **System Administration > Update License** menu option.
3. The **Update License** screen appears.



The screenshot shows the 'License Update' interface. On the left, there is a dropdown menu currently set to 'Online Licensing' with a green 'Upgrade' button below it. To the right of this are three input fields: 'Kemp Identifier:', 'Password:', and 'Order ID (optional):'. A blue 'Update License' button is positioned to the right of the 'Password' field.

4. If using the **Online Licensing** method, fill in the fields and click **Update License**.
5. If using the **Offline Licensing** method, select **Offline Licensing**, copy the license text, paste it into the **License** field and click **Update License**.
6. Kemp recommends rebooting after updating the license.
7. The license should now be updated.

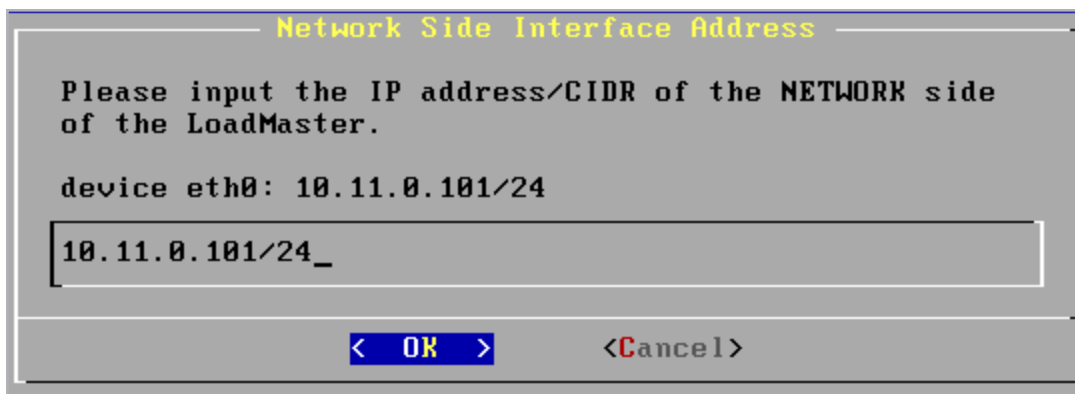
The LoadMaster is now fully installed, fully licensed and ready to be used. For further information on how to configure and implement the LoadMaster, please refer to the LoadMaster documentation which can be downloaded from the <http://kemptechnologies.com/documentation> page.

3 Configuring the LoadMaster Using the Console

If the LoadMaster does not automatically obtain an IP address using DHCP, or if the user prefers to configure the LoadMaster using the console, then the following configuration steps must be completed before starting the LoadMaster.

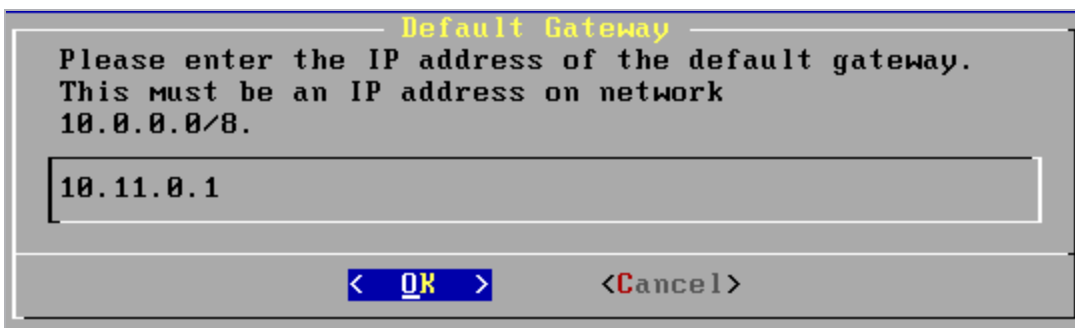
1. Login into the LoadMaster using the console with the following settings:

- lb100 login: bal
- Password: 1fourall



The dialog box is titled "Network Side Interface Address" in yellow. It contains the text "Please input the IP address/CIDR of the NETWORK side of the LoadMaster." followed by "device eth0: 10.11.0.101/24". Below this is a text input field containing "10.11.0.101/24_". At the bottom are two buttons: "< OK >" and "<Cancel>".

2. Enter the IP address of the eth0 interface, the network facing interface of the LoadMaster, in the input field within the **Network Side Interface Address** dialog box.
3. Press **OK**.



The dialog box is titled "Default Gateway" in yellow. It contains the text "Please enter the IP address of the default gateway. This must be an IP address on network 10.0.0.0/8." followed by a text input field containing "10.11.0.1". At the bottom are two buttons: "< OK >" and "<Cancel>".



3 Configuring the LoadMaster Using the Console

4. Enter the IP address of the default gateway in the input field of the **Default Gateway** dialog box.
5. Press **OK**.
6. Once these are set, a prompt will appear asking to connect to the web interface at the newly configured IP address. In an internet browser enter the IP address of the eth0 entered in Step 2.

Ensure to enter **https://** before the IP address.

7. A warning may appear regarding website security certificates. Please click the continue/ignore option.
8. The LoadMaster End User License Agreement screen appears.
9. Please read the license agreement and, if willing to accept the conditions therein, click on the **Agree** button to proceed.
10. If the machine has shipped with a temporary license, a warning will appear informing that a temporary license has been installed on the machine and for how long the license is valid.
11. Click **OK**.
12. The Appliance Vitals screen of the LoadMaster should appear.

3 Configuring the LoadMaster Using the Console

| | |
|--------------------|--|
| IP address | 10.154.11.51 (lb100:10.154.11.50) |
| Serial Number | 1050788 |
| Boot Time | Tue Sep 8 09:30:58 UTC 2015 |
| Active Since | Tue Sep 8 09:31:13 UTC 2015 |
| LoadMaster Version | 7.1-29-1851.20150907-1730 |
| License | UUID: 6987ad8c-ff52-4158-acbb-372a07faa13d Activation date: Thu Aug 20 09:04:46 UTC 2015 Licensed until: September 20 2015 Support Level: Evaluation + WAF Support Until: Sat Aug 20 04:00:00 UTC 2016 License Type: VLM-5000 ESP GEO License Status: Single Temp Appliance Model: VLM-5000G+ |
| | Upgrade ↗ |
| CPU Load | 2%  |
| TPS | Total 0 (SSL 0) |
| WAF Stats | Total handled: 0 Incidents: 0 |
| NetLoad | Mbits/sec |
| eth0 | 0.0  |

The LoadMaster is now fully installed and ready to be used. For further information on how to configure and implement the Virtual LoadMaster, please refer to the LoadMaster documentation which can be found here: <https://kempttechnologies.com/documentation>.

4 The iDRAC Module

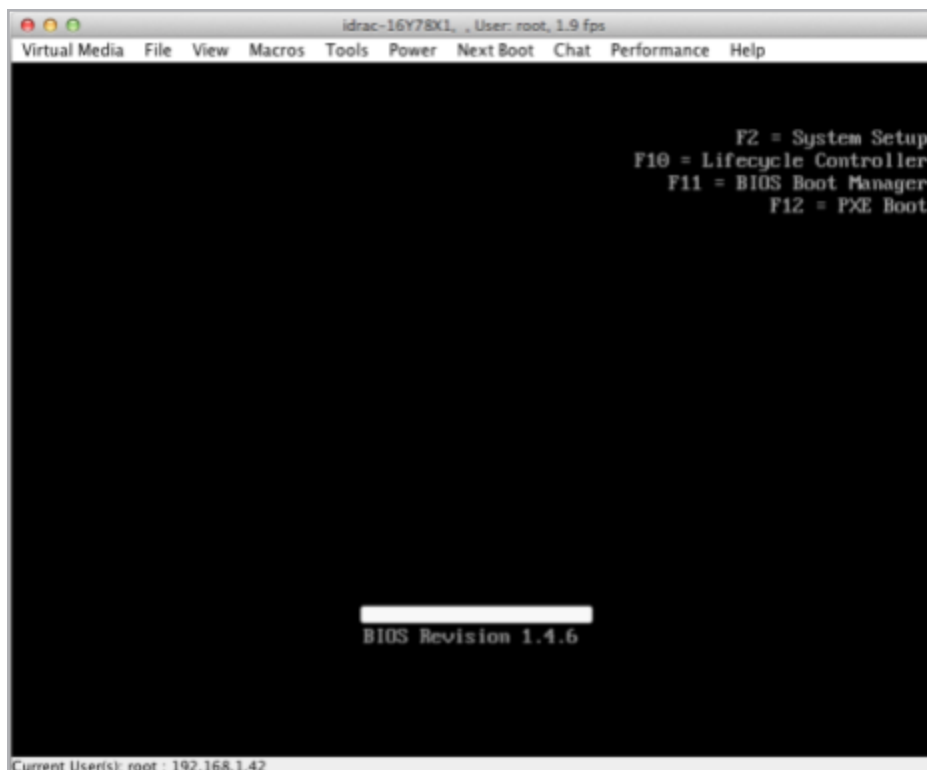
iDRAC Enterprise may not be installed on your Dell Server Platform. Please confirm with your Dell Support Team.

The iDRAC module gives network administrators a dedicated management channel for device maintenance. The iDRAC functionality can be accessed by using a Command Line Interface (CLI) or a supported web browser. The iDRAC has its own network connection, memory, processor and access to the system bus. Key features of the iDRAC include remote console capabilities, power management and virtual media access.

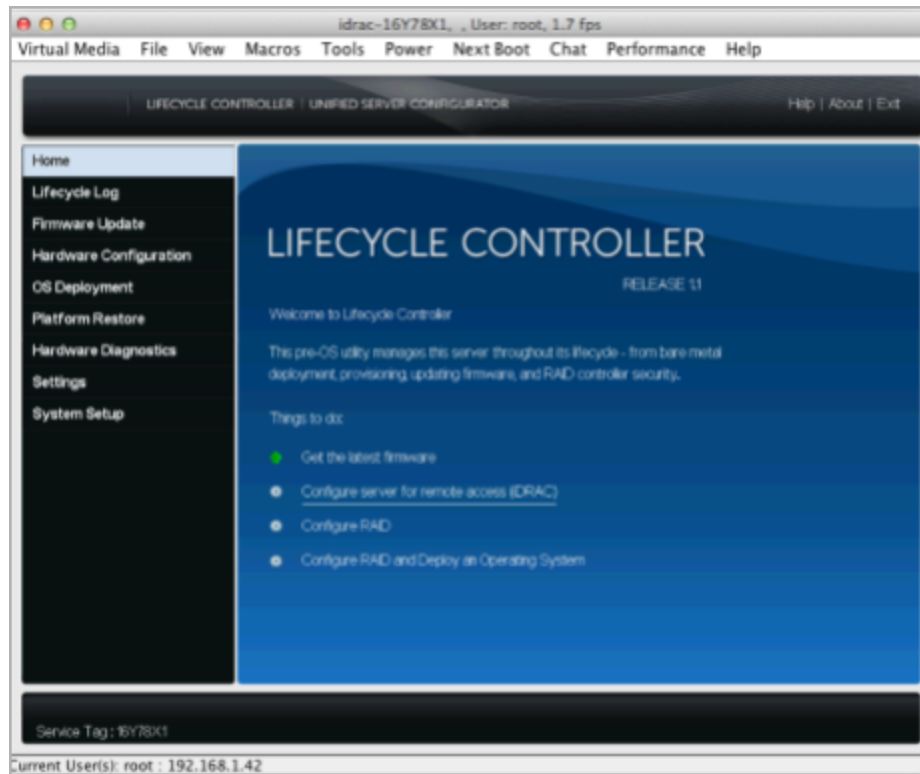
4.1 Configure the iDRAC Module

To configure the iDRAC module, follow the steps below.

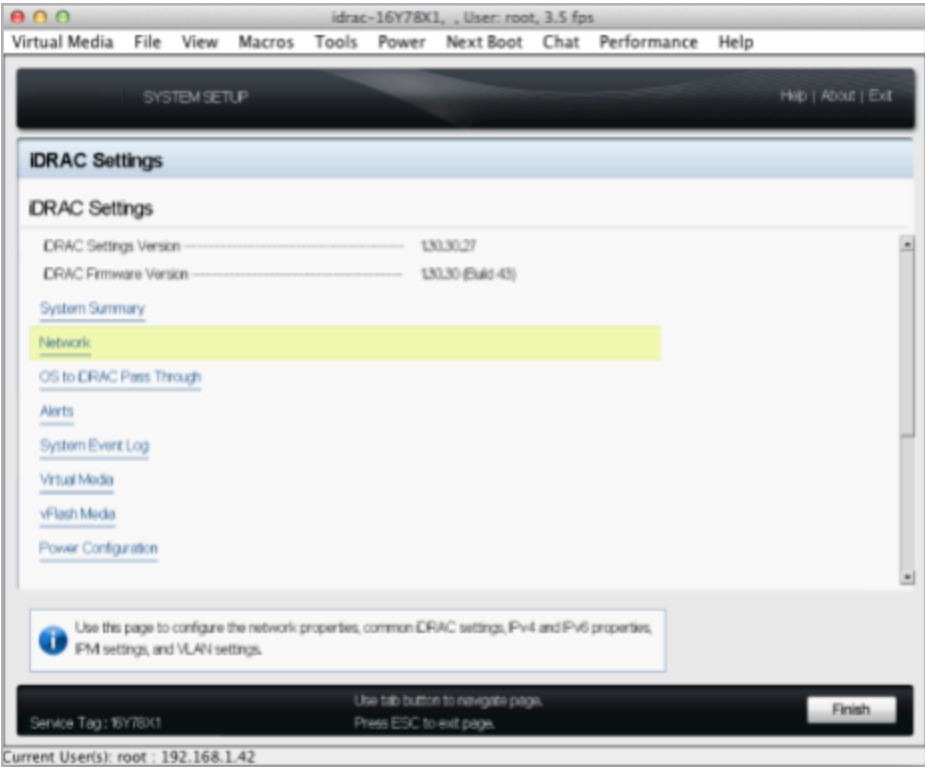
1. Connect and boot the iDRAC.



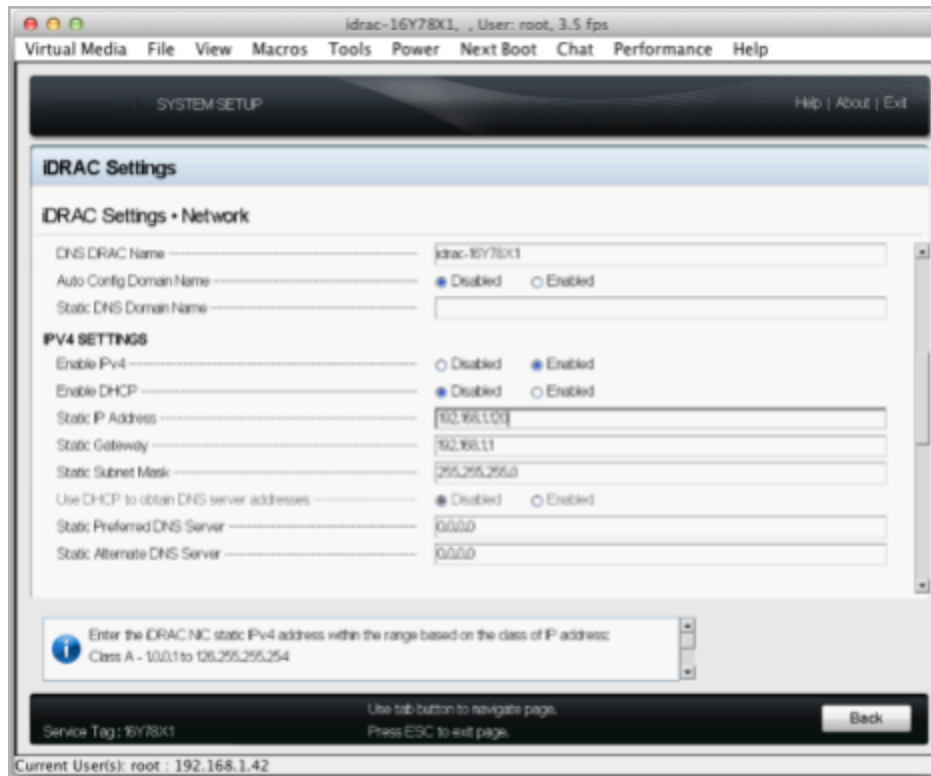
2. At boot prompt, press **F10** on the keyboard to enter the Lifecycle controller.



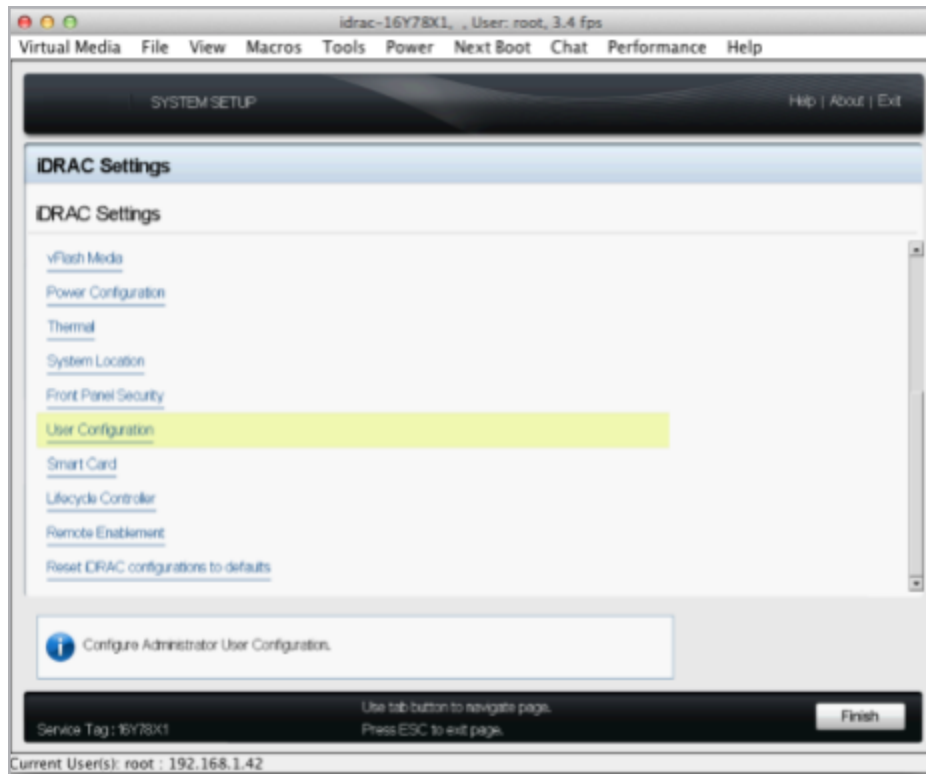
3. In the main menu, select **Home**.
4. Click **Configure server for remote access (iDRAC)**.



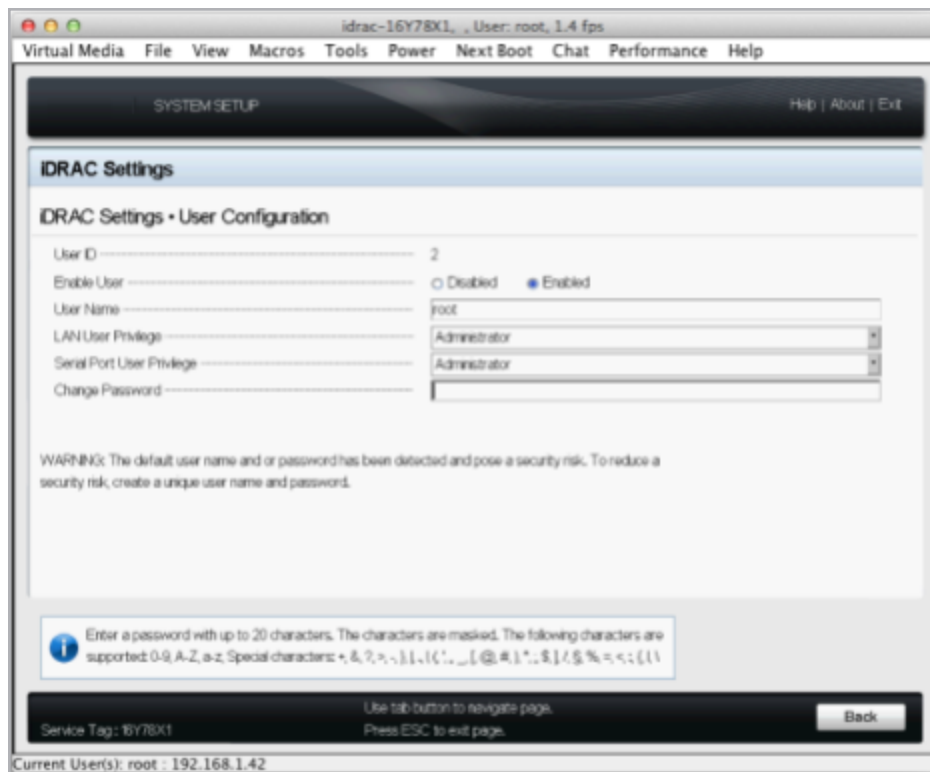
5. Click **Network**.



6. Select **Enabled** for the **Enable IPv4** option.
7. Set the **Static IP Address**.
8. Set the **Static Gateway**.
9. Set the **Static Subnet Mask**.
10. Click **Back**.



11. Click **User Configuration**.



12. Set the values as required.
13. Click the **Back** button.
14. Click **Exit**.
15. Now, log in to the iDRAC module from a web browser by entering the IP address previously configured.

Ensure to enter **https://** before the IP address.

4.2 Restore Functionality Using the iDRAC Module

The iDRAC module is an effective way of restoring functionality to units when the Solid State Drive (SSD) needs to be replaced. The server is able to boot from an ISO uploaded to the vFlash SD card and reinstall the firmware.

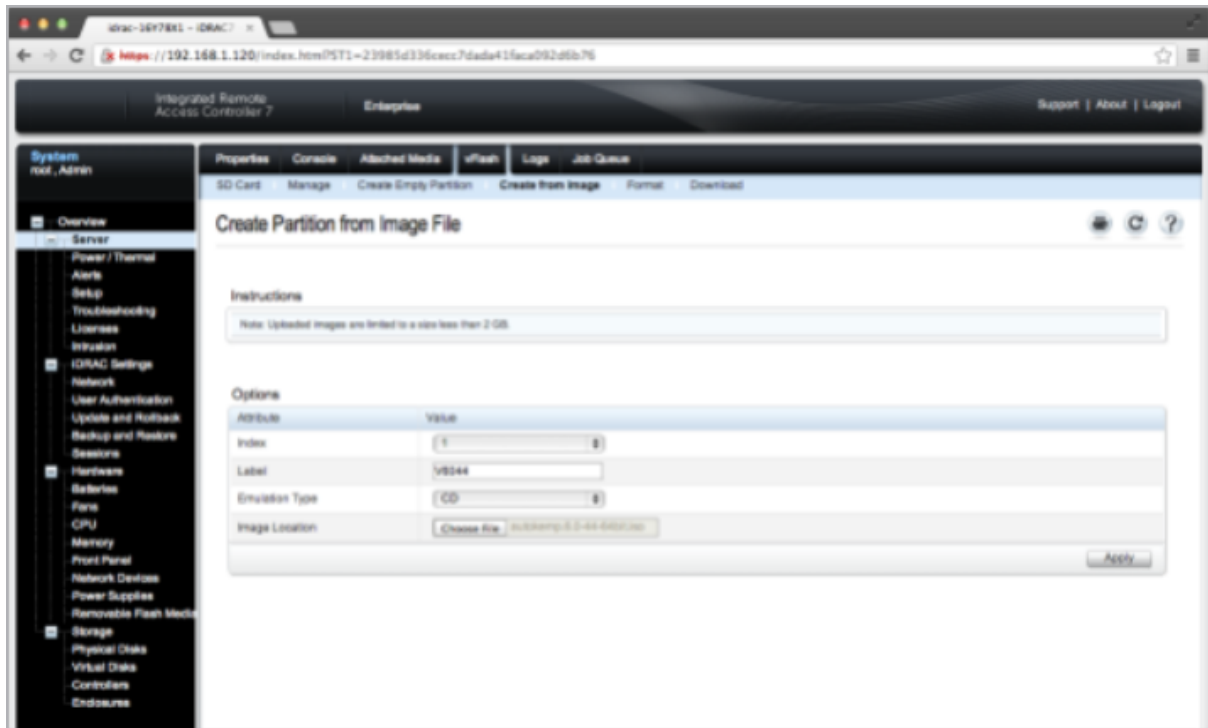
Follow the steps below to restore using the iDRAC:

1. First, create a vFlash image.

2. Then, log in to the iDRAC Web User Interface (WUI) by navigating to the IP address in a web browser.

Ensure to enter **https://** before the IP address.

3. Navigate to **vFlash** and select **Create from Image**.



4. Select **1** as the **Index** value.

5. Enter a **Label**.

6. Select **CD** as the **Emulation Type**.

7. Click **Choose File** and navigate to the relevant **.iso** file.

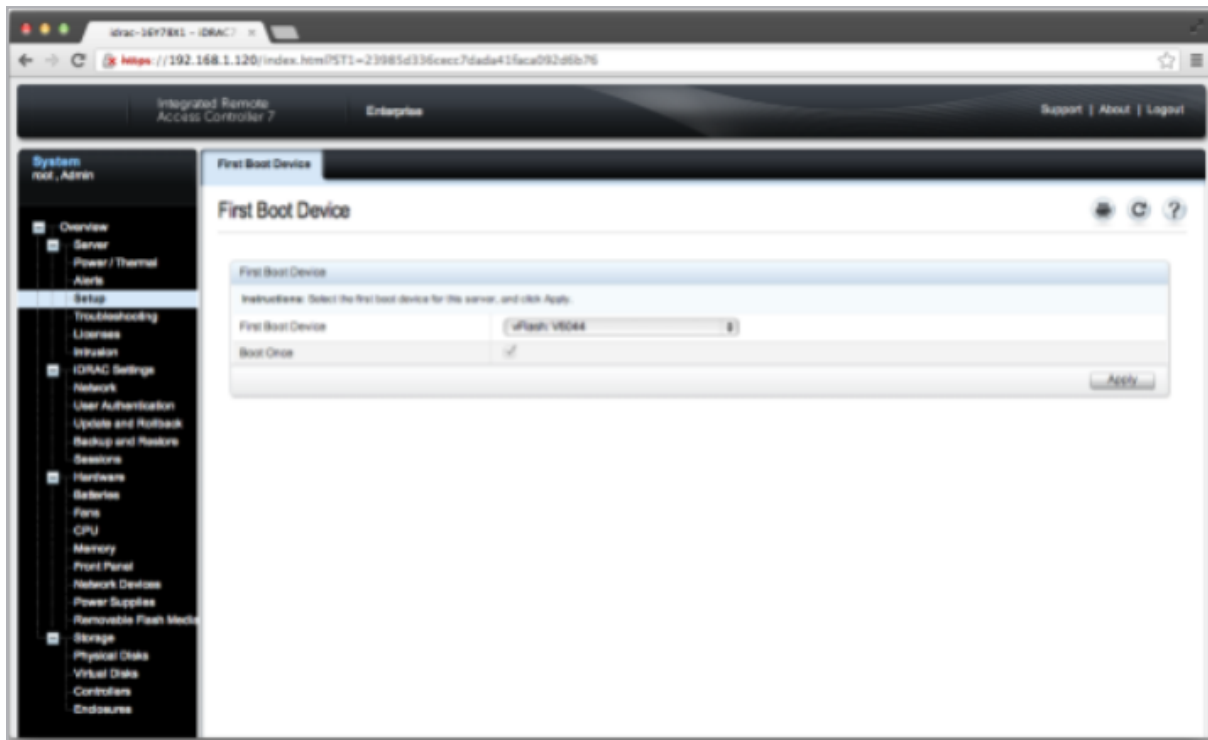
64-bit firmware must be used for Dell PERC controllers to be supported. 32-bit firmware gives an error saying the hard drive cannot be found.

8. Wait for the vFlash partition to be created successfully.

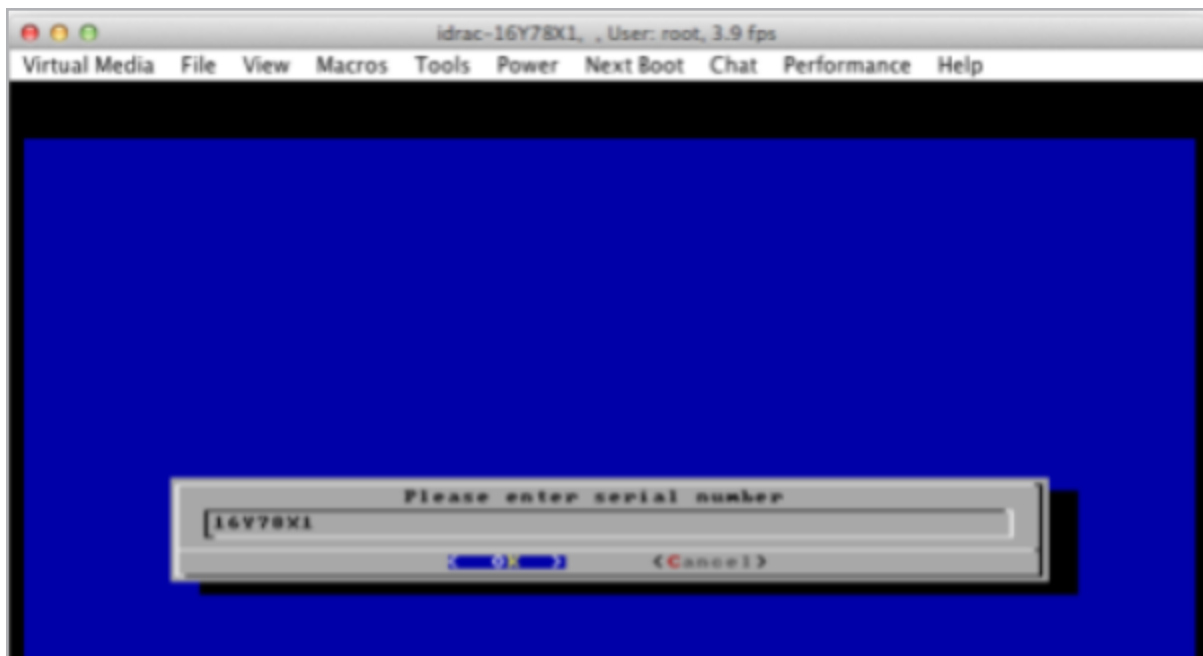
9. Navigate to **vFlash > Manage**.



10. Select the **Attached** checkbox.
11. Click **Apply**.
12. Navigate to **Overview > Server > Setup**.

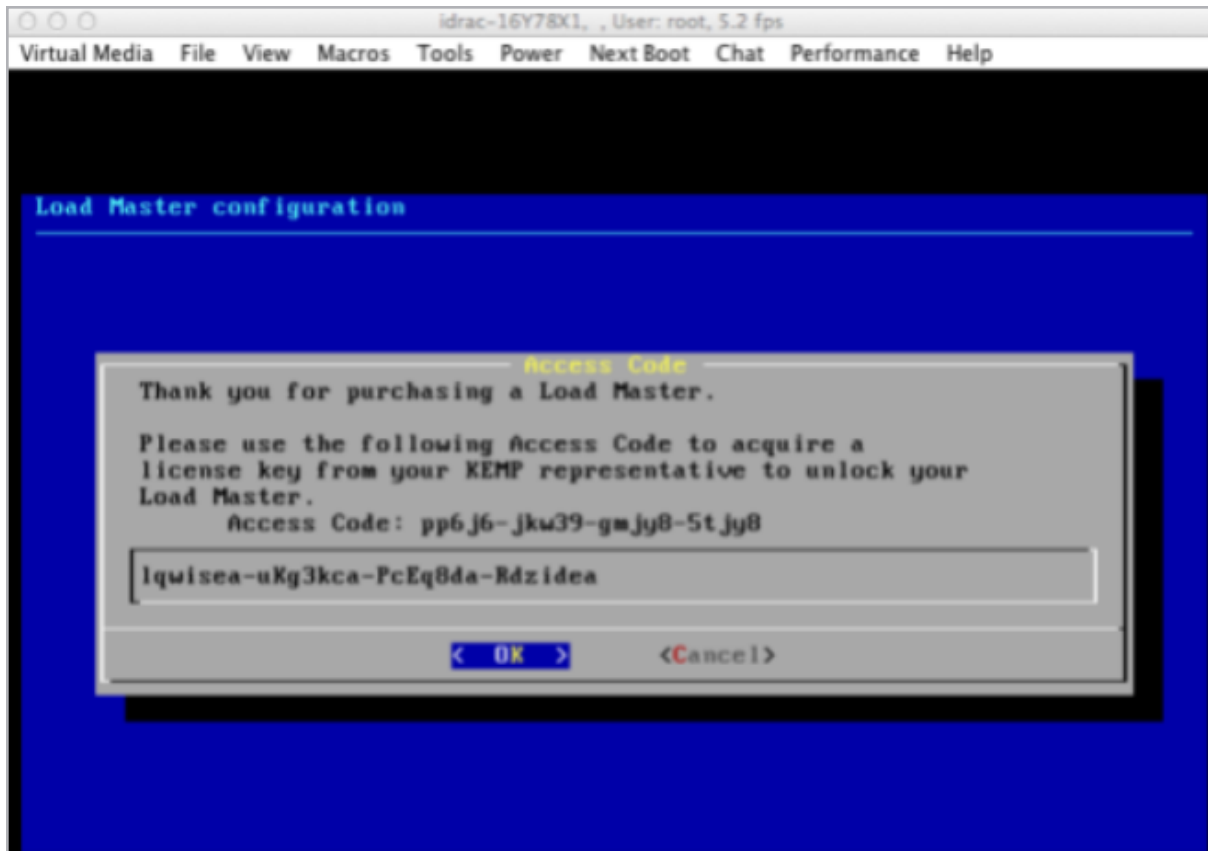


13. Select the relevant **First Boot Device**.
14. Click **Apply**.
15. Reboot the LoadMaster and observe the installation.



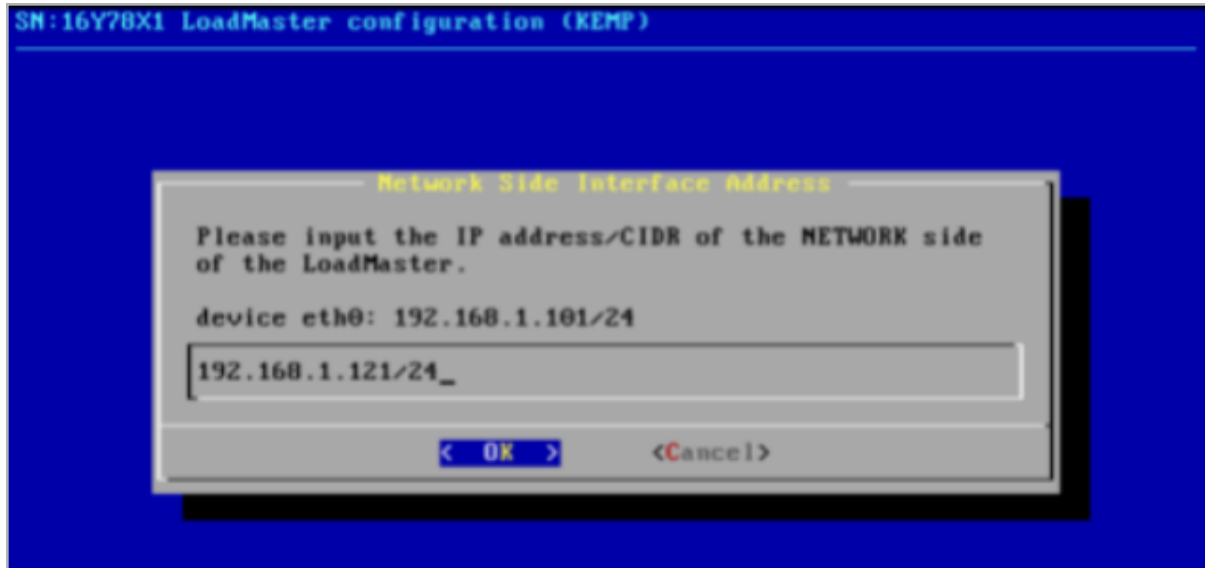
16. Enter the service tag as the serial number and press **OK**.

17. A message will be displayed informing that the installation was successful.

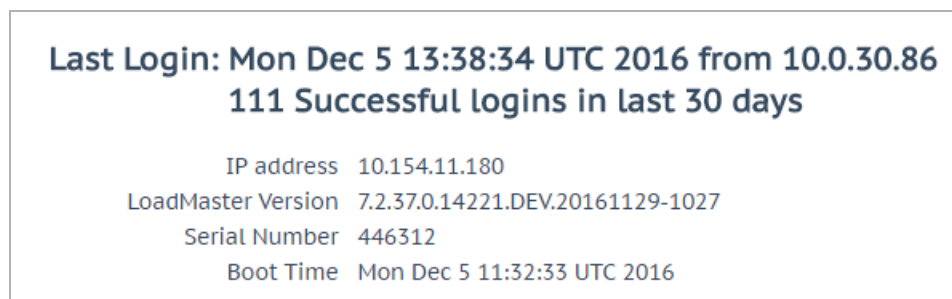


18. Enter the license key and press **OK**.

If you do not have a license key, please contact Kemp.



19. Enter the IP address and press **OK**.
20. When the quick-start setup is finished, the LoadMaster will reboot.
21. Move the network cable to the general NIC (use the left-most interface riser card above the iDRAC).
22. Connect to the LoadMaster WUI by entering the IP address of the LoadMaster in a web browser. Ensure to enter **https://** before the IP address.
23. Accept the license agreement.
24. Set the password and log in.



After logging in successfully the LoadMaster **Home** screen should appear. Verify that the installation has completed successfully.

References

Unless otherwise specified, the following documents can be found at <http://kemptechnologies.com/documentation>.

WUI, Configuration Guide

Licensing, Feature Description

Kemp LoadMaster, Product Overview

Bare Metal Boot Options, Technical Note

Last Updated Date

This document was last updated on 27 July 2023.