



KVM

## Installation Guide

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# Table of Contents

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<b>1 Introduction .....</b>	<b>4</b>
<b>2 Installing Virtual LoadMaster (VLM) on a KVM Environment .....</b>	<b>5</b>
2.1 Download the KVM Files .....	5
2.2 Unzip the Disk Image .....	5
2.3 Deploy the LoadMaster .....	5
2.4 Check the Virtual Machine Settings .....	7
2.5 LoadMaster IP Address .....	7
2.6 License and Configure the LoadMaster .....	7
<b>3 Troubleshooting and Notes .....</b>	<b>12</b>
3.1 Configuring the LoadMaster Using the Console .....	12
3.2 Common KVM Commands .....	14
3.3 Factory Reset .....	15
<b>References .....</b>	<b>16</b>
Licensing, Feature Description .....	16
<b>Last Updated Date .....</b>	<b>17</b>

# 1 Introduction

The Kemp Virtual LoadMaster is a version of the Kemp LoadMaster that runs as a virtual machine within a hypervisor and can provide all the features and functions of a hardware-based LoadMaster.

This document describes the installation of the Virtual LoadMaster (VLM) within a KVM environment.

There are several different versions of the VLM available. Full details of the currently supported versions are available on our website: [www.kemptechnologies.com](http://www.kemptechnologies.com).

The KVM virtual machine guest environment for the VLM, at minimum, must include:

- 2 GB RAM
- 16 GB virtual hard disk capacity (sparse where possible)

There may be maximum configuration limits imposed by KVM such as maximum RAM per VM, Virtual NICs per VM etc. For further details regarding the configuration limits imposed by KVM, please refer to the relevant KVM documentation.

Kemp LoadMaster has been tested with Debian 6.0. For a full list of the compatible Linux distributions, please refer to [http://www.linux-kvm.org/page/Main\\_Page](http://www.linux-kvm.org/page/Main_Page)

If you have any issues with the Virtual LoadMaster when using different Linux distributions, then please contact Kemp Support.

# 2 Installing Virtual LoadMaster (VLM) on a KVM Environment

The following instructions describe how to install a Virtual LoadMaster on a KVM environment.

## 2.1 Download the KVM Files

The VLM is packaged within a tar.gz file for ease of deployment. This file can be freely downloaded from Kemp for a 30 day evaluation period. To download the VLM please follow the instructions below:

1. Go to <http://www.kemptechnologies.com/try>.
2. Click the **Download Now** button.
3. Within the **Select your hypervisor** section, select the option for **KVM**.
4. Select your country from the drop-down list provided.
5. Read the End User License Agreement.
6. To proceed with the download, ensure the **I agree to the End User License Agreement terms** check box is ticked.
7. Click the **Download** button.

## 2.2 Unzip the Disk Image

The Linux disk image has been tar gzipped as a sparse file. It must be unzipped as a sparse file to ensure proper operation. For example:

```
tar xzSf LoadMaster-VLM.7.1.34.0.12345.RELEASE.tgz
```

The "S" flag tells tar to handle the file as sparse.

## 2.3 Deploy the LoadMaster

Kemp recommends using Virtual Machine Manager to deploy the LoadMaster. The steps below were documented using Virtual Machine Manager:

1. Click the Create a new virtual machine button.

## 2 Installing Virtual LoadMaster (VLM) on a KVM Environment

2. Enter a **Name** for the Virtual Machine.

---

The name cannot contain any spaces.

---

3. Select Import existing disk image.
4. Click **Forward**.
5. Click **Browse**.
6. Browse to and select the disk file.
7. Select **Linux** as the **OS type**.
8. In the **Version** drop-down list, scroll to the bottom and click **Show all OS options**.
9. Click the **Version** drop-down list again. Scroll to the bottom and select **Generic 2.6.25 or later with virtio**.
10. Click **Forward**.
11. Enter a minimum of **2048** MB in the **Memory** text box.
12. Enter a minimum of **2** in the **CPUs** text box.
13. Click **Forward**.
14. Tick the **Customize configuration before install** check box.
15. Expand the **Advanced options** section.
16. Make any amendments to this section, as needed.
17. Click **Finish**.
18. Click the **Disk** option on the left.
19. Expand the **Advanced Options** section.
20. Select **Virtio** as the **Disk bus**.
21. Click the **NIC** option on the left.
22. Click **Yes** to apply the changes.
23. Select **virtio** as the **Device model**.
24. Change any other settings as needed.
25. Click **Apply**.

26. Click **Begin Installation**.

## 2.4 Check the Virtual Machine Settings

Please verify that the Virtual Machine settings are configured with the recommended values:

- 2 x virtual processors
- 2 GB RAM
- 16 GB virtual hard disk capacity (sparse where possible)

## 2.5 LoadMaster IP Address

```
#####  
#  
# Your LoadMaster has finished booting.  
# UUID: bed15b0f-cd9a-4517-b95e-a11d080b3d89  
# Serial Number: 1050976  
# IP address of LoadMaster is 10.154.11.170  
#  
# Point your browser at https://10.154.11.170 to configure your LoadMaster.  
#  
#####
```

After the VLM has booted, it should obtain an IP address using DHCP. Make a note of this address.

If the VLM does not obtain an IP address, or if the IP address needs to be changed, it can be manually configured in the console by following the steps in the **Configuring the LoadMaster Using the Console** section.

## 2.6 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.

---

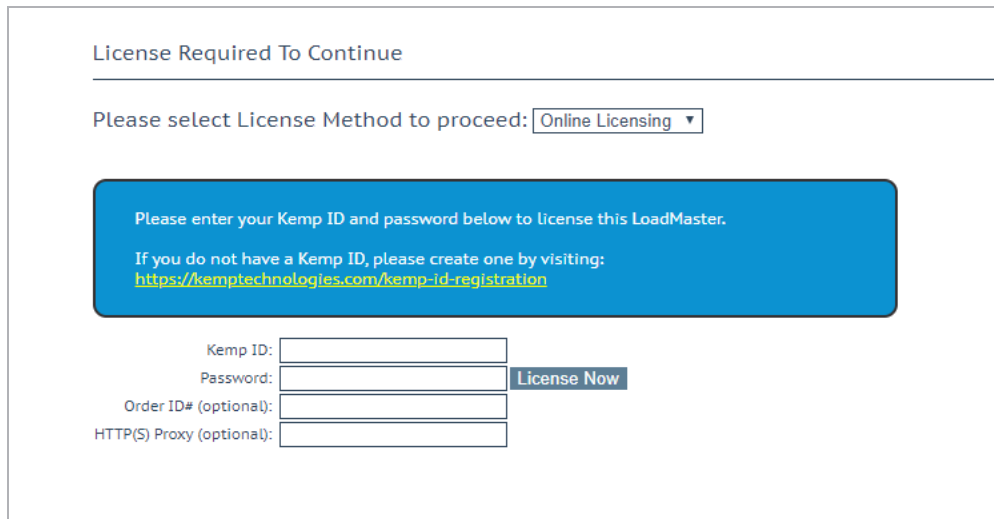
Ensure to enter **https://** before the IP address.

---

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.

## 2 Installing Virtual LoadMaster (VLM) on a KVM Environment



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):

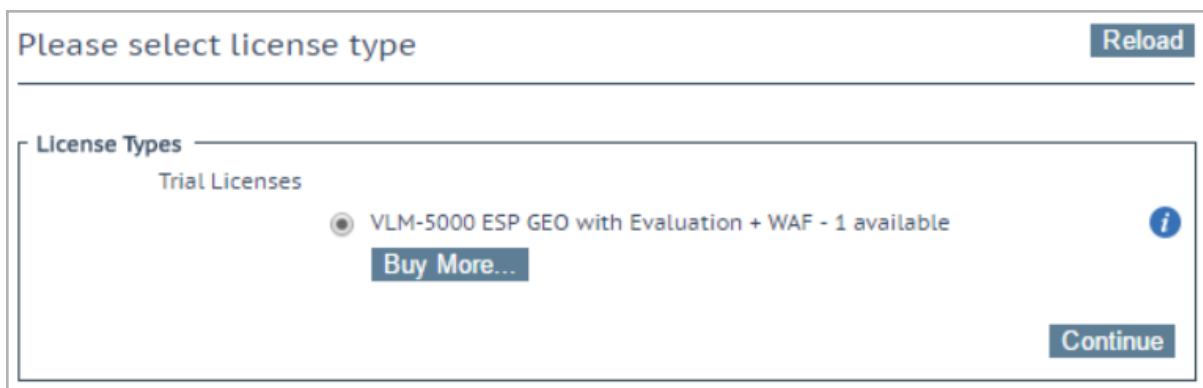
HTTP(S) Proxy (optional):

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 Buy More... i

Continue



## 2 Installing Virtual LoadMaster (VLM) on a KVM Environment

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.

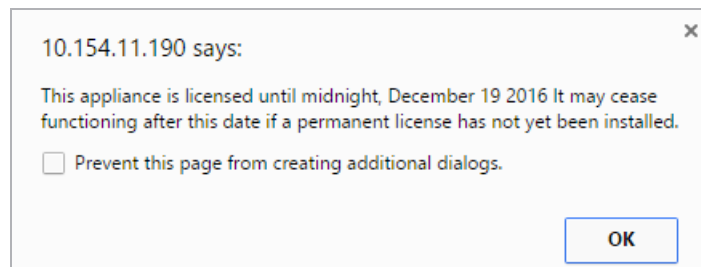
---

6. Click **Continue**.

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

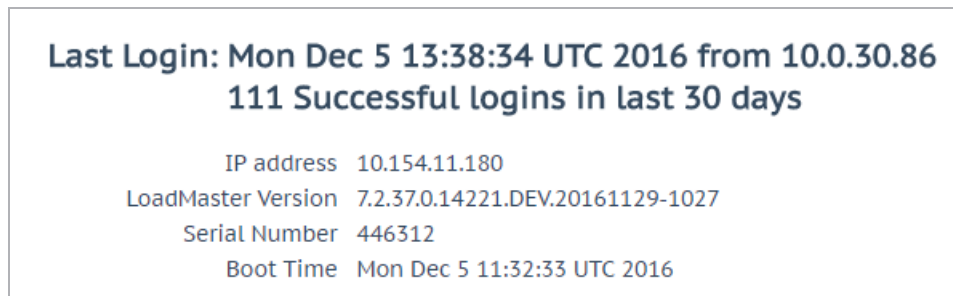
8. In the screen informing you that the password has changed, press the **Continue** button.

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.

## 2 Installing Virtual LoadMaster (VLM) on a KVM Environment

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

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"/> <b>Set Hostname</b>

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.

## 2 Installing Virtual LoadMaster (VLM) on a KVM Environment

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.

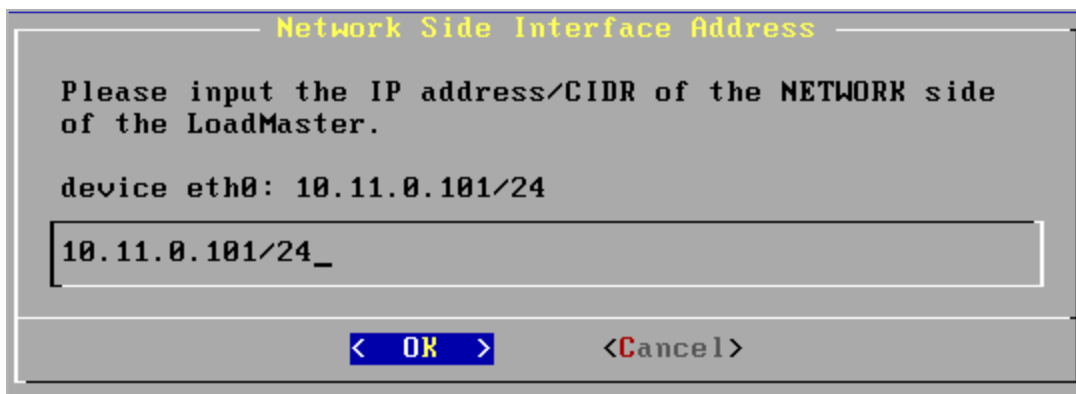
# 3 Troubleshooting and Notes

## 3.1 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



**Network Side Interface Address**

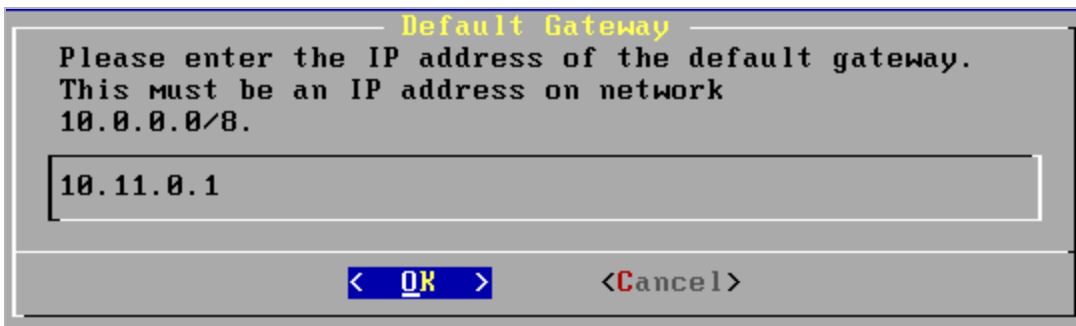
Please input the IP address/CIDR of the NETWORK side of the LoadMaster.

device eth0: 10.11.0.101/24

10.11.0.101/24\_

< OK >      <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**.



**Default Gateway**

Please enter the IP address of the default gateway. This must be an IP address on network 10.0.0.0/8.

10.11.0.1

< OK >      <Cancel>

### 3 Troubleshooting and Notes

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 Troubleshooting and Notes

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+
CPU Load	2% 
TPS	Total 0 (SSL 0)
WAF Stats	Total handled: 0 Incidents: 0
NetLoad	Mbits/sec
eth0	0.0 

[Upgrade ↗](#)

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>.

## 3.2 Common KVM Commands

The following list describes some commonly used KVM commands.

- Connect to VM using local console:  
virsh console <NAME OF KVM / ID>
- Shutdown VM:  
virsh shutdown <NAME OF KVM / ID>
- List running VMs:  
virsh list
- Delete a VM:  
virsh destroy <NAME OF KVM / ID>

Note that proper permissions are required to run these commands.

### 3.3 Factory Reset

If you perform a factory reset on your VLM, all configuration data, including the VLM's IP address is deleted. During the subsequent reboot the VLM attempts to obtain an IP address using DHCP. If the VLM is on a different subnet to the DHCP server then an IP address will not be obtained and the IP address is set to the default 192.168.1.101.

The VLM may not be accessible using this address. If this is the case then you must run through the quick setup using the console as described in the section.

# References

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

## **Licensing, Feature Description**



# Last Updated Date

This document was last updated on 27 July 2023.