



Nutanix

Installation Guide

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1 Introduction

The Kemp Virtual LoadMaster (VLM) is a version of the Kemp LoadMaster that runs as a Virtual Machine (VM) in a hypervisor and can provide all the features and functions of a hardware-based LoadMaster.

This document describes the installation of the VLM in a Nutanix Acropolis Hypervisor Virtualization (AHV) environment. The VLM has been tested with Nutanix AHV and has been certified as **Nutanix Ready**.

Nutanix AHV is a license-free virtualization solution included with Acropolis that delivers enterprise virtualization ready for a multi-cloud world. With Acropolis and AHV, virtualization is tightly integrated into the Enterprise Cloud OS rather than being layered on as a standalone product that must be licensed, deployed, and managed separately. Common tasks such as deploying and protecting VMs are managed centrally through Nutanix Prism, rather than utilizing disparate products and policies in a piecemeal strategy.

There are several different versions of the VLM available. Full details of the currently supported versions are available on our website: www.kemptechnologies.com.

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

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

There may be maximum configuration limits imposed by Nutanix such as maximum RAM per VM, Virtual Network Interface Controllers (NICs) per VM, and so on. For further details regarding the configuration limits imposed by Nutanix, refer to the relevant Nutanix documentation.

2 Installing a VLM

The following instructions describe how to install a VLM in a Nutanix AHV environment using Prism Central.

2.1 Static MAC Addresses must be Configured

If you move a VLM system to a different VM, ensure that the MAC addresses of the VMs NICs stay the same. Static Media Access Control (MAC) addresses must be configured for all NICs in VMs.

For further information on configuring static MAC addresses, refer to the relevant Nutanix AHV documentation.

2.2 Download the KVM VLM

The VLM is packaged in a .disk file for ease of deployment. This file can be freely downloaded from Kemp for a 30-day evaluation period. To download the VLM, follow the instructions below:

1. Go to <http://www.Kemptechnologies.com/try>.
2. Click **Download Now**.
3. Log in using your Kemp ID. If you do not have one, sign up for one using the form provided.
4. In the **Select your hypervisor** section, select **KVM/XEN**.
5. Select your country from the drop-down list provided.
6. Read the End User License Agreement.
7. To proceed with the download, ensure you select the **I agree to the End User License Agreement terms** check box.
8. Click **Download**.

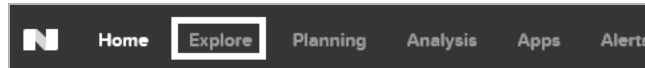
2.3 Extract the KVM Disk Image

The Linux disk image has been tar gzipped as a sparse file. You must unzip it as a sparse file to ensure proper operation. For example:

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

2.4 Add Image to Nutanix AHV Using Prism Central

You must upload the Kemp LoadMaster KVM image (.disk) into the Nutanix AHV environment. The steps in this section are being executed in Nutanix Prism Central:



1. In the top navigation, click **Explore**.

| Entities | |
|------------------------|-----------|
| VIRTUAL INFRASTRUCTURE | |
| VMs | 70 |
| Storage Containers | 10 |
| Catalog Items | 2 |
| Images | 34 |

2. In the left-hand navigation, click **Images**.



3. Click **Add Image**.

Image Source
☒ Image File ☐ URL

+ Add File

4. Select **Image File** and click **+ Add File**.

Source: [LOCAL]LoadMaster-VL...ELEASE-Linux-KVM-XEN.disk [Remove](#)

IMAGE NAME

LoadMaster-VLM-7.2.42.0.1618'

IMAGE TYPE

Disk

5. Select the extracted LoadMaster KVM disk image and select **Disk** as the **IMAGE TYPE**.

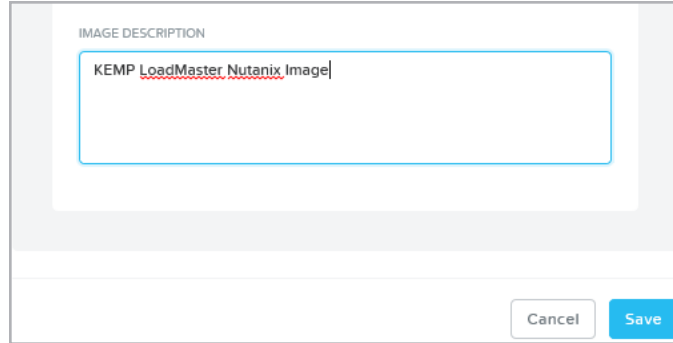


IMAGE DESCRIPTION

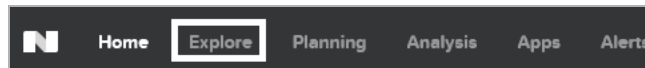
KEMP LoadMaster Nutanix Image

Cancel Save

6. Enter an **IMAGE DESCRIPTION** and click **Save**.

2.5 Deploy the Kemp LoadMaster from an Image Using Prism Central

When the image is uploaded, you can deploy a new LoadMaster from Prism Central.



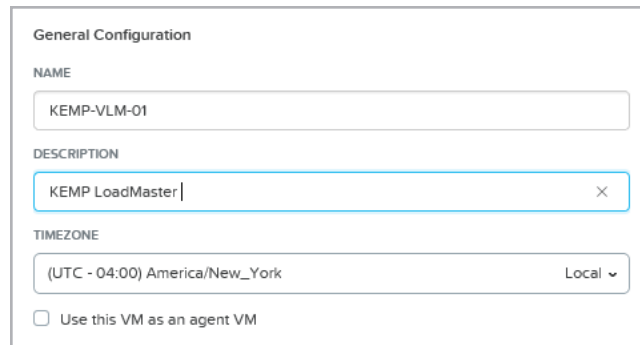
1. In the top navigation, click **Explore**.

| Entities | |
|------------------------|----|
| VIRTUAL INFRASTRUCTURE | |
| VMs | 70 |
| Storage Containers | 10 |
| Catalog Items | 2 |
| Images | 34 |

2. In the left-hand navigation, click **VMs**.



3. Click **Create VM**.



General Configuration

NAME
KEMP-VLM-01

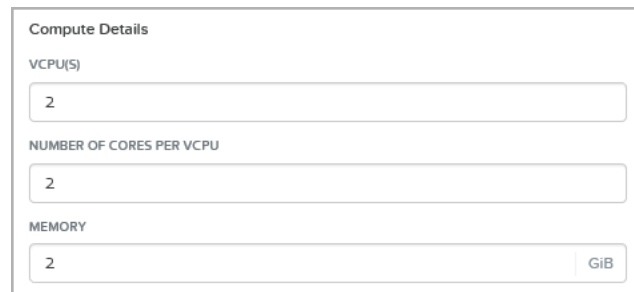
DESCRIPTION
KEMP LoadMaster

TIMEZONE
(UTC - 04:00) America/New_York Local

☐ Use this VM as an agent VM

4. Enter the following under **General Configuration**:

- a) **NAME** – A unique name for the LoadMaster.
- b) **DESCRIPTION** – A brief description of the LoadMaster.
- c) **TIME ZONE** – The time zone in which this is being deployed.
- d) Clear the **Use this VM as an agent VM** check box.



Compute Details

VCPU(S)
2

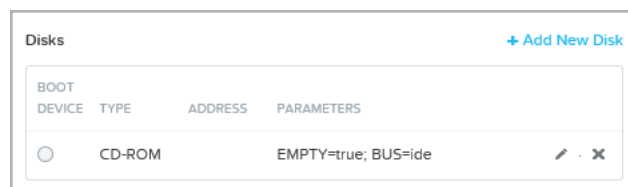
NUMBER OF CORES PER VCPU
2

MEMORY
2 GiB

5. Enter the following under **Compute Details**:

- a) **VCPU(S)** – At a minimum, you should allocate two VCPUs.
- b) **Number of Cores per VCPU** – At a minimum, you should allocate 2 cores.
- c) **Memory** – At a minimum, you should allocate 2 GB of memory.

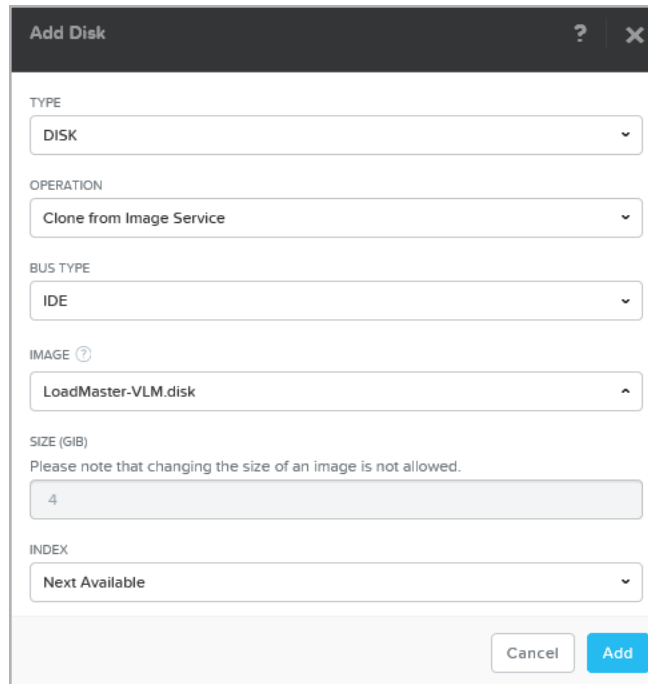
You may require more resources based on the workload (or workloads) being published through the LoadMaster.



Disks [+ Add New Disk](#)

| BOOT | DEVICE | TYPE | ADDRESS | PARAMETERS |
|-----------------------|--------|------|---------|---------------------|
| <input type="radio"/> | CD-ROM | | | EMPTY=true; BUS=ide |

6. Under **Disks**, click **+ Add New Disk**.



The 'Add Disk' dialog box contains the following fields and options:

- TYPE**: A dropdown menu with 'DISK' selected.
- OPERATION**: A dropdown menu with 'Clone from Image Service' selected.
- BUS TYPE**: A dropdown menu with 'IDE' selected.
- IMAGE**: A dropdown menu with 'LoadMaster-VLM.disk' selected. A help icon (?) is visible next to the label.
- SIZE (GiB)**: A text input field containing '4'. Below the field is a note: 'Please note that changing the size of an image is not allowed.'
- INDEX**: A dropdown menu with 'Next Available' selected.
- At the bottom right are 'Cancel' and 'Add' buttons.

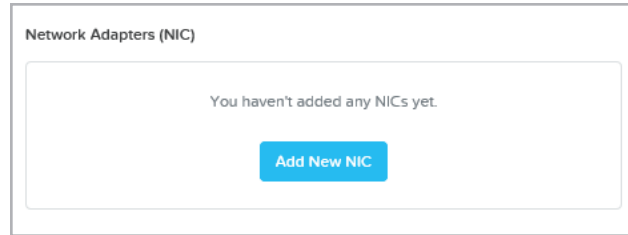
7. Enter the following in the **Add Disk** screen:

- a) **TYPE – DISK**
- b) **OPERATION – Clone from Image Service**
- c) **BUS TYPE – IDE**
- d) **IMAGE** – The name of the uploaded image
- e) **INDEX = Next Available**

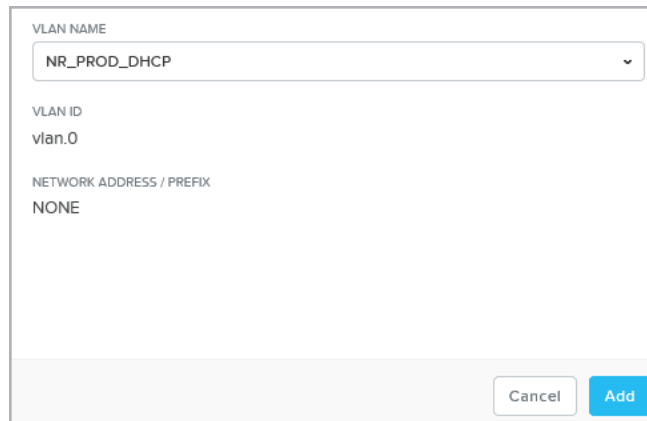
IDE must be selected for bus type. The LoadMaster only utilizes the disk for config changes and logging, therefore there is no performance impact with this setting.

8. Click **Add**.

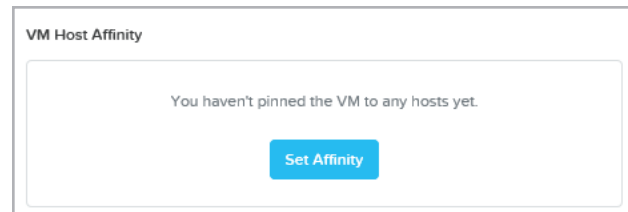
2 Installing a VLM



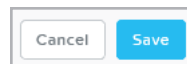
9. Under **Network Adapters (NIC)**, click **Add New NIC**.



10. Select an existing **VLAN NAME** and click **Add**.
11. (Optional) – In multi-arm configurations, you can add additional NICs.



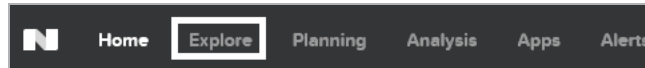
12. (Optional) – Click **Set Affinity** to create an affinity between the VM and multiple hosts. Nutanix recommends you select at least two hosts in an Affinity.



13. Click **Save** to complete the deployment.

2.6 2.6 Start the Kemp LoadMaster

When the LoadMaster deploys, you must manually start it to complete the configuration:



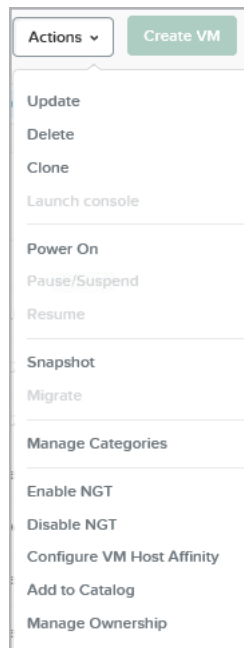
1. In the top navigation, click **Explore**.

| Entities | |
|------------------------|----|
| VIRTUAL INFRASTRUCTURE | |
| VMs | 70 |
| Storage Containers | 10 |
| Catalog Items | 2 |
| Images | 34 |

2. In the left-hand navigation, click **VMs**.

| | | | | | | | |
|-------------------------------------|-------------|---------|-------|-------|---|--|----------|
| <input checked="" type="checkbox"/> | KEMP-VLM-01 | default | admin | 2 GiB | - | ● Off | BizDev08 |
|-------------------------------------|-------------|---------|-------|-------|---|--|----------|

3. Scroll down, find the newly deployed Kemp LoadMaster, and click the block to select it.



4. Click **Actions** and **Power On**.

2.7 License and Configure the LoadMaster

You must now configure the LoadMaster to operate in the network configuration.

2 Installing a VLM

| | | | | | | | | | |
|-------------------------------------|-------------|------------|---------|-------|-----|-------|------------|------|----------|
| <input checked="" type="checkbox"/> | KEMP-VLM-01 | BizDev08-4 | default | admin | AHV | 2 GiB | 10.16.5.29 | ● On | BizDev08 |
|-------------------------------------|-------------|------------|---------|-------|-----|-------|------------|------|----------|

1. When using DHCP, the IP address is displayed in the list of VMs.
2. In an internet browser, enter the IP address that you previously noted.

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

3. A warning may appear regarding website security certificates. Click the continue/ignore option.
4. The LoadMaster End User License Agreement screen appears. Read the license agreement and, if you are willing to accept the conditions, click **Agree** to proceed.
5. A screen appears about the LoadMaster regularly contacting Kemp to check for updates and other information. If you are OK with this, click **Continue** to proceed. If you want to disable this functionality, remove the check from the **Enable Call Home** check box and click **Continue** 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:

Order ID# (optional):

HTTP(S) Proxy (optional):

License Now

6. 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](#).



7. 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, contact your Kemp representative.

8. Click **Continue**.

9. The login screen appears. Enter the **bal** user name and the password.

10. In the screen informing you that the password has changed, click **Continue**. If you licensed your machine 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.

11. The **Home** screen of the LoadMaster appears.

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

13. Click the **eth0** menu option in 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"/> | 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** text box.

15. Click **Set Address**.

16. Click the **eth1** menu option in 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** text box.

18. Click **Set Address**.

This interface is optional, depending on the network configuration.

19. Click the **Host & DNS Configuration** menu option.

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

20. Enter the hostname into the **Hostname** text box.

21. Click **Set Hostname**.

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

22. Enter the IP address (or addresses) of the DNS Server (or servers) which is used to resolve names locally on the LoadMaster into the **IP Address** text box in the **Add Nameserver** section .

23. Click **Add**.

24. Enter the domain name that is to be prepended to requests to the DNS nameserver into the **Domain** text box.

25. Click **Add**.

26. 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"/> <input type="button" value="Set IPv4 Default Gateway"/> |

27. Enter the IP address of the default gateway into the **IPv4 Default Gateway Address** text box.

If you have an IPv6 Default Gateway, enter the value in the **IPv6 Default Gateway Address** text box.

28. Click **Set IPv4 Default Gateway**.

The LoadMaster is now fully installed and ready to use. For further information on how to configure and implement the VLM, refer to the LoadMaster documentation which you can access here:

<http://kemptechnologies.com/documentation>.

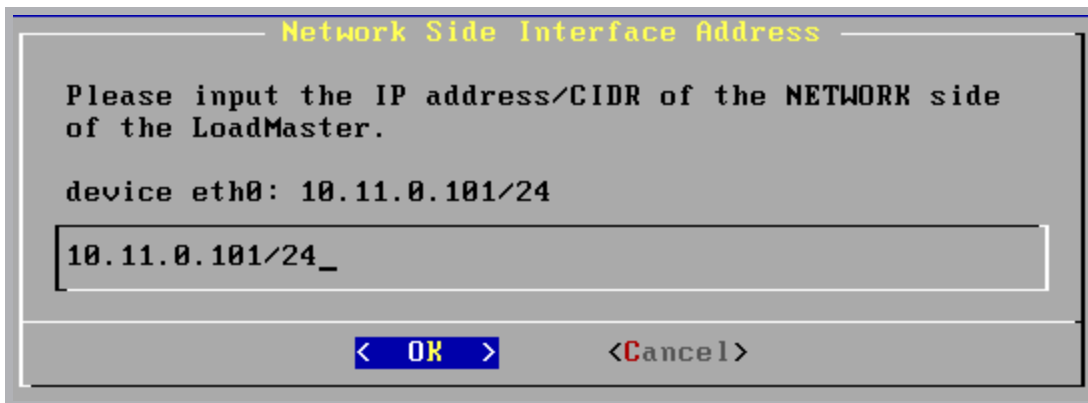
3 Troubleshooting

3.1 Configuring the LoadMaster Using the Console

If the LoadMaster does not automatically obtain an IP address using DHCP, or if you prefer to configure the LoadMaster using the console, then you can complete the following configuration steps before starting the LoadMaster:

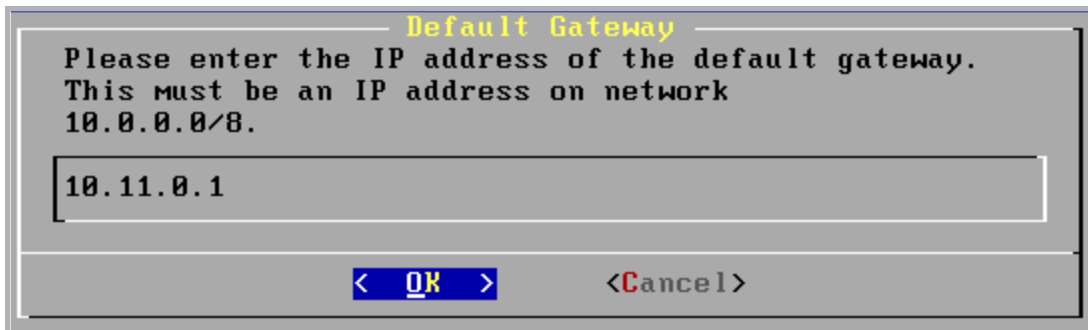
1. Log in into the LoadMaster in the console using the following credentials:

- **lb100 login:** bal
- **Password:** 1fourall



2. Enter the IP address of the eth0 interface (the network facing interface of the LoadMaster) in the input field in the **Network Side Interface Address** dialog box.

3. Press **OK**.



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 appears asking to connect to the web interface at the newly configured IP address. In an internet browser, enter the IP address of the eth0 interface which was entered in a previous step.

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

7. A warning may appear regarding website security certificates. Click the continue/ignore option.




8. The LoadMaster End User License Agreement screen appears.

9. Read the license agreement and, if willing to accept the conditions, click **Agree** to proceed.

10. If the machine has shipped with a temporary license, a warning appears informing that a temporary license has been installed on the machine and for how long the license is valid.

11. Click **OK**.

12. The **Home** screen of the LoadMaster should appear.

| | |
|---|--|
| 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 use. For further information on how to configure and implement the VLM, refer to the LoadMaster documentation at:

<https://kemptechnologies.com/documentation>.

3.2 Nutanix Cloning

If you use the cloning features in Nutanix, it is possible an IP conflict may occur. This may be caused by the DHCP address obtained, a static IP address configured on the LoadMaster, or Virtual Services that are configured on the LoadMaster before cloning. Therefore, Kemp recommends not using the Nutanix cloning feature in production environments.

3.3 Factory Reset

If you perform a factory reset on the VLM, all configuration data, including the VLMs 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 is not 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 **Configuring the LoadMaster Using the Console** section.

References

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

Licensing, Feature Description

Last Updated Date

This document was last updated on 27 July 2023.