Progress®
Kemp® LoadMaster®

Installation Guide LoadMaster - KVM

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1

Introduction

The Progress Kemp Virtual LoadMaster is a version of the 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.

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

- 4 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 Virtual Machine (VM), Virtual NICs per VM, and so on. For further details regarding the configuration limits imposed by KVM, refer to the relevant KVM documentation.

The LoadMaster has been tested with Debian 6.0. For a full list of the compatible Linux distributions, refer to http://www.linux-kvm.org/page/Main_Page

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

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Install the Machine in a KVM Environment

The following instructions describe how to install a VLM in a KVM environment.

Contents

- Download the KVM Files
- Unzip the Disk Image
- Deploy the LoadMaster
- Check the Virtual Machine Settings
- LoadMaster IP Address
- Configure the LoadMaster Using the Console
- License and Configure the LoadMaster

Download the KVM Files

The VLM is packaged within a tar.gz file for ease of deployment. This file can be freely downloaded from Progress 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.

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 filename.tgz

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

Deploy the LoadMaster

We recommend using Virtual Machine Manager to deploy the LoadMaster. The following steps were documented using Virtual Machine Manager:

1. Click the Create a new virtual machine button.
2. Enter a **Name** for the Virtual Machine.

   Note: 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 **IDE** as the **Disk bus**.
21. Click the **NIC** option on the left.

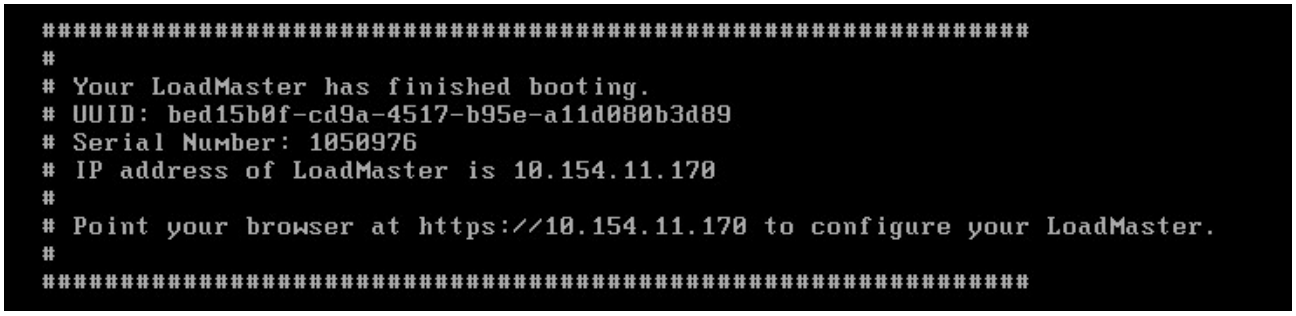
22. Click **Yes** to apply the changes.
23. Select **virtio** as the **Device model**.
24. Change any other settings as needed.
25. Click **Apply**.
26. Click **Begin Installation**.

Check the Virtual Machine Settings

Verify that the Virtual Machine settings are configured with the recommended values:

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

LoadMaster IP Address



On initial deployment, DHCPv4 and DHCPv6 both run to attempt to obtain an IP address. If the LoadMaster obtains an IP address using DHCP, take note of it because this is how you will access the LoadMaster.

If the LoadMaster does not obtain an IP address using DHCP, the static IP address of **192.168.1.101** is assigned and you must manually configure the LoadMaster using the console.

Refer to the Configure the LoadMaster Using the Console section for instructions on manually configuring the IP address.

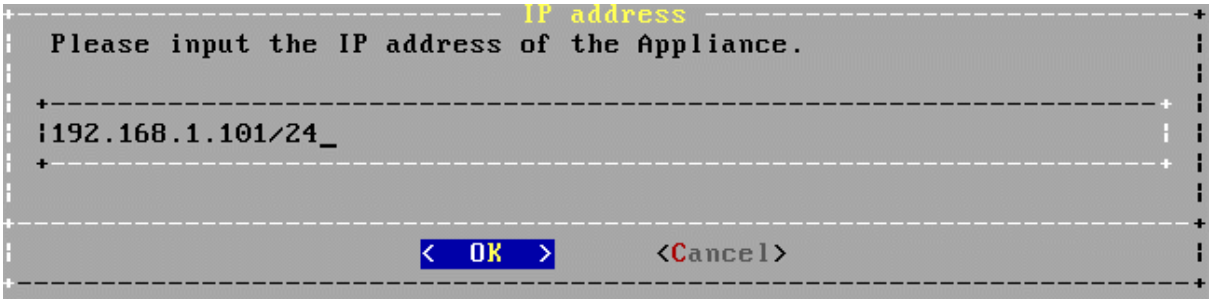
Configure the LoadMaster Using the Console

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

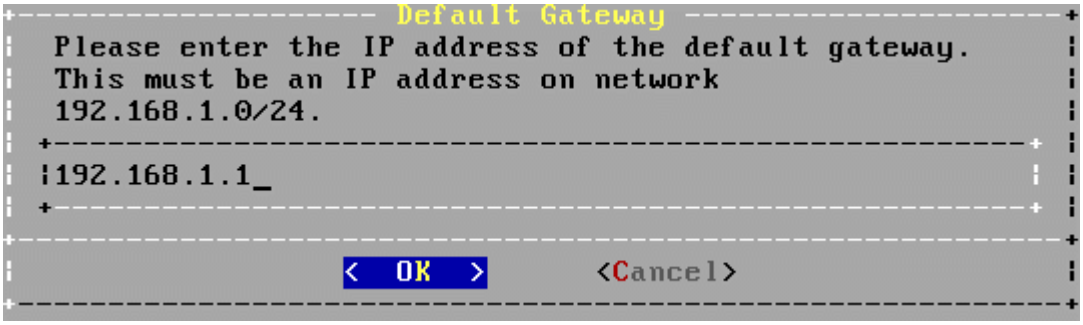
1. Log in into the LoadMaster using the console with the following settings:

    - **lb100 login:** bal

- **Password:** 1fourall



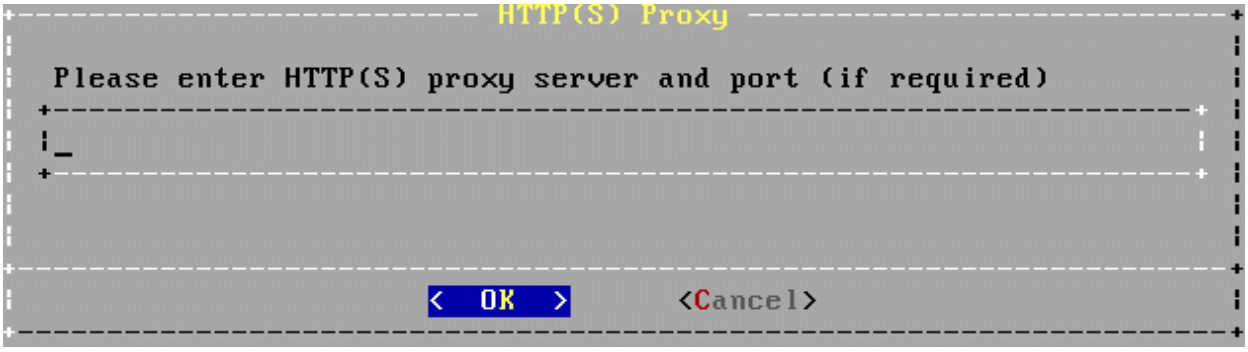
2. Enter the IP address of the eth0 interface, the network facing interface of the LoadMaster, in the input field within the **IP address** dialog box.
3. Press **OK**.



4. Enter the IP address of the default gateway in the input field of the **Default Gateway** dialog box.
5. Press **OK**.



6. Enter a space separated list of nameserver IP addresses.



7. Enter the HTTP(S) proxy server and port (if required).
8. 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.

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

9. A warning may appear regarding website security certificates. Click the continue/ignore option to proceed.
10. The LoadMaster End User License Agreement (EULA) screen appears.
11. Read the license agreement and (if you are willing to accept the conditions), click **Agree** to proceed.
12. 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.
13. Click **OK**.
14. The home screen of the LoadMaster should appear.

The LoadMaster is now fully installed and ready to use.

For further information on how to configure and implement the Virtual LoadMaster, refer to the: LoadMaster documentation.

License and Configure the LoadMaster

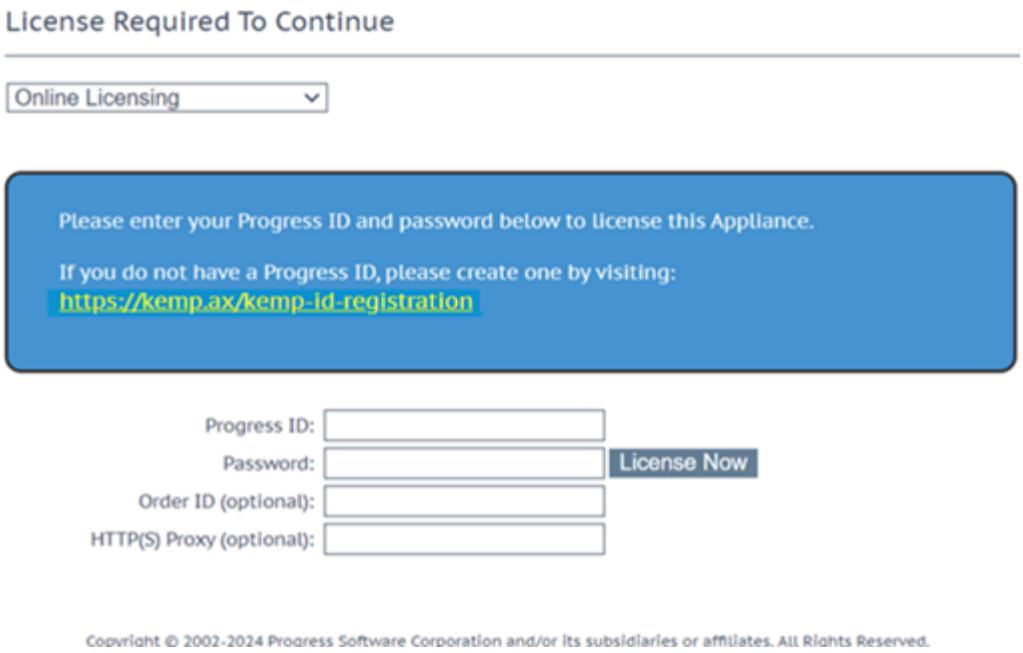
You must now configure the LoadMaster to operate within the network configuration.

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

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

2. A warning may appear regarding website security certificates. Click the continue/ignore option to proceed.
3. The LoadMaster End User License Agreement (EULA) screen appears.

   Rread the license agreement and (if you are willing to accept the conditions), click **Agree** to proceed.

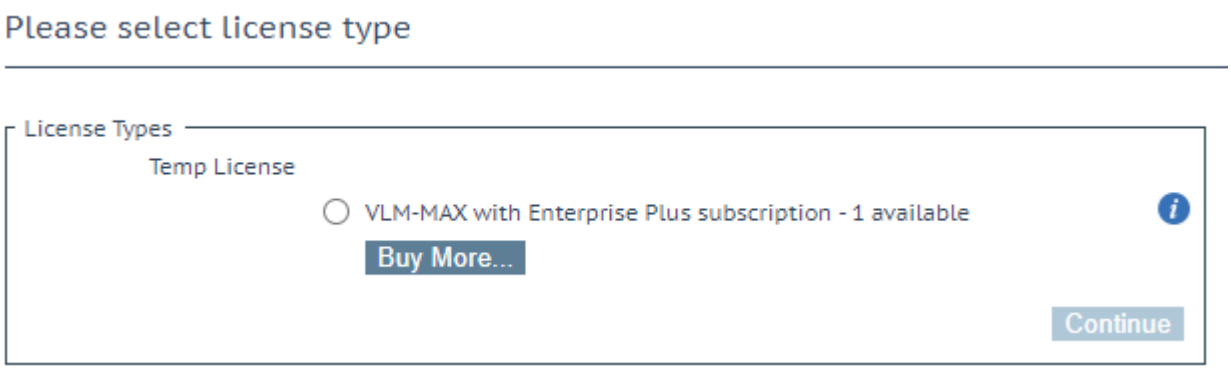


4. If using the **Online** licensing method, fill out the fields and click **License Now**.

Note: 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 **Order ID#** if this was provided to you.

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

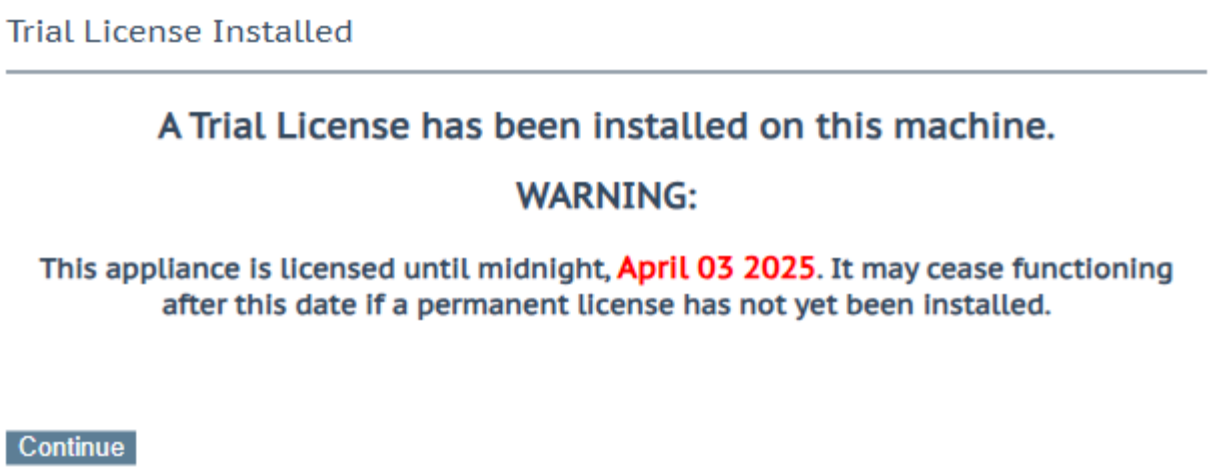
Note: For detailed instructions on how to register for a Progress ID (formerly Kemp ID) and license the LoadMaster, refer to the LoadMaster Licensing Feature Description.



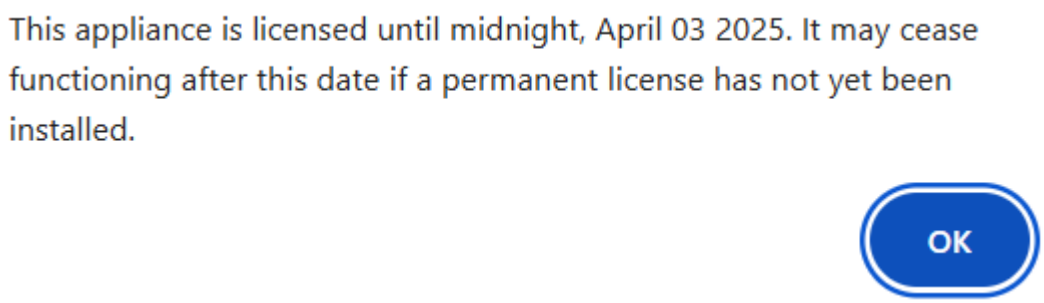
5. If you entered an **Order ID**, a screen appears that provides a list of available licenses for that order ID, in addition to any licenses registered for the Progress ID based on the LoadMaster platform type. Select the license type you want to apply to this LoadMaster.

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

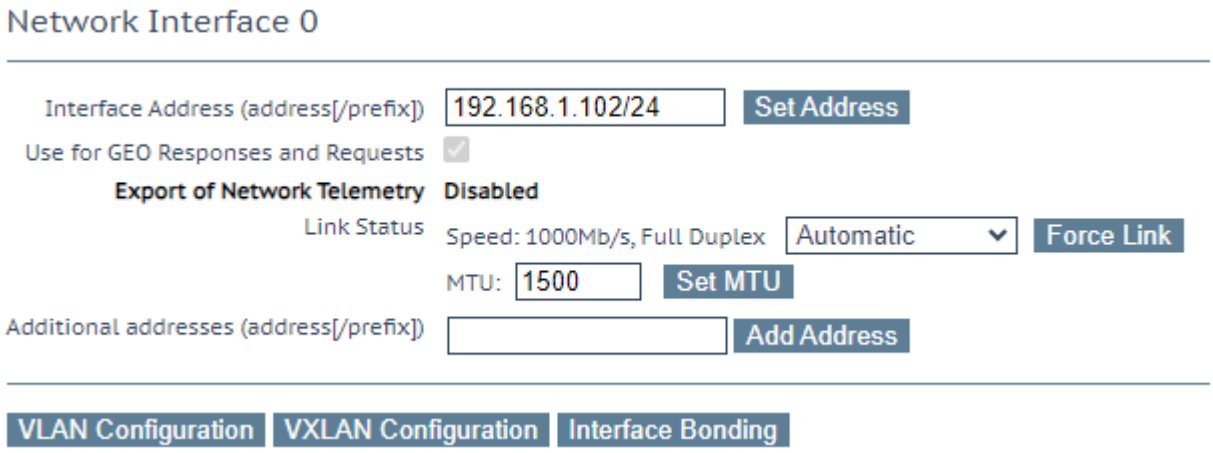
6. Click **Continue**.



7. The login screen appears. Enter the **bal** user name and the password.
8. In the screen informing you that the password has changed, click **Continue**.
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.



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 **Set Address**.
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.

    Note: You cannot have two interfaces on the same subnet.

18. Click **Set Address**.

    This interface is optional, depending on the network configuration.

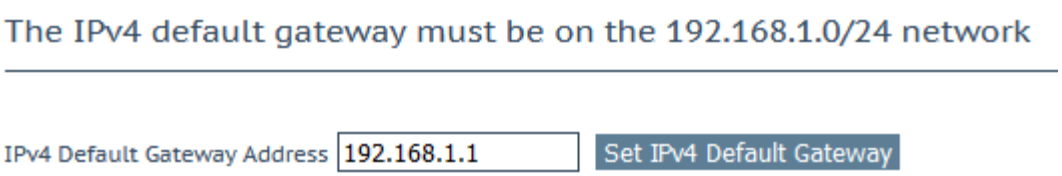
19. Go to **System Configuration > Network Setup > Host & DNS Configuration**.



20. In the **Hostname configuration** screen, enter the hostname in the **Current Hostname** field.
21. Click **Set Hostname**.
22. Click the **System Configuration > Network Setup > Host & DNS Configuration** menu option.



23. In the **DNS configuration** screen, enter the IP address(es) of the DNS Server(s) that is used to resolve names locally on the LoadMaster into the **DNS NameServer** input field.
24. Click **Add**.
25. Enter the domain name to be prepended to requests to the DNS nameserver into the **DNS NameServer** field.
26. Click **Add**.
27. Click the **System Configuration > Network Setup > Default Gateway** menu option.



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, enter the value in the **IPv6 Default Gateway Address** field.

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

The LoadMaster is now fully installed and ready to be used.

For further information on how to configure and implement the Virtual LoadMaster, refer to the: LoadMaster documentation.

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Troubleshooting and Notes

Refer to the following sections for troubleshooting details.

Contents

- Common KVM Commands
- Factory Reset

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.

Factory Reset

If you perform a factory reset on your VLM, all configuration data, including the Virtual Machine'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 Configure the LoadMaster Using the Console section.

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Best Practices for Backups

Hypervisor snapshots cannot be used to restore a LoadMaster to a working state. The best way to back up your LoadMaster settings is by using the native backup and restore facility in the LoadMaster WUI or API.

To back up your LoadMaster configuration, follow these steps:

1. In the main menu, go to **System Configuration > System Administration > Backup/Restore**.
2. Click **Create Backup File**.

You can create a remote host for automated backups using SCP to save backups to a remote server.

For further details on backing up and restoring the LoadMaster configuration, including certificates and cipher sets, refer to the following links:

- Backup and Restore Technical Note
- How to Create and Restore a LoadMaster Configuration or Certificate Backup

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References

For further details on licensing, refer to the following document:

LoadMaster Licensing Feature Description