Progress®
Kemp® LoadMaster®

# Installation Guide Progress Kemp LBaaS Driver for OpenStack

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# 1

# Introduction

## Introduction

OpenStack is a cloud computing software platform. It is primarily deployed as an Infrastructure as a Service (IaaS) solution. The technology consists of a series of interrelated projects that control pools of processing, storage and networking resources throughout a data center. This can be managed through a web-based dashboard, command-line tools or a RESTful API.

OpenStack lets users deploy Virtual Machines and other instances that handle different tasks for managing a cloud environment on the fly. With OpenStack, horizontal scaling is easy – more instances can be spun up in order to serve more users, as needed.

The Progress Kemp Load Balancer as a Service (LBaaS) OpenStack driver allows the LoadMaster to be deployed in OpenStack.

**Related Links**

- Document Purpose
- Intended Audience

# Document Purpose

## Document Purpose

This document explains how to install the Progress Kemp LBaaS driver in OpenStack and how to deploy a

LoadMaster instance in OpenStack.

# Intended Audience

## Intended Audience

This document is for anyone who is interested in finding out how to install and use the Progress Kemp LBaaS OpenStack driver.

# 2

# Progress Kemp LBaaS OpenStack Driver

## Progress Kemp LBaaS OpenStack Driver

For instructions on how to install and use the Progress Kemp LBaaS OpenStack driver, refer to the sections below.

**Related Links**


- Prerequisites
- Install the Progress Kemp LBaaS OpenStack Driver Package
- Topology Setup
- Updating the Driver Package

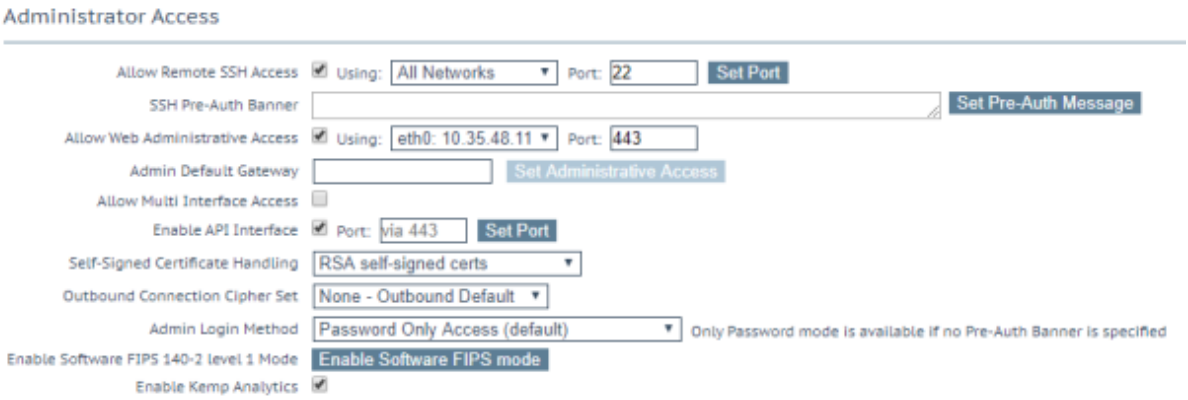

# Prerequisites

## Prerequisites

The following prerequisites must be in place before following these steps:

- OpenStack 8.0 (Liberty release) must be deployed.
- A LoadMaster must be deployed within OpenStack.
- Some of the commands in this document may require sudo or root access.

- The Application Program Interface (API) must be enabled on the LoadMaster. For instructions on how to do this, refer to the steps below:
  1. In the LoadMaster Web User Interface (WUI), go to **Certificates & Security > Remote Access**.




  2. Select the **Enable API Interface** check box.

# Install the Progress Kemp LBaaS OpenStack Driver Package

## Install the Progress Kemp LBaaS OpenStack Driver Package

The package can either be installed automatically (if a network connection is in place) or manually. Refer to the relevant section below for further information.

## Enable LBaaS in OpenStack

To enable LBaaS, open the Command Line Interface (CLI) and follow the steps below:

1. Edit the **local_settings.py** file:

   **vim /etc/openstack-dashboard/local_settings.py**

2. Find the following block of code:

   **OPENSTACK_NEUTRON_NETWORK = {**

   **'enable_lb': False }**

3. Change **False** to **True**:

   **OPENSTACK_NEUTRON_NETWORK = {**

   **'enable_lb': True }**

**Note:** **True** is case sensitive and the case should be exactly as it is in this document.

4. Save the file.
5. Restart the web server:

   **service apache2 restart**

# Automatically Install the Driver Package

To automatically install the driver package, open the Command Line Interface (CLI) and enter the following command:

**pip install <NameOfKempOpenStackDriver>**

For example:

**pip install kemptech-openstack-lbaas**

# Manually Install the Driver Package

To manually install the driver package, follow the steps below:

1. Go to the following link: https://pypi.python.org/pypi/kemptech-openstack-lbaas/.
2. Download the .tar.gz file provided.
3. Extract the .tar.gz file.
4. In the CLI, find the relevant Python path by running the following commands:

   **python**

   **import sys**

   **sys.path**

   **Note:** The default path is usually **/usr/lib/python2.7/dist-packages**.

5. Copy the downloaded **kemptech_openstack_lbaas** folder into the **dist-packages** folder.

   **Note:** If updating the Progress Kemp driver package, overwrite the existing files.

# Enable LBaaS Neutron with the LoadMaster Driver

Configure the **neutron.conf** and **neutron_lbaas.conf** files to use the Progress Kemp LBaaS plugin. To do this, follow the steps below:

1. Edit the **neutron.conf** configuration file:

   **vim /etc/neutron/neutron.conf**

2. Find the service_plugins line and add **neutron_lbaas.services.loadbalancer.plugin**

**.LoadBalancerPluginv2**, for example:

**Note:** A comma (**,**) is used to separate different service plugins.

3. At the bottom of the file, add the following:

   **[kemptechnologies]**

   **lm_address = 172.16.2.129**

   **lm_username = bal**

   **lm_password = test1234**

   For example:

   **[kemptechnologies]**

   **lm_address = <LoadMasterIPAddress>**

   **lm_username = <LoadMasterUsername>**

   **lm_password = <LoadMasterPassword>**

4. Save the changes made to the edited file.
5. Edit the **neutron_lbaas.conf** configuration file:

   **vim /etc/neutron/neutron_lbaas.conf**

6. Save the changes made to the edited file.
7. Go down to the **[service_providers]** section and add (or append, as needed) the following line:

   **service_provider =**
   **LOADBALANCERV2:kemptechnologies:neutron_lbaas.drivers.kemptechnologies.driver_v2.KempLoadMasterDr**

   **Note:** This is case sensitive.

   **Note:** If there are other LBaaS entries in the list, ensure the Progress Kemp one is set as the default.

8. Restart Neutron by running the following command:

   **service neutron-server restart**

# Topology Setup


# Topology Setup


Refer to the commands below to find out how to create a load balancer, listener, pool, members and health monitor:

- Get the Universally Unique Identifier (UUID) of the private subnet:

  **neutron subnet-list**

- Create a load balancer:

  **neutron lbaas-loadbalancer-create --name lb1 private-subnet**

- Create a listener (health check):

  **neutron lbaas-listener-create --loadbalancer lb1 --protocol HTTP --protocol-port 80 --name listener1**

- Create a pool and associate it with the previously created listener:

  **neutron lbaas-pool-create --lb-algorithm ROUND_ROBIN --listener listener1 --protocol HTTP --name pool1**

- Create members (Real Servers):

  **neutron lbaas-member-create --subnet private-subnet --address <ServerIPAddress> --protocol-port 80 pool1**

- Create a health monitor and associate it with the pool:

  **neutron lbaas-healthmonitor-create --delay 3 --type HTTP --max-retries 3 --timeout 3 --pool pool1**

# Updating the Driver Package

## Updating the Driver Package

### Updating the Driver Package

To update the driver package, refer to the relevant point below:

- **Automatic:** Run the following command in the CLI:

  **pip install -U <NameOfKempOpenStackDriver>**

  For example:

  **pip install --upgrade kemptech-openstack-lbaas**

- **Manual:** To manually update the driver package, follow the steps in the Manually Install the Driver Package section but overwrite the existing files.