VMware VROPS V6

Feature Description

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1 Introduction

The VMware vRealize Operations (vROps) Management Suite provides comprehensive visibility and insights into the performance, capacity and health of your infrastructure. vRealize Operations Manager collects performance data from each object at every level of your virtual environment, from individual virtual machines and disk drives to entire clusters and data centres. It stores and analyses the data, and uses that analysis to provide real-time information about problems, or potential problems, anywhere in your virtual environment.

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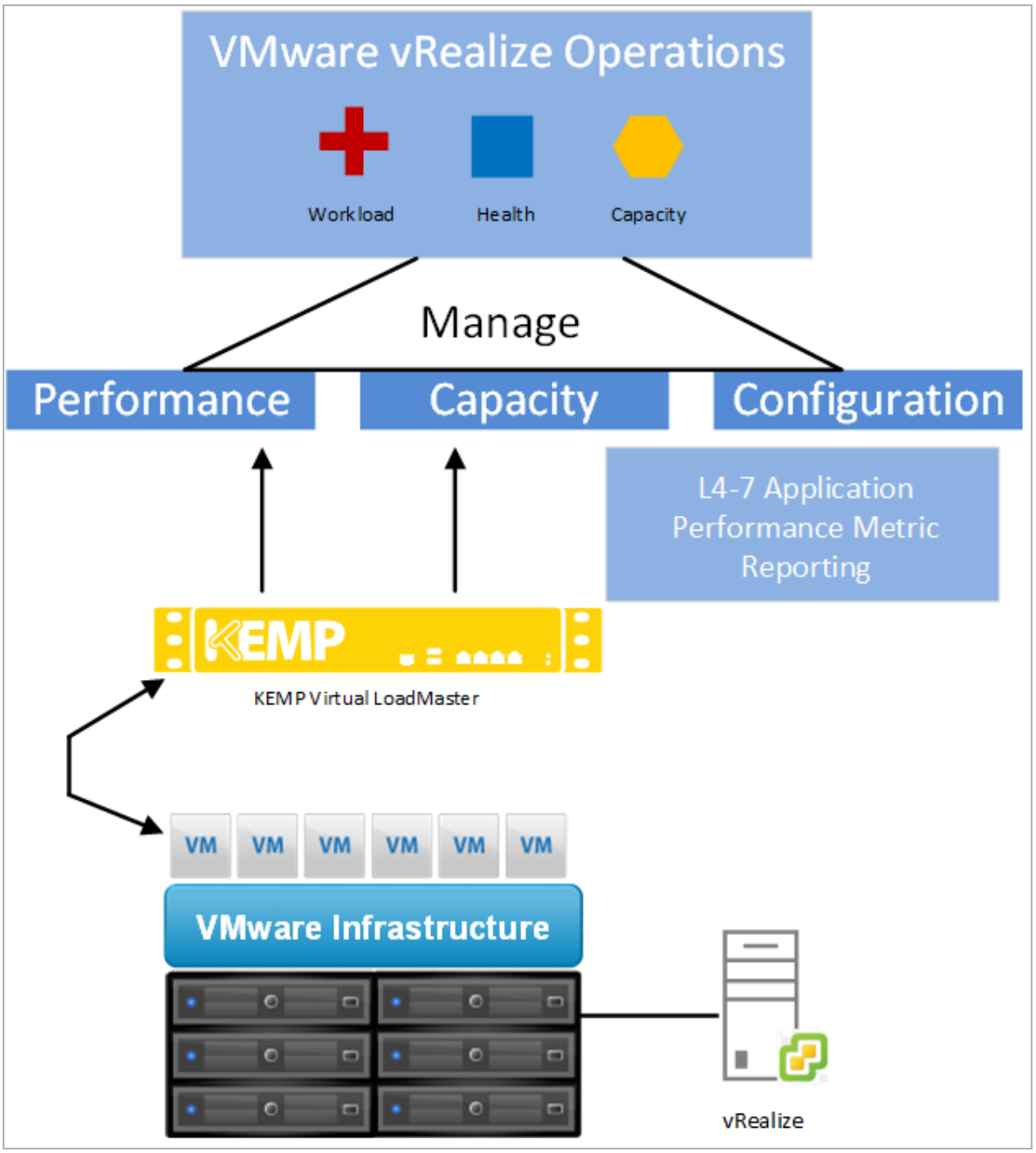

The Kemp Virtual LoadMaster (VLM) operates within the vROps architecture. vROps can instantiate a LoadMaster, monitor it and provide detailed statistics and information regarding its health within the vROps architecture.

With vROps, information can be gathered from the LoadMaster to form aggregated dashboard views combining the resource consumption data that is already natively available, along with

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statistics relevant to how each VM is performing in the context of the applications that they serve. The LoadMaster's proximity to virtual application server instances, and its role as an intermediary connection point between clients and VMs, puts it in an ideal location to provide this data to vROps for dashboard and other information rendering.

1.1 Document Purpose

The purpose of this document is to describe the various features and functionality that can be used within the vROps Manager relating to the Kemp LoadMaster. For further information on vROps in general, refer to the VMware documentation.

This document relates to vROps version 6 and above. Refer to the **VMware vCenter Operations Version 5, Installation and Feature Description** for steps relating to vROps version 5.

1.2 Intended Audience

This document is intended to be read by anyone who is interested in finding out how to utilize the vROps Version 6 suite with the Kemp LoadMaster.

1.3 Related Firmware Version

Published with LMOS version 7.2.48.3 LTS. This document has not required substantial changes since 7.2.48.3 LTS. However, the content is in sync with the latest LoadMaster LTS firmware.

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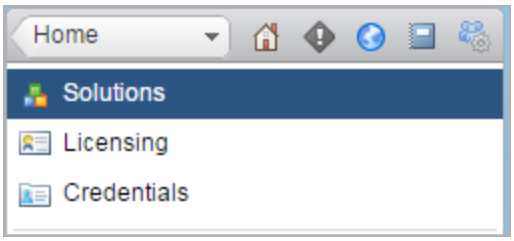
2 Using vROps with the LoadMaster

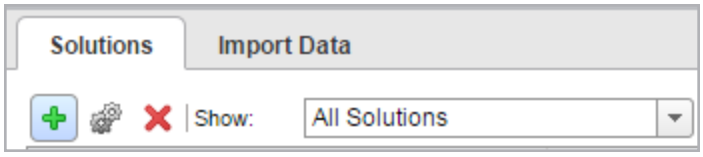
2.1 Installation

To make the LoadMaster work with vROps, follow the steps below:

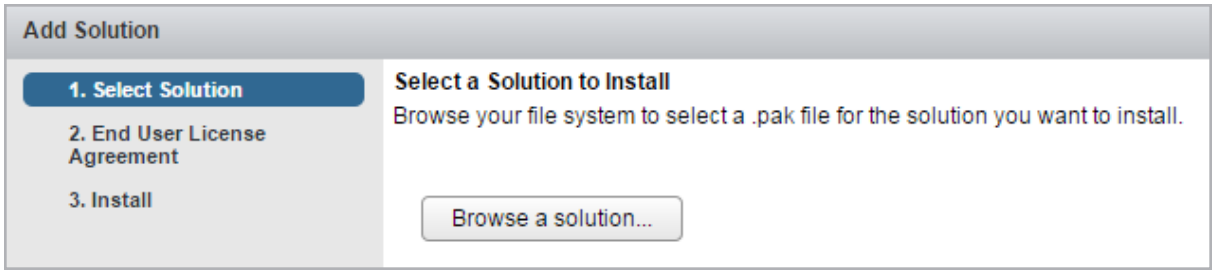
1. Download the LoadMaster vROps installation (.pak) file from the Kemp website: www.kemptechnologies.com.
2. Log in to the vRealize Operations Manager.



3. Click the **Administration** icon (cog) in the top left section.
4. Select **Solutions**.



5. Click **Add** (plus icon).



6. Click **Browse a solution**.

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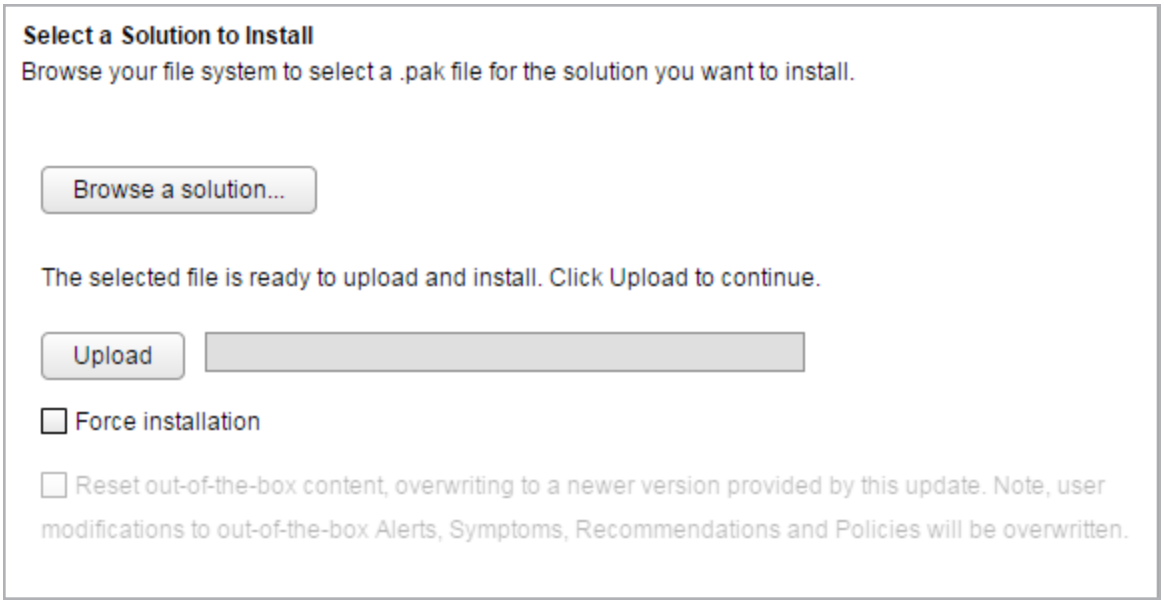
7. Browse to and select the LoadMaster vROps installation .pak file.



8. Click **Upload**.
9. When the upload is finished, click **Next**.

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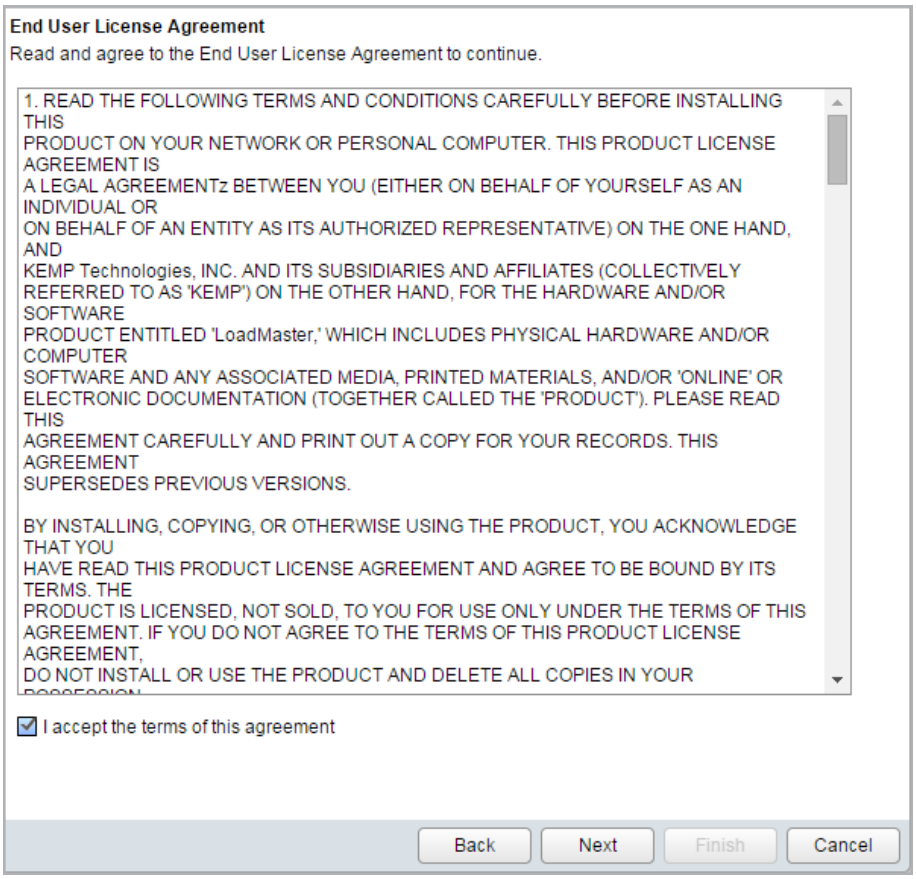

10. To continue with the installation, select the **I accept the terms of this agreement** check box.

11. Click **Next**.

12. Wait for the update to complete. The progress bar will disappear when the update is complete.

> The update can take several minutes to complete.

13. Click **Finish**.

2.2 Add a LoadMaster Adapter Instance

After installing the LoadMaster vROps .pak file, an instance of the adapter needs to be created for every Virtual LoadMaster (VLM) to be monitored. To add an instance, follow the steps below in the vRealize Operations Manager:

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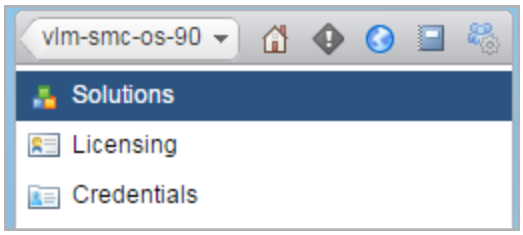
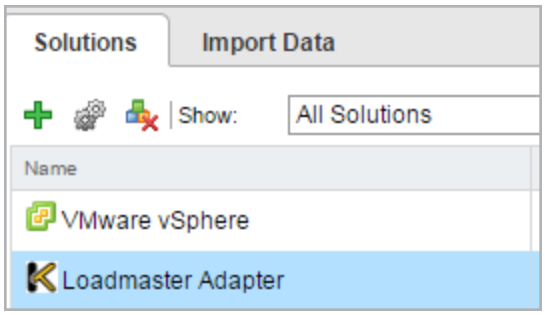


1. In the top left section, click **Administration** (cog icon).
2. Select **Solutions** on the left.



3. Select **LoadMaster Adapter** and click **Configure** (cogs icon).

4. Click **Add** (green plus icon).

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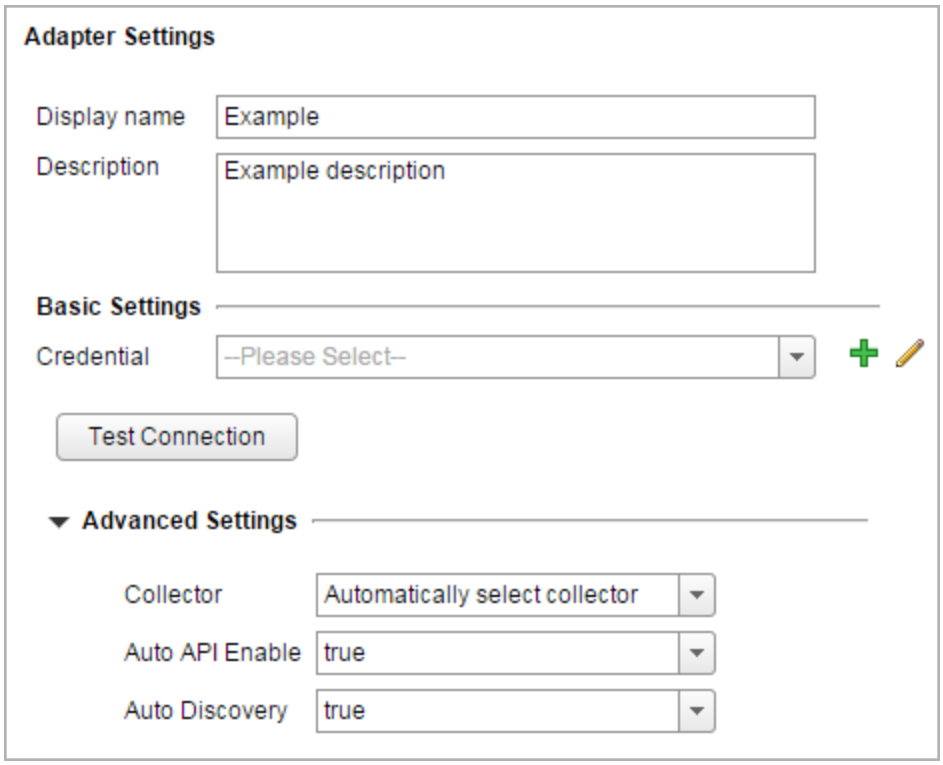

5. Enter a recognizable **Display name**.

6. Enter a **Description**.

7. Expand the **Advanced Settings** section.

8. Ensure the **Collector** drop-down list is set to **Automatically select collector**.

9. In the **Advanced Settings** section there are two fields; **Auto API Enable** and **Auto Discovery**. These are both enabled by default.

> In order for vROps to communicate with the LoadMaster, the RESTful API interface must be enabled on the LoadMaster. When the **Auto API Enable** option is set to **true**, the API interface will be enabled on the LoadMaster automatically when the instance is created.

> If **Auto Discovery** is set to **true**, the Virtual Services and Real Servers are automatically added. If this is set to **false**, they will

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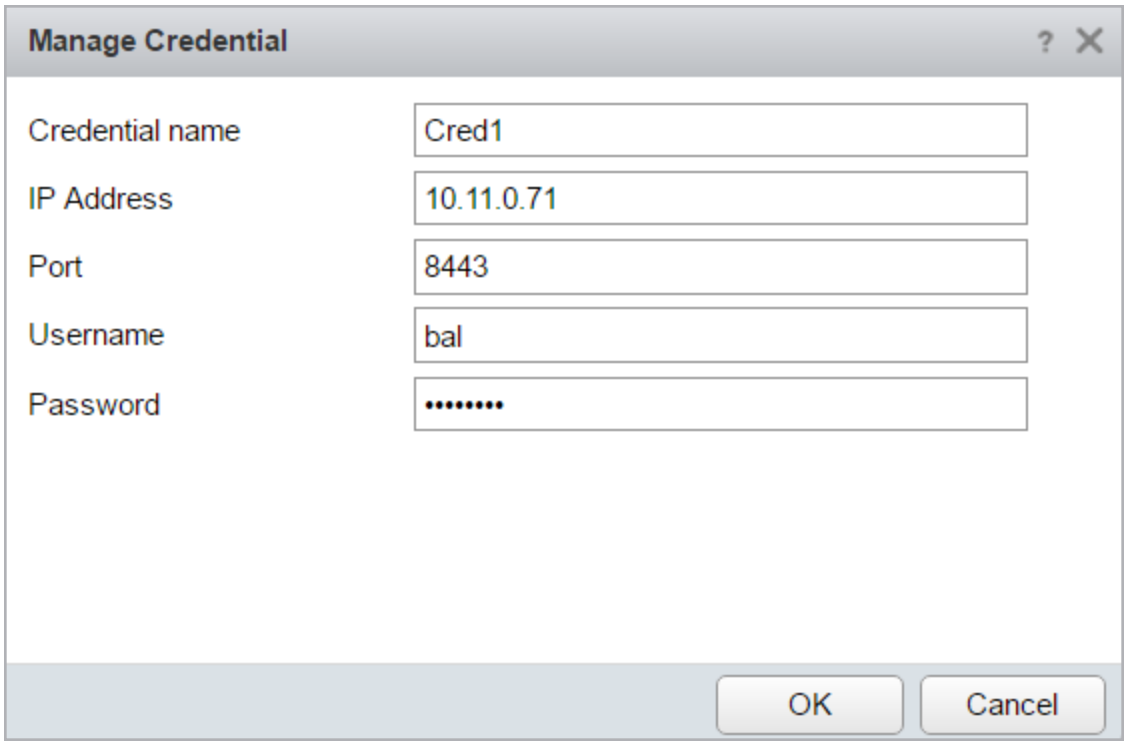
need to be manually added by following the steps in the **Discovering Virtual Services and Real Servers** section.

10. Click **Add New** (green plus icon) in the **Basic Settings** section to input the LoadMaster credentials.



11. Enter a **name** for the credentials.

The credentials can be reused.

12. Enter the **IP Address** of the LoadMaster that you want to collect statistics for.
13. Enter the **Port** used to communicate with the LoadMaster.
14. Enter the **Username** and **Password** of a LoadMaster user.

The default LoadMaster username is **bal**. However, any valid LoadMaster user details can be entered here.

15. Click **OK**.

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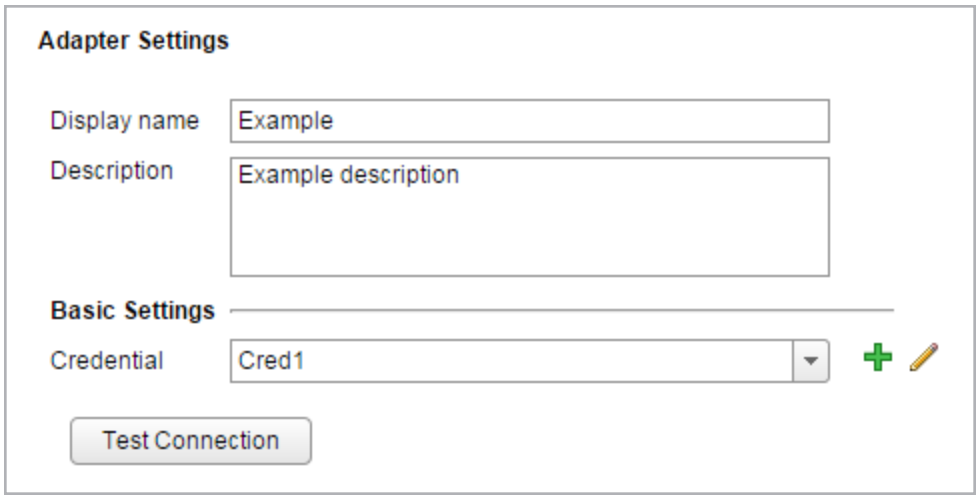

16. Click **Test Connection**.
17. Click **OK**.
18. Click **Save Settings**.
19. Click **OK**.
20. Click **Close**.

2.3 LoadMaster Dashboards

Three LoadMaster dashboard are automatically created when a LoadMaster instance is added:

- **LoadMaster Health Snapshot:** This provides an overview of the health of the LoadMaster, Virtual Services and Real Servers
- **LoadMaster Resource View:** This provides details about each of the LoadMaster resources
- **LoadMaster Resource Metric Graphs:** This provides metrics on each of the LoadMaster resources, such as the number of connections per second.

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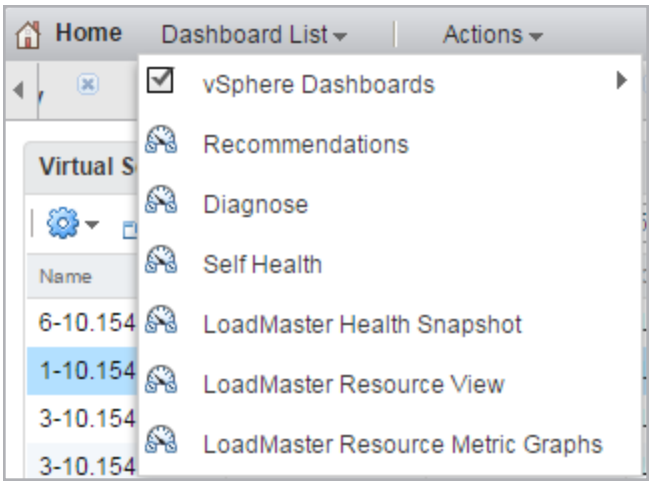
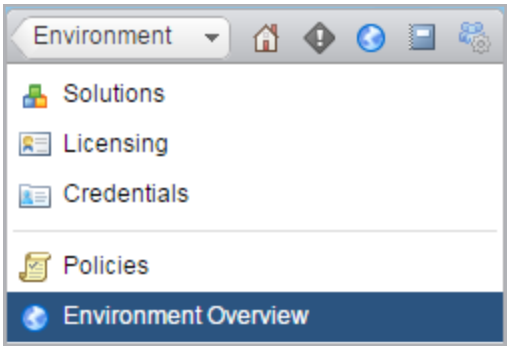


These are available in the **Dashboard List** on the **Home** page of vROps Manager.

2.4 Collection Interval

By default, the statistics get collected by vROps every five minutes.

The collection interval can be changed by following the steps below in the vROps Manager:



1. Select the **Administration** (cog) icon in the top left section.
2. Select **Environment Overview** on the left.

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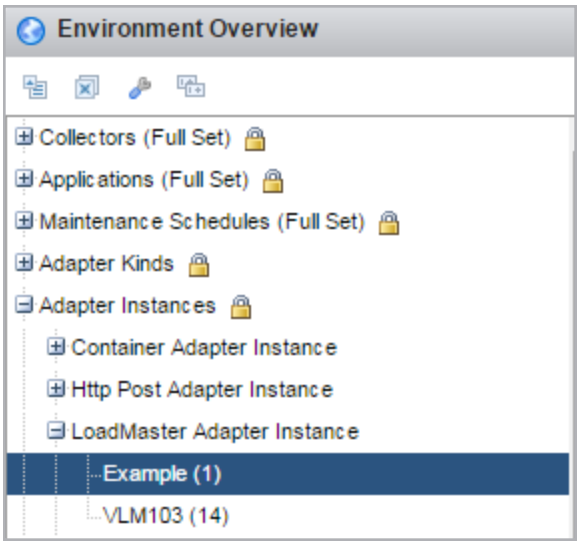
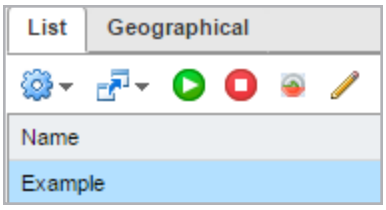


3. Expand **Adapter Instances**.
4. Expand **LoadMaster Adapter Instance**.
5. Select the relevant LoadMaster adapter instance.



6. Select the relevant adapter instance on the right panel.
7. Click the **Edit Resource** (pencil) icon.

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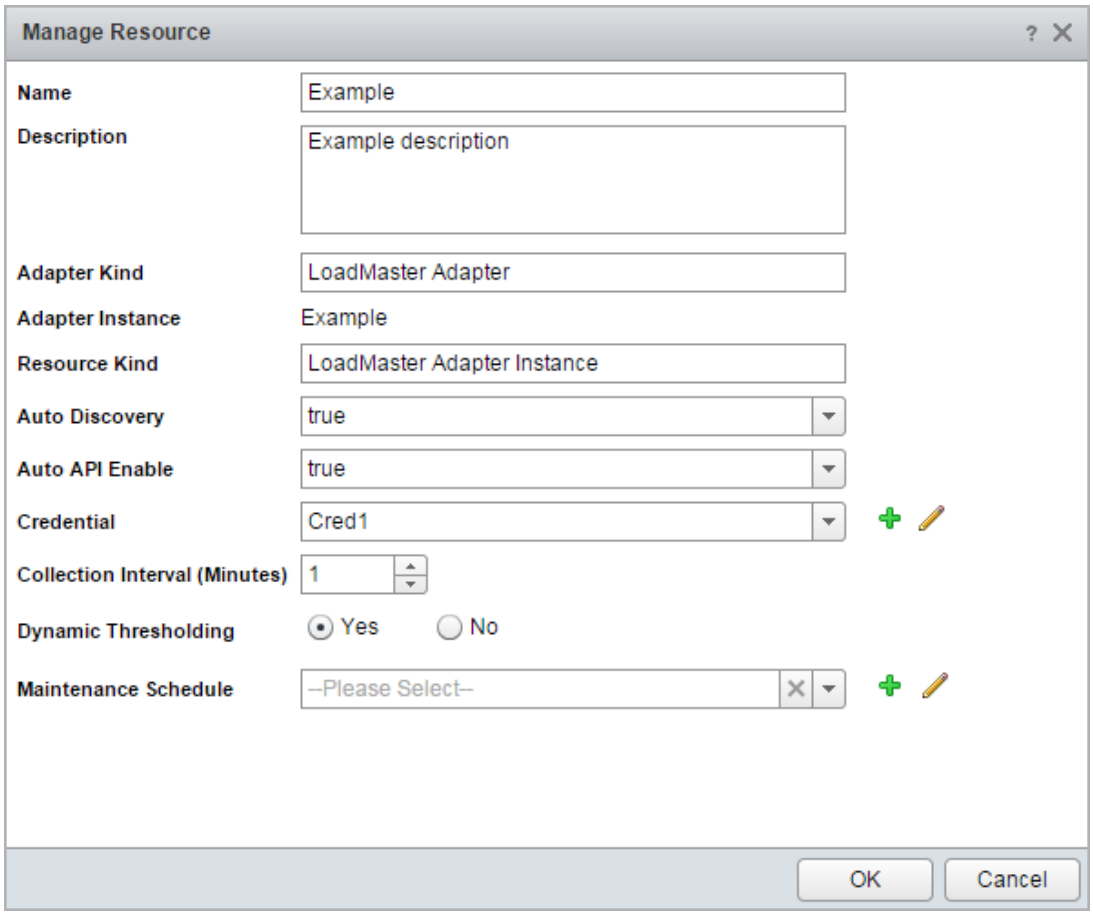

8. Change the value of the **Collection Interval**.

> Statistics in the LoadMaster are gathered in real time. The details shown in vROps are a snapshot of the statistics at the moment it polls the LoadMaster.

9. Click **OK**.

2.5 Discovering Virtual Services and Real Servers

When adding a LoadMaster adapter instance, there is a setting called **Auto Discovery** which is set to **true** by default.

If **Auto Discovery** was set to **true** when the instance was added, there is no need to follow the steps in this section because the Virtual Services and Real Servers will be added automatically.

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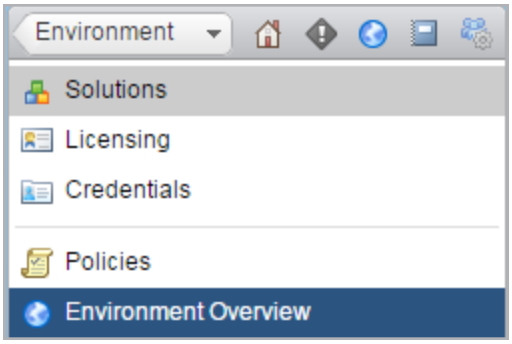
If **Auto Discovery** was set to **false** when the instance was added, follow the steps below to manually add the Virtual Services and Real Servers:



1. Select **Administration** (cog icon) in the top left section.
2. Select **Environment Overview** on the left section.

3. Click the **Discover Objects** (binoculars) icon.

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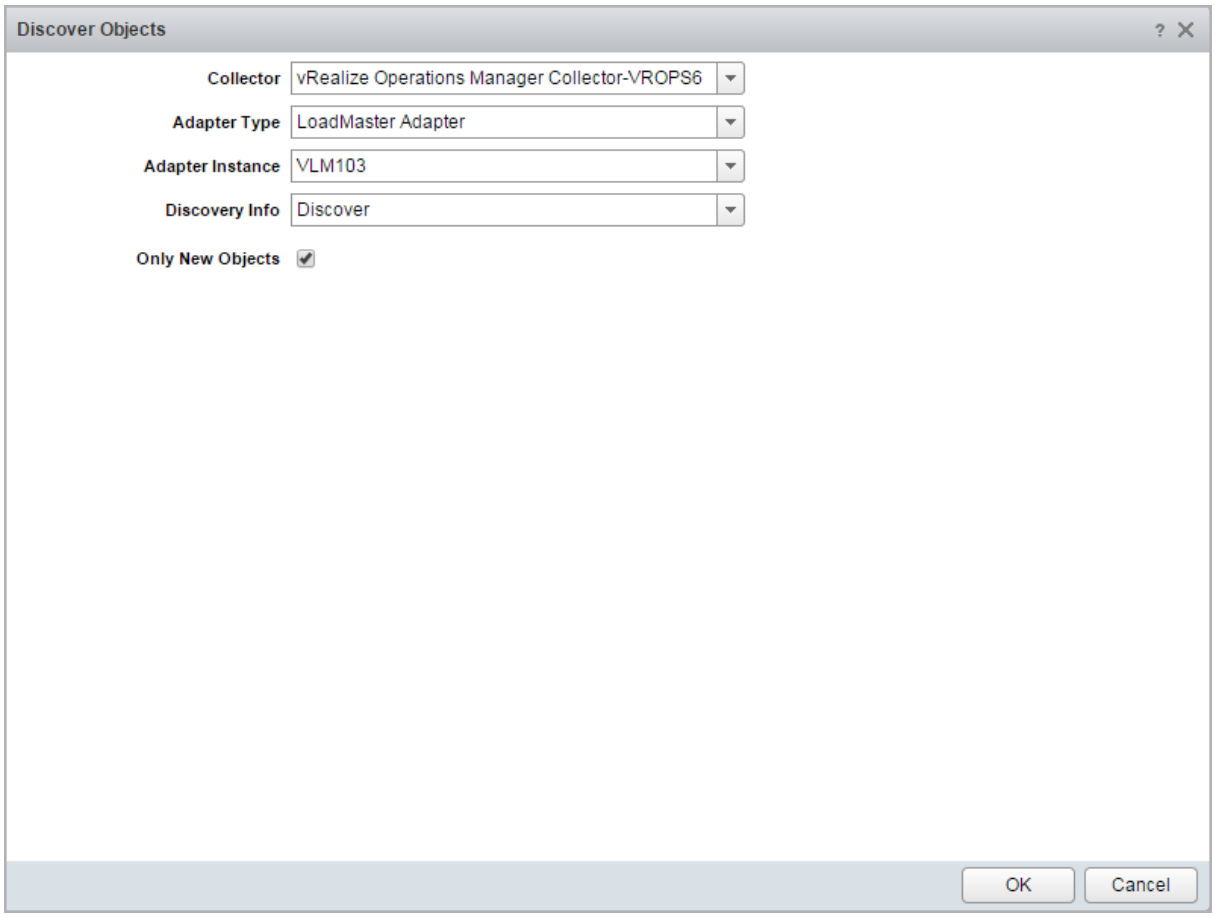

4. Select **vRealize Operations Manager Collector-VROPS6** as the **Collector**.

5. Select **LoadMaster Adapter** in the **Adapter Type** drop-down list.

6. Select the **Adapter Instance** name, for example the one added in the **Add a LoadMaster Adapter Instance** section.

7. Select **Discover** in the **Discovery Info** drop-down list.

8. Disable the **Only New Resources** option.

> Selecting the **Only New Resources** check box means that it only checks for new Virtual Services and Real Servers. For example, if the resources were already discovered/added initially, and then a new Virtual Service or Real Server is added - you can run a discovery again to detect the new resource. If the Virtual Services and Real Servers have been discovered before, there

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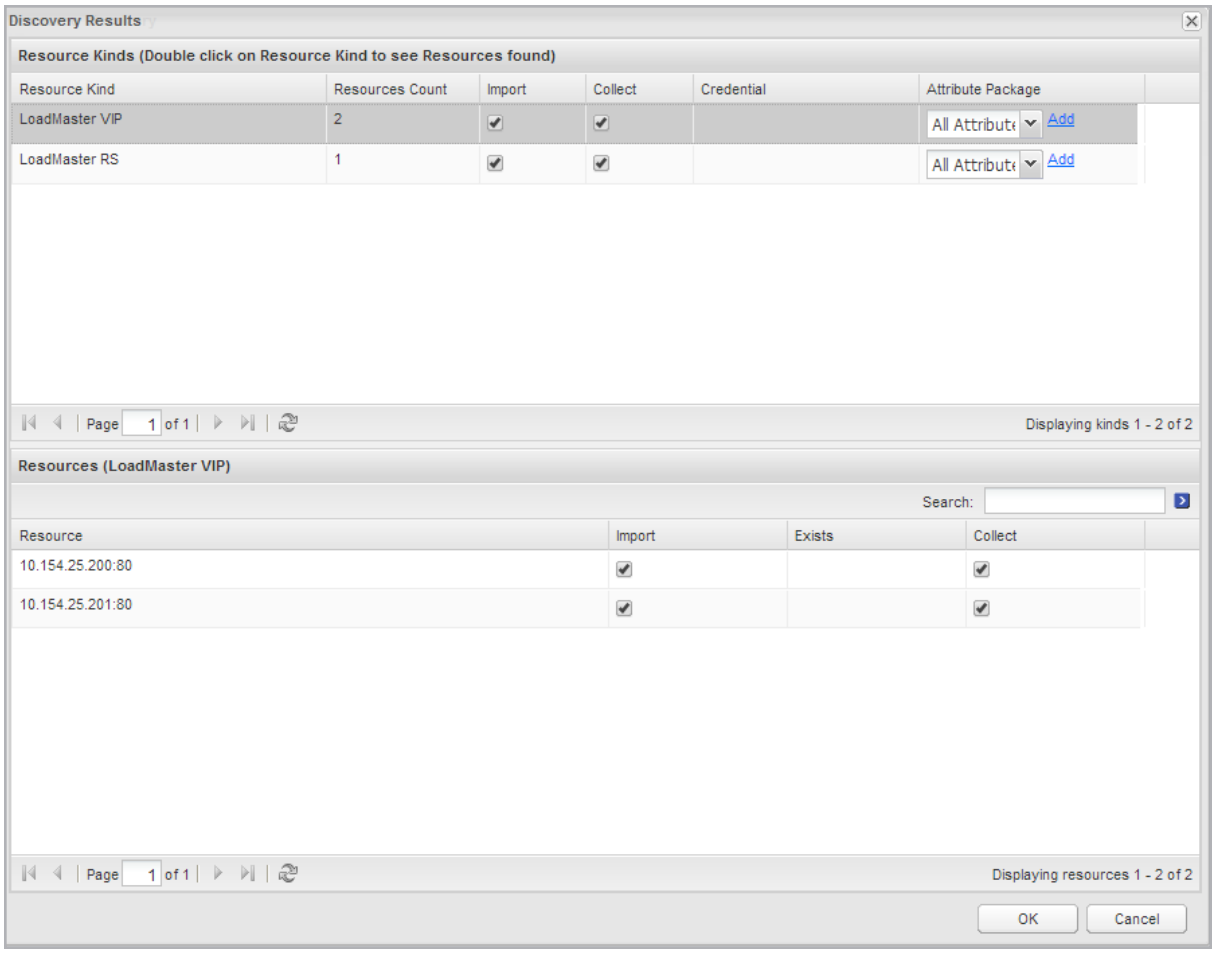
is no need to detect all resources again. So, selecting the **Only New Resources** check box speeds up the discovery.

9. Click **OK**.



10. The discovery results will be displayed.

VIPs are Virtual Services. RSs are Real Servers.

To get more information, double-click the VIP or RS line. Further information will be displayed in the **Resources** section underneath.

11. Select the **Collect** check box for whatever resources to collect statistics for.

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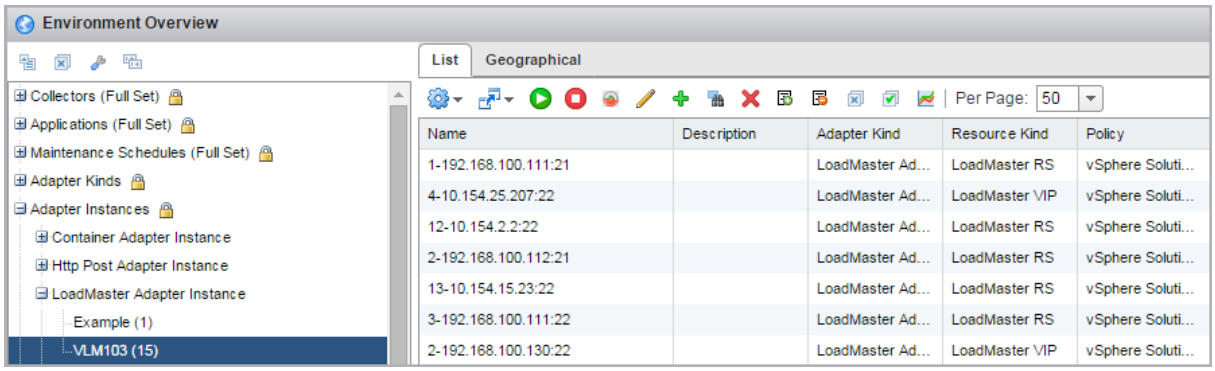
When you select **Collect**, the **Import** check box also gets automatically ticked. Ensure that both of these check boxes are ticked.

12. Click **OK**.



13. Select the LoadMaster instance name on the left to display the Virtual Services and Real Servers for that instance.

2.6 Health Status

In the **LoadMaster Resource Relationships** screen, different colours can be displayed in the **Container Overview** section. A percentage health rating is also shown. The health rating score is dynamic (either 25, 50, 75 or 100%). For example, if there is a constant connection rate and the rate deviates to an unusual level, an alert will be generated and the health score will be affected.

The different coloured icons are described below.

A green icon means that the resource is up and the health is good.

Yellow and orange icons are also displayed for lower health scores.

A grey icon with a question mark means that the resource has not been detected yet. Wait for the collection interval to elapse and then refresh the page to see the new health status.

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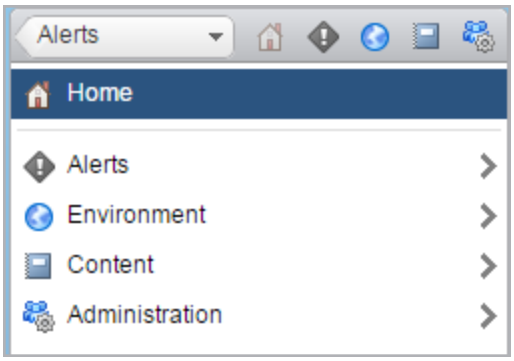
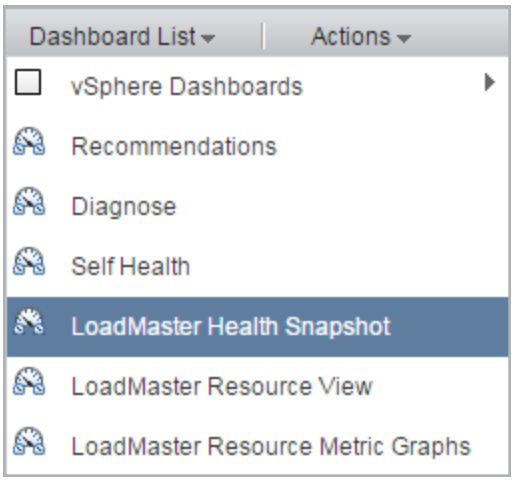
Red icons are displayed when a resource is down.

2.7 View the Health Tree

Statistics can be displayed at the VLM, Virtual Service and Real Server level. To view the health tree, follow the steps below:



1. Click the **Home** (house) icon in the top left.



2. Click **Dashboard List** and select **LoadMaster Health Snapshot**.

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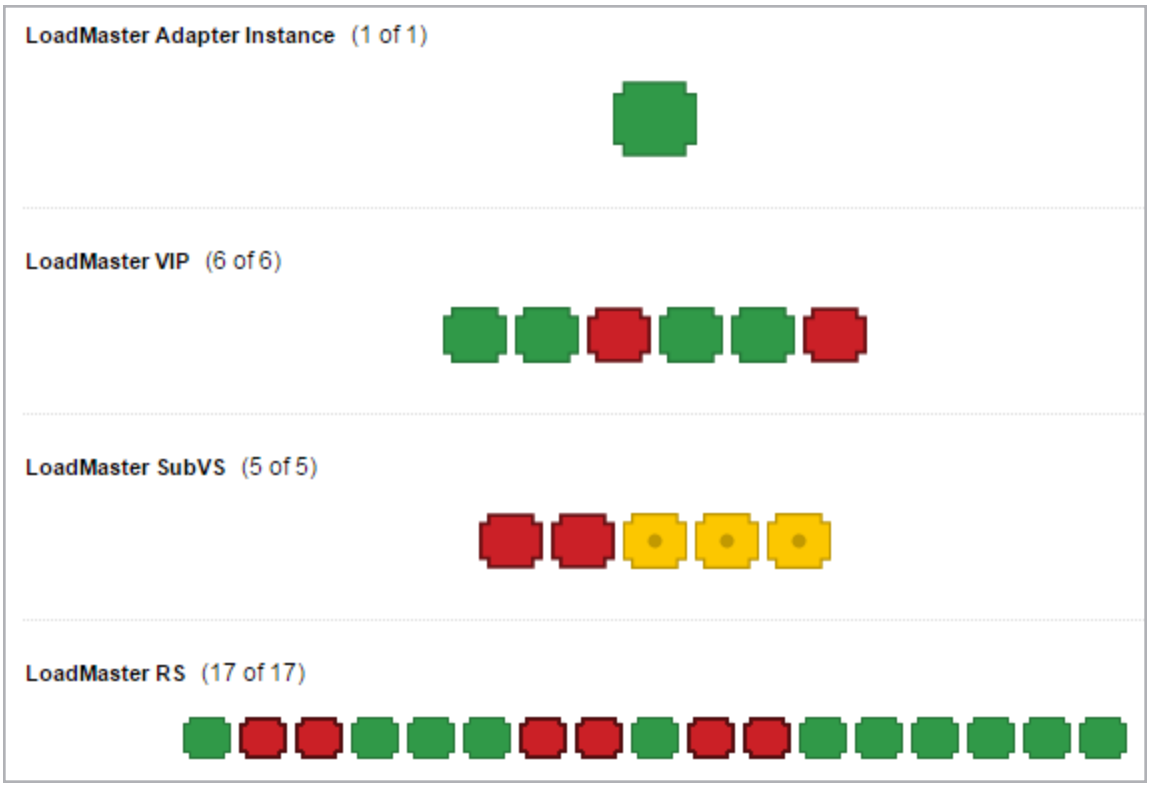
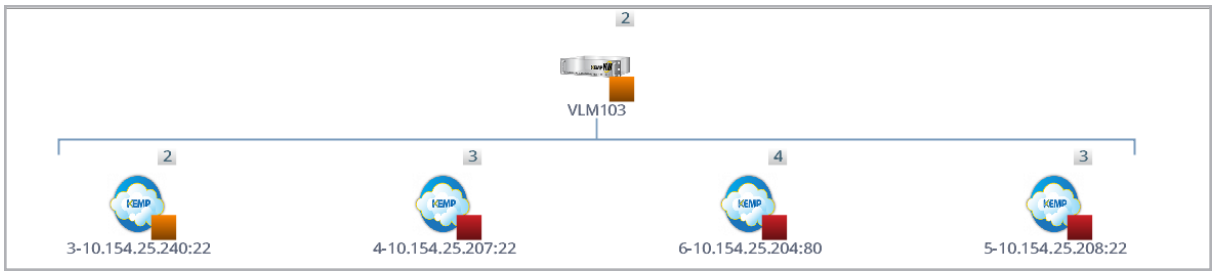


3. Double-click the relevant item.

4. Select the **Troubleshooting** tab.
5. Click **All Metrics**.



The health tree will be displayed. The above screenshot shows four Virtual Services sitting underneath the VLM.

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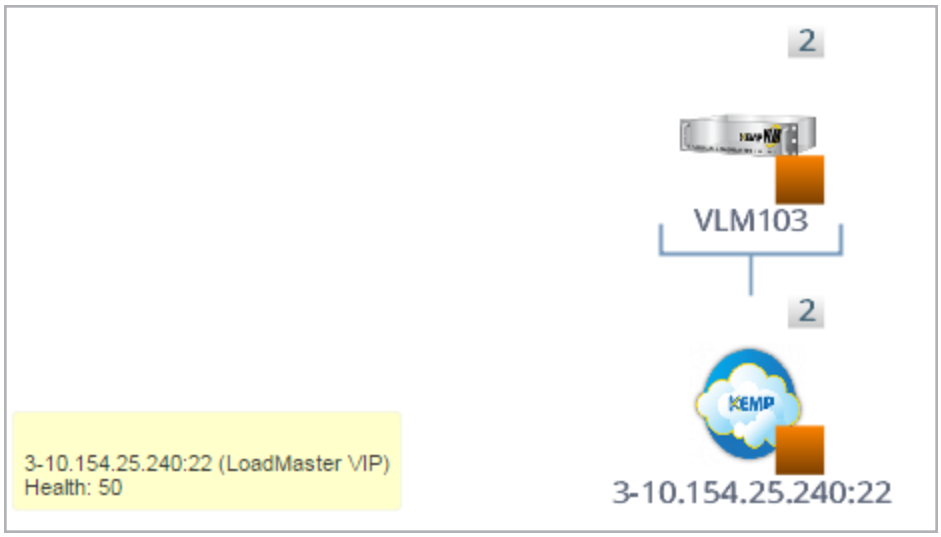


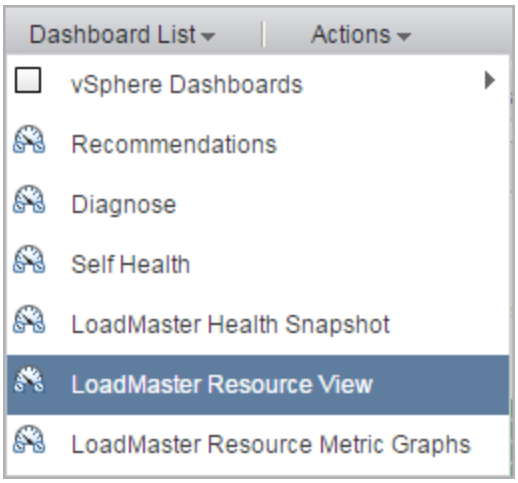
Double-click a Virtual Service to view its health tree.

2.8 View Resource Metrics

LoadMaster-specific resource metrics exist for the LoadMaster, Virtual Services and Real Servers. There are no LoadMaster-specific resource metrics for SubVSs.

To view metrics on any of the resources, follow the steps below:

1. Select **Home** (house icon), in the top left.



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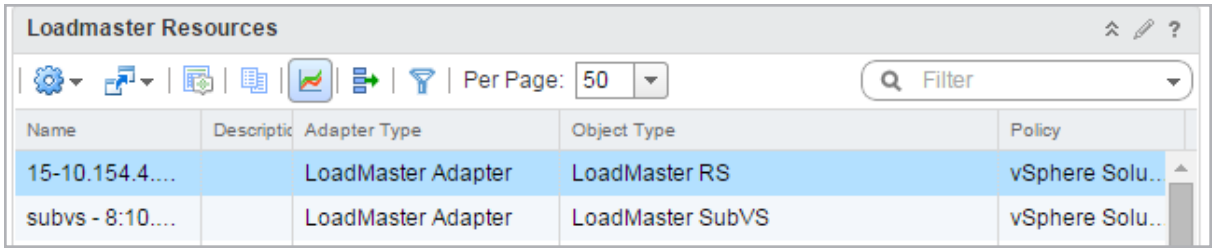
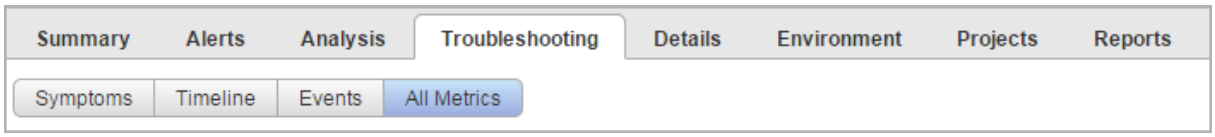
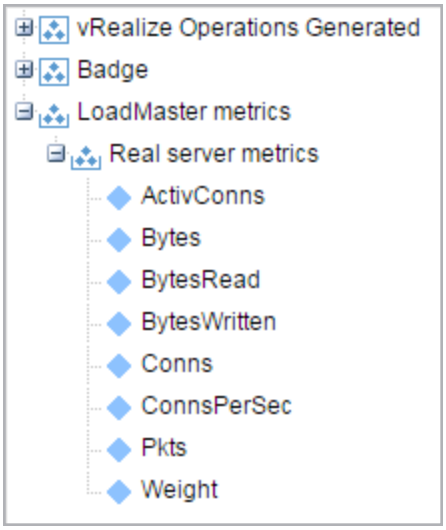
2. Click **Dashboard List** and select **LoadMaster Resource View**.



3. Select the relevant resource.
4. Click **Object Detail** (graph icon).



5. Select the **Troubleshooting** tab.
6. Select **All Metrics**.



7. Expand **LoadMaster metrics**.
8. Expand the resource metrics.

> If the LoadMaster is running firmware version 7.1-16 or below, some metrics will not be available.

9. Double-click any of the metrics to display the related graph.

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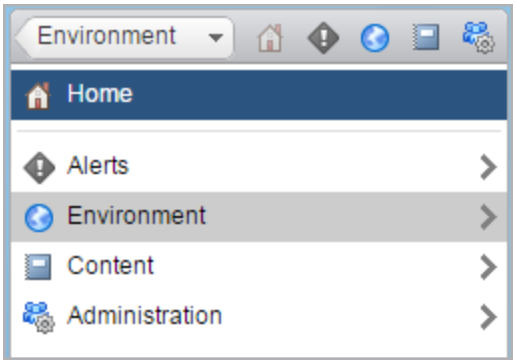
You can zoom in on a specific part of the graph by dragging a box around the section to be magnified.

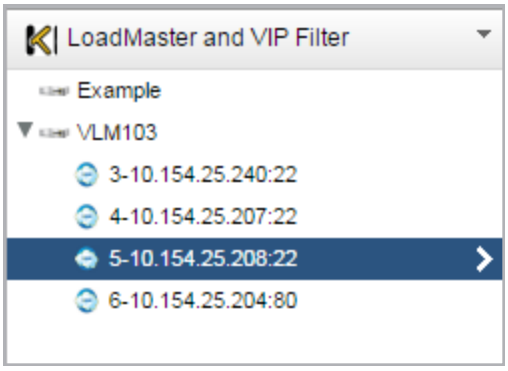
By default, the graphs show metrics for the last six hours.

2.9 View Alerts

To view alerts, follow the steps below:



1. Click the **Home** (house icon) in the top-left section.
2. Select **Environment**.
3. Select one of the LoadMaster filters, depending on what alerts you want to view.



The format of the resource names are as follows:
Virtual Service: <index>-<IPAddress>:<port>
Real Server:<index>-<IPAddress>:<port>
SubVS:subvs-<index>:<ParentIPAddress>

4. Expand the list as needed and select the relevant resource.

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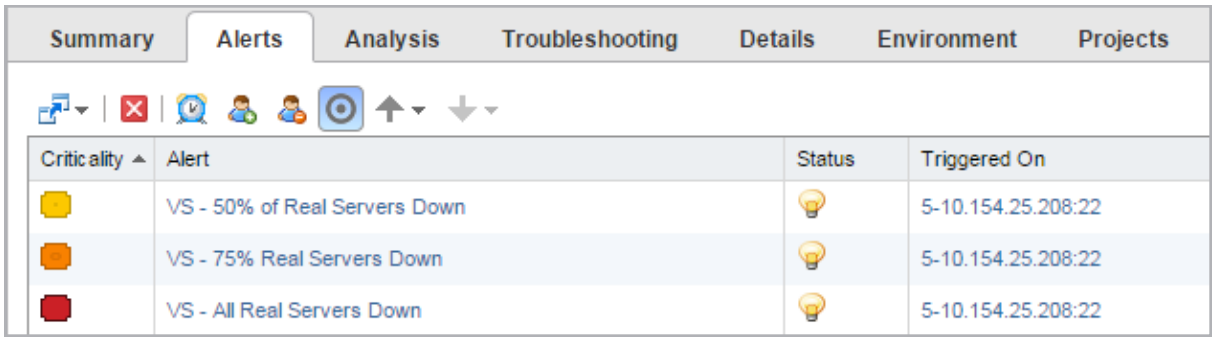
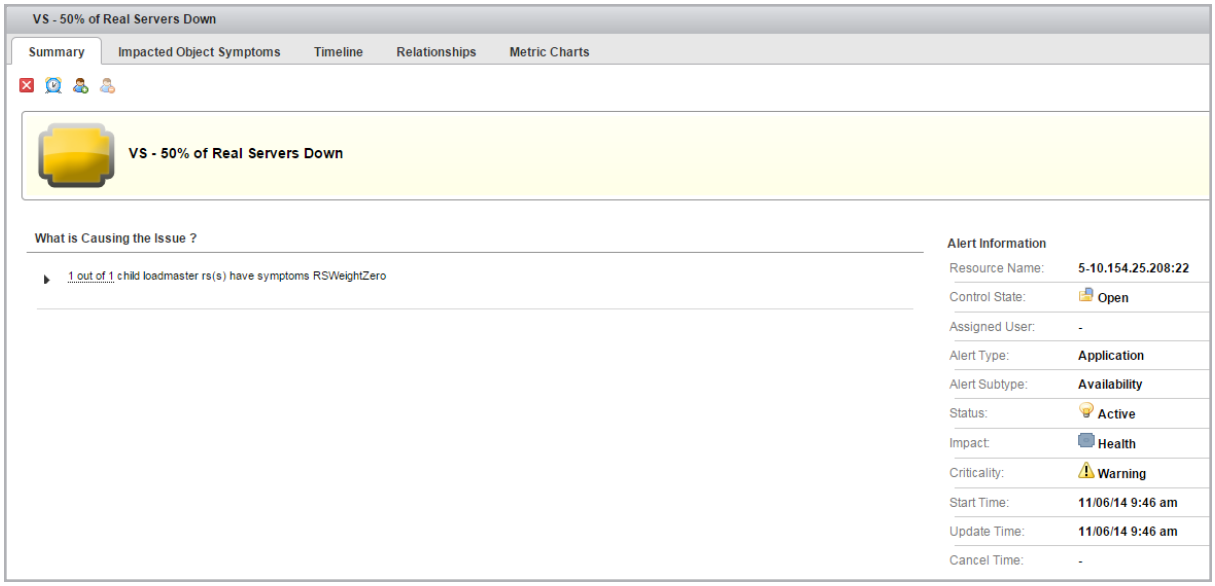


5. Select the **Alerts** tab. Double-click the alert to view more information.



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References

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

VMware vCenter Operations Version 5, Installation and Feature Description

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Last Updated Date

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