



# **Feature Description VMware VROPS V6**

**8 January 2024**

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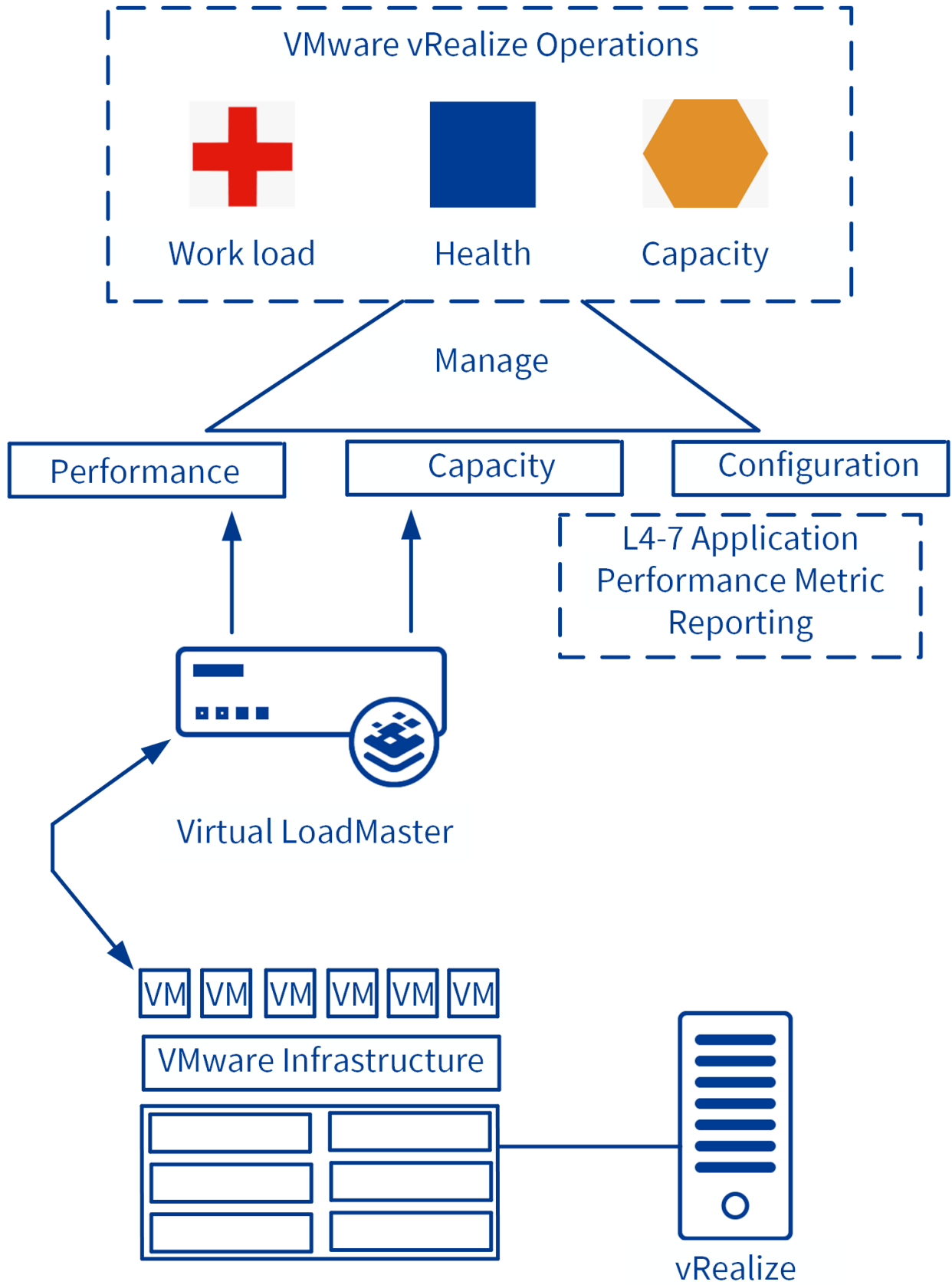
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# Introduction

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## 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.



The 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 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.

### Related Links

- [Document Purpose](#)
- [Intended Audience](#)

## Document Purpose

### 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 LoadMaster. For further information on vROps in general, refer to the VMware documentation.

This document relates to vROps version 6 and above.

## Intended Audience

### 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 LoadMaster.

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# Using vROps with the LoadMaster

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## Using vROps with the LoadMaster

Refer to the following sections for details on how to use vROps with the LoadMaster.

### Related Links

- [Installation](#)
- [Add a LoadMaster Adapter Instance](#)
- [LoadMaster Dashboards](#)
- [Collection Interval](#)
- [Discovering Virtual Services and Real Servers](#)
- [Health Status](#)
- [View the Health Tree](#)
- [View Resource Metrics](#)
- [View Alerts](#)

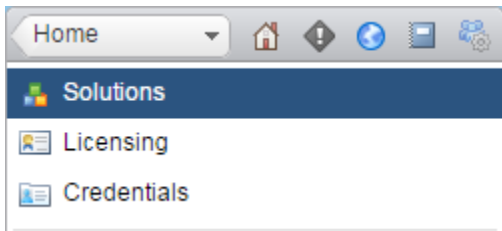
## Installation

### Installation

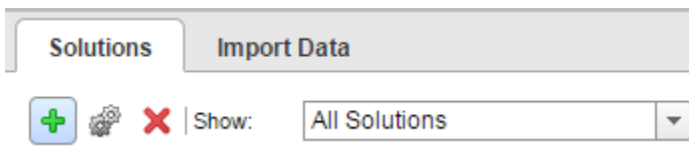
To make the LoadMaster work with vROps, follow the steps below:

1. Download the LoadMaster vROps installation (.pak) file from the Progress Kemp website:  
[www.kemptechnologies.com](http://www.kemptechnologies.com).

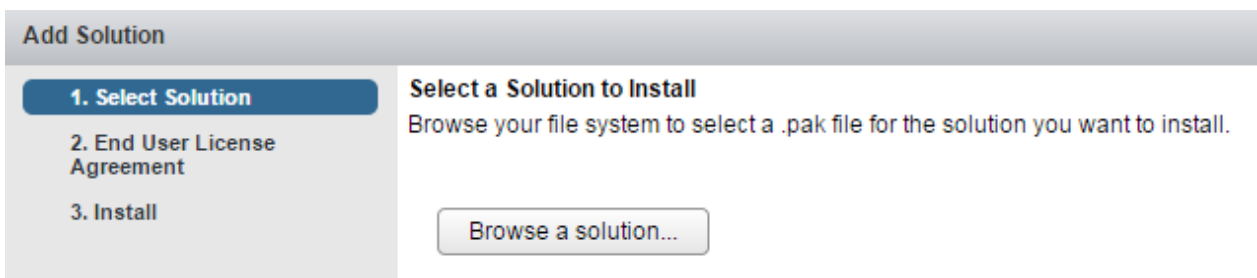
2. Log in to the vRealize Operations Manager.



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



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



6. Click **Browse a solution**.
7. Browse to and select the LoadMaster vROps installation .pak file.

#### Select a Solution to Install

Browse your file system to select a .pak file for the solution you want to install.

Browse a solution...

The selected file is ready to upload and install. Click Upload to continue.

Upload

☐ Force installation

☐ Reset out-of-the-box content, overwriting to a newer version provided by this update. Note, user modifications to out-of-the-box Alerts, Symptoms, Recommendations and Policies will be overwritten.



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

**End User License Agreement**  
Read and agree to the End User License Agreement to continue.

1. READ THE FOLLOWING TERMS AND CONDITIONS CAREFULLY BEFORE INSTALLING THIS PRODUCT ON YOUR NETWORK OR PERSONAL COMPUTER. THIS PRODUCT LICENSE AGREEMENT IS A LEGAL AGREEMENT BETWEEN YOU (EITHER ON BEHALF OF YOURSELF AS AN INDIVIDUAL OR ON BEHALF OF AN ENTITY AS ITS AUTHORIZED REPRESENTATIVE) ON THE ONE HAND, AND KEMP Technologies, INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY REFERRED TO AS 'KEMP') ON THE OTHER HAND, FOR THE HARDWARE AND/OR SOFTWARE PRODUCT ENTITLED 'LoadMaster,' WHICH INCLUDES PHYSICAL HARDWARE AND/OR COMPUTER SOFTWARE AND ANY ASSOCIATED MEDIA, PRINTED MATERIALS, AND/OR 'ONLINE' OR ELECTRONIC DOCUMENTATION (TOGETHER CALLED THE 'PRODUCT'). PLEASE READ THIS AGREEMENT CAREFULLY AND PRINT OUT A COPY FOR YOUR RECORDS. THIS AGREEMENT SUPERSEDES PREVIOUS VERSIONS.

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☒ I accept the terms of this agreement

Back Next Finish Cancel

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.

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**Note:** The update can take several minutes to complete.

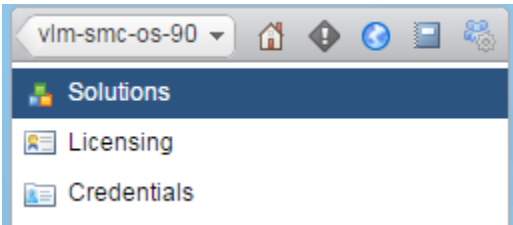
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13. Click **Finish**.

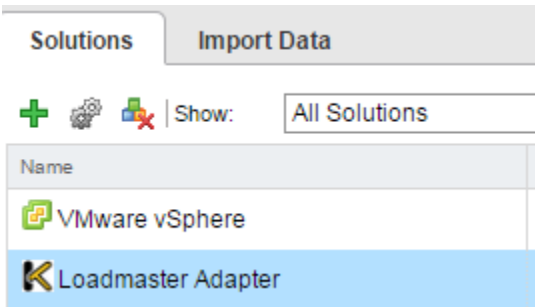
# Add a LoadMaster Adapter Instance

## 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:



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



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



- 1. Click **Add** (green plus icon).

**Adapter Settings**

Display name	<input type="text" value="Example"/>
Description	<input type="text" value="Example description"/>

**Basic Settings**

Credential	<input type="text" value="--Please Select--"/>	 
------------	--	---

**▼ Advanced Settings**

Collector	<input type="text" value="Automatically select collector"/>
Auto API Enable	<input type="text" value="true"/>
Auto Discovery	<input type="text" value="true"/>

1. Enter a recognizable **Display name**.
2. Enter a **Description**.
3. Expand the **Advanced Settings** section.
4. Ensure the **Collector** drop-down list is set to **Automatically select collector**.
5. In the **Advanced Settings** section there are two fields; **Auto API Enable** and **Auto Discovery**. These are both enabled by default.

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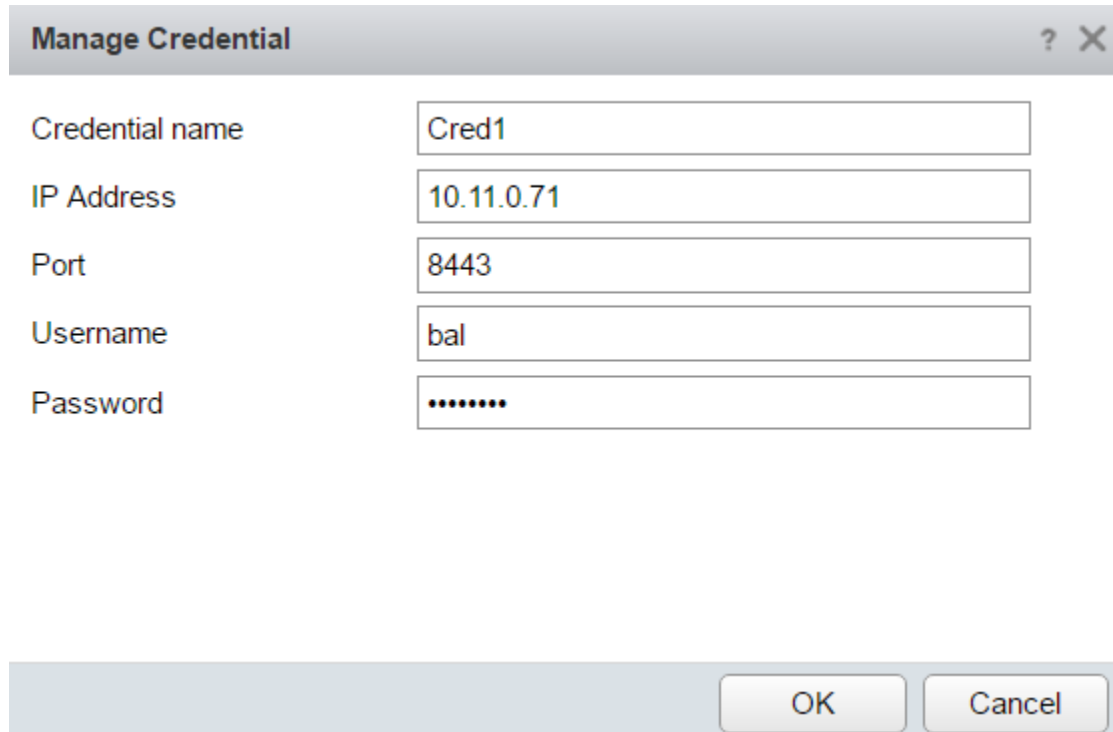
**Note:** In order for vROps to communicate with the LoadMaster, the RESTful API interface must be enabled on the LoadMaster. When the **Auto API Enable** option is set to **true**, the API interface will be enabled on the LoadMaster automatically when the instance is created.

---

**Note:** If **Auto Discovery** is set to **true**, the Virtual Services and Real Servers are automatically added. If this is set to **false**, they will need to be manually added by following the steps in the [Discovering Virtual Services and Real Servers](#) section.

---

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



The image shows a 'Manage Credential' dialog box with a title bar containing a question mark and a close button. The dialog has five input fields: 'Credential name' with the value 'Cred1', 'IP Address' with '10.11.0.71', 'Port' with '8443', 'Username' with 'bal', and 'Password' with masked characters '.....'. At the bottom right, there are 'OK' and 'Cancel' buttons.

Credential name	Cred1
IP Address	10.11.0.71
Port	8443
Username	bal
Password	.....

OK Cancel

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

---

**Note:** The credentials can be reused.

---

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

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

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1. Click **OK**.

**Adapter Settings**

Display name

Description

**Basic Settings**

Credential   

**Test Connection**

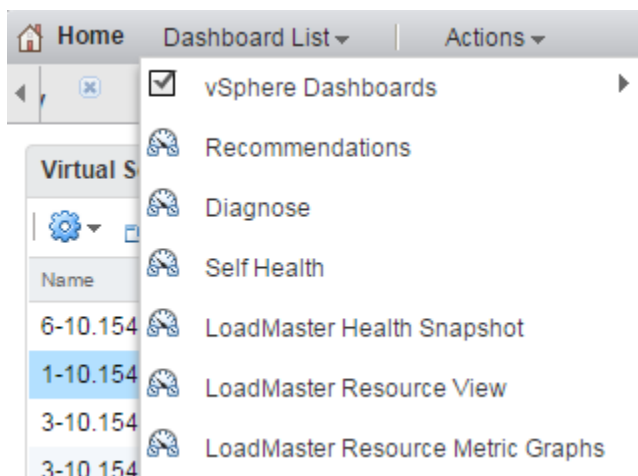
1. Click **Test Connection**.
2. Click **OK**.
3. Click **Save Settings**.
4. Click **OK**.
5. Click **Close**.

## LoadMaster Dashboards

### 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.



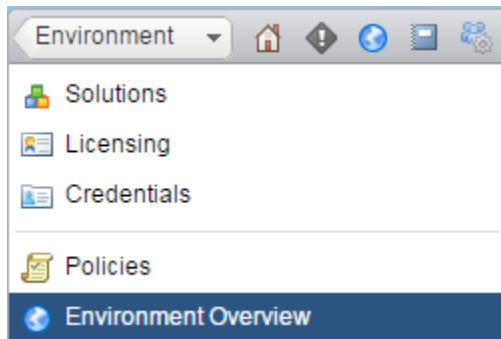
These are available in the **Dashboard List** on the **Home** page of vROps Manager.

# Collection Interval

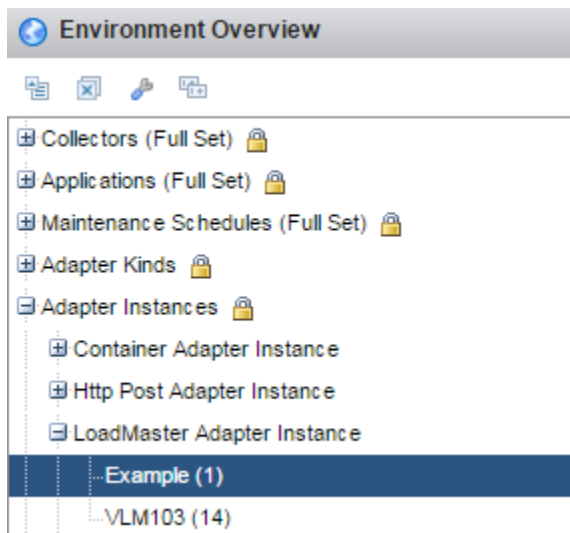
## Collection Interval

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.



1. Expand **Adapter Instances**.
2. Expand **LoadMaster Adapter Instance**.
3. Select the relevant LoadMaster adapter instance.

List Geographical

Name

Example

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

Manage Resource ? X

Name Example

Description Example description


Adapter Kind LoadMaster Adapter

Adapter Instance Example

Resource Kind LoadMaster Adapter Instance


Auto Discovery true

Auto API Enable true

Credential Cred1 + 

Collection Interval (Minutes) 1

Dynamic Thresholding ☒ Yes ☐ No

Maintenance Schedule --Please Select-- X + 

OK Cancel

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

**Note:** 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.

1. Click **OK**.

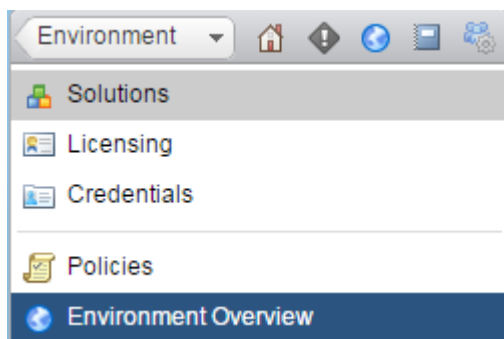
# Discovering Virtual Services and Real Servers

## 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.

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.



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



Discover Objects

Collector vRealize Operations Manager Collector-VROPS6

Adapter Type LoadMaster Adapter

Adapter Instance VLM103

Discovery Info Discover

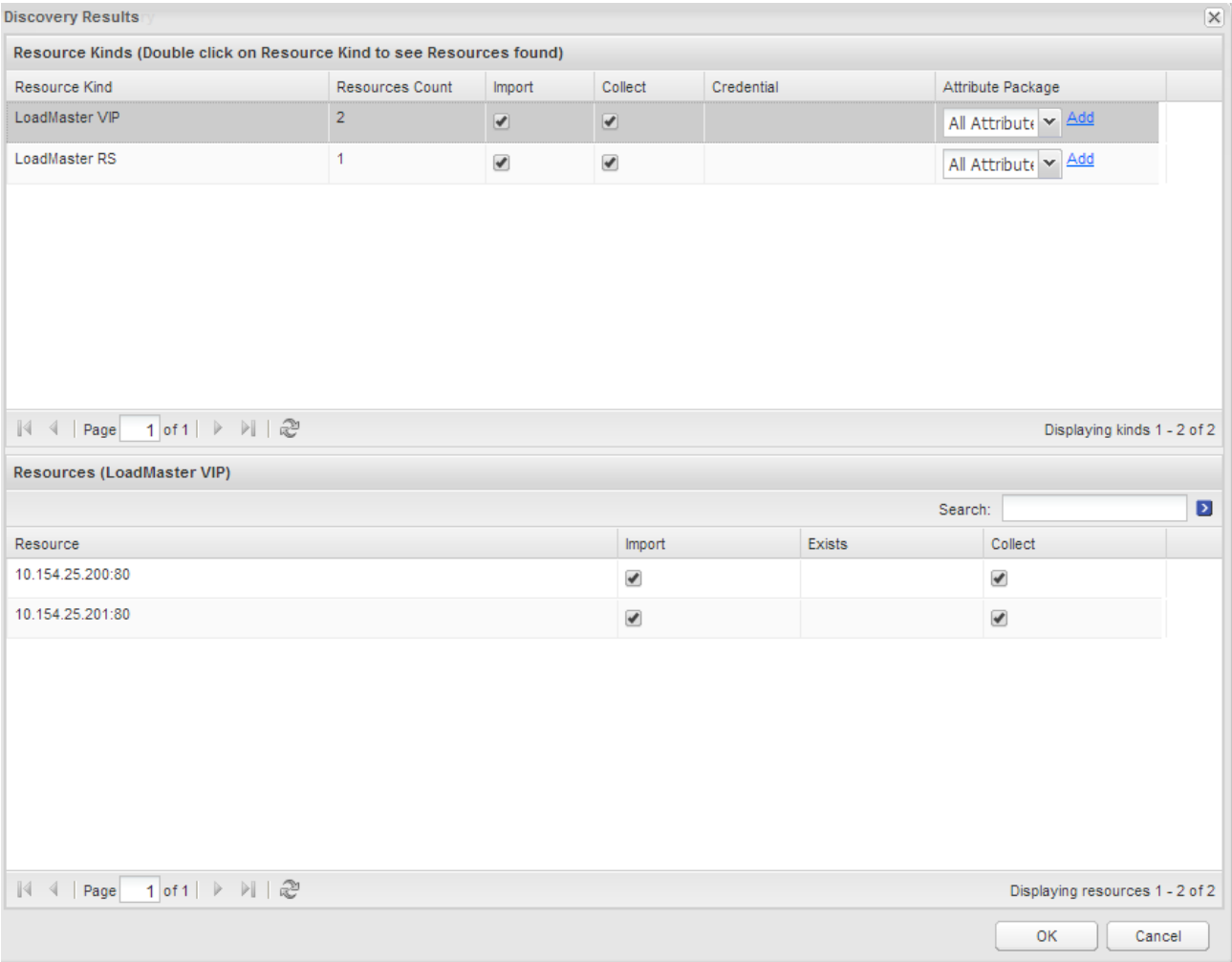
Only New Objects ☒

OK Cancel

1. Select **vRealize Operations Manager Collector-VROPS6** as the **Collector**.
2. Select **LoadMaster Adapter** in the **Adapter Type** drop-down list.
3. Select the **Adapter Instance** name, for example the one added in the [Add a LoadMaster Adapter Instance](#) section.
4. Select **Discover** in the **Discovery Info** drop-down list.
5. Disable the **Only New Resources** option.

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

1. Click **OK**.



1. The discovery results will be displayed.

**Note:** VIPs are Virtual Services. RSs are Real Servers.

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

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

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

1. Click **OK**.

The screenshot shows the 'Environment Overview' window. On the left, a tree view lists categories like Collectors, Applications, Maintenance Schedules, Adapter Kinds, and Adapter Instances. Under Adapter Instances, 'VLM103 (15)' is selected. On the right, a table displays details for the selected instance.

Name	Description	Adapter Kind	Resource Kind	Policy
1-192.168.100.111:21		LoadMaster Ad...	LoadMaster RS	vSphere Soluti...
4-10.154.25.207:22		LoadMaster Ad...	LoadMaster VIP	vSphere Soluti...
12-10.154.2.2:22		LoadMaster Ad...	LoadMaster RS	vSphere Soluti...
2-192.168.100.112:21		LoadMaster Ad...	LoadMaster RS	vSphere Soluti...
13-10.154.15.23:22		LoadMaster Ad...	LoadMaster RS	vSphere Soluti...
3-192.168.100.111:22		LoadMaster Ad...	LoadMaster RS	vSphere Soluti...
2-192.168.100.130:22		LoadMaster Ad...	LoadMaster VIP	vSphere Soluti...

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

## Health Status

### 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.

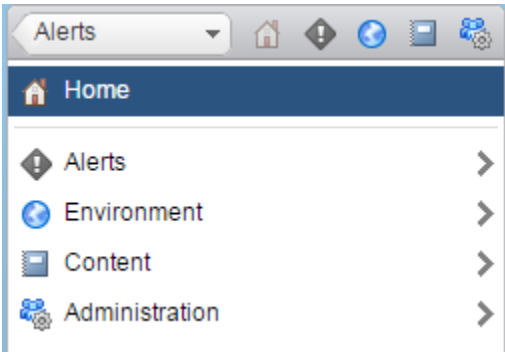


Red icons are displayed when a resource is down.

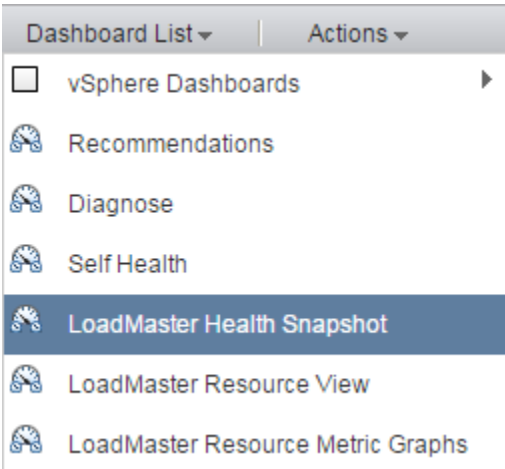
# View the Health Tree

## 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.



- 1. Click **Dashboard List** and select **LoadMaster Health Snapshot**.

## LoadMaster Adapter Instance (1 of 1)



## LoadMaster VIP (6 of 6)



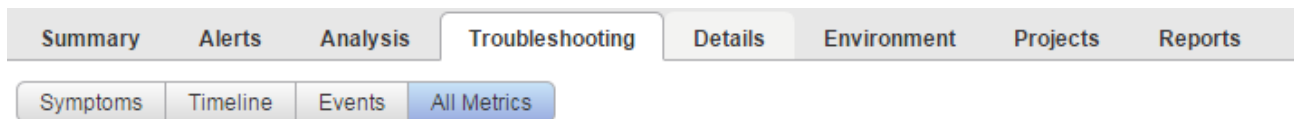
## LoadMaster SubVS (5 of 5)



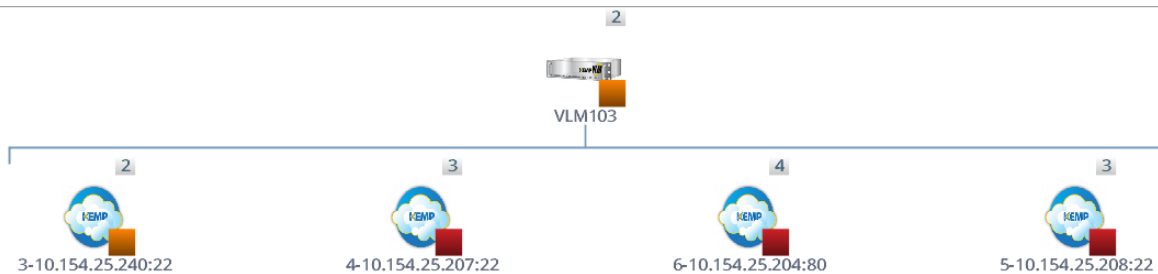
## LoadMaster RS (17 of 17)



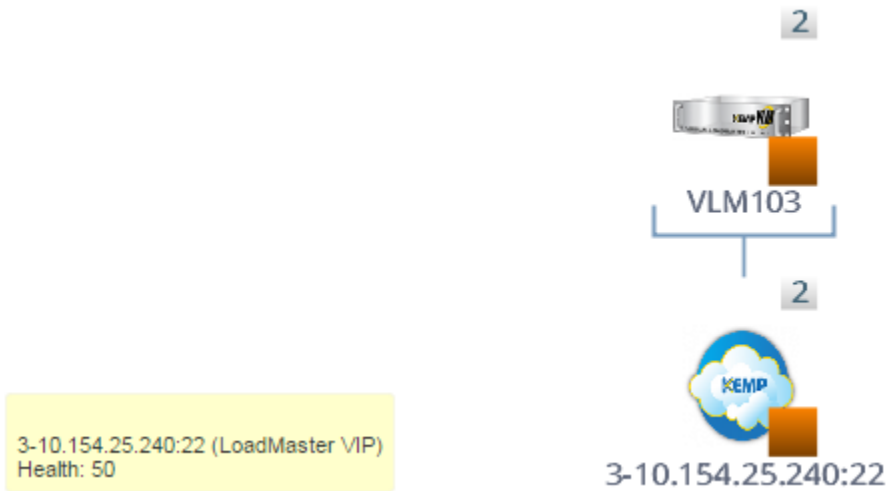
1. Double-click the relevant item.



1. Select the **Troubleshooting** tab.
2. Click **All Metrics**.



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



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

# View Resource Metrics

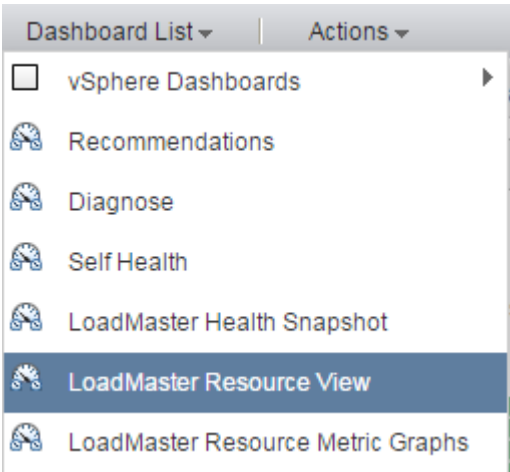
## View Resource Metrics

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

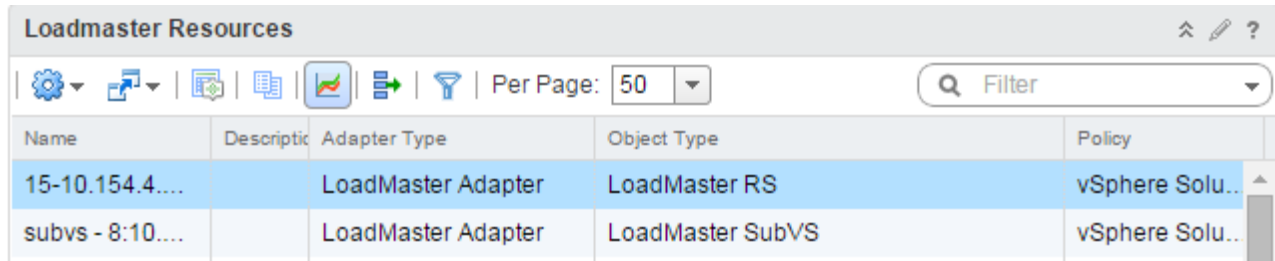
To view metrics on any of the resources, follow the steps below:



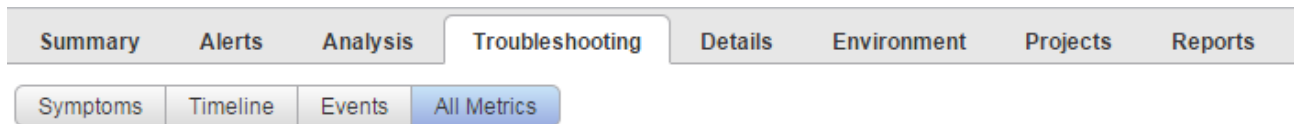
1. Select **Home** (house icon), in the top left.



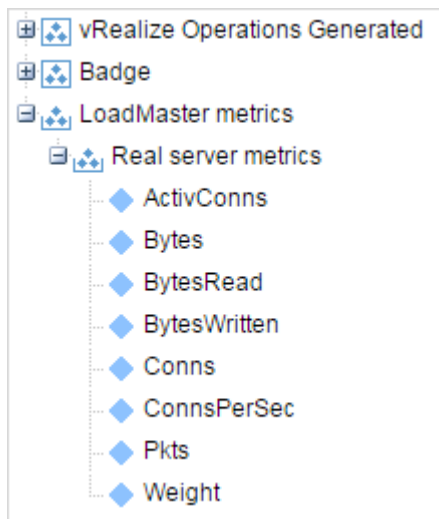
1. Click **Dashboard List** and select **LoadMaster Resource View**.

Loadmaster Resources				
				
Name	Descriptio	Adapter Type	Object Type	Policy
15-10.154.4....		LoadMaster Adapter	LoadMaster RS	vSphere Solu..
subvs - 8:10....		LoadMaster Adapter	LoadMaster SubVS	vSphere Solu..

1. Select the relevant resource.
2. Click **Object Detail** (graph icon).



1. Select the **Troubleshooting** tab.
2. Select **All Metrics**.



1. Expand **LoadMaster metrics**.
2. Expand the resource metrics.

---

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

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

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

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

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

VS - 50% of Real Servers Down

SummaryImpacted Object SymptomsTimelineRelationshipsMetric Charts




VS - 50% of Real Servers Down

What is Causing the Issue ?

1 out of 1 child loadmaster rs(s) have symptoms RSWeightZero

Alert Information


Resource Name:5-10.154.25.208:22


Control State: Open


Assigned User:-

Alert Type:Application

Alert Subtype:Availability

Status: Active

Impact: Health

Criticality: Warning

Start Time:11/06/14 9:46 am

Update Time:11/06/14 9:46 am

Cancel Time:-

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## References

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### References

Unless otherwise specified, the following documents can be found at <https://docs.progress.com>.

**VMware vCenter Operations Version 5, Installation and Feature Description**