Progress®
Kemp® LoadMaster®

Feature Description Virtual Services and Templates

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1

Introduction

Progress Kemp leads the industry in driving the price/performance value proposition for application delivery and load balancing to levels that our customers can afford. Our products' versatile and powerful architecture provide the highest value, while enabling our customers to optimize their businesses that rely on Internet-based infrastructure to conduct business with their customers, employees and partners.

Progress Kemp products optimize web and application infrastructure as defined by high-availability, high-performance, flexible scalability, security and ease of management. They maximize the total cost-of-ownership for web infrastructure, while enabling flexible and comprehensive deployment options.

Related Links

For details, see the following topics:

- Document Purpose
- Intended Audience

Document Purpose

This document describes how to create Virtual Services. It also outlines the templates feature of the LoadMaster.

Intended Audience

This document is intended to help anyone who wishes to learn about or create Virtual Services within the LoadMaster.

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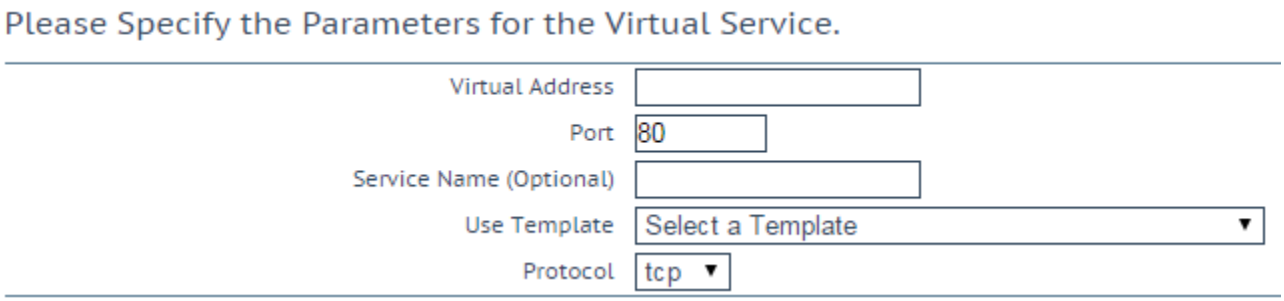
Create a Simple Virtual Service

This section outlines the steps required to create a simple Virtual Service that has two Real Servers.

To begin the process of creating a new Virtual Service, first select the **Virtual Services** and **Add New** in the main menu.

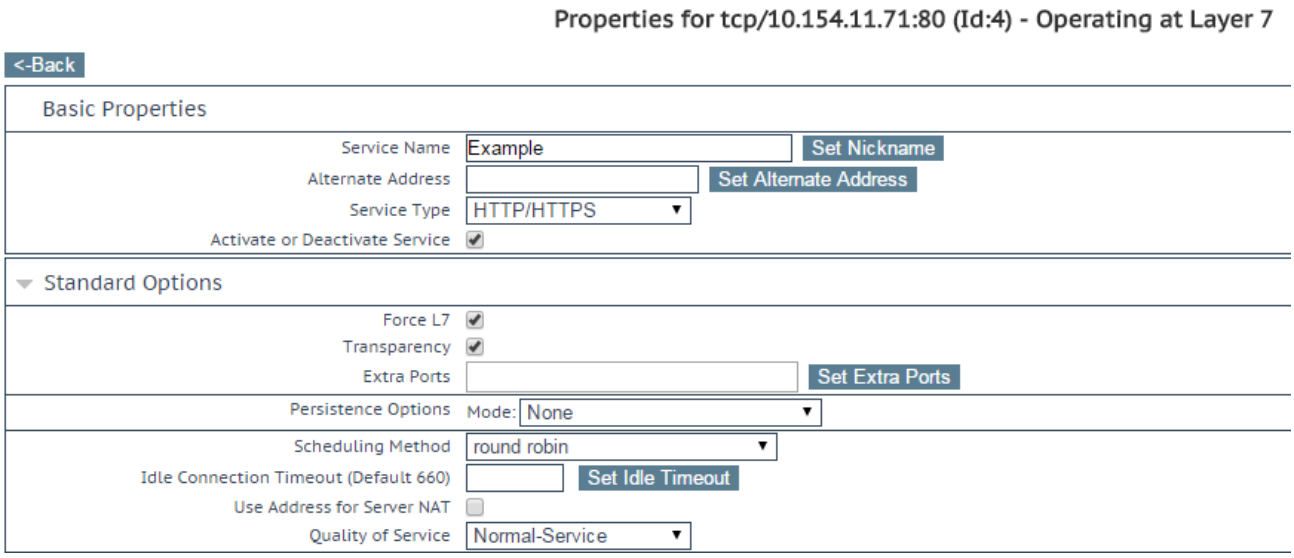


This opens the Virtual Service parameters page which prompts to enter the Virtual IP (VIP) address of the Virtual Service, the port and the name to give the service and the protocol.

Note: In addition to the usual alphanumeric characters, the following 'special' characters can be used as part of the Service Name:**. @ - _** You cannot use a special character as the first character of the Service Name.

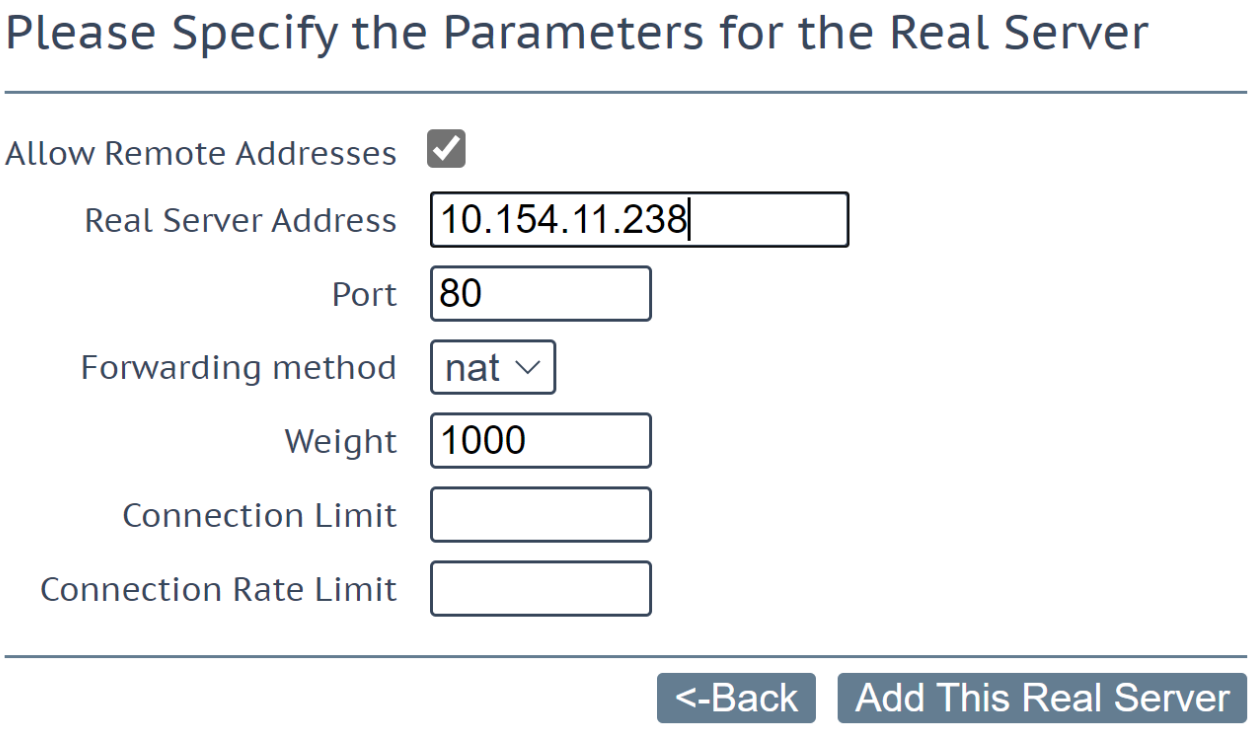
The port number is usually 80 for HTTP services. The protocol may be TCP or UDP, but in the vast majority of cases TCP is the one used.

Click **Add This Virtual Service** to open the Virtual Service properties screen.



In this document, we are not concerned with most of these values and will create a Virtual Service with no persistence, no content switching and Round Robin as the scheduling method, which are the default settings.

The final action to be performed is adding Real Servers or Sub-Virtual Services (SubVSs). This document refers to the creation of Real Servers. For further information on SubVSs, refer to the **SubVS, Feature Description** document on the Documentation Page. To get to the Real Server parameters page, expand the **Real Servers** sections and click **Add New...** Here we specify the IP address of the Real Server we wish to add, the port and forwarding method it is to use and its relative weight.



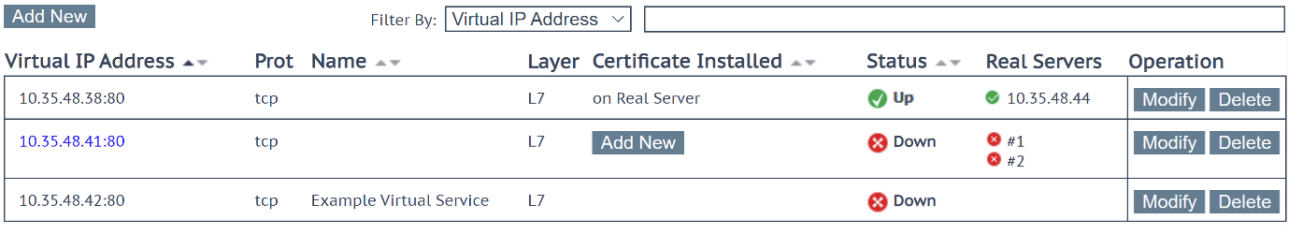
Enter the **Real Server IP address** Click **Add This Real Server** to finish. Click **OK** to the message.

The **Add a Real Server** screen appears again. To add another Real Server, repeat the process but with a different Real Server IP address.

All changes are made in real-time. To see a summary of Virtual Services created; select the **View/Modify Services** link in the **Virtual Services** section of the main menu on the left. The Virtual Service table should now list the Real Servers just created.

3

View/Modify a Virtual Service



From this screen, you can **Add** or **Modify** a Virtual Service. You can also filter the Virtual Services based on **Virtual IP Address**, **Name**, and **Status** using the filter text box.

Filter By

You can filter the Virtual Services based on the option selected from the drop-down list. The filter option available are:

- Virtual IP Address
- Name
- Status

By default, the Virtual IP Address option is selected.

If you enter any text in the text box that is contained in the **Virtual IP Address**, **Name**, or **Status** (depending on what is selected in the drop-down), the list is instantly filtered to show results that match. If you enter any text that does not match (based on the option selected in the drop-down), the text box flashes red and the text that does not match is deleted.

The Virtual Services table displays a list of Virtual Services on the LoadMaster, summarizing the main properties of each and giving the options to modify or delete services, or create a new service. You can sort the entries by **Virtual IP Address**, **Name**, **Certificate Installed**, and **Status** by using the up/down options in the table header.

- For **Virtual IP Address**, entries can be sorted first by IP version (IPv4 followed by IPv6), then by IP address (in ascending order) or the opposite.

  Note: The list will not re-sort if the Virtual Service changes while you are viewing the page. Also, the sorting does not apply to SubVSs.

- For **Name**, the order of sorting first shows blank entries, followed by special characters, and the remaining entries are shown alphabetically (or the opposite of this).
- For **Certificate Installed**, the order of sorting is as follows (or the opposite of this):
  - Numeric values
  - Special characters
  - Alphabetical order
  - SSL-based Virtual Services that a certificate must be added to
  - Virtual Services without a certificate (and **SSL Acceleration** is disabled)
- For **Status**, the order of sorting is as follows:
  - Up/Unchecked (both are at same level)
  - FailMsg
  - Redirect
  - Sorry
  - WAF Misconfigured
  - Security Down
  - Down
  - Disabled

  In reverse order:

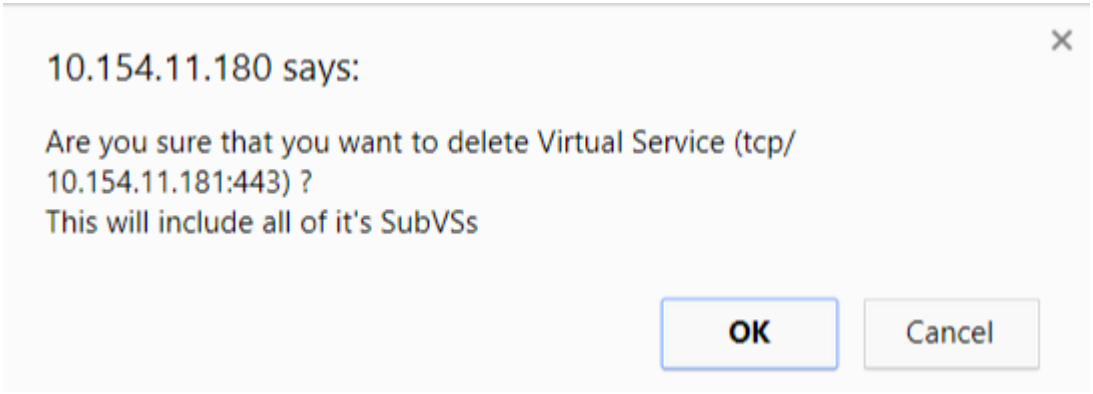
  - Disabled
  - Down
  - Security Down
  - WAF Misconfigured

- Sorry
- Redirect
- FailMsg
- Up/Unchecked (both are at same level)

Note: You can see what sort is currently applied by checking which arrow is darker in color. Only one sort can be applied at any one time. Click one of the lighter color arrows to apply a new sort.

Note: **CAUTION** Delete is permanent, there is no UNDO feature. **Use with care.**

Each configured Virtual Service may be changed by clicking the **Modify** button or deleted by clicking the **Delete** button.



If you try to delete a Virtual Service containing SubVSs, a confirmation warning appears. Click **OK** to confirm the deletion. For more information on Virtual Services, refer to the Web User Interface (WUI), Configuration Guide.

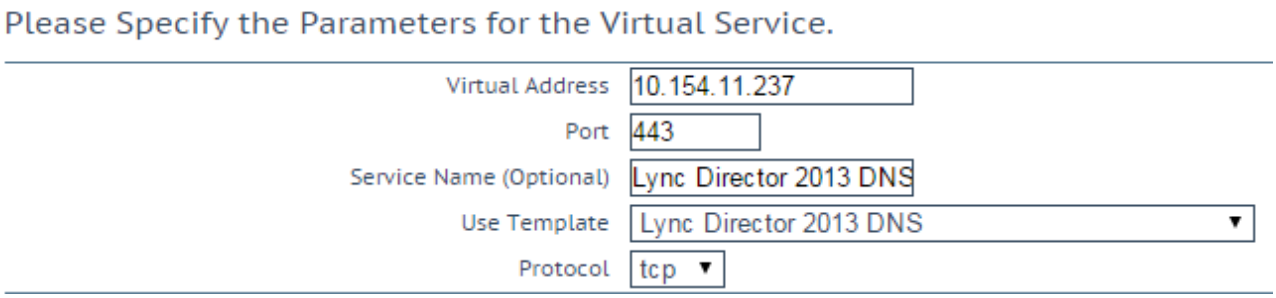
4

Virtual Service Templates

Adding Virtual Services can be both repetitive and prone to error when being performed over multiple LoadMasters. Progress Kemp have developed a general template mechanism that will allow consistency and ease of use when creating Virtual Services.

Using templates to set up and configure a Virtual Service is a two-stage process. Initially the templates must be imported into the LoadMaster. When imported, the templates can then be used when adding a new Virtual Service.

Templates can be imported and installed on the LoadMaster through the **Manage Templates** screen. For more information regarding this screen, please refer to the **Web User Interface (WUI), Configuration Guide** document on the Documentation Page.



When adding a new Virtual Service, a template can be selected from the list of available templates in the **Use Template** drop-down list. Selecting a template may fill in the port and protocol of the Virtual Service. The values prepopulated by the template can be overridden, but may be ignored depending on the template. When the **Add this Virtual Service** button is clicked**,** the Virtual Service is created and a number of other attributes of the Virtual Service are automatically configured by the template. Once loaded, the Virtual

Service may be modified in the same way as manually created Virtual Services.

Note: If you create another Virtual Service using the same template, ensure to change the **Service Name** to a unique name.

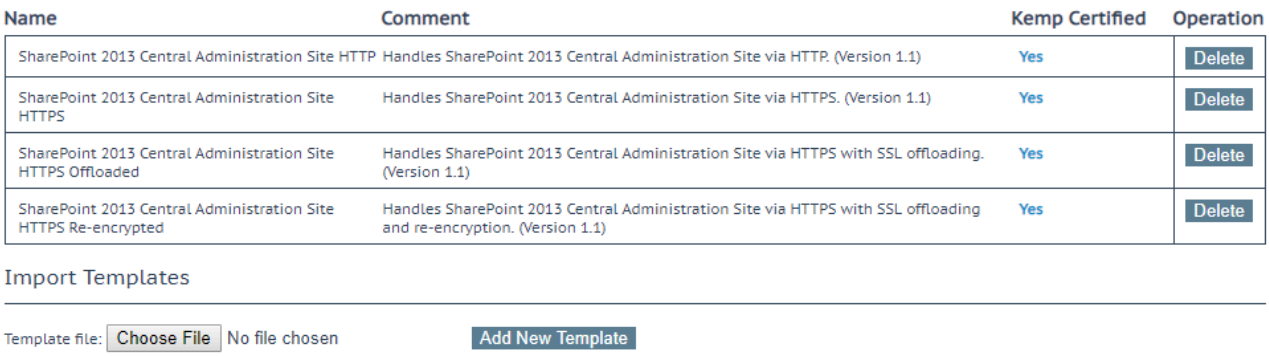
Note: When using SNMP monitoring of ESP-enabled Virtual Services that were created using a template, ensure to monitor each SubVS directly rather than relying on the master service. This is because the Authentication Proxy sub-service will always be marked as up and, as a consequence, so will the master service.

Download released templates from the following page: LoadMaster Templates.

It is also possible to create your own templates by exporting Virtual Service settings. To do this, go to **Virtual Services > View/Modify Services**, click **Modify** on the relevant Virtual Service and then click the **Export Template** button. The template is exported as a .txt file. It is possible to bundle multiple template files into one gzipped, tar file. This allows multiple templates to be imported at the same time.

Note: When exporting a Virtual Service template in which the Virtual Service uses a custom **Cipher Set**, the LoadMaster on which the template is imported must include the same custom **Cipher Set**.

When you export a Virtual Service as a template, it is provided with a default name and comment. If desired, the template text file can be modified to include a more useful name and comment. Template names can be up to 126 characters long. Template comments can be up to 1023 characters long.



There is a **Kemp Certified** column on the **Manage Templates** screen. The **Certified** column will indicate whether the template was supplied by Progress Kemp or not. If a template is certified, it has been provided by Progress Kemp. If a template is not certified, it might be a template created by you (by exporting a Virtual Service).

5

Virtual Service Permissions

There are varying levels of permissions that you can assign to users regarding Virtual Service operations. For further information, refer to the **User Management Feature Description** on the Documentation Page.

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References

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

SubVS, Feature Description

Web User Interface (WUI), Configuration Guide