# Snapt GSLB Manual

Version 2.1
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# Contents

# Chapter 1: Introduction

Snapt's Global Server Load Balancer (GSLB) is a high-performance DNS server that uses various intelligent mechanisms to direct your clients to the most appropriate server.

These include mechanisms such as Layer 7 health checking, GeoIP-based response routing, server weights, and backup servers.

These can be used to direct users to specific servers based on weight values assigned. They also direct users originating from the US to your US-based servers, and EU users to the EU-based servers, and further ensure you only send users to online locations.

The GSLB does all this and more – keeping your service online and available, while making sure it performs quickly and efficiently.
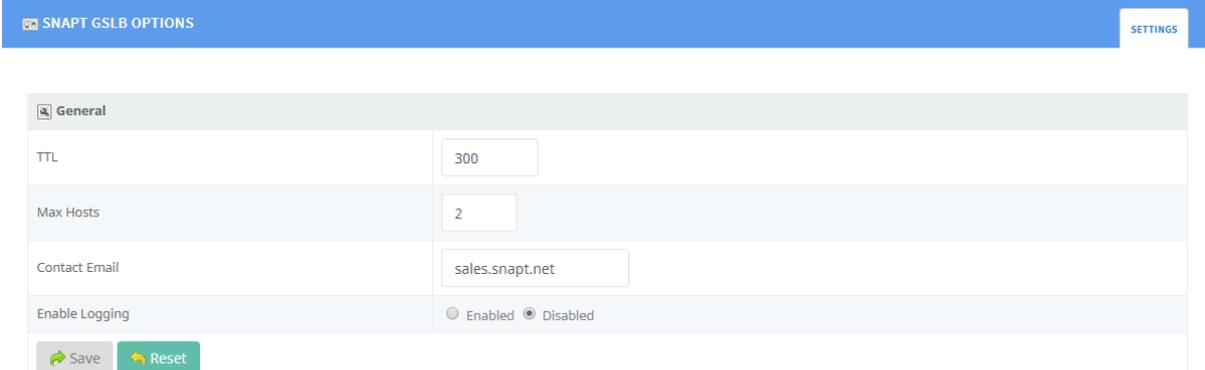
## Installation

The plugin can be found on the *Snaptins* tab of the *Add Plugins* section in *Setup > Modules & Plugins > Add Plugins*
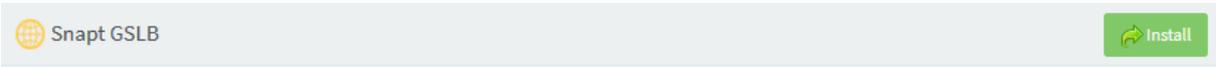


License Status: Licensed
Link: http://www.snapt.net/products/gslb
Version: 2.0
Description: The Snapt Global Server Load Balancer. Available on Snapt images only.
OS: Any

# Chapter 2: Settings

Once you have installed and enabled the plugin, you will have a *GSLB Options* menu on the user interface. To get started, you need to navigate to *GSLB> Settings* and configure your default options.



**TTL**
This value defines the default Time to Live for DNS records within the GSLB module.

**Max Hosts**
This value specifies the maximum number of hosts/DNS records to reply with when there is more than one possible reply.

**Contact Email**
This value specifies the default contact email address for this DNS server, as defined in RFC1183 – the @ symbol in the email address is replaced with a dot (.).

The default value of sales.snapt.net is therefore interpreted as sales@snapt.net.

**Enable Logging**
This enables/disables the logging functionality on the GSLB plugin.

# Chapter 3: Zones

This section is used to configure the DNS record zones that will be used within the GSLB plugin.

## View Zones



This tab shows a list of all currently configured zones, with the option to *Edit* and *Delete* the zone, in addition to managing the *Hosts* added to each zone.
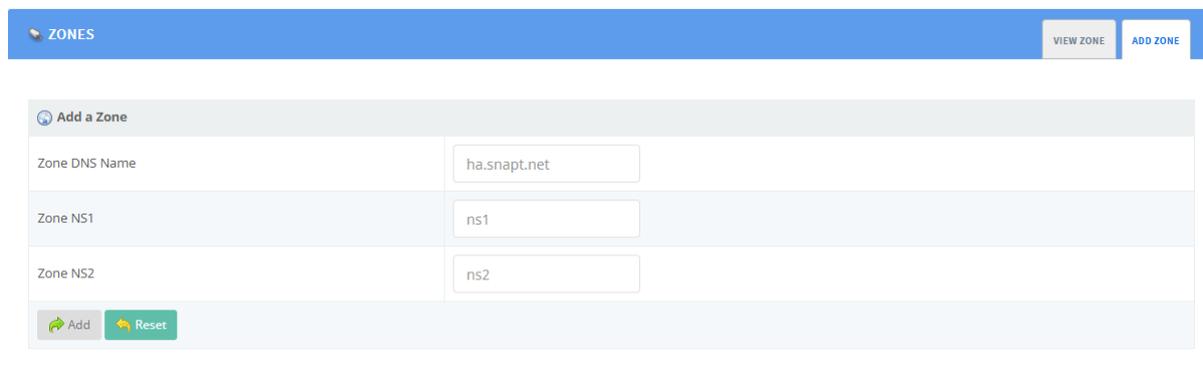
### Edit Zone

Editing a zone only allows you to modify the name servers listed for the zone – to change the zone name, you will need to delete the zone in order to re-add it with a different name.

## Add Zone

This tab is used to add new DNS zones to the GSLB module.

A few details are requested, such as the name and two name servers for the zone in question.



Adding a zone reverts you to the *View Zone* tab, allowing you to proceed to add hosts.

## Hosts

Similar to the screenshot provided for the *View Zones* tab previously, we have added a zone *gslb.domainnamehere.com*.

By clicking *Hosts*, we can now start adding hosts and various sets of DNS records.

### View Hosts

This tab is used to manage any hosts, each containing sets of DNS records.

For the purposes of this guide, we have added a range of zones as follows. When a zone is added for a specific country, it is appended in the *View Host* tab with the relevant country code.



The effect of the hosts detailed above, would be that any clients from the US are directed to the records contained within the 'www.us' host, whereas any clients from South Africa are directed to the records contained within the 'www.za' host.

Lastly, any clients not originating from either the US or South Africa would be directed to the records contained in the 'www' host.

### Add Host

Using the *Add Host* tab, you provide the subdomain record that forms part of your zone. You can name this anything that makes logical sense for its purpose, as larger environments can become difficult to manage with nondescript names.
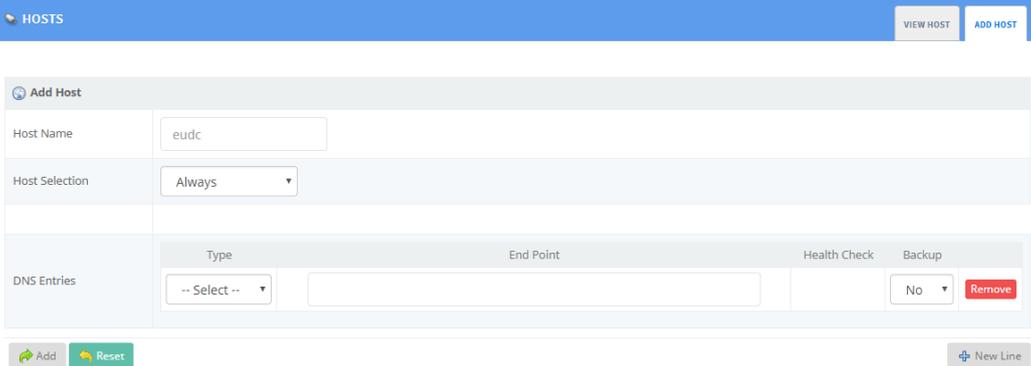
In our example detailed under the *View Host* section, we opted to use 'www' as the host, and then selected a country to catch any requests for this host from a particular country, which allows you to specify a range of DNS records specific to that region.

Therefore, adding a host can be done by specifying the necessary values detailed below.

You can add multiple records at once by using the *New Line* button, or finalize adding the host by clicking *Add*.

*Host*

This field is used to specify the host name which will now be part of the zone name added previously – in our case, using 'www' will make this full record www.gslb.domainnamehere.com.

You can also specify a country, or specific variables such as 'Anonymous Proxy' or 'Other Country' to allow flexibility in the rules used for responding with DNS records.

Note that once a selection is made from this dropdown, it cannot be changed, and you will need to re-add the host if changes are required.

*Type*

This dropdown specifies the DNS record type, such as A, AAAA, CNAME, TXT, and others.

*End Point*

This field specifies the value for the record type selected above. In the case of A, this would be an IPv4 address.

Health Check

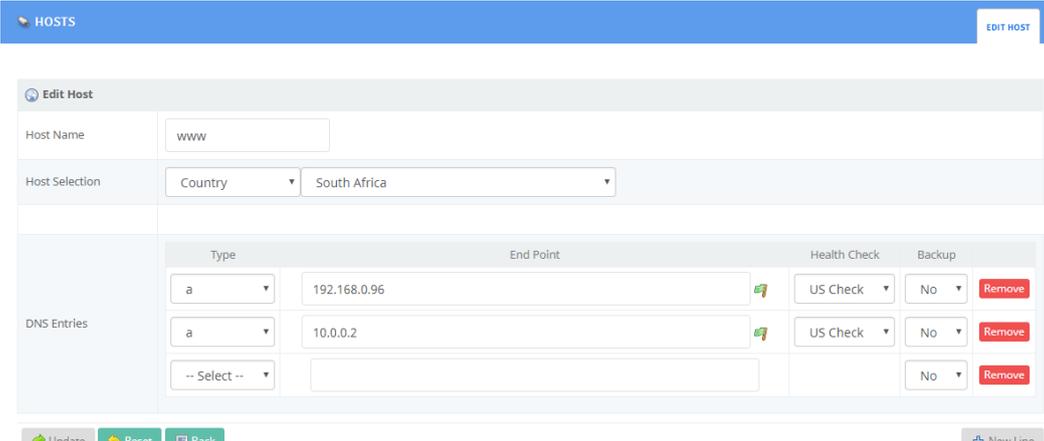This dropdown is used to specify which health check should be used on the DNS entry.

*Backup*

This dropdown is used to specify whether a record should only be available as a backup if primary entries are down.

**Edit Host**

Editing a host provides the same options as adding a host, except you cannot change the name or country it may be responsible for – only the DNS records within.

If fundamental changes such as changing the host name are required, you will need to delete and re-add the host.



Note that typically, the IP addresses added would be internet routable, whereas those displayed above are within the private address space for demonstrative purposes.

# Chapter 4: Configuration Summary

This section provides a summary of the currently applied zone configurations within the GSLB plugin, depending on the server availability and configuration of endpoints.

Therefore, these settings may differ from your configuration.

Thus it is required that you add zones as per Chapter 3 first in order for information to be available in this section.

## Loaded

This tab shows all zones currently loaded on the GSLB module, but with no validation that the servers/endpoints are available.

Again for demonstrative purposes, all IP addresses listed are in the private IP address space.

**CONFIGURATION SUMMARY**                                    LOADED   CONFIGURED

**GSLB.DOMAINNAMEHERE.COM**

**www // A Record**

| IP | Weight |
|---|---|
| 10.0.0.1 | 0 |
| 10.0.0.1 | 0 |

**www.us // A Record**

| IP | Weight |
|---|---|
| 192.168.0.96 | 0 |
| 192.168.0.96 | 0 |

**www.za // A Record**

| IP | Weight |
|---|---|
| 192.168.0.96 | 0 |
| 10.0.0.2 | 0 |

## Configured

This tab shows exactly the same information as the *Loaded* tab, but now with validation that the endpoints are indeed available as indicated by the green flag icon.

**CONFIGURATION SUMMARY**                                    LOADED   CONFIGURED

**GSLB.DOMAINNAMEHERE.COM**

**www // A Record**

| IP | Weight |
|---|---|
| 10.0.0.1 | 0 |
| 10.0.0.1 | 0 |

**www.us // A Record**

| IP | Weight |
|---|---|
| 192.168.0.96 | 0 |
| 192.168.0.96 | 0 |

**www.za // A Record**

| IP | Weight |
|---|---|
| 192.168.0.96 | 0 |
| 10.0.0.2 | 0 |

# Chapter 5: Dashboard

Now that you have completed the configuration of the GSLB plugin by adding your zones and hosts as needed, next you will need to start/reload the GSLB plugin.

## Dashboard

The dashboard shows a range of information pertaining to the GSLB plugin, such as the *Status*, *Uptime*, *Global* Queries, a *Histogram* for requests, and other statistics and graphs for the queries over various timeframes.
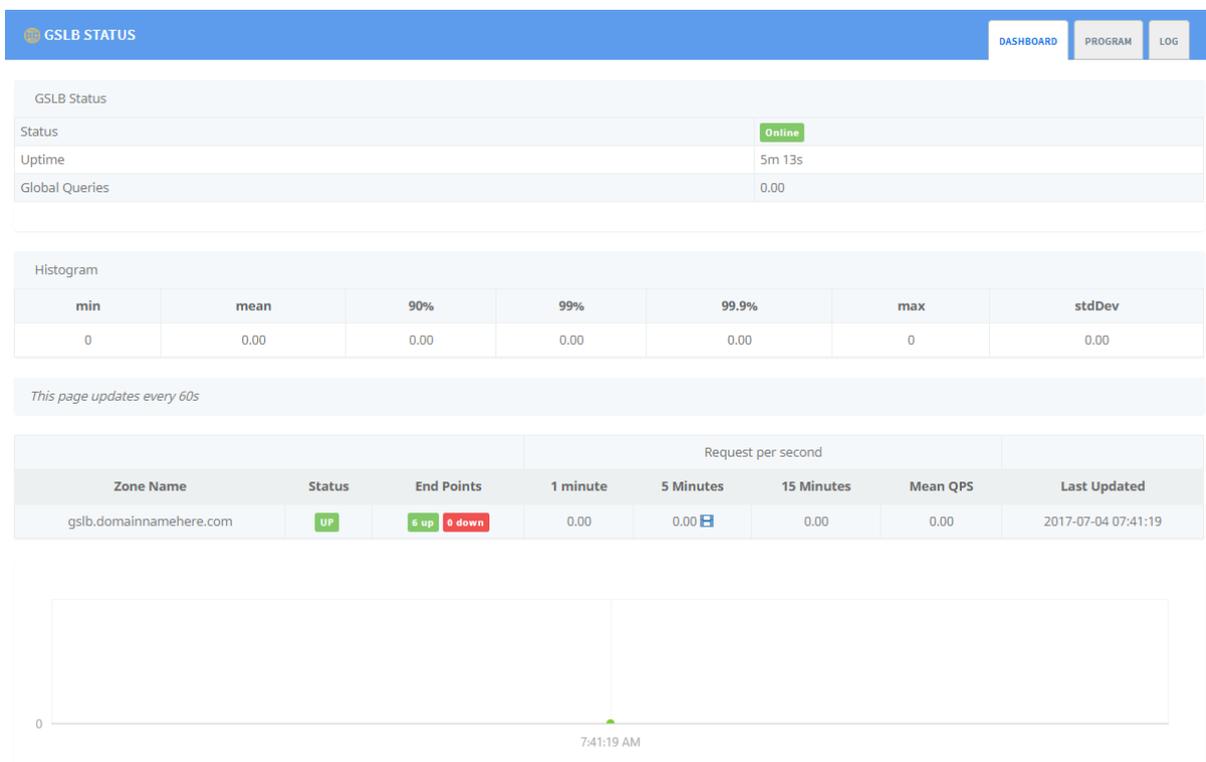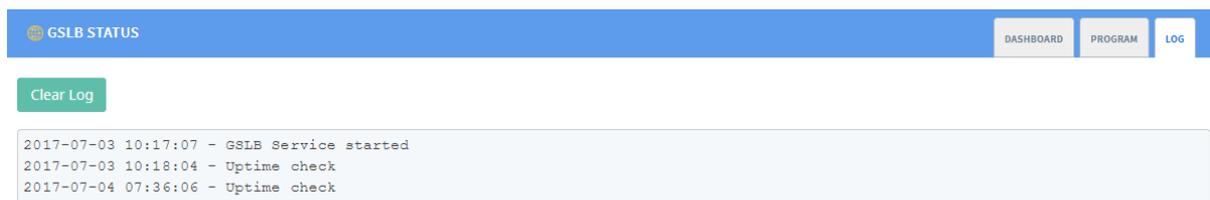


## Program

This tab is used in the same way as other plugins, and can be used to start/stop and reload the GSLB plugin.

This can be done by navigating to *GSLB > GSLB Dashboard* and using the *Program* tab in the same way as other plugins.



## Log

The *Log* tab is used to display logs specific to the GSLB module, such as when the service was stopped/started or the configuration reloaded.



```
2017-07-03 10:17:07 - GSLB Service started
2017-07-03 10:18:04 - Uptime check
2017-07-04 07:36:06 - Uptime check
```

## Chapter 6: Finishing up

Now that you have configured the GSLB plugin, the next step is to modify your actual domain DNS configuration to refer to the GSLB DNS server, in addition to ensuring that the subdomain used is delegated correctly.

For the domain name used in our example, this could be done using the following DNS records:

gslb.domainnamehere.com IN NS ns1.gslb.domainnamehere.com

gslb.domainnamehere.com IN NS ns2.gslb.domainnamehere.com

ns1.gslb.domainnamehere.com IN A (IP address of your first Snapt GSLB instance)

ns2.gslb.domainnamehere.com IN A (IP address of your second Snapt GSLB instance).

www.domainnamehere.com IN CNAME www.gslb.domainnamehere.com