

Snapt Redundancy Manual

Version 2.1

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Chapter 1: Introduction

Snapt uses active/passive redundancy, as is typical for most load balancers, web accelerators, and application delivery controllers (ADCs).


This is done by creating one or more floating virtual IP addresses on your redundant servers. By default, these IP's reside on your chosen master.

However, if a slave loses contact with the master, it will bring up those same IP addresses locally and accept traffic for them. This is done very quickly (in less than a second) and allows for a completely transparent failover for your users.

Once you have these IP addresses configured in the Redundancy plugin, you will use these for your Balancer and/or Accelerator IPs, and have your clients and DNS point to these instead of the primary IP address of the Snapt server.

Installation

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

 Snapt Redundancy V2



License Status: Licensed

Link: <http://www.snapt-ui.com/products/plugins/>

Version: 3.0

Description: The Snapt Redundancy plugin enables you to have one or more floating IP addresses between servers, allowing active/passive redundancy. This is the NEWER redundancy for Snapt images after version 10.

OS: Any

Chapter 2: Wizard

Once you've installed the plugin on both your master and slave, you can use the wizard to quickly get redundancy working.

Head over to your Master server: Setup > Redundancy V2 > Wizard

REDUNDANCY WIZARD WIZARD

By giving us the information below and we will try and setup the redundancy as painless as possible for you.
Please note that any prior configuration will be over written and that this is to help initial setups for first time users.

Redundancy	
Password	<input type="password"/> Show password
Floating IP	<input type="text"/> / <input type="text" value="0 (0.0.0.0)"/>
Interface	<input type="text" value="eth0"/>
Slave Information	
Slave Hostname	<input type="text" value="slave01"/>
Slave IP Address	<input type="text"/>
Slave Protocol	<input type="radio"/> HTTPS <input checked="" type="radio"/> HTTP
Slave Port	<input type="text" value="8080"/>
Slave key [?]	<input type="text" value="1339fa5-266d-3ec-2627-26c"/>
Configure Redundancy	

Redundancy Password / Shared Key

Specify a pre-shared password for the Redundancy plugin so that it can communicate securely with the other servers.

Floating IP

Specify a Floating IP to be used between your Master and Slave

Interface

Select the interface you'd like to attach the Floating IP to.

Slave Hostname

Specify the hostname of the slave here. Ensure the spelling of the hostname is exact. The Slave hostname can be seen on the Slave instance: Setup > System > Hostname Setup



Slave IP Address

Enter the IP address of your slave instance here.

Slave Protocol

Select the protocol you want to use. Remember that when selecting HTTPS you need to change the port to 8081 (default management port for HTTPS on Snapt images)

Slave Port

This is the management port of your Snapt instance. For HTTP use 8080 (Default) or for HTTPS use port 8081 (Default).

Slave Key

Enter your Slave's replication key here. This key can be found on the Slave instance by heading to Setup > Redundancy V2 > Local Replication. Hover over the blurred section to reveal the key.

When pasting this key into your master, please ensure that there are no leading spaces in front or after the key. Otherwise your configuration will fail.



Your Slave node will be automatically configured by the master.

After you've completed the setup, click on "Start Redundancy". After starting redundancy, you should see the following.


Master:

SNAPT REDUNDANCY CURRENT STATUS




Redundancy Status

Status	Enabled	
VIP 192.168.0.100/0 dev eth0	ACTIVE	

Monitored Apps Status

Balancer	ONLINE	
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Program Control

Slave:

SNAPT REDUNDANCY CURRENT STATUS

Redundancy Status

Status	Enabled	
VIP 192.168.0.100/0 dev eth0	STANDBY	

Monitored Apps Status

Balancer	ONLINE	
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Program Control

Chapter 3: Server Management

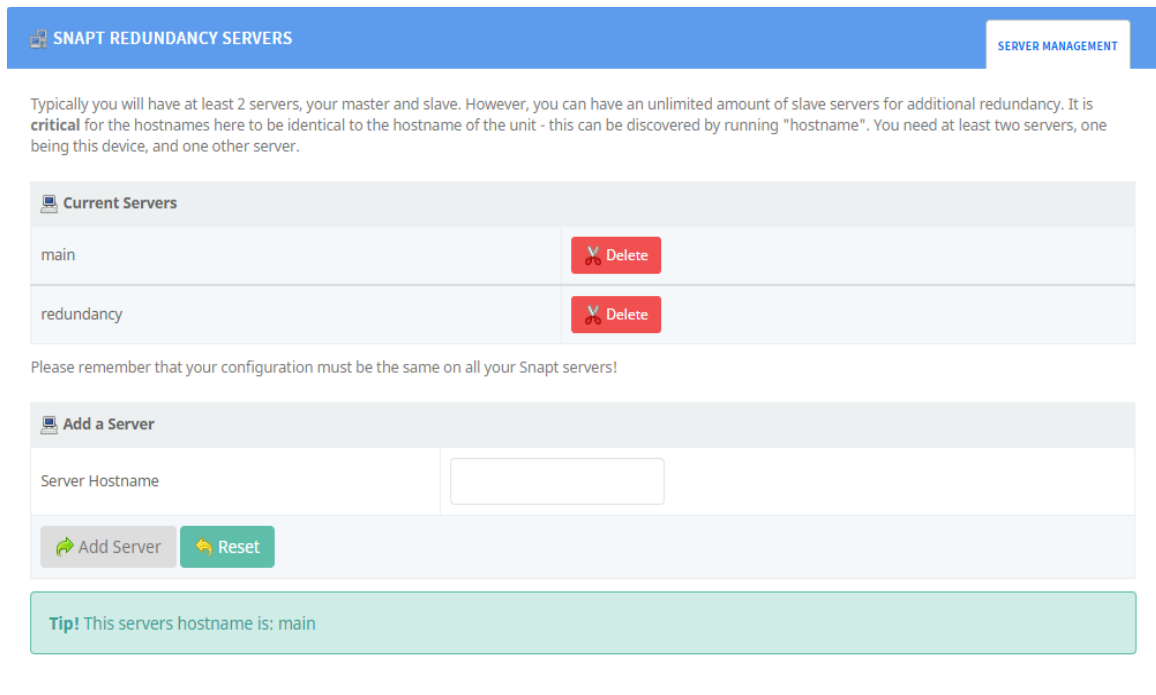
The next step in configuring the Redundancy plugin is adding the servers to the *Server Management* menu.

You need to ensure you add the exact hostname of each of the servers.

Snapt will display the hostname of each instance as a tip at the bottom of the *Server Management* screen for easy reference. Alternatively, you can run the *Hostname* command from the CLI of the server.

You can add multiple slave servers using this screen by simply adding each hostname.

You will also have the ability to delete any servers that should no longer be part of this redundant configuration.



The screenshot shows the 'SNAPT REDUNDANCY SERVERS' interface with a 'SERVER MANAGEMENT' tab. It includes a warning about hostnames, a table of current servers, a section to add a new server, and a tip.

Typically you will have at least 2 servers, your master and slave. However, you can have an unlimited amount of slave servers for additional redundancy. It is **critical** for the hostnames here to be identical to the hostname of the unit - this can be discovered by running "hostname". You need at least two servers, one being this device, and one other server.

Current Servers	
main	Delete
redundancy	Delete

Please remember that your configuration must be the same on all your Snapt servers!

Add a Server

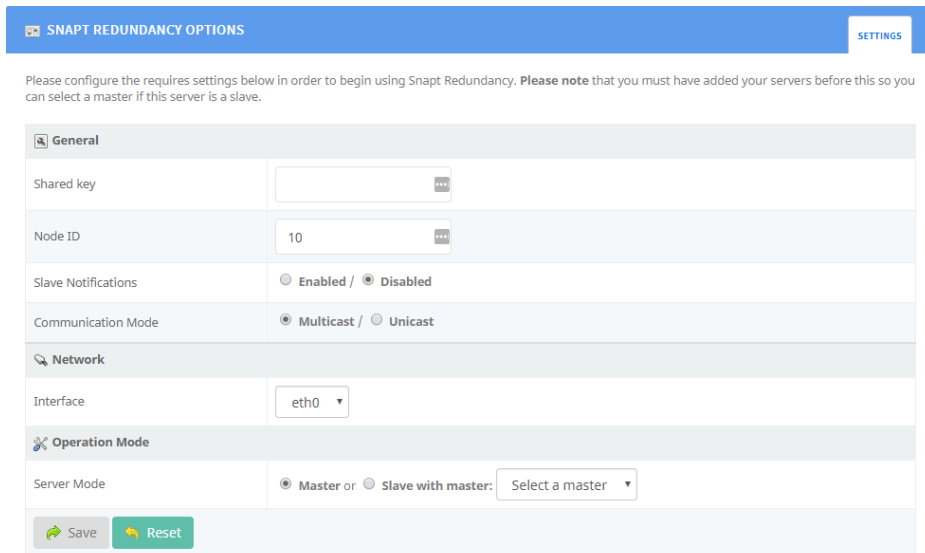
Server Hostname:

Add Server Reset

Tip! This servers hostname is: main

Chapter 4: Settings

Once you have installed and enabled the plugin, you will have a *Redundancy* submenu under the *Setup* section. To get started, you need to navigate to *Redundancy > Settings* and configure your default options.



Redundancy Password / Shared Key

Specify a password for the Redundancy plugin so that it can communicate securely with the other servers.

Node ID

Allows you to set a unique ID for each node. This is very useful if you have multiple redundancy setups and you want to be able to identify each one.

Slave Notifications

This enables or disables slaves from generating notifications, such as emails.

Communication Mode

Allows you to switch between Multicast or Unicast mode for communication between the Master and Slave

Interface

In this section, you specify an interface from the drop-down menu to use for the Redundancy plugin. This would typically be an interface connected to a switch shared between the servers.

Server Mode

This specifies whether the server should be operating as a master or slave. In the case of a slave, it allows you to specify which server to connect to as the master.

Chapter 5: Virtual IP/IPv6 Management

Next, you can add your virtual IP address(es) to the system.

You can add as many as are deemed necessary if they are not already in use on the system or network.

These IP addresses are also what will float between your Snapt instances, and are where your DNS and clients will be directed.

You are able to add these as either IPv4 or IPv6 addresses as per the two different *Virtual IP Management* options on the *Redundancy* submenu.

You can also specify whether to bring up these IP addresses immediately or only upon a reload of the redundancy configuration.

SNAPT REDUNDANCY IPS IP MANAGEMENT BULK ADD

You can add IP addresses which will then be floated between your redundant servers. You can use 1 IP address, or many.

Current IP Addresses

192.168.0.250/0 dev eth0	Delete
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Please remember that your configuration must be the same on all your Snapt servers!

Add an IP Address

IP Address: / on

Immediate UP: Yes / No

Add IP Reset

SNAPT REDUNDANCY IPS IP MANAGEMENT BULK ADD

You can add IPv6 addresses which will then be floated between your redundant servers. You can use 1 IPv6 address, or many.

Current IPv6 Addresses

No IPv6 addresses have been added.

Please remember that your configuration must be the same on all your Snapt servers!

Add an IPv6 Address

IPv6 Address: / on

Immediate UP: Yes / No

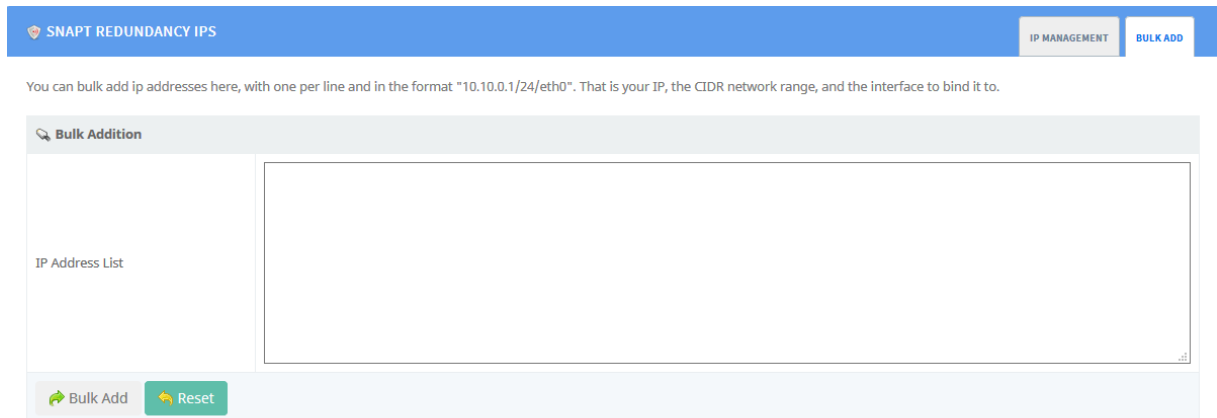
Add IP Reset

Bulk Mode

Should you need to add more than 1 IP at a time, you can use the Bulk Add option for this.

Please add one IP per line in the following format:

10.10.0.1/24/eth0 or 2001:770:18:2:0:0:c101:db5d/64/eth0 on the IPv6 section.

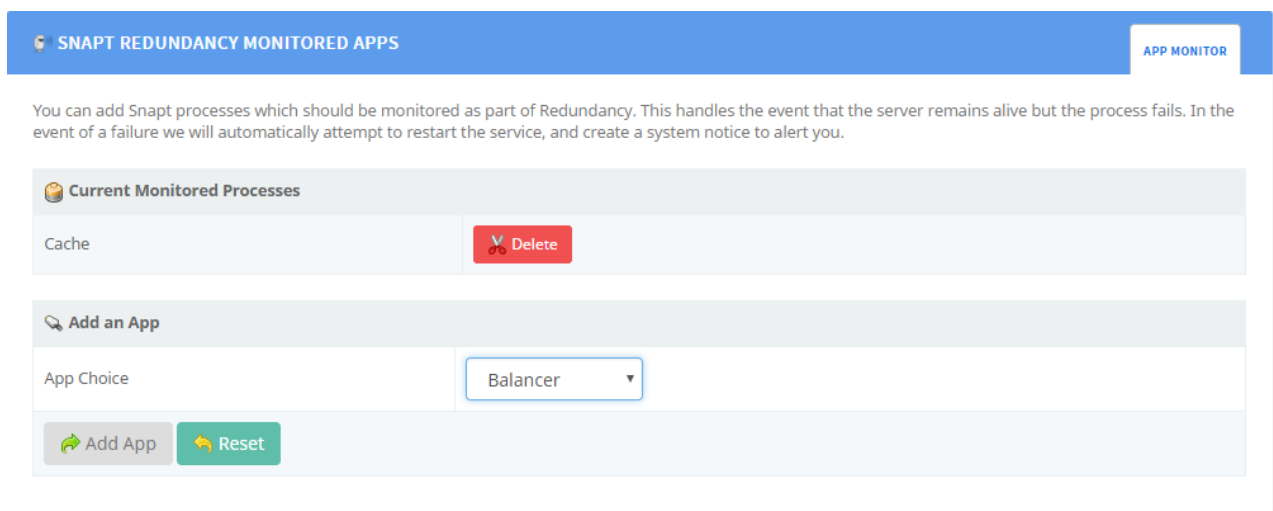


The screenshot shows the 'SNAPT REDUNDANCY IPS' interface. At the top right, there are two tabs: 'IP MANAGEMENT' and 'BULK ADD'. Below the header, a message states: "You can bulk add ip addresses here, with one per line and in the format '10.10.0.1/24/eth0'. That is your IP, the CIDR network range, and the interface to bind it to." The main area is titled 'Bulk Addition' and contains a large text input field labeled 'IP Address List'. At the bottom of this section, there are two buttons: 'Bulk Add' (with a green arrow icon) and 'Reset' (with a yellow arrow icon).

Chapter 6: Monitored Applications

The *Monitored Applications* menu is an optional section. It facilitates the monitoring of any plugins hooked into redundancy, and restarts them automatically if they stop.

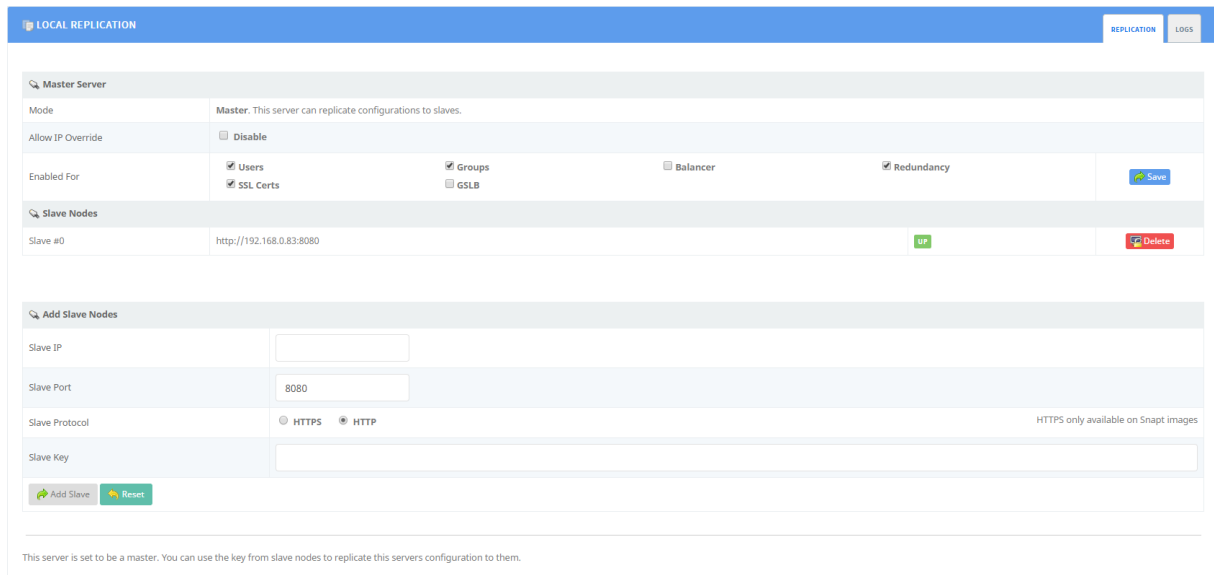
This handles both user error and potential software crashes, ensuring the plugins are always running.



The screenshot shows the 'SNAPT REDUNDANCY MONITORED APPS' interface. At the top right, there is a tab labeled 'APP MONITOR'. Below the header, a message states: "You can add Snapt processes which should be monitored as part of Redundancy. This handles the event that the server remains alive but the process fails. In the event of a failure we will automatically attempt to restart the service, and create a system notice to alert you." The main area is titled 'Current Monitored Processes' and contains a table with one row: 'Cache' and a 'Delete' button (with a red trash icon). Below this, there is a section titled 'Add an App' with a text input field labeled 'App Choice' containing the value 'Balancer' and a dropdown arrow. At the bottom of this section, there are two buttons: 'Add App' (with a green arrow icon) and 'Reset' (with a yellow arrow icon).

Chapter 7: Local Replication

This section facilitates the configuration of local replication amongst your servers so that configuration changes on the master will be propagated to the slave(s).

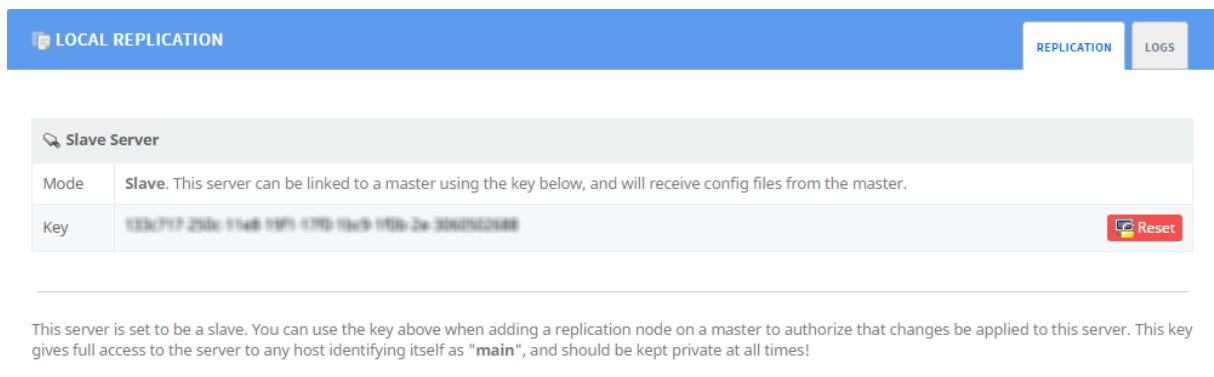


The screenshot shows the 'LOCAL REPLICATION' interface for a Master Server. The 'Master Server' section includes a 'Mode' dropdown set to 'Master', an 'Allow IP Override' checkbox set to 'Disable', and an 'Enabled For' section with checkboxes for 'Users', 'SSL Certs', 'Groups', 'GSLB', 'Balancer', and 'Redundancy'. A 'Save' button is visible. Below this is the 'Slave Nodes' section, showing a table with one entry: 'Slave #0' with IP 'http://192.168.0.83:8080', a green 'UP' status indicator, and a red 'Delete' button. At the bottom is the 'Add Slave Nodes' section with input fields for 'Slave IP', 'Slave Port' (set to 8080), 'Slave Protocol' (radio buttons for 'HTTPS' and 'HTTP'), and 'Slave Key'. A note states 'HTTPS only available on Snapt images'. There are 'Add Slave' and 'Reset' buttons. A footer note reads: 'This server is set to be a master. You can use the key from slave nodes to replicate this servers configuration to them.'

This involves selecting the appropriate sections/plugins for which you want to replicate the configuration changes between your servers. These include the *Balancer*, *Accelerator*, *SSL Certs*, and more.

You can add/remove slave nodes using the section at the bottom of the page. In order to add a slave node, you will first need to obtain the unique key from each server in slave mode.

The *Local Replication* screen will instead look as follows on a server configured as a slave. Hovering your mouse over the key area will reveal the key. **When you copy this key, please ensure that there are no spaces in front or after the key when pasting this into your Master.**



The screenshot shows the 'LOCAL REPLICATION' interface for a Slave Server. The 'Slave Server' section includes a 'Mode' dropdown set to 'Slave' and a 'Key' field displaying a long alphanumeric string: '133a717 256c 11a8 19f1 17fd 18c9 1f0b 2e 30675d2688'. A red 'Reset' button is visible. Below this is a note: 'This server is set to be a slave. You can use the key above when adding a replication node on a master to authorize that changes be applied to this server. This key gives full access to the server to any host identifying itself as "main", and should be kept private at all times!'

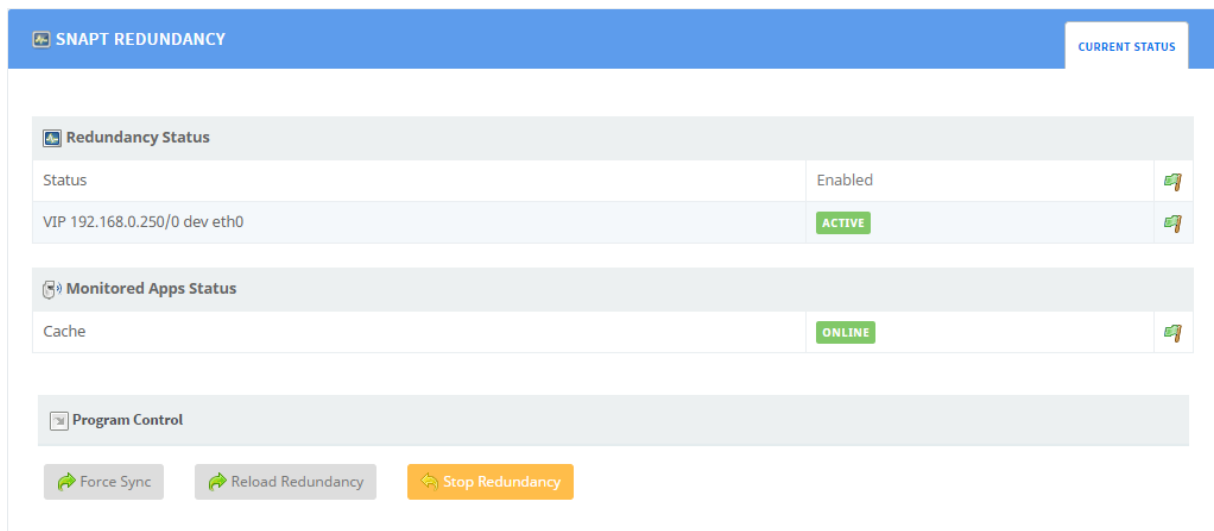
Chapter 8: Finishing up

By navigating to *Redundancy > Dashboard*, you will now be able to start the Redundancy plugin on the master and on any slave(s).

Once started, you should see *VIP Active* on the master, and *VIP Standby* on the slave(s).

If they are both showing as active, it indicates a problem – either they cannot communicate with each other, or other settings have been configured incorrectly, such as the *Settings* page or *Server Management* screen.

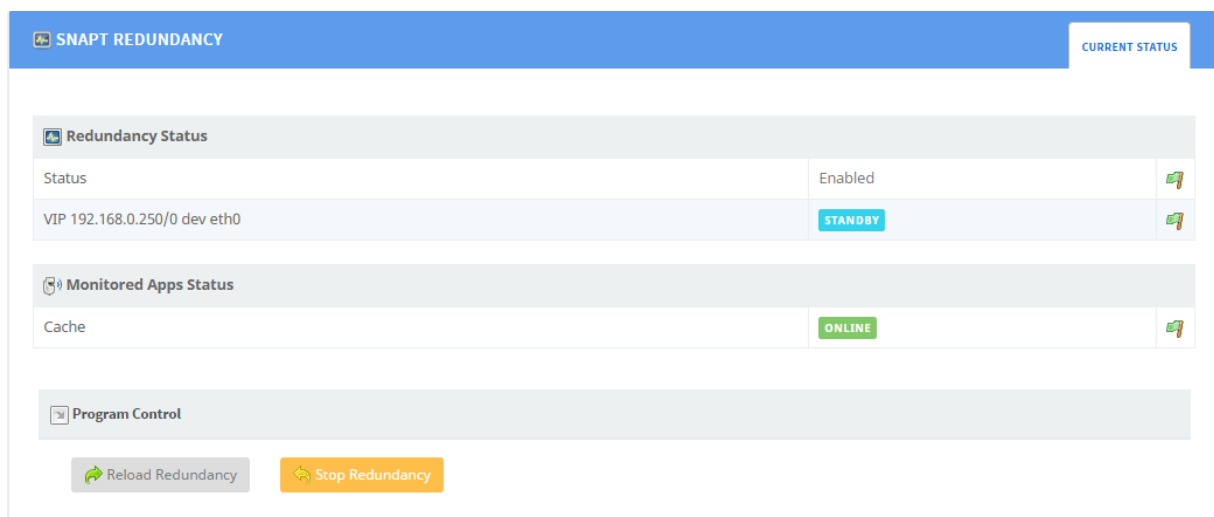
Active:



The screenshot shows the SNAPT REDUNDANCY dashboard with the following components:

- Header:** SNAPT REDUNDANCY (left) and CURRENT STATUS (right).
- Redundancy Status:**
 - Status: Enabled
 - VIP 192.168.0.250/0 dev eth0: ACTIVE
- Monitored Apps Status:**
 - Cache: ONLINE
- Program Control:**
 - Buttons: Force Sync, Reload Redundancy, Stop Redundancy

Standby:



The screenshot shows the SNAPT REDUNDANCY dashboard with the following components:

- Header:** SNAPT REDUNDANCY (left) and CURRENT STATUS (right).
- Redundancy Status:**
 - Status: Enabled
 - VIP 192.168.0.250/0 dev eth0: STANDBY
- Monitored Apps Status:**
 - Cache: ONLINE
- Program Control:**
 - Buttons: Reload Redundancy, Stop Redundancy