

Edgecast

Route (DNS) Walkthroughs

edgecast

Disclaimer

Care was taken in the creation of this guide. However, Edgecast cannot accept any responsibility for errors or omissions. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.

Trademark Information

EDGECAST is a registered trademark of Edgecast Inc.

About This Guide

Route (DNS) Walkthroughs

Version 1.31

11/22/2021

© 2021 Edgecast Inc. All rights reserved.

Table of Contents

Tutorials	1
Overview	1
Zone Creation.....	1
Address Record Creation	3
Load Balancing (Zone) Creation	5
Load Balancing (CNAME) Creation.....	9
Failover (Subdomain Delegation) Creation.....	13
Health Check Creation	16
Secondary Zone Creation.....	20
Master Server Group Creation.....	20
Secondary Zone Group Creation.....	22

Tutorials

Overview

This document contains tutorials for the following types of configurations:

- Creating a zone
- Creating an address record
- Creating a load balancing group within a zone
- Creating a load balancing group for a CNAME record
- Creating a failover group for a subdomain delegation
- Creating a health check configuration

Zone Creation

This tutorial will step you through the creation of a zone. The first step towards the creation of a zone is to click **Add New** from the **Route (DNS)** page. The **Add New** dialog box will expand to display zone settings upon selecting "Zone" from the **Type** option.

Add New Zone:

Type:

Name:

Comment:

Import File: No file selected.

Status: Active Inactive

Creating a Zone

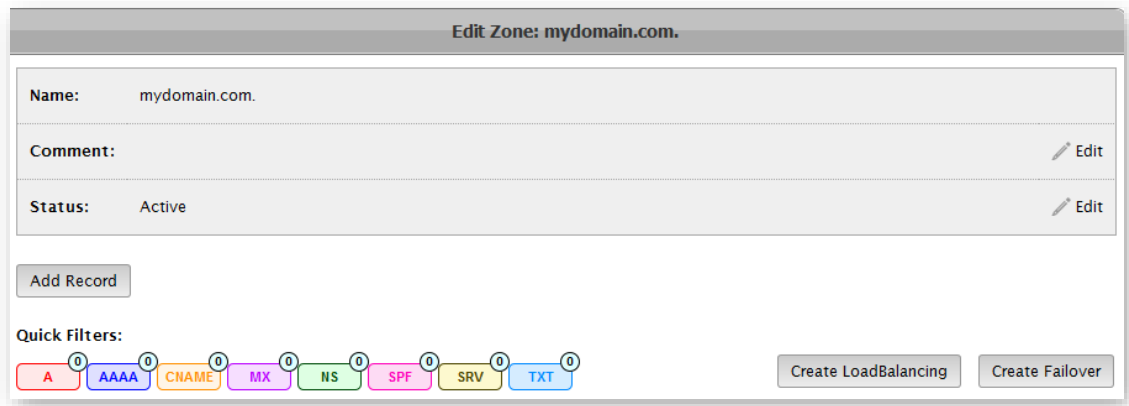
The most important setting when defining a new zone is its name. This name identifies a portion of the DNS namespace for which our name servers will be authoritative. This means that our name servers can provide an authoritative answer for DNS queries to that namespace. In the following illustration, the zone name is "mydomain.com." Once this zone has been created, recursive name servers can forward a DNS query to our name servers for the domain called "mydomain.com."



A screenshot of a form with a yellow background. The label "Name:" is on the left, and a text input field on the right contains the text "mydomain.com".

Defining the Name of a New Zone

Once you have finished defining your zone settings, click **Add**. A page will display the properties and system-defined records that will be associated with your zone.



A screenshot of a web interface titled "Edit Zone: mydomain.com.". The interface shows the following details:

- Name:** mydomain.com.
- Comment:** (with an "Edit" link)
- Status:** Active (with an "Edit" link)
- Add Record** button
- Quick Filters:** A row of colored buttons for record types: A (red), AAAA (blue), CNAME (orange), MX (purple), NS (green), SPF (pink), SRV (yellow), and TXT (light blue). Each button has a small circle with the number "0" above it.
- Create LoadBalancing** and **Create Failover** buttons.

Newly Created Zone (Top Half of the Window)

A zone will not actually be created until you submit it. Save your zone by clicking **Submit Group**.

Once your zone is ready to start receiving traffic, you should point the name servers at your domain registrar to our vanity name servers. For more information, please refer to the **Switching DNS Service Provider** section of the **DNS Zone Management** chapter in the **Route (DNS) Administration Guide**.

Address Record Creation

An address record points a hostname to an IP address. This allows our name servers to provide a definitive answer when it receives a DNS query for the corresponding domain. Before following the instructions in this tutorial, please make sure that you have created a zone.

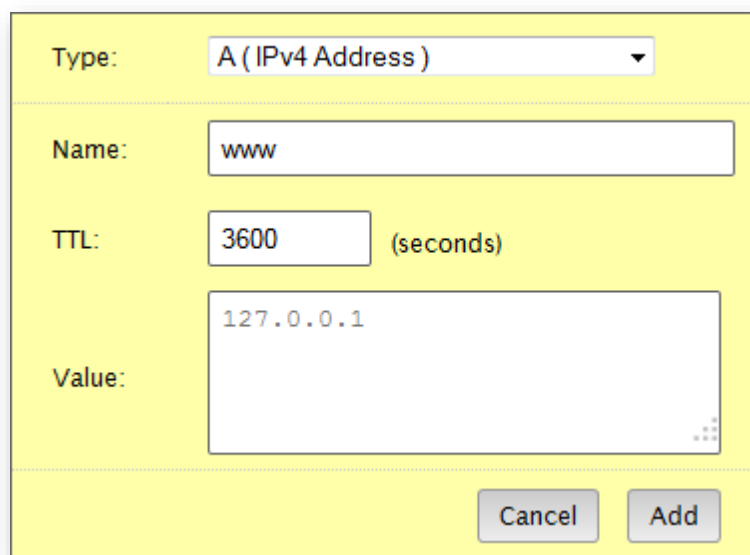
Tip: A tutorial on how to create a zone is provided above.

An address record must be associated with a zone. This means that you will need to edit a zone before you can add an address record. This can be accomplished by simply clicking on the desired zone from the **Route (DNS)** page.



Selecting a Zone

The page will be updated to display the configuration for the selected zone. A record can be added to the zone by clicking on **Add Record**.



Type:

Name:

TTL: (seconds)

Value:

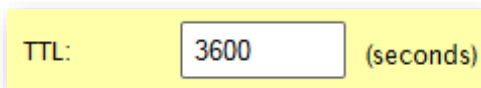
Defining an Address Record's Settings

The name associated with an address records defines a hostname. This hostname, in conjunction with the zone name, identifies a domain. For example, setting the **Name** option to "www" for a zone called "mydomain.com" identifies a domain called "www.mydomain.com."

A screenshot of a form field with a yellow background. On the left, the text "Name:" is displayed. To its right is a white rectangular input box containing the text "www".

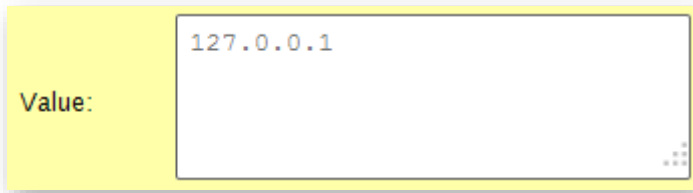
Defining an Address Record's Name

The TTL associated with an address record determines how long, in seconds, a recursive name server can provide a cached response for DNS queries to the hostname in question. For example, setting an address record's TTL to 3600 seconds means that it may take up to an hour before changes to your address record are reflected by all recursive name servers. Set the address record's TTL to 3600 seconds.

A screenshot of a form field with a yellow background. On the left, the text "TTL:" is displayed. To its right is a white rectangular input box containing the text "3600". To the right of the input box, the text "(seconds)" is displayed.

Defining an Address Record's TTL

Finally, you will need to define the IP address that will be associated with the address record. This is the answer that our name servers will provide for DNS queries to the corresponding hostname. Since we chose to create an A record, you will need to set the **Value** option to an IPv4 address.

A screenshot of a form field with a yellow background. On the left, the text "Value:" is displayed. To its right is a large white rectangular input box containing the text "127.0.0.1".

Defining an Address Record's IP Address

An address record will not actually be created until you save the zone. Save your zone by clicking **Submit Group**.

Load Balancing (Zone) Creation

This tutorial will teach you how to load balance a zone's address records. Before following the instructions in this tutorial, please make sure that you have created the following:

- A zone
- Two or more A records

Tip: This document contains tutorials on how to create a zone and address records.

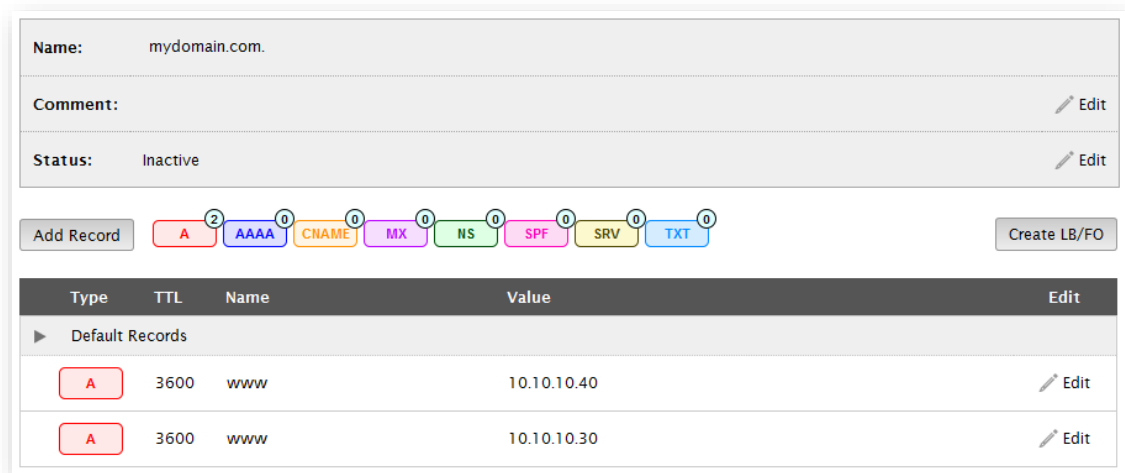
This tutorial describes how to create a load balancing group from a set of address records. This type of load balancing group can be performed from within a zone's configuration. View a zone's configuration by simply clicking on the desired zone from the **Route (DNS)** page.



Name	Type
mydomain.com.	Zones

Selecting a Zone

The page will be updated to display the configuration for the selected zone. The selected zone should display at least two user-defined address records as demonstrated in the following illustration.



Name: mydomain.com.

Comment: [Edit](#)

Status: Inactive [Edit](#)

Add Record A 2 AAAA 0 CNAME 0 MX 0 NS 0 SPF 0 SRV 0 TXT 0 [Create LB/FO](#)

Type	TTL	Name	Value	Edit
▶ Default Records				
A	3600	www	10.10.10.40	Edit
A	3600	www	10.10.10.30	Edit

Zone with Two Address Records

In order to create a load balancing group, you will need to select two or more address records that will be load balanced. A checkbox will appear next to each address record when you click

on **Create LB/FO** and then **Create Load Balancing**. Mark the checkbox next to each desired address record.

The screenshot shows a DNS management interface for a zone named 'mydomain.com'. The status is 'Inactive'. There are two buttons above the table: 'Add Record' with a red 'A' icon and a blue 'AAAA' icon, and 'Finish creating LB' with a 'Cancel' button. Below is a table of records:

Type	TTL	Name	Value	Edit	
▶ Default Records					
<input checked="" type="checkbox"/>	A	3600	www	10.10.10.40	Edit
<input checked="" type="checkbox"/>	A	3600	www	10.10.10.30	Edit

Zone with Two Selected Address Records

The dialog box is titled 'Creating LB for the selected Records.' It has two input fields: 'Name:' and 'TTL:'. At the bottom are 'Cancel' and 'Add' buttons.

Load Balancing Group Settings

The 'Name:' input field contains the text 'images'.

Defining a Load Balancing Group's Name

The TTL associated with a load balancing group determines how long, in seconds, a recursive name server can provide a cached response for DNS queries to the hostname in question. For example, setting a load balancing group's TTL to 300 seconds means that it may take up to five minutes before changes to your load balancing configuration are reflected by all recursive name servers. Set the load balancing group's TTL to 300 seconds.

TTL:

Defining a Load Balancing Group's TTL

Load Balancing Group for **images** with TTL = **300** seconds. Edit

IPV4 Address	Weight	Health Check	Edit
10.10.10.30	50		Edit
10.10.10.40	50		Edit
IPV6 Address	Weight	Health Check	Edit
No IPs are associated yet.			

Cancel Done

Additional Load Balancing Group Settings

IPV4 Address	Weight	Health Check	Edit
✖ 10.10.10.30	50		Done
<input type="text" value="10.10.10.30"/>	<input type="text" value="150"/>	Add HC	

Defining Weight

Click **Done** at the bottom of the dialog box. A load balancing group will appear in the zone. The address records associated with that group are listed directly below it.

The screenshot shows a DNS management interface for a zone named 'mydomain.com'. The zone is currently 'Inactive'. Below the zone information, there is a record type selector with buttons for A (2), AAAA (0), CNAME (0), MX (0), NS (0), SPF (0), SRV (0), and TXT (0). A 'Create LB/FO' button is also present. Below this is a table of records:

Type	TTL	Name	Value	Edit
▶ Default Records				
▼		images		Edit
A	300	images	10.10.10.40	
A	300	images	10.10.10.30	

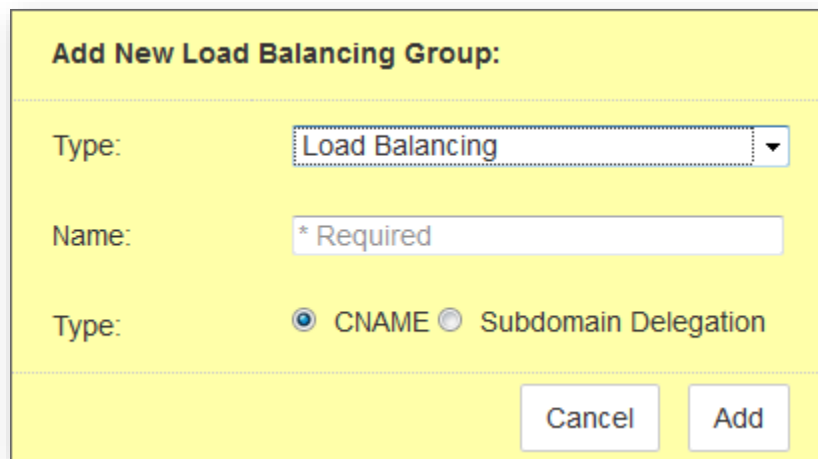
Load Balancing Group with Two Address Records

Tip: Use health checks to stop serving traffic to unhealthy servers. This document contains a health check tutorial that steps you through this configuration.

Load Balancing (CNAME) Creation

This tutorial will teach you how to load balance requests to a CNAME record for a primary zone hosted by another DNS service provider. Upon completing this tutorial, you will need to create a CNAME record to the domain associated with your load balancing group.

The first step towards the creation of a load balancing group is to click **Add New** from the **Route (DNS)** page. The **Add New** dialog box will expand to display load balancing settings upon selecting "Load Balancing" from the **Type** option.



Add New Load Balancing Group:

Type:

Name:

Type: CNAME Subdomain Delegation

Creating a Load Balancing Group



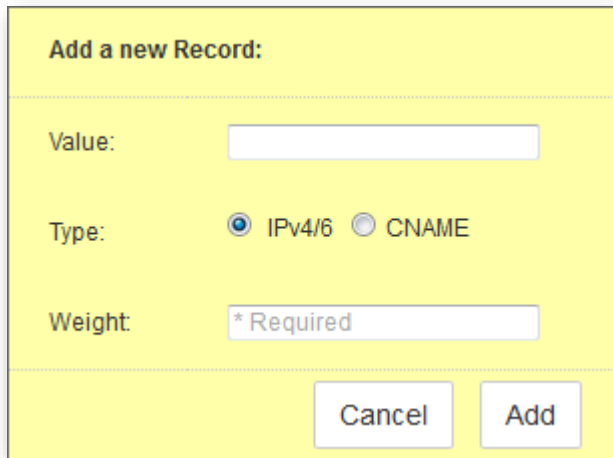
Name:

Defining a Load Balancing Group's Name

The **Type** option determines whether our name servers will load balance traffic for a CNAME record or a subdomain delegation. An advantage of using a CNAME record is that it can be quickly created through your DNS service provider with minimal effort. Once you have created your load balancing group, all DNS requests to the hostname associated with that CNAME record will be load balanced by our name servers. Select the **CNAME** option and then click **Add**.

A basic load balancing group configuration will be displayed. A load balancing group must be associated with at least two IP addresses or CNAME records. This allows our name servers to resolve DNS queries to a CNAME record to the defined set of IP addresses or CNAME records.

Click **Add** to define an IP address and its weight.



Add a new Record:

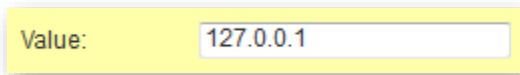
Value:

Type: IPv4/6 CNAME

Weight:

Adding an IP Address to a Load Balancing Group

In the **Value** option, define where traffic will be load balanced. Specify the desired IP address.



Value:

Defining an IP Address

Set the weight of the first IP address to "60."

Weight:

Defining Weight

Add a second IP address by clicking **Add**. When prompted, define the following configuration:

- **Value:** Set this option to the IP address of another server to which traffic for this CNAME will be served.
- **Weight:** Set this option to "40."

Click **Add**.

Your load balancing group should look similar to the following illustration.

IPV4 Address	Weight	Health Check	Edit
127.0.0.2	40		Edit
127.0.0.1	60		Edit

Legend: ■ IP Added ■ IP Edited ■ IP Deleted

Load Balancing Group with Two IP Addresses



Name: us Edit

Type: CNAME Edit

▼ Group Information

You will need to create a CNAME record in your DNS system that points whatever you want to load balance/fail-over to: us.0001.edgecastdns.net.

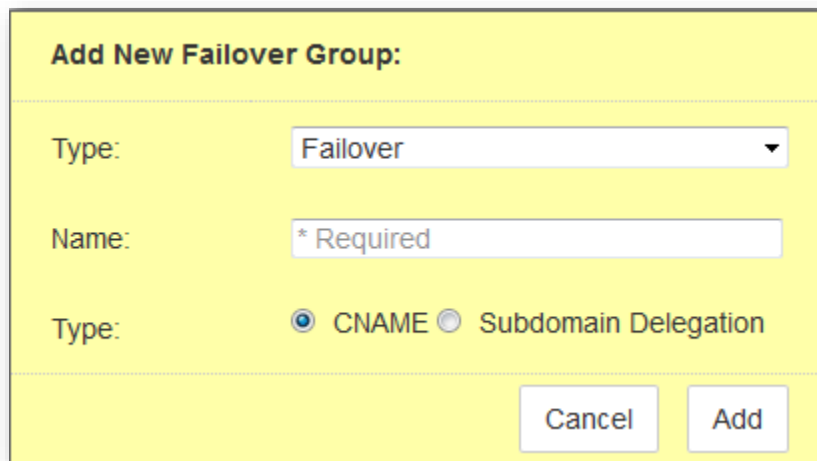
Viewing Information about a Load Balancing Group

A load balancing group will not actually be created until you save it. Save your load balancing group by clicking **Submit Group**.

Failover (Subdomain Delegation) Creation

This tutorial will teach you how to failover requests for a subdomain of a primary zone hosted by another DNS service provider. Upon completing this tutorial, you will need to delegate that subdomain to our DNS service.

The first step towards the creation of a failover group is to click **Add New** from the **Route (DNS)** page. The **Add New** dialog box will expand to display failover settings upon selecting "Failover" from the **Type** option.



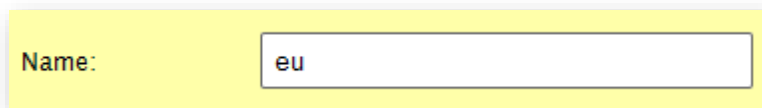
Add New Failover Group:

Type:

Name:

Type: CNAME Subdomain Delegation

Creating a Failover Group

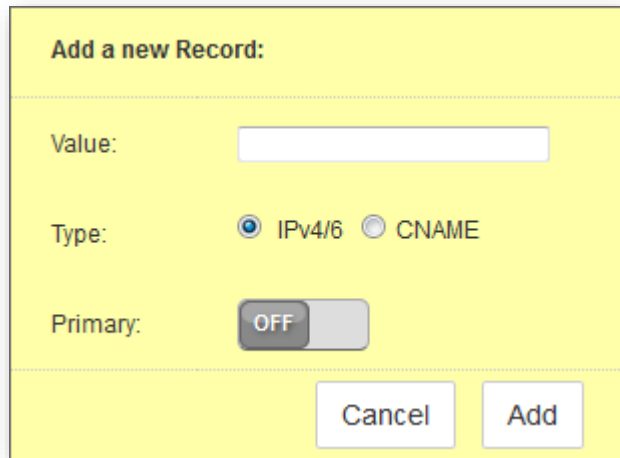


Name:

Defining a Failover Group's Name

A basic failover group configuration will be displayed. A failover group must be associated with exactly two IP addresses or CNAME records. This allows our name servers to resolve DNS queries to a delegated subdomain to one of those IP addresses or CNAME records.

Click **Add** to define an IP address and its primary/backup status.



Add a new Record:

Value:

Type: IPv4/6 CNAME

Primary: OFF

Cancel Add

Adding an IP Address to a Failover Group


In the **Value** option, define where traffic will be load balanced. Specify the desired IP address.



Value:

Defining an IP Address

Note: If a health check configuration has not been defined for the primary server, then our name servers will always serve traffic to it. A tutorial on how to create health check configurations is available in this document.



Primary: OFF

Defining Primary/Backup Status

Add a second IP address by clicking **Add**. When prompted, define the following configuration:

- **Value:** Set this option to the IP address of another server to which traffic for the delegated subdomain will be served.
- **Primary:** Use this option to determine whether the current server is a primary or backup server. If you assign the same status to both servers, then the server configured last will be assigned primary status.

Click **Add**.

Your failover group should look similar to the following illustration.

IPV4 Address	Primary	Health Check	Edit
127.0.0.4	✓		Edit
127.0.0.3			Edit

Failover Group



Name: eu Edit

Type: Subdomain

▼ Group Information

You will need to delegate a subdomain to Edgecast for us to load balance these records.

eu IN NS ns1.edgecastdns.net.

eu IN NS ns2.edgecastdns.net.

eu IN NS ns3.edgecastdns.net.

eu IN NS ns4.edgecastdns.net.

Viewing Information about a Failover Group

Health Check Creation

This tutorial will teach you how to apply a health check configuration to a server. A health check configuration can only be applied to a server that is a part of a load balancing or failover group. Before following the instructions in this tutorial, please make sure that you have created either a load balancing or failover group for:

- Address records (i.e., A or AAAA) for a primary zone hosted on our Route solution.
- A CNAME record for a primary zone hosted on another DNS service provider.
- A subdomain for a primary zone hosted on another DNS service provider.

Tip: This document contains tutorials on how to create load balancing and failover groups.

This tutorial leverages a previously created load balancing group. View that load balancing group by clicking on it from the Route (DNS) page. This load balancing group contains two IP addresses as illustrated below.

Name: us Edit

Type: CNAME

▶ Group Information

Add IP

IP Added IP Edited IP Deleted

IPv4 Address	Weight	Health Check	Edit
127.0.0.2	40		Edit
127.0.0.1	60		Edit

Load Balancing Group

IP Added
 IP Edited
 IP Deleted

IPV4 Address	Weight	Health Check ?	Edit
✘ 127.0.0.2 <input type="text" value="127.0.0.2"/>	40 <input type="text" value="40"/>	Add HC	Done
127.0.0.1	60		Edit

Editing a Server's Configuration

Health Check for 127.0.0.2

Health Check Type	<input type="text" value="HTTP"/>	Method Type	<input type="text" value="GET"/>
URI	http:// <input type="text"/>	IP Version	<input type="text" value="IPv4"/>
Content Verification	<input type="text"/>	Seconds Between Checks	<input type="text" value="300"/>
Email Notification	<input type="text"/>	Number of failed Checks	<input type="text" value="(1-10)"/>
Reintegration Method	<input checked="" type="radio"/> Automatic <input type="radio"/> Manual		

Health Check Configuration

1. In the **Health Check Type** option, verify that "HTTP" is selected.
2. In the **Method Type** option, verify that "GET" is selected.
3. In the **URI** option, define a URI that requests content from the server for which a health check configuration is being created.
4. In the **IP Version** option, verify that "IPv4" is selected.

The **Health Check** dialog box should now look similar to the following illustration.

The screenshot shows a dialog box titled "Health Check for 127.0.0.2". It contains the following configuration options:

- Health Check Type: HTTP (dropdown)
- Method Type: GET (dropdown)
- URI: http://www.mydomain.com/serverstatus.html (text input)
- IP Version: IPV4 (dropdown)
- Content Verification: (empty text input)
- Seconds Between Checks: 300 (text input)
- Email Notification: (empty text input)
- Number of failed Checks: (1-10) (text input)
- Reintegration Method: Automatic Manual

At the bottom right, there are two buttons: "Delete Health Check" and "Verify and Save".

Health Check Configuration (Partially Filled)

Our health check agents need to know how frequently they should send a GET request to the specified URI. This frequency is defined in the **Seconds Between Checks** option. Set this option to 100 seconds. Our health check agents also need to know when they should report that a server's status has changed. The **Number of failed Checks** option defines how many times an individual health check agent must produce the same result (i.e., Pass/Fail) before it can report a change in server status. Set this option to 3. According to these settings, our health check agents can report a change in server status around 300 seconds after it starts passing or failing health checks.

Set the **Email Notification** option to your e-mail address. This will allow you to receive a message whenever there is a change in the health state of the server associated with this health check configuration.

The **Reintegration Method** option determines whether our health check agents can resume serving traffic to a server that has recovered from a failed health check state. Select the **Automatic** mode to enable this behavior.

Your health check configuration should now look similar to the following illustration.

The screenshot shows a configuration window titled "Health Check for 127.0.0.2". It contains several fields and controls:

- Health Check Type:** HTTP (dropdown)
- Method Type:** GET (dropdown)
- URI:** http:// www.mydomain.com/serverstatus.html (text input)
- IP Version:** IPV4 (dropdown)
- Content Verification:** (empty text input)
- Seconds Between Checks:** 100 (text input)
- Email Notification:** admin@mydomain.com (text input)
- Number of failed Checks:** 3 (text input)
- Reintegration Method:** Automatic (selected radio button), Manual (unselected radio button)
- Buttons:** "Delete Health Check" and "Verify and Save"

Health Check Configuration

Your load balancing group should now look similar to the following illustration.

The screenshot shows a table with the following columns: "IPV4 Address", "Weight", "Health Check", and "Edit". Above the table are three legend items: "IP Added" (green square), "IP Edited" (blue square), and "IP Deleted" (red square). The table contains two rows of data:

IPV4 Address	Weight	Health Check	Edit
127.0.0.2	40		Edit
127.0.0.1	60		Edit

Load Balancing Group with Health Checks



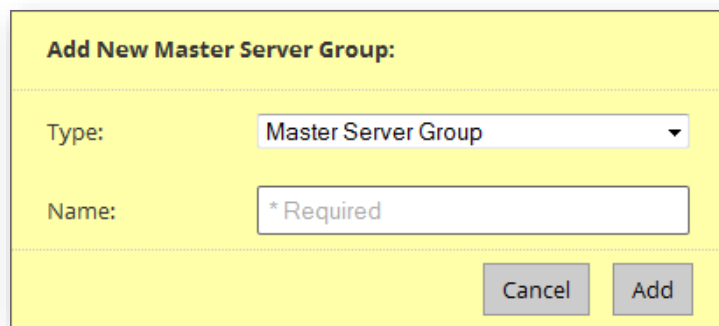
Secondary Zone Creation

The purpose of this tutorial is to provide step-by-step instructions on how to set up a secondary zone. This process requires the creation and configuration of the following items:

Item	Description
Master Server Group	A prerequisite for a secondary zone group is a master server group that identifies one or more master name servers from which zones will be transferred.
Secondary Zone Group	A secondary zone group defines the secondary zones that will be transferred from a master name server.

Master Server Group Creation

The first step towards the creation of a master server group is to click **Add New** from the **Route (DNS)** page. The **Add New** dialog box will expand to display the **Name** setting upon selecting "Master Server Group" from the **Type** option.



Add New Master Server Group:

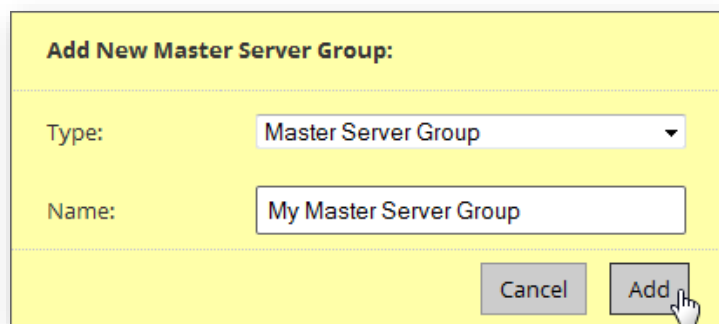
Type: Master Server Group

Name: * Required

Cancel Add

Add New Master Server Group

The name assigned to the master server group is solely used for identification purposes. Set the **Name** option to "My Master Server Group" and then click **Add**.



Add New Master Server Group:

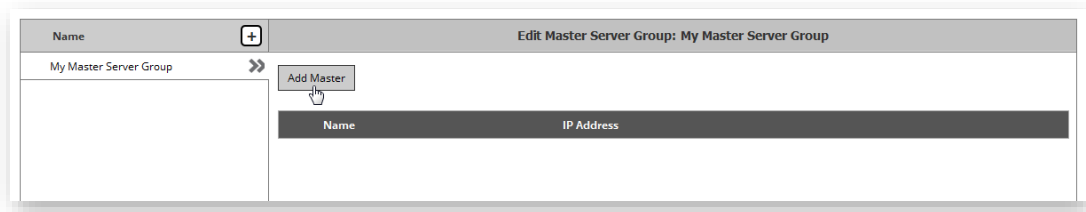
Type: Master Server Group

Name: My Master Server Group

Cancel Add

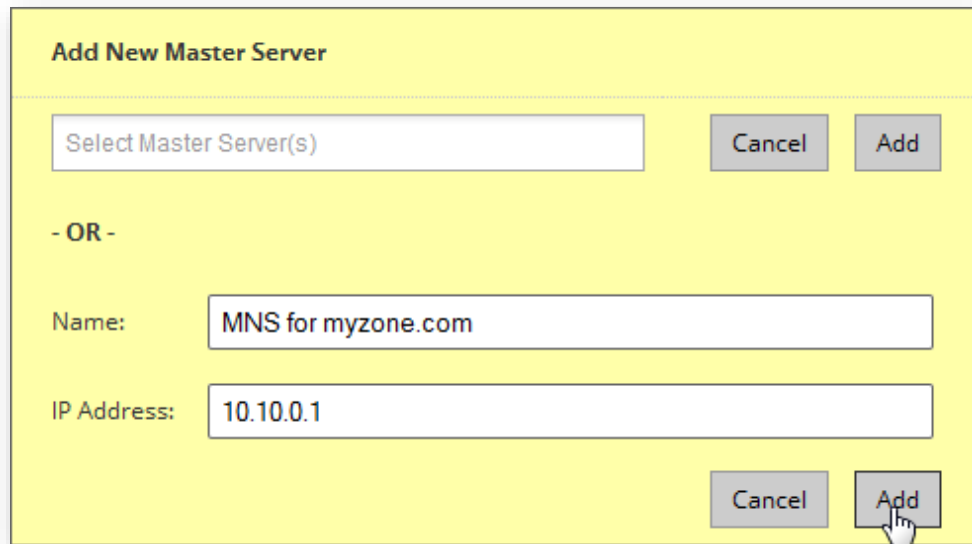
Adding a Master Server Group

The **Edit Master Server Group** page will be displayed. Click **Add Master** to associate a master name server with this master server group.




Edit Master Server Group

Use the **Add New Master Server** dialog box to define the name and IP address of the master name server from which one or more zones will be transferred. The name assigned to a master name server is solely used to identify it when selecting its TSIG key from within a secondary zone group configuration. Set the **Name** option to the desired name. Set the **IP Address** option to the IP address (IPv4 or IPv6) corresponding to a master name server from which zones will be transferred. Click **Add**.

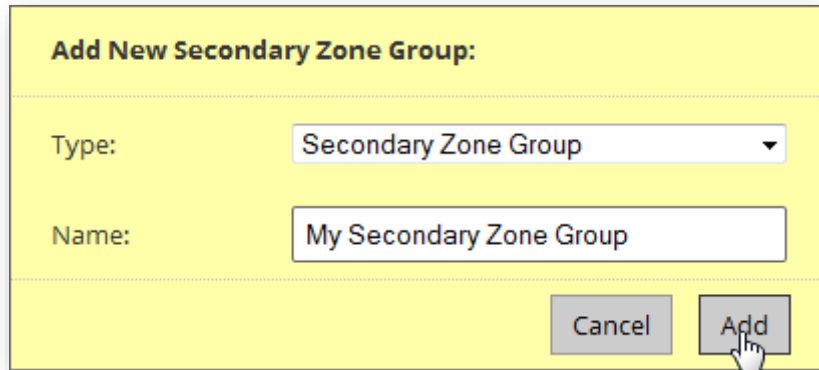


Adding a New Master Server

Click **Submit Group** to save the master server group. Once the master server group has been saved, click  to display the Route landing page.

Secondary Zone Group Creation

Click **Add New** from the Route landing page. In the **Type** option, select "Secondary Zone Group." In the **Name** option, type a name by which this secondary zone group will be identified (e.g., My Secondary Zone Group). Click **Add**.



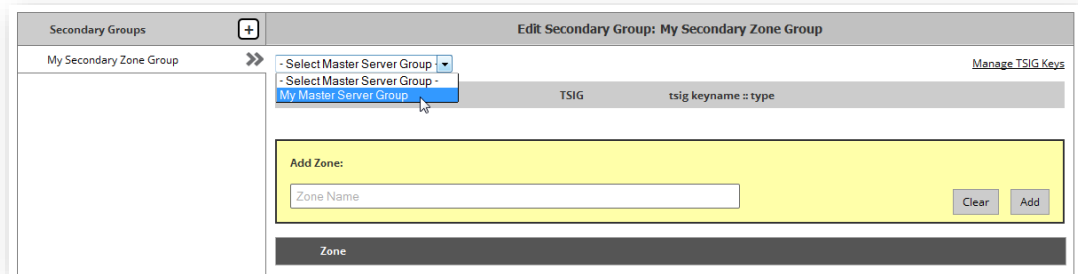
Add New Secondary Zone Group:

Type:

Name:

Add New Secondary Zone Group

Select the previously created master server group from the master server group list.



Secondary Groups Edit Secondary Group: My Secondary Zone Group

My Secondary Zone Group >> [Manage TSIG Keys](#)

TSIG

Add Zone:

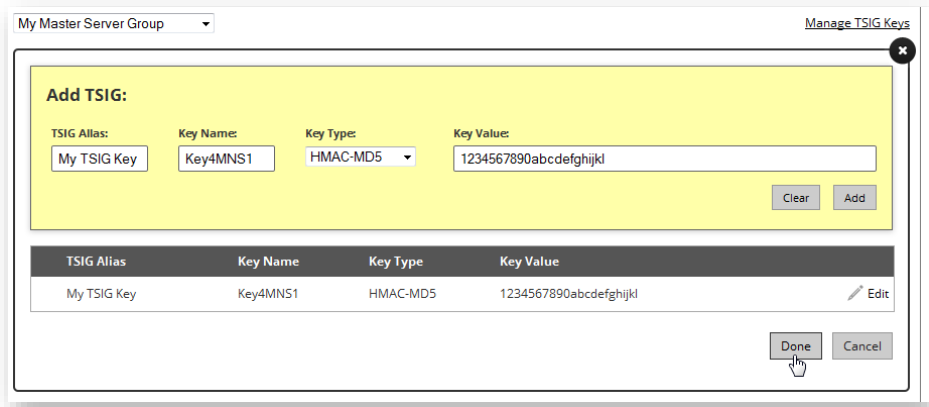
Zone

Master Server Group Selection

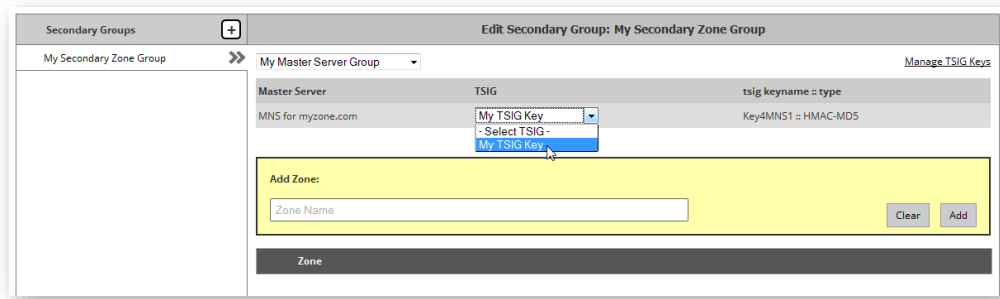
Optional. The following configuration is required if TSIG authentication is required by the master name server.

- i. Follow the "Manage TSIG Keys" link.
- ii. In the **TSIG Alias** option, assign a brief name to the TSIG key (e.g., My TSIG Key).
- iii. In the **Key Name** option, indicate the unique name by which the master and Route name servers will identify this key.
- iv. In the **Key Type** option, select the cryptographic hash function used to generate the key value.
- v. In the **Key Value** option, paste the hash value generated for this key.

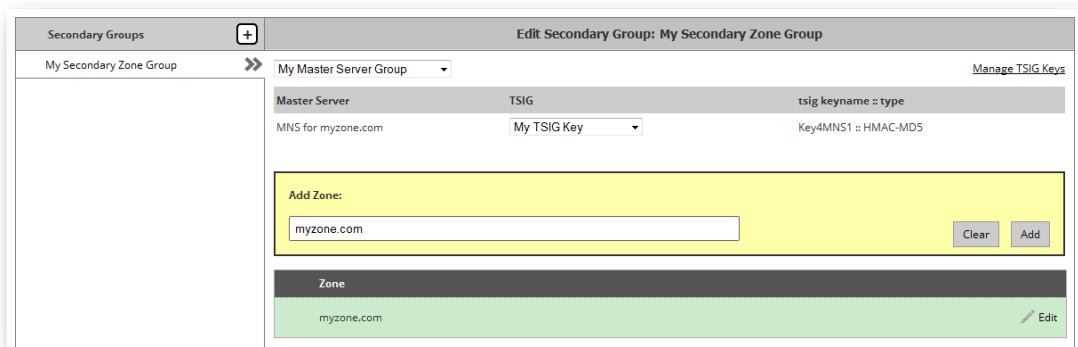
- vi. Click **Add**.
- vii. Click **Done**.



- 2. Assign the recently created TSIG key to the master name server by selecting the key from the **-Select TSIG-** option.



In the **Add Zone** option, type the name of the secondary zone that will be transferred to our DNS service. Click **Add**.



Defining Secondary Zones

Click **Submit Group** to save the secondary zone group and to trigger the zone transfer for the specified secondary zone(s).