

# Configure the LAN and DHCP Settings on the RV34x Series Router

## Objective

A Local Area Network (LAN) is a network limited to an area such as a home or small business that is used to interconnect devices. LAN settings can be configured to limit the number of devices that can be connected and what IP addresses those devices will receive. Dynamic Host Configuration Protocol (DHCP) is a network configuration protocol that automatically configures the IP addresses of devices on a network so that they can connect to one another. IP addresses are logical identifiers for network devices that allow communication between networks. The address is leased to a host for a specified time. After the expiration of the lease time, that IP address may be assigned to a different host.

If you already have a DHCP server, you can use the router as a DHCP relay. When a client sends the router a DHCP request, the router will then ask the DHCP server to provide an IP address for the client. The router and the DHCP server do not need to be on the same subnet to function. The router acts as a liaison between the host and a DHCP server.

Option 82 is a DHCP relay information option. DHCP relay is a feature that is used to allow DHCP communication between hosts and remote DHCP servers that are not on the same network. It allows a DHCP relay agent to include information about itself when it sends DHCP packets to and from clients to a DHCP server. It adds more security to the DHCP process by thoroughly identifying the connection.

This document aims to show you how to configure the LAN and DHCP settings on the RV34x Series Router.

## Applicable Devices

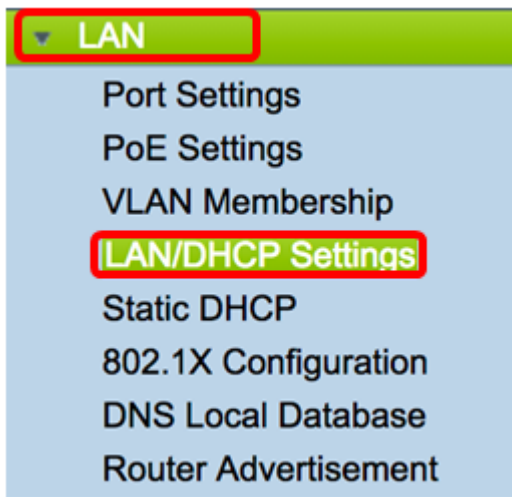
- RV34x Series

## Software Version

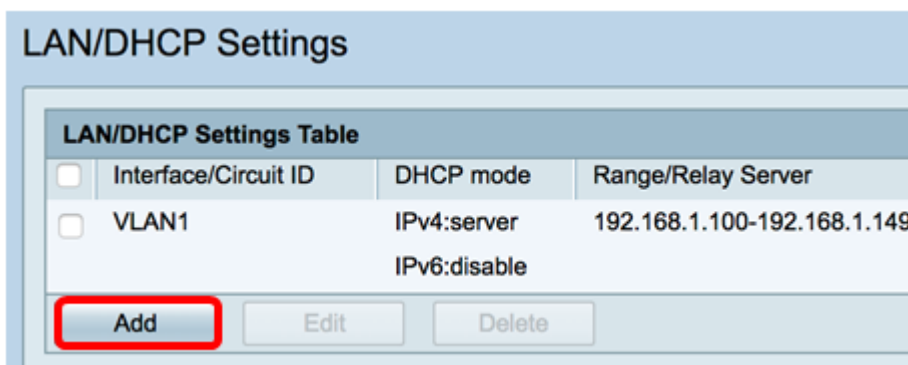
- 1.0.01.17

## Add New DHCP Configuration

Step 1. Log in to the web-based utility of the router and choose **LAN > LAN/DHCP Settings**.



Step 2. In the LAN/DHCP Settings Table, click on the **Add** button to create a new entry in the table.



Step 3. In the Add/Edit New DHCP Configuration area, click a radio button to select the method in which the DHCP settings will be configured. The options are:

- Interface — If this is chosen, choose a VLAN interface from the drop-down menu. The contents of the list depend on the user-defined VLANs. Skip to the [Configure an Interface](#) section for instructions.
- Option 82 Circuit — If this is chosen, enter a description and user-defined American Standard Code for Information Interchange (ASCII) string that identifies the circuit interface upon which the DHCP request was sent. Skip to the [Configure Option 82](#) section for instructions.

### Add/Edit New DHCP Configuration

**Interface**

**Option 82 Circuit**

## Configure an Interface

Step 1. From the Interface drop-down menu, choose a VLAN ID. Then, click **Next**.

**Note:** In this example, VLAN 25 is chosen.

### Add/Edit New DHCP Configuration

**Interface**

**Option 82 Circuit**

Step 2. Click a radio button to choose the DHCP Type for IPv4. The options are:

- Disabled — Disables the DHCP server for IPv4 on the router. If this is chosen skip to the [Configure IPv6 DHCP](#) section.
- Server — The DHCP server assigns the addresses to clients from their respective pools. If this is chosen, skip to [Configure IPv4 DHCP Server](#) section and click **Next**.
- Relay — Sends the DHCP requests and replies from another DHCP server through the router. If this is chosen, enter the IP Address of the remote DHCP server in the *IP Address (IPv4)* field and click **Next**. Then, skip to the [Configure IPv6 DHCP Server](#) section and click **Next**.

## Add/Edit New DHCP Configuration

Select DHCP Type for IPv4

Disabled

Server

Relay

### [Configure IPv4 DHCP Server](#)

Step 1. In the *Client Lease Time* field, enter the time, in minutes, for the lease duration. It is the amount of time a client is allowed to connect to the router with the IP address it was given through the DHCP process.

**Note:** In this example, the default value of 1440 is used as the Client Lease Time.

Add/Edit New DHCP Configuration

Select DHCP Server for IPv4

Client Lease Time:  Min (Range: 5-4320)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 2. In the *Range Start* field, enter the starting IP address for the pool of IP addresses to be assigned to hosts in the VLAN. The range can be up to the maximum number of IP addresses that the server can assign without overlapping the PPTP and SSL VPN.

**Note:** In this example, the address 192.168.11.100 is used since it is within the range of IP Addresses defined in the VLAN.

## Add/Edit New DHCP Configuration

Select DHCP Server for IPv4

Client Lease Time:  Min (Range: 5-4320)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 3. In the *Range End* field, enter the ending IP address for the pool of IP addresses to be assigned to hosts in the VLAN. This must be within the range of IP addresses configured in the VLAN.

**Note:** In this example, 192.168.11.149 is used.

## Add/Edit New DHCP Configuration

Select DHCP Server for IPv4

Client Lease Time:  Min (Range: 5-4320)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 4. From the DNS Server drop-down list choose the type of DNS to use. Domain Name System (DNS) is an Internet service that translates domain names, which are more easily understandable to users, into IP addresses that devices work with.

- dns-server-proxy — Router performs as DNS server for its DHCP clients. The router acts as an intermediary for all DNS incoming queries on it and sends unknown requests out and stores them for future use.

- dns-server-provided-isp — Gives DHCP clients the Internet Service Provider (ISP) DNS servers IPs for DNS queries.
- dns-server-static — Gives DHCP clients the user entered DNS server IP addresses to resolve DNS queries.

**Note:** In this example, dns-server-static is chosen. If others are chosen, skip to [Step 7](#).

**Add/Edit New DHCP Configuration**

Select DHCP Server for IPv4

Client Lease Time:  Min (Range: 5-4320)

Range Start:

Range End:

DNS Server:  dns-server-static  
 dns-server-provided-isp  
 dns-server-proxy

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 5. In the *Static DNS1* field, enter the IPv4 address of the primary DNS server.

**Note:** In this example, 10.49.5.11 is used.

**Add/Edit New DHCP Configuration**

Select DHCP Server for IPv4

Client Lease Time:  Min (Range: 5-4320)

Range Start:

Range End:

DNS Server:  dns-server-static

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 6. In the *Static DNS2* field, enter the IPv4 address of the secondary DNS server.

**Note:** In this example, 10.22.22.11 is used.

**Add/Edit New DHCP Configuration**

Select DHCP Server for IPv4

Client Lease Time:  Min (Range: 5-4320)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

[Step 7.](#) (Optional) In the WINS Server field, enter the IPv4 address of the Windows Internet Naming Service (WINS) that resolves NetBIOS names to IP addresses.

**Note:** In this example, it is left blank.

**Add/Edit New DHCP Configuration**

Select DHCP Server for IPv4

Client Lease Time:  Min (Range: 5-4320)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

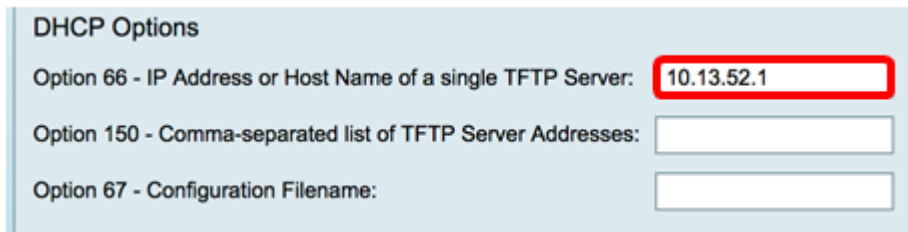
## DHCP Options

A TFTP server allows an administrator to store, retrieve, and download configuration files for devices on a network. A DHCP Server leases and distributes IP addresses to devices on the

network. When a device boots up, and an IPv4 or IPv6 address and TFTP server IP address is not preconfigured, the device will send out a request to the DHCP server with Options 66, 67, and 150. These options are requests to the DHCP server to obtain information about the TFTP server

Step 8. (Optional) In the *Option 66* field, enter the IP address or host name of a single TFTP server.

**Note:** In this example, 10.13.52.1 is used.



DHCP Options

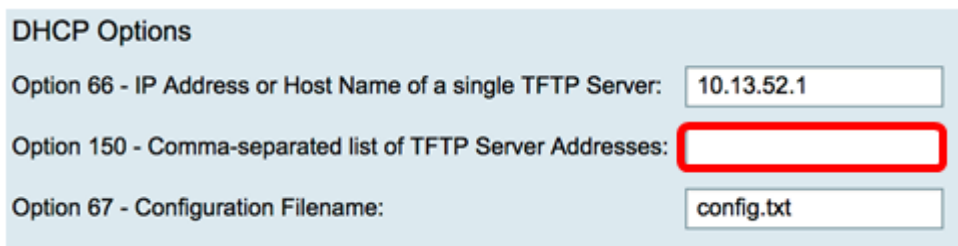
Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 9. (Optional) In the *Option 150* field, enter a stream of IP addresses separated by commas.

**Note:** In this option, the field is left blank.



DHCP Options

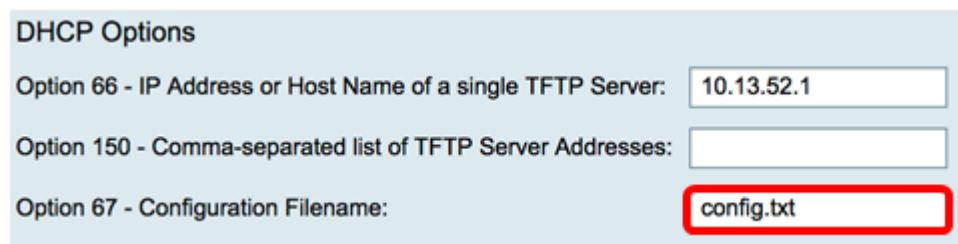
Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 10. (Optional) In the *Option 67* field, enter the boot file name.

**Note:** In this example, config.txt is used.



DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 11. Click **Next**.

### [Configure IPv6 DHCP Server](#)

Step 12. In the Select DHCP Type for IPv6, choose a radio button whether to enable or disable the DHCP server for IPv6. The options are:

- Disabled — Choose this option if you do not want to configure the IPv6 DHCP server.
- Server — Choose this option to configure the IPv6 DHCP Server settings.

**Note:** In this example, Server is chosen.



Select DHCP Type for IPv6

Disabled

Server

Next Cancel

Step 13. Click **Next**.

Select DHCP Type for IPv6

Disabled

Server

Next Cancel

Step 14. In the *Client Lease Time* field, enter the time, in minutes, for the lease duration. It is the amount of time a client is allowed to connect to the router with the IP address it was given through the DHCP process.

**Note:** In this example, 1440 is used.

Add/Edit New DHCP Configuration

Select DHCP Server for IPv6

Client Lease Time:  Min (Range: 5-43200, Default: 1440)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

OK Cancel

Step 15. In the *Range Start* field, enter the starting IP address for the pool of IP addresses to be assigned to hosts in the VLAN. The range can be up to the maximum number of IP addresses that the server can assign without overlapping the PPTP and SSL VPN.

**Note:** In this example, fec0:2:0:0:0:0:1 is used.

The screenshot shows a dialog box titled "Add/Edit New DHCP Configuration". It has a section "Select DHCP Server for IPv6". Below this, there are several fields: "Client Lease Time" with a value of 1440 and a range of 5-43200; "Range Start" with a value of fec0:2:0:0:0:0:1, which is highlighted with a red box; "Range End" with a value of fec0:2:0:0:0:0:1fff; "DNS Server" with a dropdown menu showing "dns-server-static"; "Static DNS1" and "Static DNS2" with empty text boxes. At the bottom are "OK" and "Cancel" buttons.

Step 16. In the *Range End* field, enter the ending IP address for the pool of IP addresses to be assigned to hosts in the VLAN. This must be within the range of IP addresses configured in the VLAN.

**Note:** In this example, fec0:2:0:0:0:0:1fff is used. The IPv6 addresses will automatically contract.

This screenshot is identical to the previous one, showing the "Add/Edit New DHCP Configuration" dialog box. In this instance, the "Range End" field, containing the value "fec0:2:0:0:0:0:1fff", is highlighted with a red box. The "Range Start" field now contains "fec0:2:0:0:0:0:1".

Step 17. From the DNS Server drop-down list choose the type of DNS to use. Domain Name System (DNS) is an Internet service that translates domain names, which are more easily understandable to users, into IP addresses that devices work with.

- dns-server-proxy — Router performs as DNS server for its DHCP clients. The router acts as an intermediary for all DNS incoming queries on it and sends unknown requests out and stores them for future use.
- dns-server-provided-isp — Gives DHCP clients the Internet Service Provider (ISP) DNS servers IPs for DNS queries.
- dns-server-static — Gives DHCP clients the user entered DNS server IP addresses to resolve DNS queries.

**Note:** In this example, dns-server-provided-isp is used. The IPv6 addresses will automatically contract.

## Add/Edit New DHCP Configuration

Select DHCP Server for IPv6

Client Lease Time:  Min (Range: 5-43200, Default: 1440)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

Step 18. (Optional) In the *Static DNS1* and *Static DNS2* fields, enter the IPv6 address of the primary and secondary DNS server.

**Note:** In this example, the fields are left blank since *dns-server-provided-isp* is used.

Add/Edit New DHCP Configuration

Select DHCP Server for IPv6

Client Lease Time:  Min (Range: 5-43200, Default: 1440)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

Step 19. Click **OK**.

Add/Edit New DHCP Configuration

Select DHCP Server for IPv6

Client Lease Time:  Min (Range: 5-43200, Default: 1440)

Range Start:

Range End:

DNS Server:

Static DNS1:

Static DNS2:

You will be taken back to the main LAN/DHCP page. In this area, the recently configured DHCP settings are displayed.

LAN/DHCP Settings Table		
<input type="checkbox"/> Interface/Circuit ID	DHCP mode	Range/Relay Server
<input type="checkbox"/> VLAN1	IPv4:server IPv6:disable	192.168.1.100-192.168.1.149
<input checked="" type="checkbox"/> VLAN25	IPv4:server IPv6:server	192.168.11.100-192.168.11.149 fec0:2::1-fec0:2::1fff

Add Edit Delete

---

**IP Version 4**

DHCP Mode: server  
Address Range: 192.168.11.100-192.168.11.149  
Prefix Length: 24  
DNS Server: 10.49.5.11 10.22.22.11

**IP Version 6**

DHCP Mode: server  
Address Range: fec0:2::1-fec0:2::1fff  
Prefix Length: 64  
DNS Server:

Apply Cancel

Step 20. Click **Apply**.

You should now have successfully configured the LAN/DHCP settings for a VLAN.

## [Configure Option 82](#)

Step 1. In the *Option 82 Circuit* field, enter a user-defined description of the circuit ID.

**Note:** In this example, DiscoNetwork is used.

**Add/Edit New DHCP Configuration**

Interface: VLAN25

Option 82 Circuit: DiscoNetwork

0x12345678

Next Cancel

Step 2. In the *Circuit ID* field, enter a user-defined ASCII string that identifies the circuit interface upon which the DHCP request was sent.

**Note:** In this example, 0x12345678 is used as the circuit ID.

### Add/Edit New DHCP Configuration

Interface VLAN25

Option 82 Circuit DiscoNetwork

0x12345678

Step 3. Click **Next**.

### Add/Edit New DHCP Configuration

Interface VLAN25

Option 82 Circuit DiscoNetwork

0x12345678

Step 4. In the *IP Address* field under the Configure Default Gateway IP Address for Option 82 area, enter an IPv4 address to set as the default gateway.

**Note:** In this example, 192.168.11.1 is used.

### Configure Default Gateway IP Address for Option 82

IP Address: 192.168.11.1

Subnet Mask:

Step 5. In the Subnet Mask field, enter the subnet mask of the IP address above.

**Note:** In this example, 255.255.255.0 is used.

## Configure Default Gateway IP Address for Option 82

IP Address:	<input type="text" value="192.168.11.1"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>

Step 6. Click **Next**.

## Configure IPv4 DHCP Server

Step 1. In the *Client Lease Time* field, enter the time, in minutes, for the lease duration. It is the amount of time a client is allowed to connect to the router with the IP address it was given through the DHCP process.

Client Lease Time:	<input type="text" value="1440"/>	Min (Range: 5-4320)
Range Start:	<input type="text" value="192.168.11.100"/>	
Range End:	<input type="text" value="192.168.11.149"/>	
DNS Server:	<input type="text" value="dns-server-proxy"/>	
Static DNS1:	<input type="text"/>	
Static DNS2:	<input type="text"/>	
WINS Server:	<input type="text"/>	
DHCP Options		
Option 66 - IP Address or Host Name of a single TFTP Server:	<input type="text"/>	
Option 150 - Comma-separated list of TFTP Server Addresses:	<input type="text"/>	
Option 67 - Configuration Filename:	<input type="text"/>	
<input type="button" value="Next"/> <input type="button" value="Cancel"/>		

Step 2. In the *Range Start* field, enter the starting IP address for the pool of IP addresses to be assigned to hosts in the VLAN. The range can be up to the maximum number of IP addresses that the server can assign without overlapping the PPTP and SSL VPN.

Client Lease Time:	<input type="text" value="1440"/>	Min (Range: 5-4320)
Range Start:	<input type="text" value="192.168.11.100"/>	
Range End:	<input type="text" value="192.168.11.149"/>	
DNS Server:	<input type="text" value="dns-server-proxy"/>	
Static DNS1:	<input type="text"/>	
Static DNS2:	<input type="text"/>	
WINS Server:	<input type="text"/>	
DHCP Options		
Option 66 - IP Address or Host Name of a single TFTP Server:	<input type="text"/>	
Option 150 - Comma-separated list of TFTP Server Addresses:	<input type="text"/>	
Option 67 - Configuration Filename:	<input type="text"/>	
<input type="button" value="Next"/> <input type="button" value="Cancel"/>		

Step 3. In the *Range End* field, enter the ending IP address for the pool of IP addresses to be assigned to hosts in the VLAN. This must be within the range of IP addresses configured in the VLAN.

Client Lease Time: 1440 Min (Range: 5-4320)

Range Start: 192.168.11.100

Range End: 192.168.11.149

DNS Server: dns-server-proxy

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Next Cancel

Step 4. From the DNS Server drop-down list choose the type of DNS to use. Domain Name System (DNS) is an Internet service that translates domain names, which are more easily understandable to users, into IP addresses that devices work with.

- dns-server-proxy — Router performs as DNS server for its DHCP clients. The router acts as an intermediary for all DNS incoming queries on it and sends unknown requests out and stores them for future use.
- dns-server-provided-isp — Gives DHCP clients the Internet Service Provider (ISP) DNS servers IPs for DNS queries.
- dns-server-static — Gives DHCP clients the user entered DNS server IP addresses to resolve DNS queries.

**Note:** In this example, dns-server-static is chosen. If others are chosen, skip to [Step 7](#).

Client Lease Time: 1440 Min (Range: 5-4320)

Range Start: 192.168.11.100

Range End: 192.168.11.149

DNS Server:  dns-server-static  
 dns-server-provided-isp  
 dns-server-proxy

Static DNS1:

Static DNS2:

WINS Server:

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

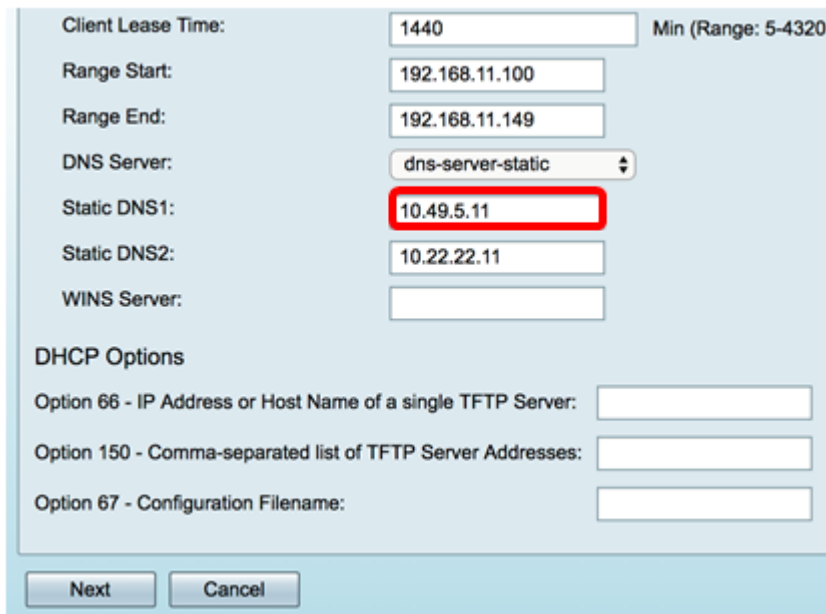
Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Next Cancel

Step 5. In the *Static DNS1* field, enter the IPv4 address of the primary DNS server.

**Note:** In this example, 10.49.5.11 is used.



The screenshot shows a DHCP configuration dialog box with the following fields and values:

Client Lease Time:	1440	Min (Range: 5-4320)
Range Start:	192.168.11.100	
Range End:	192.168.11.149	
DNS Server:	dns-server-static	
Static DNS1:	10.49.5.11	
Static DNS2:	10.22.22.11	
WINS Server:		

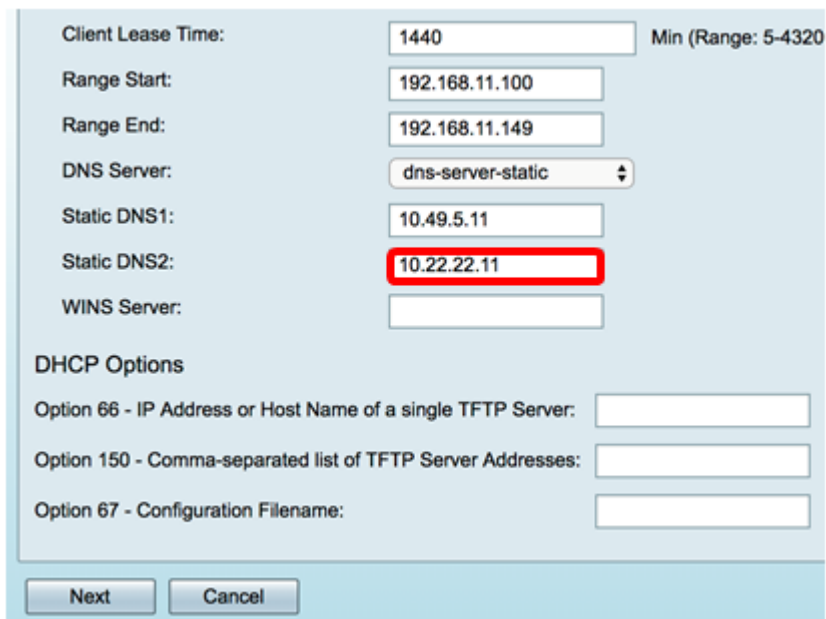
Below these fields is a section for DHCP Options:

- Option 66 - IP Address or Host Name of a single TFTP Server:
- Option 150 - Comma-separated list of TFTP Server Addresses:
- Option 67 - Configuration Filename:

At the bottom are 'Next' and 'Cancel' buttons.

Step 6. In the *Static DNS2* field, enter the IPv4 address of the secondary DNS server.

**Note:** In this example, 10.22.22.11 is used.



The screenshot shows the same DHCP configuration dialog box as above, but with the 'Static DNS2' field highlighted with a red box. The values are:

Client Lease Time:	1440	Min (Range: 5-4320)
Range Start:	192.168.11.100	
Range End:	192.168.11.149	
DNS Server:	dns-server-static	
Static DNS1:	10.49.5.11	
Static DNS2:	10.22.22.11	
WINS Server:		

The DHCP Options section and buttons are the same as in the previous screenshot.

[Step 7.](#) (Optional) In the WINS Server field, enter the IPv4 address of the Windows Internet Naming Service (WINS) that resolves NetBIOS names to IP addresses.

**Note:** In this example, it is left blank.



Client Lease Time:	<input type="text" value="1440"/>	Min (Range: 5-4320)
Range Start:	<input type="text" value="192.168.11.100"/>	
Range End:	<input type="text" value="192.168.11.149"/>	
DNS Server:	<input type="text" value="dns-server-static"/>	
Static DNS1:	<input type="text" value="10.49.5.11"/>	
Static DNS2:	<input type="text" value="10.22.22.11"/>	
WINS Server:	<input type="text"/>	
<b>DHCP Options</b>		
Option 66 - IP Address or Host Name of a single TFTP Server:	<input type="text"/>	
Option 150 - Comma-separated list of TFTP Server Addresses:	<input type="text"/>	
Option 67 - Configuration Filename:	<input type="text"/>	

Next Cancel

## DHCP Options

Step 8. (Optional) In the *Option 66* field, enter the IP address or host name of a single TFTP server.

**Note:** In this example, 10.13.52.1 is used.

<b>DHCP Options</b>	
Option 66 - IP Address or Host Name of a single TFTP Server:	<input type="text" value="10.13.52.1"/>
Option 150 - Comma-separated list of TFTP Server Addresses:	<input type="text"/>
Option 67 - Configuration Filename:	<input type="text"/>

Step 9. (Optional) In the *Option 150* field, enter a stream of IP addresses separated by commas.

**Note:** In this option, the field is left blank.

<b>DHCP Options</b>	
Option 66 - IP Address or Host Name of a single TFTP Server:	<input type="text" value="10.13.52.1"/>
Option 150 - Comma-separated list of TFTP Server Addresses:	<input type="text"/>
Option 67 - Configuration Filename:	<input type="text" value="config.txt"/>

Step 10. (Optional) In the *Option 67* field, enter the boot file name.

**Note:** In this example, config.txt is used.

DHCP Options

Option 66 - IP Address or Host Name of a single TFTP Server:

Option 150 - Comma-separated list of TFTP Server Addresses:

Option 67 - Configuration Filename:

Step 11. Click .

You will be taken back to the LAN/DHCP Settings page.

Step 12. Click **Apply**.

LAN/DHCP Settings

Interface/Circuit ID	DHCP mode	Range/Relay Server
<input type="checkbox"/> VLAN1	IPv4:server IPv6:disable	192.168.1.100-192.168.1.149
<input checked="" type="checkbox"/> 0x12345678	IPv4:server IPv6:disable	192.168.11.100-192.168.11.149

**IP Version 4**

DHCP Mode: server  
Address Range: 192.168.11.100-192.168.11.149  
Prefix Length: 24  
DNS Server: 4.2.2.2 8.8.8.8

**IP Version 6**

DHCP Mode: disable

You should now have successfully configured the LAN and DHCP settings on the RV34x Series Router.

You might find this article informative: [RV34x Series Router Frequently Asked Questions \(FAQs\)](#)

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