

Configure IPv4 and IPv6 on a Wireless Access Point

Objective

Internet Protocol version 4 (IPv4) is the commonly used form of IP addressing used to identify hosts on a network and uses a 32-bit format. Internet Protocol version 6 (IPv6) is the next-generation IP address standard intended to replace the IPv4 format. IPv6 solves the address scarcity problem with the use of 128-bit addressing instead of 32-bit addressing which was used in IPv4.

This configuration helps to assign an IP address via Dynamic Host Configuration Protocol (DHCP) or manually. By default, the WAP automatically requests for network information through a broadcast. In the absence of a DHCP server on the network, it uses its default IP address. If you want to use a static IP address, you must disable the DHCP client and manually assign the IP address and other network information.

The objective of this document is to configure IPv4 and IPv6 settings on the Wireless Access Point device.

Applicable Devices

- WAP100 Series
- WAP300 Series
- WAP500 Series

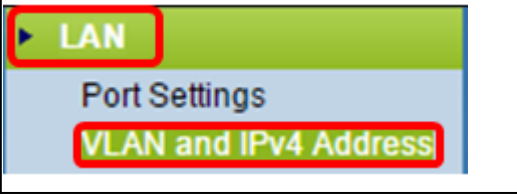
Software Version

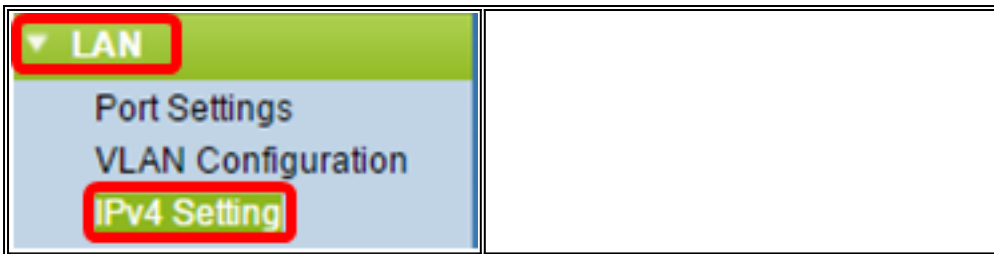
- 1.0.1.4 – WAP131, WAP351
- 1.0.6.2 – WAP121, WAP321
- 1.2.1.3 – WAP371, WAP551, WAP561
- 1.0.1.2 – WAP150, WAP361
- 1.0.0.17 – WAP571, WAP571E

Configure IPv4

Configure IPv4 DHCP

Step 1. Log in to the web-based utility and choose **LAN > IPv4 Setting** or **LAN > VLAN and IPv4 Address** depending on the WAP model you have.

WAP131, WAP150, WAP351, WAP361, WAP571, WAP571E	WAP121, WAP321, WAP371, WAP551, WAP561
	



Step 2. In the Connection Type area, click **DHCP** radio button to automatically obtain an IP address. This setting is chosen by default.

A screenshot of the 'IPv4 Setting' configuration page. The title 'IPv4 Setting' is at the top left. Below it, the 'Connection Type' section has two radio buttons: 'DHCP' (selected and circled in red) and 'Static IP'. The 'Static IP Address' section has four input fields containing '192', '168', '1', and '245'. The 'Subnet Mask' section has four input fields containing '255', '255', '255', and '0'. The 'Default Gateway' section has four input fields containing '192', '168', '1', and '1'. The 'Domain Name Servers' section has two radio buttons: 'Dynamic' (selected) and 'Manual'. Below these are two rows of four empty input fields each. At the bottom left, there is a 'Save' button.

Step 3. Choose your preferred DNS configuration from the *Domain Name Servers* radio buttons. DNS is a protocol that helps the devices reach other computers and private networks over the Internet by translating domain names into their respective IP addresses.

Note: If DHCP is enabled, the DNS configuration is optional.

IPv4 Setting

Connection Type: DHCP
 Static IP

Static IP Address: . . .

Subnet Mask: . . .

Default Gateway: . . .

Domain Name Servers: Dynamic
 Manual

. . .

. . .

The available options are defined as follows:

Dynamic — WAP acquires the Domain Name Server (DNS) addresses from a DHCP server on the Local Area Network (LAN). If you choose this option, skip to [Step 4](#).

Manual — Allows you to manually configure one or more DNS server addresses in the *Domain Name Servers* fields.

[Step 4](#). Click **Save**.

Configure Static IPv4 Address

Step 1. Click the radio button for Static IP.

IPv4 Settings

Connection Type: DHCP
 Static IP

Static IP Address: . . .

Subnet Mask: . . .

Default Gateway: . . .

Domain Name Servers: Dynamic
 Manual

. . .

. . .

Step 2. Enter an IP address for the access point in the *Static IP Address* field. The IP address should be unique and has not been assigned to any other devices in the same network.

IPv4 Settings

Connection Type: DHCP
 Static IP

Static IP Address: . . .

Subnet Mask: . . .

Default Gateway: . . .

Domain Name Servers: Dynamic
 Manual

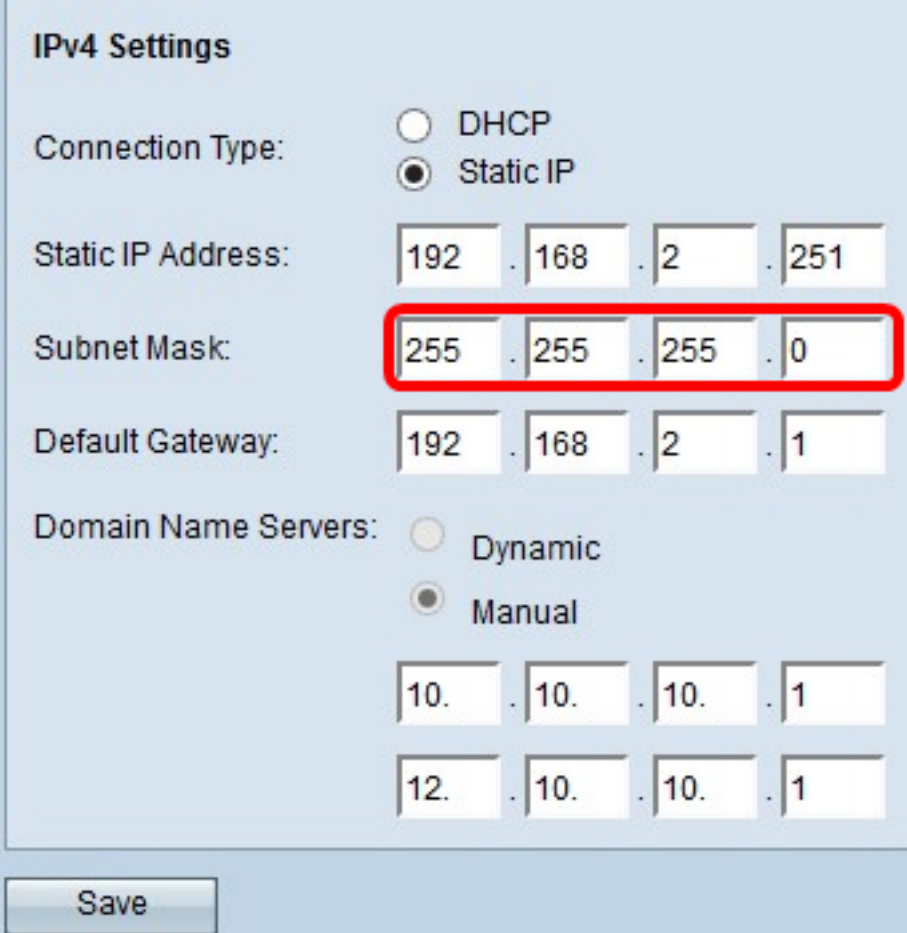
. . .

. . .

Step 3. Enter the subnet mask of the network in the *Subnet Mask* field. The default mask is

based on either the class of IP address you choose, or how many subnets you use for the network.

Note: The default mask is 255.255.255.0



The image shows a screenshot of the IPv4 Settings window in Windows. The window is titled "IPv4 Settings" and has a light blue background. It contains several configuration options:

- Connection Type:** Two radio buttons are present: "DHCP" (unselected) and "Static IP" (selected).
- Static IP Address:** Four input boxes containing the values "192", ".168", ".2", and ".251".
- Subnet Mask:** Four input boxes containing the values "255", ".255", ".255", and ".0". This entire row is highlighted with a red rectangular border.
- Default Gateway:** Four input boxes containing the values "192", ".168", ".2", and ".1".
- Domain Name Servers:** Two radio buttons: "Dynamic" (unselected) and "Manual" (selected). Below them are two rows of input boxes for DNS server addresses: the first row contains "10.", ".10.", ".10.", ".1" and the second row contains "12.", ".10.", ".10.", ".1".

At the bottom left of the window is a "Save" button.

Step 4. Enter the default gateway IP address in the *Default Gateway* field. A default gateway is a node on the computer that is used when an IP address does not match a route in the routing table. It then forwards the traffic appropriately. This device is usually a router. To learn how to find your connected device's default gateway IP address using a Windows command prompt, click [here](#).

IPv4 Settings

Connection Type: DHCP
 Static IP

Static IP Address: 192 . 168 . 2 . 251

Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 2 . 1

Domain Name Servers: Dynamic
 Manual

10. . 10. . 10. . 1

12. . 10. . 10. . 1

Save

Step 5. Enter the IP address of the DNS in the *Domain Name Server* fields. DNS is a protocol that helps the devices reach other computers and private networks over the Internet by translating domain names into their respective IP addresses.

Note: You can also add another DNS server IP address in the other field provided, but it is optional. Having two DNS servers can be helpful in the event that one of the servers goes down or becomes unavailable.

IPv4 Settings

Connection Type: DHCP
 Static IP

Static IP Address: 192 . 168 . 2 . 251

Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 2 . 1

Domain Name Servers: Dynamic
 Manual

10. . 10. . 10. . 1

12. . 10. . 10. . 1

Save

Step 6. Click **Save**.

IPv4 Settings

Connection Type: DHCP
 Static IP

Static IP Address: 192 . 168 . 2 . 251

Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 2 . 1

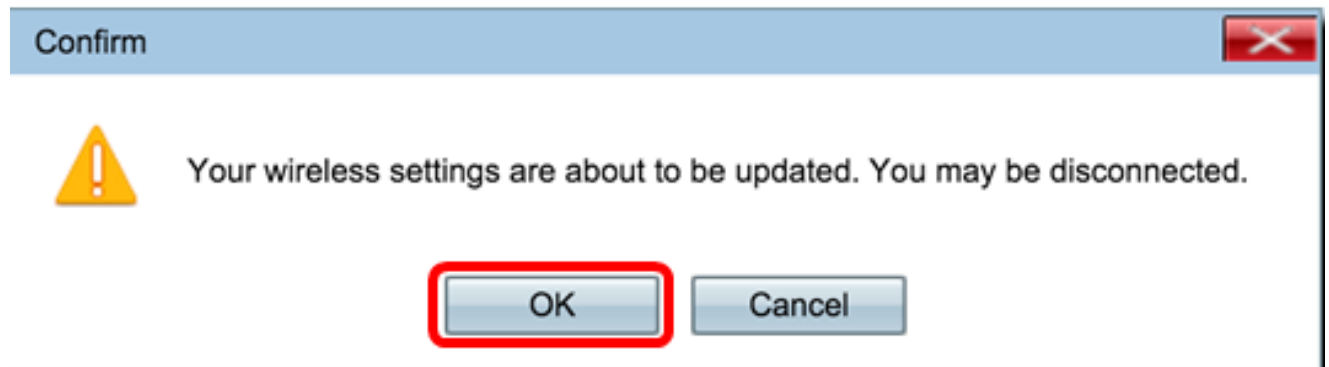
Domain Name Servers: Dynamic
 Manual

10. . 10. . 10. . 1

12. . 10. . 10. . 1

Save

Step 7. If you have pre-configured settings before, a pop-up window will appear confirming the wireless settings are about to be updated and that possible disconnections may happen. Click **OK**.

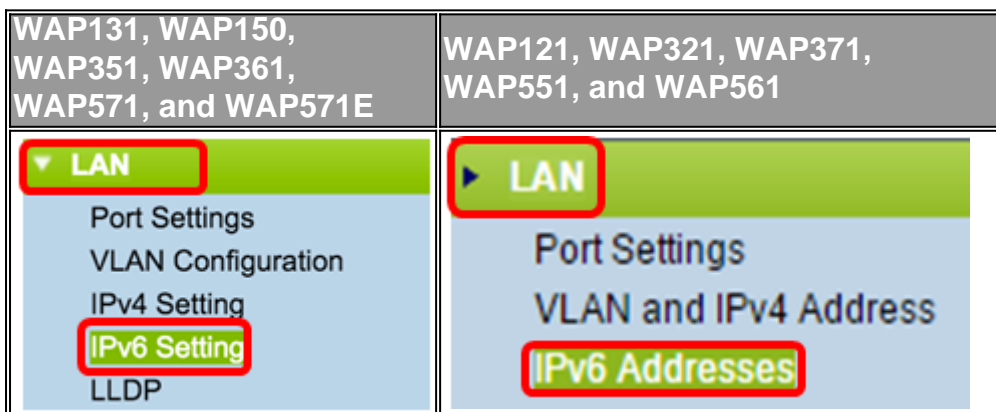


You should now have statically configured the IPv4 address.

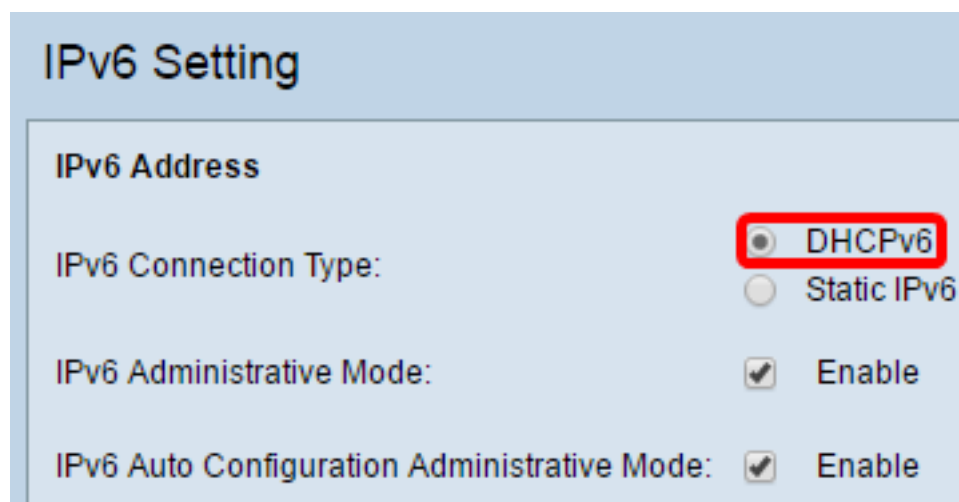
Configure IPv6

Configure IPv6 DHCP

Step 1. Log in to the web-based utility and choose **LAN > IPv6 Setting** or **LAN > IPv6 Addresses**.



Step 2. Click **DHCPv6** as the IPv6 Connection Type. The IPv6 connection type tells the device how to obtain IPv6 address.



Step 3. To permit IPv6 management access to the access point, check the **Enable IPv6 Administrative Mode** check box.

IPv6 Addresses

IPv6 Connection Type:	<input checked="" type="radio"/> DHCPv6
	<input type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="::"/>
Static IPv6 Address Prefix Length:	<input type="text" value="0"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="::"/>
IPv6 Domain Name Servers:	<input checked="" type="radio"/> Dynamic
	<input type="radio"/> Manual
	<input type="text" value="::"/>
	<input type="text" value="::"/>

Step 4. To learn its IPv6 addresses and gateway through router advertisements received on the LAN port, check the **Enable IPv6 Auto Configuration Administrative Mode** check box. Access points can have multiple auto-configured IPv6 addresses.

IPv6 Addresses

IPv6 Connection Type:	<input checked="" type="radio"/> DHCPv6
	<input type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="..."/>
Static IPv6 Address Prefix Length:	<input type="text" value="0"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="..."/>
IPv6 Domain Name Servers:	<input checked="" type="radio"/> Dynamic
	<input type="radio"/> Manual
	<input type="text" value="..."/>
	<input type="text" value="..."/>

Save

Step 5. Click **Save**.

IPv6 Addresses

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="2001:DB8:0:ABCD::1"/>
Static IPv6 Address Prefix Length:	<input type="text" value="48"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="2001:DB8:0:0:E000::F/64"/>
IPv6 Domain Name Servers:	<input type="radio"/> Dynamic
	<input checked="" type="radio"/> Manual
	<input type="text"/>
	<input type="text"/>

Step 2. Check the IPv6 Administrative Mode check box to enable IPv6 management access. This allows the device management interface to be accessed via an IPv6 address.

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable

Step 3. Check the IPv6 Auto Configuration Administrative Mode check box to enable IPv6 automatic address configuration on the device. This is enabled by default.

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable

Step 4. Enter the IPv6 address of the access point in the *Static IPv6 Address* field. This is a unique IPv6 address, and no other device in the network should use it. This is a global routable IPv6 address.

IPv6 Addresses

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="2001:DB8:0:ABCD::1"/>
Static IPv6 Address Prefix Length:	<input type="text" value="48"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="2001:DB8:0:0:E000::F/64"/>
IPv6 Domain Name Servers:	<input type="radio"/> Dynamic <input checked="" type="radio"/> Manual <input type="text"/> <input type="text"/>

Step 5. Enter the prefix length of the static address in the *Static IPv6 Address Prefix Length* field. The prefix length is an integer in the range of 0 to 128 which specifies the network portion of the IPv6 IP address. For this example, 48 is used.

Note: This is similar to the subnet mask in IPv4. The default prefix length is 0.

IPv6 Addresses

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="2001:DB8:0:ABCD::1"/>
Static IPv6 Address Prefix Length:	<input type="text" value="48"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="2001:DB8:0:0:E000::F/64"/>
IPv6 Domain Name Servers:	<input type="radio"/> Dynamic
	<input checked="" type="radio"/> Manual
	<input type="text"/>
	<input type="text"/>

Save

Step 6. Enter the IPv6 address of the default gateway in the *Default IPv6 Gateway* field.

IPv6 Addresses

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="2001:DB8:0:ABCD::1"/>
Static IPv6 Address Prefix Length:	<input type="text" value="48"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="2001:DB8:0:0:E000::F/64"/>
IPv6 Domain Name Servers:	<input type="radio"/> Dynamic
	<input checked="" type="radio"/> Manual
	<input type="text"/>
	<input type="text"/>

Save

Step 7. Enter the IPv6 DNS server address in the *IPv6 Domain Name Servers* fields.

IPv6 Addresses

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="2001:DB8:0:ABCD::1"/>
Static IPv6 Address Prefix Length:	<input type="text" value="48"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="2001:DB8:0:0:E000::F/64"/>
IPv6 Domain Name Servers:	<input type="radio"/> Dynamic
	<input checked="" type="radio"/> Manual
	<input type="text" value="2001:DB8:0:1:FFFF:1234::5/64"/>
	<input type="text" value="2001:DB8:0:1:FFFF:5678:5/64"/>

Save

Step 8. Click **Save**.

IPv6 Addresses

IPv6 Connection Type:	<input type="radio"/> DHCPv6
	<input checked="" type="radio"/> Static IPv6
IPv6 Administrative Mode:	<input checked="" type="checkbox"/> Enable
IPv6 Auto Configuration Administrative Mode:	<input checked="" type="checkbox"/> Enable
Static IPv6 Address:	<input type="text" value="2001:DB8:0:ABCD::1"/>
Static IPv6 Address Prefix Length:	<input type="text" value="48"/> (Range: 0 - 128, Default: 0)
Static IPv6 Address Status:	
IPv6 Autoconfigured Global Addresses:	
IPv6 Link Local Address:	fe80::ceef:48ff:fe87:4970/64
Default IPv6 Gateway:	<input type="text" value="2001:DB8:0:0:E000::F/64"/>
IPv6 Domain Name Servers:	<input type="radio"/> Dynamic
	<input checked="" type="radio"/> Manual
	<input type="text" value="2001:DB8:0:1:FFFF:1234::5/64"/>
	<input type="text" value="2001:DB8:0:1:FFFF:5678:5/64"/>

Save

You should now have configured the Static IPv6 settings.