IPv6 Host Configuration

bdNOG11
IPv6 Host Configuration

**Network Host** is a Computer or other Device connected to a Computer Network. A Host may work as a Server offering information resources, services, and applications to Users or other Hosts on the Network.

**Host Configuration usually includes:**

The –
- IPv4/IPv6 Address
- Subnet Mask/Prefix Length
- Default Gateway
- Preferred DNS
- Alternate DNS
IPv6 in Windows Machine

Step 1: Enabling IPv6
- Go to “Open Network & Internet settings”
- Choose Ethernet or Wi-Fi
- Then go to “Change adapter options”
- Right Click on “Wi-Fi”

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IPv6 in Windows Machine (Cont.)

Step 2: IPv6 Setting (DHCP or Static)

- If you want to receive IPv6 Address from a DHCP Server, please select "Obtain an IPv6 address automatically" and you will find an IPv6 Address!

- Set the IP Address Manually: Double Click on

DHCP example: 2405:7600:b::/64
IPv6 in a MacOS (Cont.)

IP Settings (You can set IPv6 via DHCP or Manually)

- Go to “Network Adapter”
- Choose Open Network Preferences...
- Click on TCP/IP
- Configure IPv6 Manually
- Set Router Address (Gateway)
- Set IPv6 Address for this Host & Prefix Length
- OK
IPv6 in Linux: CentOS

Login into a CentOS System then issue the command “nmtui” to launch Network Manager TUI (Text User Interface).

1. Issuing the Command “nmtui” a Wizard will appear
2. Then select “Edit a connection” and press ENTER
3. Then choose the appropriate Interface and Edit
IPv6 in Linux: CentOS (Cont.)

Entering “Edit” Menu you will find both IPv4 and IPv6 Configuration scope and set the your desired IPv6 Address into that!

- Enter Edit Mode
- Then IPv6 CONFIGURATION ... <Show>

Profile name: emp0s3
Device: emp0s3 (00:00:27:1F:16:6E)

- ETHERNET
  - IPv4 CONFIGURATION <Automatic>
  - IPv6 CONFIGURATION <Automatic>

[ ] Automatically connect
[L] Available to all users

<Cancel> <OK>
IPv6 in Linux: CentOS (Cont.)

This is the Main Wizard for Configuring IPv6 in CentOS System!

2405:7600:c:6::0/64
- Set the IPv6 Address with Prefix Length
- Set the Gateway and DNS

root@localhost:~
[root@localhost ~]# /etc/init.d/network restart

Restart Networking Services to activate IP Settings
IPv6 in Linux: CentOS (Cont.)

To verify your IPv6 Settings, please issue the command:

```
# ip add show
```

Now you should able to ping an Internet Host from your System!

```
# ping6 2001:4860:4860::8888
```
IPv6 in MikroTik Router

1. In MikroTik, IPv6 feature is not enabled by default. You have to enable IPv6 Package first to deploy IPv6 Routing in MikroTik.

To enable IPv6 Package in MikroTik, the steps are:
1. Go → System > Packages
2. Select ipv6 from Package List
3. Then Click “Enable”
IPv6 in MikroTik Router (Cont.)

2. Upgrade RouterOS. Download and Install “stable/bugfix” Firmware!

Procedure to upgrade Router’s Firmware:
1. Go – System > Packages
2. Click “Check For Updates”
3. Then select “stable/bugfix” and download
4. Reboot your System

And IPv6 will enable and you will find IPv6 in Menu
3. Interface Configuration with **IPv6** in MikroTik:

To Configure IPv6 Address into a MikroTik Interface:
1. Go – IPv6 > Address
2. Set the “IPv6 Address with Prefix Length”
3. Choose the appropriate **Interface**
4. Apply > OK
IPv6 in MikroTik Router (Cont.)

4. Configuring Default Route: ( ::/0 – to ISP Gateway)

To Add a Default Route for IPv6:
1. Go – IPv6 > Routes
2. Then add a Route destined with ::/0 – to ISP GW
3. Choose “Check Gateway = ping”
4. Apply > OK
IPv6 in MikroTik Router (Cont.)

5. IPv6 DNS Setting:

To Add IPv4 & IPv6 DNS in MikroTik:
1. Go – IP > DNS
2. Then set the both IPv4 & IPv6 DNS
3. Apply > OK

Your MikroTik is now ready for IPv6!
Configuring IPv6 in a Cisco

Cisco Routers do not have IPv6 Routing enabled by default. To configure IPv6 on a Cisco Router, you need to do two things:

1. Enable IPv6 Routing on a Cisco Router using the “ipv6 unicast-routing” in global configuration mode.
2. Configure the IPv6 Address on an Interface using the “ipv6 address address/prefix-length” command.

Example:
R1(config)#ipv6 unicast-routing
R1(config)#int Gi0/0
R1(config-if)#ipv6 address 2404:d900:0:b::2/126
R1(config-if)#exit
R1(config)#ipv6 route ::/0 2404:d900:0:b::1

Verification Command is:
R1#sh ipv6 interface Gi0/0
Configuring IPv6 in a Juniper

In Juniper, IPv6 is enabled by default. Here is an example to configure an IPv6 Address in Juniper below:

Example:

pavel@R1# set interfaces ge-1/0/1 unit 0 family inet6 address 2404:d900:0:b::2/126
pavel@R1# set routing-options rib inet6 static route ::/0 next-hop 2404:d900:0:b::1/126
pavel@R1# commit

Verification Command is:

pavel@R1# show configuration interfaces ge-1/0/1
IPv6 in TP-Link Router

Enable IPv6 and Insert IPv6 Address, Default Gateway, Prefix Length and DNS Addresses as below:

IPv6 Settings in TP-Link:
1. Login via Default IPv4 IP
2. Go – Network > Internet
3. Then Advanced
4. Enable IPv6
5. Set your desired IPv6 Address
6. Save
Helpful Link for Checking your Wireless Router is Compatible for IPv6 or Not?

https://highspeed.tips/routers

Thank You!!!