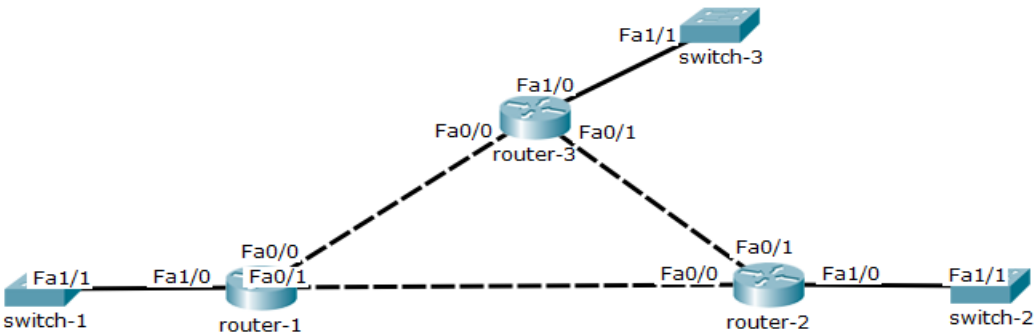
IPv6 Global Unicast

Lab Summary

Enable IPv6 packet forwarding between routers and configure IPv6 global unicast static addresses on all LAN/WAN router interfaces.

Figure 1 Lab Topology



Lab Configuration

Start Packet Tracer File: **IPv6 Global Unicast**

Router-1

Click on the *router-1* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 1: Enter global configuration mode

router-1 > **enable**
Password: **cisconet**
router-1# **configure terminal**

Step 2: Enable IPv6 packet forwarding

router-1(config)# **ipv6 unicast-routing**

Step 3: Configure an IPv6 global unicast address on LAN interface Fa1/0

router-1(config)# **interface fastethernet1/0**
router-1(config-if)# **description link to switch-1**
router-1(config-if)# **ipv6 address 2001:db8:3c4d:4::1/64**
router-1(config-if)# **no shutdown**
router-1(config-if)# **exit**

Step 4: Configure an IPv6 global unicast address on WAN interface Fa0/0

```
router-1(config)# interface fastethernet0/0
router-1(config-if)# description link to router-3
router-1(config-if)# ipv6 address 2001:db8:3c4d:1::1/64
router-1(config-if)# no shutdown
router-1(config-if)# exit
```

Step 5: Configure an IPv6 global unicast address on WAN interface Fa0/1

```
router-1(config)# interface fastethernet0/1
router-1(config-if)# description link to router-2
router-1(config-if)# ipv6 address 2001:db8:3c4d:2::1/64
router-1(config-if)# no shutdown
router-1(config-if)# end
router-1# copy running-config startup-config
```

Router-2

Click on the *router-2* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 6: Enter global configuration mode

```
router-2 > enable
Password: cisconet
router-2# configure terminal
```

Step 7: Enable IPv6 packet forwarding

```
router-2(config)# ipv6 unicast-routing
```

Step 8: Configure an IPv6 global unicast address on LAN interface Fa1/0

```
router-2(config)# interface fastethernet1/0
router-2(config-if)# description link to switch-2
router-2(config-if)# ipv6 address 2001:db8:3c4d:5::1/64
router-2(config-if)# no shutdown
router-2(config-if)# exit
```

Step 9: Configure an IPv6 global unicast address on WAN interface Fa0/0

```
router-2(config)# interface fastethernet0/0
router-2(config-if)# description link to router-1
router-2(config-if)# ipv6 address 2001:db8:3c4d:2::2/64
router-2(config-if)# no shutdown
router-2(config-if)# exit
```

Step 10: Configure an IPv6 global unicast address on WAN interface Fa0/1

```
router-2(config)# interface fastethernet0/1
router-2(config-if)# description link to router-3
router-2(config-if)# ipv6 address 2001:db8:3c4d:3::2/64
router-2(config-if)# no shutdown
router-2(config-if)# end
router-2# copy running-config startup-config
```

Router-3

Click on the *router-3* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 11: Enter global configuration mode

```
router-3 > enable
Password: cisconet
router-3# configure terminal
```

Step 12: Enable IPv6 packet forwarding

```
router-3(config)# ipv6 unicast-routing
```

Step 13: Configure an IPv6 global unicast address on LAN interface Fa1/0

```
router-3(config)# interface fastethernet1/0
router-3(config-if)# description link to switch-3
router-3(config-if)# ipv6 address 2001:db8:3c4d:6::1/64
router-3(config-if)# no shutdown
router-3(config-if)# exit
```

Step 14: Configure an IPv6 global unicast address on WAN interface Fa0/0

```
router-3(config)# interface fastethernet0/0
router-3(config-if)# description link to router-1
router-3(config-if)# ipv6 address 2001:db8:3c4d:1::2/64
router-3(config-if)# no shutdown
router-3(config-if)# exit
```

Step 15: Configure an IPv6 global unicast address on WAN interface Fa0/1

```
router-3(config)# interface fastethernet0/1
router-3(config-if)# description link to router-2
router-3(config-if)# ipv6 address 2001:db8:3c4d:3::1/64
router-3(config-if)# no shutdown
router-3(config-if)# end
router-3# copy running-config startup-config
```

Step 16: Verify Lab

Confirm the IPv6 configuration is correct and interfaces are operational (up/up) with the IPv6 static addressing assigned. All enabled interfaces are assigned a link-local address (FE80) and global unicast address (2001). In addition ping the IPv6 address of directly connected neighbor interfaces.

router-1# **show running-config**

router-1# **show ipv6 interface brief**

router-1# **show ipv6 interface fastethernet0/0**

router-1# **show ipv6 interface fastethernet0/1**

router-1# **ping ipv6 2001:db8:3c4d:1::2**

router-1# **ping ipv6 2001:db8:3c4d:2::2**

router-2# **show running-config**

router-2# **show ipv6 interface brief**

router-2# **show ipv6 interface fastethernet0/0**

router-2# **show ipv6 interface fastethernet0/1**

router-2# **ping ipv6 2001:db8:3c4d:2::1**

router-2# **ping ipv6 2001:db8:3c4d:3::1**

router-3# **show running-config**

router-3# **show ipv6 interface brief**

router-3# **show ipv6 interface fastethernet0/0**

router-3# **show ipv6 interface fastethernet0/1**

router-3# **ping ipv6 2001:db8:3c4d:1::1**

router-3# **ping ipv6 2001:db8:3c4d:3::2**