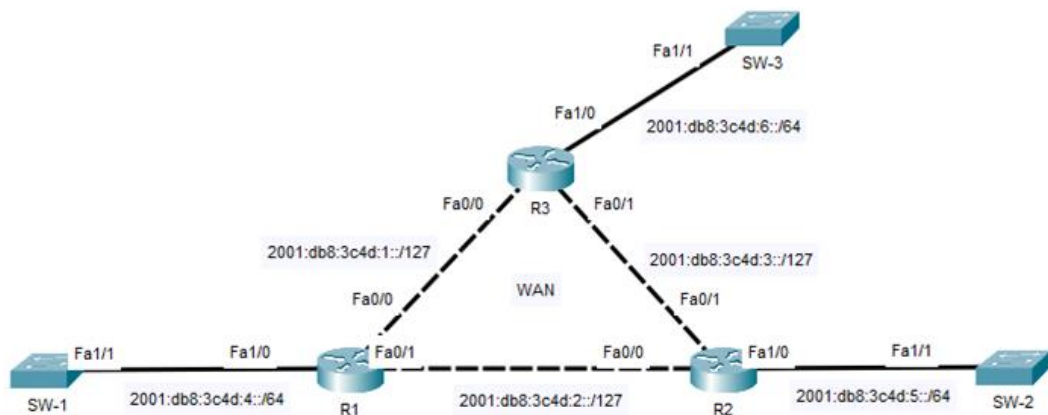


# IPv6 Global Unicast

## 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.pkt**

Click on *R1* icon and select *CLI* folder.

Step 1: Enter global configuration mode

```
R1 > enable
R1# configure terminal
```

Step 2: Enable IPv6 packet forwarding

```
R1(config)# ipv6 unicast-routing
```

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

```
R1(config)# interface fastethernet1/0
R1(config-if)# description link to SW-1
R1(config-if)# ipv6 address 2001:db8:3c4d:4::1/64
R1(config-if)# no shutdown
R1(config-if)# exit
```

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

```
R1(config)# interface fastethernet0/0  
R1(config-if)# description link to R3  
R1(config-if)# ipv6 address 2001:db8:3c4d:1::0/127  
R1(config-if)# no shutdown  
R1(config-if)# exit
```

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

```
R1(config)# interface fastethernet0/1  
R1(config-if)# description link to R2  
R1(config-if)# ipv6 address 2001:db8:3c4d:2::0/127  
R1(config-if)# no shutdown  
R1(config-if)# end  
R1# copy running-config startup-config
```

Click on *R2* icon and select *CLI* folder.

Step 6: Enter global configuration mode

```
R2 > enable  
R2# configure terminal
```

Step 7: Enable IPv6 packet forwarding

```
R2(config)# ipv6 unicast-routing
```

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

```
R2(config)# interface fastethernet1/0  
R2(config-if)# description link to SW-2  
R2(config-if)# ipv6 address 2001:db8:3c4d:5::1/64  
R2(config-if)# no shutdown  
R2(config-if)# exit
```

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

```
R2(config)# interface fastethernet0/0  
R2(config-if)# description link to R1  
R2(config-if)# ipv6 address 2001:db8:3c4d:2::1/127  
R2(config-if)# no shutdown  
R2(config-if)# exit
```

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

```
R2(config)# interface fastethernet0/1  
R2(config-if)# description link to R3  
R2(config-if)# ipv6 address 2001:db8:3c4d:3::0/127  
R2(config-if)# no shutdown  
R2(config-if)# end  
R2# copy running-config startup-config
```

Click on *R3* icon and select *CLI* folder.

Step 11: Enter global configuration mode

```
R3 > enable  
R3# configure terminal
```

Step 12: Enable IPv6 packet forwarding

```
R3(config)# ipv6 unicast-routing
```

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

```
R3(config)# interface fastethernet1/0  
R3(config-if)# description link to SW-3  
R3(config-if)# ipv6 address 2001:db8:3c4d:6::1/64  
R3(config-if)# no shutdown  
R3(config-if)# exit
```

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

```
R3(config)# interface fastethernet0/0  
R3(config-if)# description link to R1  
R3(config-if)# ipv6 address 2001:db8:3c4d:1::1/127  
R3(config-if)# no shutdown  
R3(config-if)# exit
```

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

```
R3(config)# interface fastethernet0/1  
R3(config-if)# description link to R2  
R3(config-if)# ipv6 address 2001:db8:3c4d:3::1/127  
R3(config-if)# no shutdown  
R3(config-if)# end  
R3# 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.

```
R1# show running-config
```

```
R1# show ipv6 interface brief
```

```
R1# show ipv6 interface fastethernet0/0
```

```
R1# show ipv6 interface fastethernet0/1
```

```
R1# ping ipv6 2001:db8:3c4d:1::1
```

```
R1# ping ipv6 2001:db8:3c4d:2::1
```

```
R2# show running-config
```

```
R2# show ipv6 interface brief
```

```
R2# ping ipv6 2001:db8:3c4d:3::1
```

```
R3# show running-config
```

```
R3# show ipv6 interface brief
```