



COMPUTER NETWORKS LAB

COURSE CODE:UE19CS255

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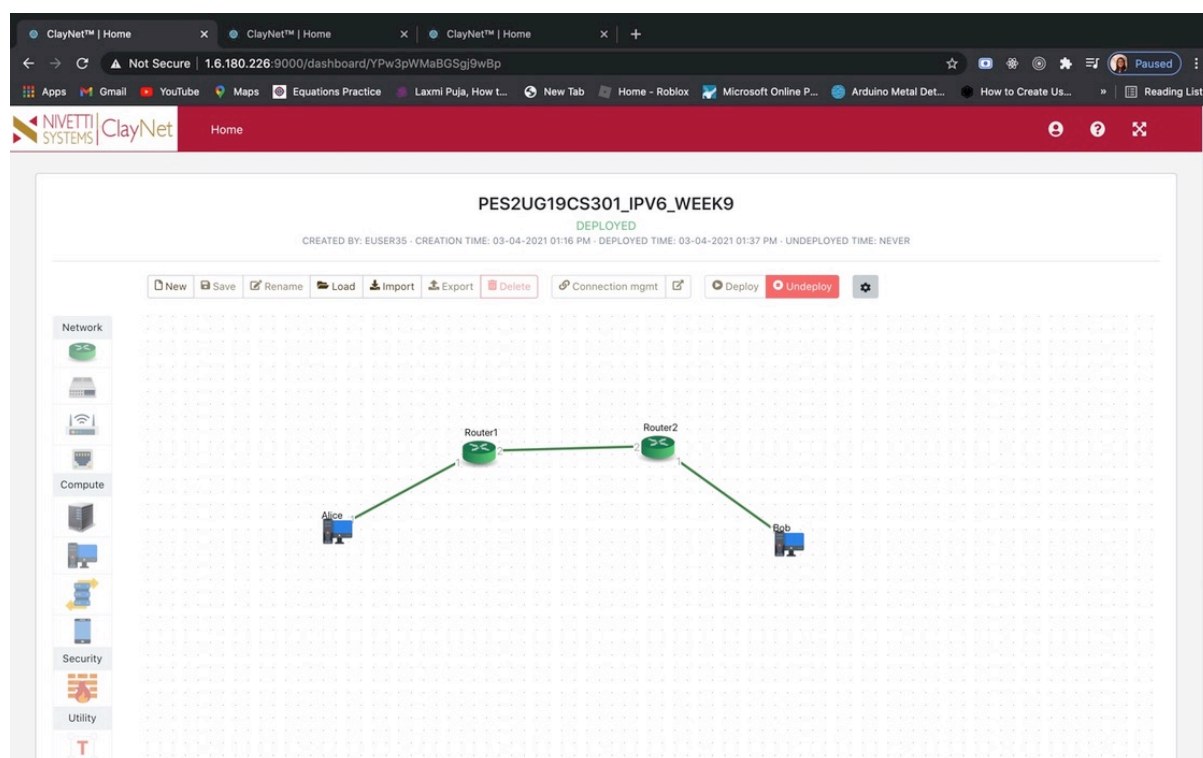
SRN:PES2UG19CS301

SECTION:E

DATE:04/04/2021

EXPERIMENT : IPv6 Configuration and Static Routing

TOPOLOGY :

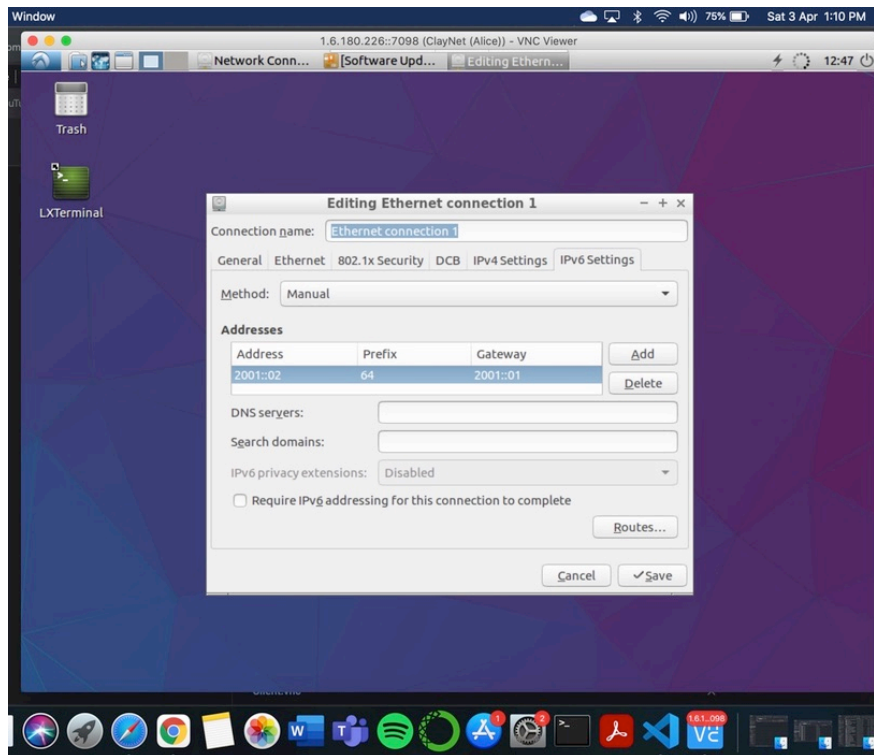


STEP : Configure the PC/Workstation IP address as mentioned in topology.

ALICE :

IPV6 ADDRESS : 2001::02/64

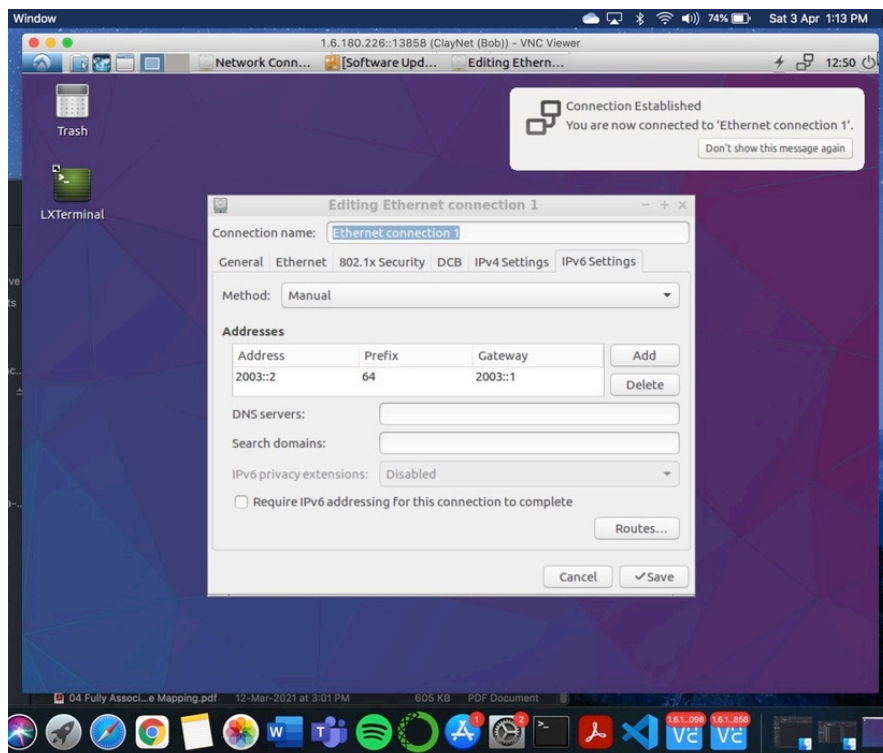
GATEWAY : 2001::01



BOB :

IPV6 ADDRESS : 2003::02/64

GATEWAY : 2003::01



ENABLE IPV6 IN ROUTER-1

OPERATIONAL > CONFIGURE

```
nivappadmin@ClayNet:~$ telnet 127.0.0.1 57284
Trying 127.0.0.1...
Connected to 127.0.0.1.
Escape character is '^]'.

Login: admin
Password:

operational> modify parameter-group router data
Error: Command not available
operational> configure
Entering configuration mode with exclusive access.
configure> modify parameter-group router data
Info: Parameter group instance loaded for modification.
configure> set ipv6 enable yes
configure> save
Info: Parameter group router "data" saved
configure> exit
operational> █
```

Check IPv6 information in router details

operational> show router details data

```
operational> show router details data

> Router : data

General information
-----
Router ID       : 16387
State          : up
Interfaces     : 9
Routing gateways : 4
Local addresses : 4
Sockets        : 2
Flags          : -----
Last state transition : 21:46:54, Saturday, April 03, 2021 IST

IPv4 information
-----
Default source address : 0.0.0.0
Default TTL             : 64
Interfaces              : 9

IPv4 routes
-----
Active routes      : 4
Backup routes     : 2
Total routes       : 6

IPv4 routes by source
-----
Directly connected routes : 4
Static routes             : 0
RIP routes                : 0
OSPFv2 routes             : 2
BGP routes                : 0
```

IPv4 listeners and connections

```
-----
TCP listeners      :      1
TCP connections   :      0
TCP sockets       :      1
UDP sockets       :      0
```

OSPFv2 information

```
-----
Router ID        : 1.1.1.1
Number of areas  : 1
Preference       : 50
SPF hold count   : 0
```

IPv6 information

```
-----
Default Hop Limit : 64
Interfaces        : 1
```

IPv6 routes

```
-----
Active routes     :      1
Backup routes     :      0
Total routes      :      1
```

IPv6 routes by source

```
-----
Directly connected routes : 1
Static routes             : 0
BGP routes                : 0
```

IPv6 listeners and connections

IPv6 listeners and connections

```
-----
TCP listeners      :      1
TCP connections   :      0
TCP sockets       :      1
UDP sockets       :      0
```

SSH server

```
-----
Enabled           : Yes
TCP keep alives   : enabled
Allowed versions   : ssh-version-2
```

Telnet server

```
-----
Enabled           : No
```

SNMP

```
-----
Enabled           : No
```

XMP server

```
-----
Enabled           : No
```

Quality of Service

```
-----
Default class for forwarded traffic : class-1
Default drop-profile for forwarded traffic : green
Default class for local traffic      : class-1
Default drop-profile for local traffic : green
```

```
operational> █
```

Configure IPv6 interfaces in Router-1

Configure IPv6 global address 2001::01/64 to interface if-port-1

```
Error: Command not available
operational> configure
Entering configuration mode with exclusive access.
configure> modify parameter-group interface if-port-1
Info: Parameter group instance loaded for modification.
configure> default ip ipv4
configure> enter ip ipv6
[ interface:"if-port-1" > ip > ipv6 ]
configure> show draft -e
[ interface:"if-port-1" > ip > ipv6 ]
enable no
address 0000:0000:0000:0000:0000:0000:0000:0000
netmask 0000:0000:0000:0000:0000:0000:0000:0000
peer-address 0000:0000:0000:0000:0000:0000:0000:0000
peer-netmask 0000:0000:0000:0000:0000:0000:0000:0000
link-local-address 0000:0000:0000:0000:0000:0000:0000:0000
link-local-netmask 0000:0000:0000:0000:0000:0000:0000:0000
preference 1
metric 1
ndp {
  cache-timeout 1200
  unsolicited-learning enable
}
vrrp {
  enable no
  virtual-router [+] {
  }
}
}
configure> set enable yes
configure> set address 2001::01/64
configure> save
Info: Parameter group interface "if-port-1" saved
configure>
```

Configure IPv6 global address 2002::01/64 to interface if-port-2

```
operational> configure
Entering configuration mode with exclusive access.
configure> modify parameter-group interface if-port-2
Info: Parameter group instance loaded for modification.
configure> default ip ipv4
configure> set ip ipv6 enable yes
configure> set ip ipv6 address 2002::01/64
configure> save
Info: Parameter group interface "if-port-2" saved
configure> exit
operational>
```

Verify Interface configurations

```
operational> show interface all
```

Interface name	Status	Encapsulation	IP address
if-port-1	up	ethernet	2001::1/64 fe80::2826:ff:fe00:29a/64
if-port-2	up	ethernet	2002::1/64 fe80::2826:ff:fe00:29b/64
if-port-3	down	ethernet	-
if-port-4	down	ethernet	-
if-port-5	down	ethernet	-
if-port-6	down	ethernet	-
if-port-7	down	ethernet	-
if-port-8	down	ethernet	-
management	disabled	ethernet	10.0.0.12/24

Total number of interfaces displayed : 9

```
operational>
```

Check IPv6 information in “show interface details” command output

```
operational> show interface details if-port-1 if-port-2
```

```
> Interface : if-port-1
```

General Information

```
-----
ID                : 19
Encapsulation     : ethernet
MTU               : 1500
Base port type    : fast-ethernet
Base port location : { shelf-1 { active-controller base-slot } port-1 }
```

State Information

```
-----
State             : up
Last state transition : 21:57:36, Saturday, April 03, 2021 IST
Work flags        : - - - - -
```

Ethernet information

```
-----
VLAN tagging      : disabled
```

IP information

```
-----
Router           : data
```

IPv6 information

```
-----
Address          : 2001::1
Netmask          : ffff:ffff:ffff:ffff::
Link local Address : fe80::2826:ff:fe00:29a
Link local Netmask : ffff:ffff:ffff:ffff::
Scope Zone       : 33488915
```

```
Metric           : 1
```

TE information

```
-----
Maximum Bandwidth      : 10000 kbps
Maximum Reservable Bandwidth : 10000 kbps
Update threshold percentage : 10
```

```
> Interface : if-port-2
```

General Information

```
-----
ID                : 20
Encapsulation     : ethernet
MTU               : 1500
Base port type    : fast-ethernet
Base port location : { shelf-1 { active-controller base-slot } port-2 }
```

State Information

```
-----
State             : up
Last state transition : 22:00:26, Saturday, April 03, 2021 IST
Work flags        : - - - - -
```

Ethernet information

```
-----
VLAN tagging      : disabled
```

IP information

```
-----
Router           : data
```

IPv6 information

```
-----
Address          : 2002::1
Netmask          : ffff:ffff:ffff:ffff::
Link local Address : fe80::2826:ff:fe00:29b
Link local Netmask : ffff:ffff:ffff:ffff::
Scope Zone       : 33488916
Preference       : 1
Metric           : 1
```

TE information

```
-----
Maximum Bandwidth      : 10000 kbps
Maximum Reservable Bandwidth : 10000 kbps
Update threshold percentage : 10
```

Configure IPv6 static routes in Router-1

Configure a static route to reach 2003:00/64 network (Bob) with gateway as 2002::02(Router-2)

```
operational> configure
Entering configuration mode with exclusive access.
configure> create parameter-group ip-router v6-route-2003-nw
Error: 'ip-router' is not a valid parameter group
configure> create parameter-group ip-route v6-route-2003-nw
Info: Parameter group instance created.
configure> show draft -e
[ ip-route:"v6-route-2003-nw" ]
*name "v6-route-2003-nw"
enable no
router ""
destination 0.0.0.0
netmask 0.0.0.0
next-hop {
  router ""
  gateway 0.0.0.0
  label-switched-path ""
}
preference 30
metric 2
configure> set enable yes
configure> set router data
configure> set destination 2003::/64
configure>
```

```
configure> set next-hop gateway 2002:02
Error: Parameter set operation failed - Invalid value

Only IPv4/IPv6 unicast addresses are allowed.

IPv4 addresses must be provided in "dotted quad" notation -
a.b.c.d

** can be used to set wild-card IPv4 address, which is 0.0.0.0

Addresses in loopback address range (127.0.0.0/8) are not allowed

IPv6 addresses must be provided in "colon" notation -
abcd:efgh:ijklmnop:qrst:uvwxy:zab:cdef
abcd:efgh::cdef
abcd:efgh:ijklmnop:qrst:uvwxy:zab:a.b.c.d
configure> set next-hop gateway 2002::02
configure> save
Info: Parameter group ip-route "v6-route-2003-nw" saved
configure> exit
operational>
```

Display IPv6 routing table in Router-1

The configured static route should appear in the IPv6 routing table

```
operational> show route summary -F ipv6 data
```

```
> IPv6 active routes
```

```
>> Destination : ::1/128  
Gateway(s) : { ^loopback-16387  
              ::1 }  
Source : direct  
Flags : -
```

```
>> Destination : 2001::/64  
Gateway(s) : { if-port-1  
              :: }  
Source : direct  
Flags : -
```

```
>> Destination : 2002::/64  
Gateway(s) : { if-port-2  
              :: }  
Source : direct  
Flags : -
```

```
>> Destination : 2003::/64  
Gateway(s) : { if-port-2  
              2002::2 }  
Source : static  
Flags : -
```

```
>> Destination : fe80::/64  
Gateway(s) : { if-port-1  
              :: }  
Source : direct  
Flags : -
```

```
>> Destination : fe80::/64  
Gateway(s) : { if-port-2  
              :: }  
Source : direct  
Flags : -
```

```
Total number of IPv6 active routes displayed : 6
```

```
No IPv6 backup routes are available
```

```
operational>
```

```
operational>
```


Enable IPv6 in Router-2

```

hivappadmin@ClayNet:~$ telnet 127.0.0.1 51594
Trying 127.0.0.1...
Connected to 127.0.0.1.
Escape character is '^]'.

Login: admin
Password:

operational> configure
Entering configuration mode with exclusive access.
configure> modify parameter-group router data
Info: Parameter group instance loaded for modification.
configure> set ipv6 enable yes
configure> save
Info: Parameter group router "data" saved
configure> exit

```

Check IPv6 information in router details
operational> show router details data

```

configure> exit
operational> show router details data

> Router : data

General information
-----
Router ID       : 16387
State           : up
Interfaces      : 9
Routing gateways : 4
Local addresses : 4
Sockets         : 2
Flags           : -----
Last state transition : 22:18:24, Saturday, April 03, 2021 IST

IPv4 information
-----
Default source address : 0.0.0.0
Default TTL             : 64
Interfaces              : 9

IPv4 routes
-----
Active routes      :      4
Backup routes      :      2
Total routes       :      6

IPv4 routes by source
-----
Directly connected routes :      4
Static routes             :      0
RIP routes                :      0
OSPFv2 routes             :      2

```

```

IPv4 listeners and connections
-----
TCP listeners      :      1
TCP connections    :      0
TCP sockets        :      1
UDP sockets        :      0

OSPFv2 information
-----
Router ID         : 1.1.1.1
Number of areas    : 1
Preference        : 50
SPF hold count     : 0

IPv6 information
-----
Default Hop Limit  : 64
Interfaces         : 1

IPv6 routes
-----
Active routes      :      1
Backup routes      :      0
Total routes       :      1

IPv6 routes by source
-----
Directly connected routes :      1
Static routes             :      0
BGP routes              :      0

IPv6 listeners and connections
-----
TCP listeners      :      1

```

```

IPv6 listeners and connections
-----
TCP listeners      :      1
TCP connections   :      0
TCP sockets       :      1
UDP sockets       :      0

SSH server
-----
Enabled           : Yes
TCP keep alives   : enabled
Allowed versions  : ssh-version-2

Telnet server
-----
Enabled           : No

SNMP
----
Enabled           : No

XMP server
-----
Enabled           : No

Quality of Service
-----
Default class for forwarded traffic : class-1
Default drop-profile for forwarded traffic : green
Default class for local traffic      : class-1
Default drop-profile for local traffic : green

operational>
operational>

```

Configure IPv6 interfaces in Router-2

Configure IPv6 global address 2003::01/64 to interface if-port-1

```

operational> configure
Entering configuration mode with exclusive access.
configuration> modify parameter-group interface if-port-1
Info: Parameter group instance loaded for modification.
configuration> default ip ipv4
configuration> set ip ipv6 enable yes
configuration> set ip ipv6 address 2003::01/64
configuration> save
Info: Parameter group interface "if-port-1" saved
configuration> exit
operational>

```

Configure IPv6 global address 2002::02/64 to interface if-port-2

```

operational> configure
Entering configuration mode with exclusive access.
configuration> modify parameter-group interface if-port-2
Info: Parameter group instance loaded for modification.
configuration> default ip ipv4
configuration> set ip ipv6 enable yes
configuration> set ip ipv6 address 2002::02/64
configuration> save
Info: Parameter group interface "if-port-2" saved
configuration> exit
operational>

```

Verify Interface configurations

```
operational> show interface all
```

Interface name	Status	Encapsulation	IP address
if-port-1	up	ethernet	2003::1/64 fe80::2826:ff:fe00:2a3/64
if-port-2	up	ethernet	2002::2/64 fe80::2826:ff:fe00:373/64
if-port-3	down	ethernet	-
if-port-4	down	ethernet	-
if-port-5	down	ethernet	-
if-port-6	down	ethernet	-
if-port-7	down	ethernet	-
if-port-8	down	ethernet	-
management	disabled	ethernet	10.0.0.12/24

```
Total number of interfaces displayed : 9
operational>
```

Check IPv6 information in “show interface details” command output

```
operational> show interface details if-port-1 if-port-2
```

> Interface : if-port-1

```
General Information
-----
ID                : 19
Encapsulation     : ethernet
MTU               : 1500
Base port type    : fast-ethernet
Base port location : { shelf-1 { active-controller base-slot } port-1 }

State Information
-----
State              : up
Last state transition : 22:24:05, Saturday, April 03, 2021 IST
Work flags         : - - - - -

Ethernet information
-----
VLAN tagging       : disabled

IP information
-----
Router             : data

IPv6 information
-----
Address            : 2003::1
Netmask            : ffff:ffff:ffff:ffff::
Link local Address : fe80::2826:ff:fe00:2a3
Link local Netmask : ffff:ffff:ffff:ffff::
Scope Zone        : 33488915
Preference         : 1
```

```
TE information
-----
Maximum Bandwidth      : 10000 kbps
Maximum Reservable Bandwidth : 10000 kbps
Update threshold percentage : 10
```

> Interface : if-port-2

```
General Information
-----
ID                : 20
Encapsulation     : ethernet
MTU               : 1500
Base port type    : fast-ethernet
Base port location : { shelf-1 { active-controller base-slot } port-2 }

State Information
-----
State              : up
Last state transition : 22:30:45, Saturday, April 03, 2021 IST
Work flags         : - - - - -

Ethernet information
-----
VLAN tagging       : disabled

IP information
-----
Router             : data

IPv6 information
-----
Address            : 2002::2
```

```

IPv6 information
-----
Address          : 2002::2
Netmask          : ffff:ffff:ffff:ffff::
Link local Address : fe80::2026:ff:fe00:373
Link local Netmask : ffff:ffff:ffff:ffff::
Scope Zone       : 33488916
Preference       : 1
Metric           : 1

TE information
-----
Maximum Bandwidth      : 10000 kbps
Maximum Reservable Bandwidth : 10000 kbps
Update threshold percentage : 10

operational>

```

Configure IPv6 static route in Router-2

Configure a static route to reach 2001:00/64 network (Alice) with gateway as 2002::01(Router-1)

```

configure> create parameter-group ip-route v6-route-2001-nw
Info: Parameter group instance created.
configure> show draft -e
[ ip-route:"v6-route-2001-nw" ]
"name "v6-route-2001-nw"
enable no
router ""
destination 0.0.0.0
netmask 0.0.0.0
next-hop {
  router ""
  gateway 0.0.0.0
  label-switched-path ""
}
preference 30
metric 2

configure> set enable yes
configure> set router data
configure> set destination 2001::/64
configure> set next-hop gateway 2002::01
configure> save
Info: Parameter group ip-route "v6-route-2001-nw" saved
configure>

```

```

configure> show draft -e
[ ip-route:"v6-route-2001-nw" ]
"name "v6-route-2001-nw"
enable yes
router "data"
destination 2001:0000:0000:0000:0000:0000:0000:0000
netmask ffff:ffff:ffff:ffff:0000:0000:0000:0000
next-hop {
  router ""
  gateway 2002:0000:0000:0000:0000:0000:0000:0001
  label-switched-path ""
}
preference 30
metric 2

configure> exit
operational>

```

Display IPv6 routing table in Router-2

```
configure> exit
operational> show route summary -F ipv6 data

> IPv6 active routes

>> Destination : ::1/128
  Gateway(s)   : { ^loopback-16387
                  ::1 }
  Source       : direct
  Flags        : -

>> Destination : 2001::/64
  Gateway(s)   : { if-port-2
                  2002::1 }
  Source       : static
  Flags        : -

>> Destination : 2002::/64
  Gateway(s)   : { if-port-2
                  :: }
  Source       : direct
  Flags        : -

>> Destination : 2003::/64
  Gateway(s)   : { if-port-1
                  :: }
  Source       : direct
  Flags        : -

>> Destination : fe80::/64
  Gateway(s)   : { if-port-1
                  :: }
  Source       : direct
  Flags        : -

>> Destination : fe80::/64
  Gateway(s)   : { if-port-2
                  :: }
  Source       : direct
  Flags        : -

Total number of IPv6 active routes displayed : 6

No IPv6 backup routes are available

operational>
operational>
```

Verify traffic flow between Alice and Bob

From Alice workstation ping Bob, observe the packet from and TTL in ping reply

From Alice workstation run tracepath to Bob's IP. Observe the intermediate hops

```

test@Lubuntu-vm: ~
File Edit Tabs Help
test@Lubuntu-vm:~$ ping6 2003::02
PING 2003::02(2003::12) 56 data bytes
64 bytes from 2003::12: icmp_seq=1 ttl=62 time=2.65 ms
64 bytes from 2003::12: icmp_seq=2 ttl=62 time=1.31 ms
64 bytes from 2003::12: icmp_seq=3 ttl=62 time=1.48 ms
64 bytes from 2003::12: icmp_seq=4 ttl=62 time=1.27 ms
64 bytes from 2003::12: icmp_seq=5 ttl=62 time=1.48 ms
64 bytes from 2003::12: icmp_seq=6 ttl=62 time=1.15 ms
64 bytes from 2003::12: icmp_seq=7 ttl=62 time=1.46 ms
64 bytes from 2003::12: icmp_seq=8 ttl=62 time=1.09 ms
--- 2003::02 ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7010ms
rtt_min/avg/max/ndev = 1.099/1.491/2.650/0.459 ms
test@Lubuntu-vm:~$
  
```

```

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
Apply a display filter: -Ctrl-F- Expression...
No. Time Source Destination Protocol Length Info
1 0.002752536 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=2, hop limit=6
2 0.003345732 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=2, hop limit=6
3 0.004506619 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=3, hop limit=6
4 0.004746106 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=3, hop limit=6
5 0.006047457 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=4, hop limit=6
6 0.005765746 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=4, hop limit=6
7 0.006952983 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=5, hop limit=6
8 0.007119271 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=5, hop limit=6
9 0.008815572 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=6, hop limit=6
10 0.008944476 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=6, hop limit=6
11 0.010480928 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=7, hop limit=6
12 0.010642732 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=7, hop limit=6
13 0.012310983 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=8, hop limit=6
14 0.012591734 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=8, hop limit=6
15 0.013972091 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=9, hop limit=6
16 0.014172642 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=9, hop limit=6
17 0.014505638 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=10, hop limit=6
18 0.014505638 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=10, hop limit=6
20 0.014505638 2003::12 2001::2 ICMPv6 118 Echo (ping) request id=0x04ec, seq=10, hop limit=6
21 0.014505638 2001::2 2003::12 ICMPv6 118 Echo (ping) reply id=0x04ec, seq=10, hop limit=6
Frame 1: 118 bytes on wire (944 bits), 118 bytes captured (944 bits) on interface 0
Ethernet II, Src: 2a:26:00:00:0f:14 (2a:26:00:00:0f:14), Dst: 2a:26:00:00:02:9a (2a:26:00:00:02:9a)
Internet Protocol Version 6, Src: 2001::2, Dst: 2003::12
Internet Control Message Protocol v6
0000 2a 26 00 00 02 9a 2a 26 00 00 0f 14 06 dd 60 0e *6...
0010 44 d3 00 40 3a 40 20 01 00 00 00 00 00 00 00 00 D: 0:0
0020 00 00 00 00 02 20 03 00 00 00 00 00 00 00 00 00
0030 00 00 00 00 02 00 00 5c fa 04 ec 00 01 b9 a2
0040 68 60 00 00 00 0f bf 07 00 00 00 00 10 11 h'
wireshark_eth0_20210403224506_85IQ40.pcapng
Packets: 20 · Displayed: 20 (100.0%) Profile: Default
rtt_min/avg/max/ndev = 1.250/1.442/1.727/0.174 ms
test@Lubuntu-vm:~$
  
```

Check IPv6 NDP table on Router-1
This is similar to ARP Table in IPv4.

```

Login: admin
Password:

operational> show ipv6 neighbour summary data

Host address          MAC address          Interface
-----
2001::2               2a:26:00:00:0f:14    if-port-1
2002::2               2a:26:00:00:03:73    if-port-2
fe80::2826:ff:fe00:373 2a:26:00:00:03:73    if-port-2
fe80::bb44:fb3e:be2f:8202 2a:26:00:00:0f:14    if-port-1

Total number of NDP entries displayed : 4

operational>

```

Verify auto-configured Link Local Address on IPv6 interfaces

All IPv6 enabled interfaces will have a link-local address. IPv6 link-local address is a unicast address that is configured automatically using the prefix FE80::/10 and port MAC in the modified EUI-64 format. The link-local address can also be manually configured.

Link-local addresses are used for addressing on a single physical link. These addresses can be used to reach the neighboring nodes attached to the same link. Routers will not forward packets using link-local addresses.

Two routers can have same link-local address and can still communicate over directly connected network. But, the global unicast address should be unique in a network as they are routable.

Login to Router-1 and check the auto-configured link local address.

For Example :

```

operational> show interface details if-port-1

> Interface : if-port-1

General Information
-----
ID                : 19
Encapsulation     : ethernet
MTU               : 1500
Base port type    : fast-ethernet
Base port location : { shelf-1 { active-controller base-slot } port-1 }

State Information
-----
State             : up
Last state transition : 21:57:35, Saturday, April 03, 2021 IST
Work flags        : - - - - -

Ethernet information
-----
VLAN tagging      : disabled

IP information
-----
Router            : data

IPv6 information
-----
Address           : 2001::1
Netmask           : ffff:ffff:ffff:ffff::
Link local Address : fe80::2826:ff:fe00:29a
Link local Netmask : ffff:ffff:ffff:ffff::
Scope Zone        : 33488915

```

Check the connectivity between Router-1 and Router-2 using Link Local Address

Login to Router-2 and get the link-local address of interface connected to Router-1.

Now, Login to Router-1 and ping the link-local address on Router-2 and observe the response. When pinging link-local address, the name of out-going interface should be specified in the command. If no interface or wrong interface name is specified, ping will result in error or unsuccessful.

```

operational> ping data:fe80::2826:ff:fe00:62e%if-port-2
PING fe80:0:1ff:14:2826:ff:fe00:625 --> fe80::2826:ff:fe00:62e%33488916
16 bytes from fe80::2826:ff:fe00:62e%33488916: icmp_seq=0 hoplimit=64 time=0.936 ms
16 bytes from fe80::2826:ff:fe00:62e%33488916: icmp_seq=1 hoplimit=64 time=0.654 ms
16 bytes from fe80::2826:ff:fe00:62e%33488916: icmp_seq=2 hoplimit=64 time=0.425 ms
16 bytes from fe80::2826:ff:fe00:62e%33488916: icmp_seq=3 hoplimit=64 time=0.509 ms
^C
---- PING Statistics----
4 packets transmitted, 4 packets received, 0.0% packet loss
round-trip min/avg/max/std-dev = 0.000/0.631/0.936/0.194 ms
operational> ping -c 5 data:fe80::2826:ff:fe00:62e

Error: No source address found for this destination

operational>

```