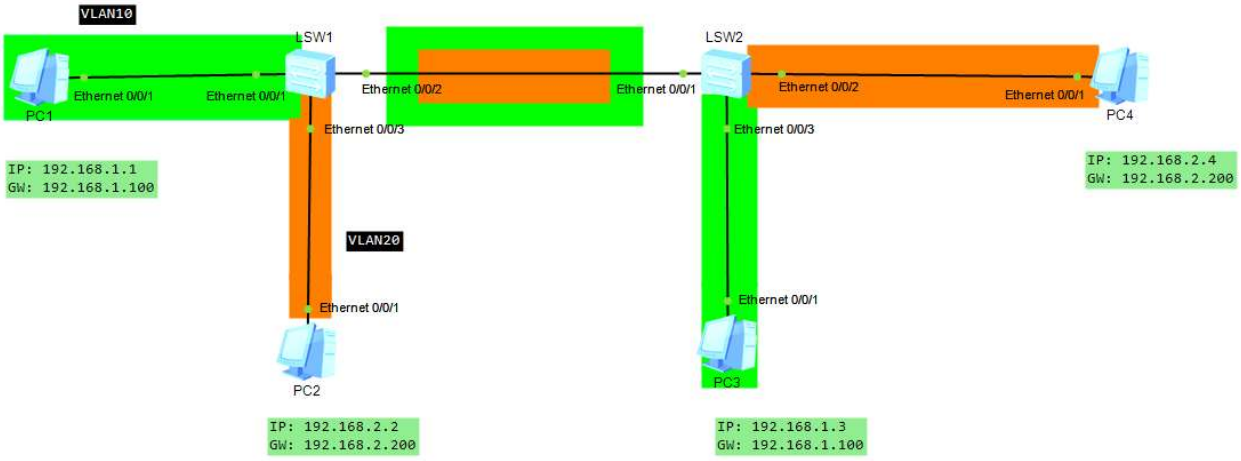
LAB-07

Configure the following scenario (inter VLAN routing) in eNSP:

eNSP simulation:



First, we have to assign the Ip address and gateway to each PC then we have to configure these commands on switches.

Configuration on Switch (LSW1):

```
sysname LSW1
#
vlan batch 10 20
#
```

```
interface Ethernet0/0/1
 port link-type access
 port default vlan 10
#
interface Ethernet0/0/2
 port link-type trunk
 port trunk allow-pass vlan 10 20
#
interface Ethernet0/0/3
 port link-type access
 port default vlan 20
#
```

We make Vlanif interfaces and assign gateway as ip address to them which results in inter vlan routing

```
interface Vlanif10
 ip address 192.168.1.100 255.255.255.0
#
interface Vlanif20
 ip address 192.168.2.200 255.255.255.0
#
```

Vlanif Interface Configuration

```
<LSW1>display ip interface brief
*down: administratively down
^down: standby
(l): loopback
(s): spoofing
The number of interface that is UP in Physical is 4
The number of interface that is DOWN in Physical is 1
The number of interface that is UP in Protocol is 3
The number of interface that is DOWN in Protocol is 2

Interface                         IP Address/Mask      Physical   Protocol
MEth0/0/1                         unassigned           down       down
NULL0                             unassigned           up         up(s)
Vlanif1                           unassigned           up         down
Vlanif10                          192.168.1.100/24     up         up
Vlanif20                          192.168.2.200/24     up         up
<LSW1>
```

VLAN Configuration

```
<LSW1>display vlan
The total number of vlans is : 3
--------------------------------------------------------------------------------
U: Up;         D: Down;         TG: Tagged;         UT: Untagged;
MP: Vlan-mapping;               ST: Vlan-stacking;
#: ProtocolTransparent-vlan;    *: Management-vlan;
--------------------------------------------------------------------------------

VID  Type    Ports
--------------------------------------------------------------------------------
1    common  UT:Eth0/0/2(U)     Eth0/0/4(D)     Eth0/0/5(D)     Eth0/0/6(D)
                Eth0/0/7(D)     Eth0/0/8(D)     Eth0/0/9(D)     Eth0/0/10(D)
                Eth0/0/11(D)    Eth0/0/12(D)    Eth0/0/13(D)    Eth0/0/14(D)
                Eth0/0/15(D)    Eth0/0/16(D)    Eth0/0/17(D)    Eth0/0/18(D)
                Eth0/0/19(D)    Eth0/0/20(D)    Eth0/0/21(D)    Eth0/0/22(D)
                GE0/0/1(D)      GE0/0/2(D)

10   common  UT:Eth0/0/1(U)
             TG:Eth0/0/2(U)

20   common  UT:Eth0/0/3(U)

             TG:Eth0/0/2(U)


VID  Status  Property      MAC-LRN Statistics Description
--------------------------------------------------------------------------------

1    enable  default       enable  disable    VLAN 0001
10   enable  default       enable  disable    VLAN 0010
20   enable  default       enable  disable    VLAN 0020
<LSW1>
```

Configuration on Switch (LSW2):

```
sysname LSW2
#
vlan batch 10 20
#
cluster enable
```

```
#
interface Ethernet0/0/1
 port link-type trunk
 port trunk allow-pass vlan 10 20
#
interface Ethernet0/0/2
 port link-type access
 port default vlan 20
#
interface Ethernet0/0/3
 port link-type access
 port default vlan 10
#
```

We make Vlanif interfaces and assign gateway as ip address to them which results in inter vlan routing

```
#
interface Vlanif10
 ip address 192.168.1.100 255.255.255.0
#
interface Vlanif20
 ip address 192.168.2.200 255.255.255.0
#
```

Vlanif Interface Configuration

```
<LSW2>display ip interface brief
*down: administratively down
^down: standby
(l): loopback
(s): spoofing
The number of interface that is UP in Physical is 4
The number of interface that is DOWN in Physical is 1
The number of interface that is UP in Protocol is 3
The number of interface that is DOWN in Protocol is 2

Interface                         IP Address/Mask      Physical   Protocol
MEth0/0/1                         unassigned           down       down
NULL0                             unassigned           up         up(s)
Vlanif1                           unassigned           up         down
Vlanif10                          192.168.1.100/24     up         up
Vlanif20                          192.168.2.200/24     up         up
<LSW2>
```

VLAN Configuration

```
<LSW2>display vlan
The total number of vlans is : 3
--------------------------------------------------------------------------------
U: Up;         D: Down;         TG: Tagged;         UT: Untagged;
MP: Vlan-mapping;               ST: Vlan-stacking;
#: ProtocolTransparent-vlan;    *: Management-vlan;
--------------------------------------------------------------------------------

VID  Type    Ports
--------------------------------------------------------------------------------
1    common  UT:Eth0/0/1(U)     Eth0/0/4(D)     Eth0/0/5(D)     Eth0/0/6(D)
                Eth0/0/7(D)     Eth0/0/8(D)     Eth0/0/9(D)     Eth0/0/10(D)
                Eth0/0/11(D)    Eth0/0/12(D)    Eth0/0/13(D)    Eth0/0/14(D)
                Eth0/0/15(D)    Eth0/0/16(D)    Eth0/0/17(D)    Eth0/0/18(D)
                Eth0/0/19(D)    Eth0/0/20(D)    Eth0/0/21(D)    Eth0/0/22(D)
                GE0/0/1(D)      GE0/0/2(D)

10   common  UT:Eth0/0/3(U)
             TG:Eth0/0/1(U)

20   common  UT:Eth0/0/2(U)

             TG:Eth0/0/1(U)


VID  Status  Property      MAC-LRN Statistics Description
--------------------------------------------------------------------------------

1    enable  default       enable  disable    VLAN 0001
10   enable  default       enable  disable    VLAN 0010
20   enable  default       enable  disable    VLAN 0020
<LSW2>
```

TESTING

Ping PC4 from PC1

```
PC>ping 192.168.2.4

Ping 192.168.2.4: 32 data bytes, Press Ctrl_C to break
From 192.168.2.4: bytes=32 seq=1 ttl=127 time=109 ms
From 192.168.2.4: bytes=32 seq=2 ttl=127 time=47 ms
From 192.168.2.4: bytes=32 seq=3 ttl=127 time=63 ms
From 192.168.2.4: bytes=32 seq=4 ttl=127 time=62 ms
From 192.168.2.4: bytes=32 seq=5 ttl=127 time=62 ms

--- 192.168.2.4 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 47/68/109 ms

PC>
```

PC2 from PC3:

PC3

Basic Config | Command | MCPacket | UdpPacket | Console

```
PC>ping 192.168.2.2

Ping 192.168.2.2: 32 data bytes, Press Ctrl_C to break
From 192.168.2.2: bytes=32 seq=1 ttl=127 time=47 ms
From 192.168.2.2: bytes=32 seq=2 ttl=127 time=62 ms
From 192.168.2.2: bytes=32 seq=3 ttl=127 time=63 ms
From 192.168.2.2: bytes=32 seq=4 ttl=127 time=62 ms
From 192.168.2.2: bytes=32 seq=5 ttl=127 time=78 ms

--- 192.168.2.2 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 47/62/78 ms
```

PC1 from PC4

PC4

Basic Config | Command | MCPacket | UdpPacket | Console

```
PC>ping 192.168.1.1

Ping 192.168.1.1: 32 data bytes, Press Ctrl_C to break
From 192.168.1.1: bytes=32 seq=1 ttl=127 time=62 ms
From 192.168.1.1: bytes=32 seq=2 ttl=127 time=63 ms
From 192.168.1.1: bytes=32 seq=3 ttl=127 time=47 ms
From 192.168.1.1: bytes=32 seq=4 ttl=127 time=62 ms
From 192.168.1.1: bytes=32 seq=5 ttl=127 time=47 ms

--- 192.168.1.1 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 47/56/63 ms
```

PC3 from PC2

```
PC>ping 192.168.1.3

Ping 192.168.1.3: 32 data bytes, Press Ctrl_C to break
From 192.168.1.3: bytes=32 seq=1 ttl=127 time=47 ms
From 192.168.1.3: bytes=32 seq=2 ttl=127 time=63 ms
From 192.168.1.3: bytes=32 seq=3 ttl=127 time=62 ms
From 192.168.1.3: bytes=32 seq=4 ttl=127 time=62 ms
From 192.168.1.3: bytes=32 seq=5 ttl=127 time=63 ms

--- 192.168.1.3 ping statistics ---
  5 packet(s) transmitted
  5 packet(s) received
  0.00% packet loss
  round-trip min/avg/max = 47/59/63 ms
```