Switch Configuration:

1. **Assign Hostname**
2. **Enable Password**

```
Press RETURN to get started!



Switch>en
Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#en
Switch(config)#enable pass
Switch(config)#enable password star
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#exit
```

enable password <password>

Set the password on switch

hostname <name>

Set the name of device

```
Switch(config)#do show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24
                                                Gig0/1, Gig0/2
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------

Remote SPAN VLANs
------------------------------------------------------------------------------

Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
```

Initial vlan configuration

3. **Create VLAN**

```
Switch(config)#vlan 10
Switch(config-vlan)#name IT
Switch(config-vlan)#vlan 20
Switch(config-vlan)#name OT
Switch(config-vlan)#vlan 30
Switch(config-vlan)#name HR
Switch(config-vlan)#exit
```

vlan <number>
name <vlan-name>

4. **Assign Port to the VLANs**

```
Switch(config)#interface Fa
Switch(config)#interface FastEthernet 0/1
Switch(config-if)#switchport mode acc
Switch(config-if)#switchport mode access
Switch(config-if)#switch
Switch(config-if)#switchport acc
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#inter
Switch(config)#interface range Fa
Switch(config)#interface range FastEthernet 0/2-6
Switch(config-if-range)#switch
Switch(config-if-range)#switchport mode acc
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#swi
Switch(config-if-range)#switchport acc
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#exit
```

```
Switch(config)#do show vlan br

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/19, Fa0/20, Fa0/21, Fa0/22
                                                 Fa0/23, Fa0/24, Gig0/1, Gig0/2
10   IT                                active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                 Fa0/5, Fa0/6
20   OT                                active    Fa0/7, Fa0/8, Fa0/9, Fa0/10
                                                 Fa0/11, Fa0/12
30   HR                                active    Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                 Fa0/17, Fa0/18
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
```

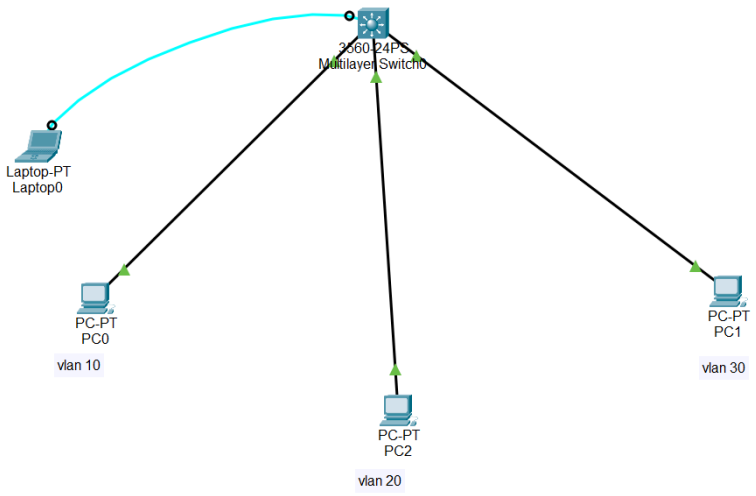
5. **Assigning IP address to the VLANs**

```
Switch(config)#interface vlan 10
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan10, changed state to up

Switch(config-if)#ip add
Switch(config-if)#ip address 192.168.1.1 255.255.255.0
Switch(config-if)#exit
Switch(config)#inter
Switch(config)#interface vlan 20
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan20, changed state to up

Switch(config-if)#ip add
Switch(config-if)#ip address 192.168.2.1 255.255.255.0
Switch(config-if)#exit
Switch(config)#int
Switch(config)#interface vlan 30
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan30, changed state to up

Switch(config-if)#ip addre
Switch(config-if)#ip address 192.168.3.1 255.255.255.0
Switch(config-if)#exit
```

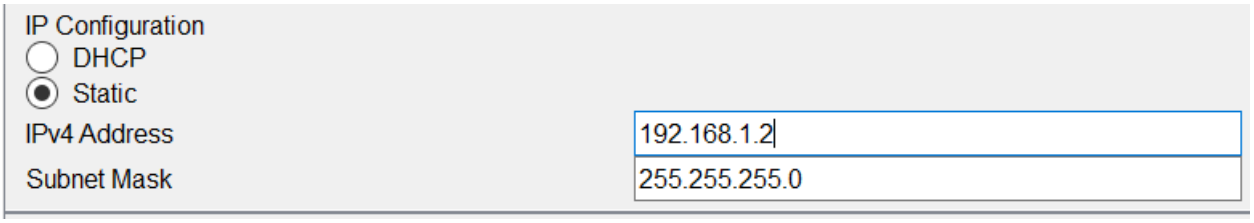
```
Switch(config)#do show ip interface br
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES unset  down                  down
FastEthernet0/2        unassigned      YES unset  down                  down
FastEthernet0/3        unassigned      YES unset  down                  down
FastEthernet0/4        unassigned      YES unset  down                  down
FastEthernet0/5        unassigned      YES unset  down                  down
FastEthernet0/6        unassigned      YES unset  down                  down
FastEthernet0/7        unassigned      YES unset  down                  down
FastEthernet0/8        unassigned      YES unset  down                  down
FastEthernet0/9        unassigned      YES unset  down                  down
FastEthernet0/10       unassigned      YES unset  down                  down
FastEthernet0/11       unassigned      YES unset  down                  down
FastEthernet0/12       unassigned      YES unset  down                  down
FastEthernet0/13       unassigned      YES unset  down                  down
FastEthernet0/14       unassigned      YES unset  down                  down
FastEthernet0/15       unassigned      YES unset  down                  down
FastEthernet0/16       unassigned      YES unset  down                  down
FastEthernet0/17       unassigned      YES unset  down                  down
FastEthernet0/18       unassigned      YES unset  down                  down
FastEthernet0/19       unassigned      YES unset  down                  down
FastEthernet0/20       unassigned      YES unset  down                  down
FastEthernet0/21       unassigned      YES unset  down                  down
FastEthernet0/22       unassigned      YES unset  down                  down
FastEthernet0/23       unassigned      YES unset  down                  down
FastEthernet0/24       unassigned      YES unset  down                  down
GigabitEthernet0/1     unassigned      YES unset  down                  down
GigabitEthernet0/2     unassigned      YES unset  down                  down
Vlan1                  unassigned      YES unset  administratively down down
Vlan10                 192.168.1.1     YES manual up                    down
Vlan20                 192.168.2.1     YES manual up                    down
Vlan30                 192.168.3.1     YES manual up                    down
```

6. inter-vlan routing

ip routing



Configure individual device in vlans



Checking the connections

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=1ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

Control-C
^C
```

Ping to vlan 10 gateway by device in vlan 10

```
C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.2.1:
    Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

Control-C
^C
```

Ping to vlan 20 gateway by device in vlan 10

```
C:\>ping 192.168.3.1

Pinging 192.168.3.1 with 32 bytes of data:

Reply from 192.168.3.1: bytes=32 time<1ms TTL=255
Reply from 192.168.3.1: bytes=32 time=2ms TTL=255

Ping statistics for 192.168.3.1:
    Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 1ms
```

Ping to vlan 30 gateway by device in vlan 10

```
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.2: bytes=32 time=11ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time=19ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 19ms, Average = 10ms
```

Ping to device in vlan 20 by device in vlan 10

```
C:\>ping 192.168.3.2

Pinging 192.168.3.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.3.2: bytes=32 time<1ms TTL=127
Reply from 192.168.3.2: bytes=32 time=13ms TTL=127
Reply from 192.168.3.2: bytes=32 time=11ms TTL=127

Ping statistics for 192.168.3.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 13ms, Average = 8ms
```

Ping to device in vlan 30 by device in vlan 10

7. **DHCP configuration:**

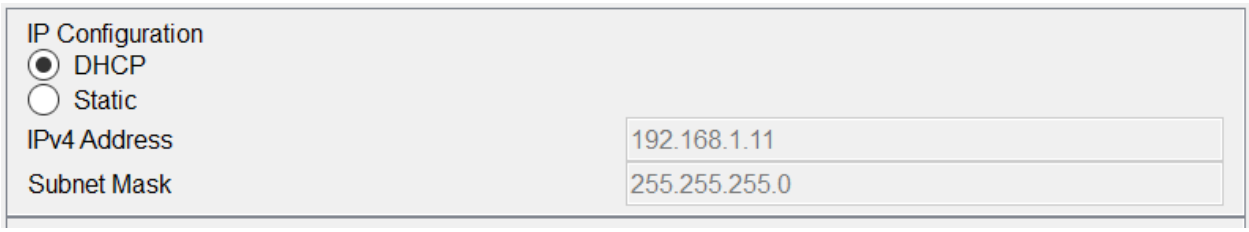
```
Switch(config)#ip dhcp pool 20
Switch(dhcp-config)#netw
Switch(dhcp-config)#network 192.168.2.0 255.255.255.0
Switch(dhcp-config)#def
Switch(dhcp-config)#default-router 192.168.2.1
Switch(dhcp-config)#exit
Switch(config)#ip dhcp pool 30
Switch(dhcp-config)#net
Switch(dhcp-config)#network 192.168.3.0 255.255.255.0
Switch(dhcp-config)#def
Switch(dhcp-config)#default-router 192.168.3.1
Switch(dhcp-config)#exit
```

8. **Exclude IP address from DHCP pool**

```
Switch(config)#ip dhcp excl
Switch(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10
Switch(config)#ip dhcp excluded-address 192.168.2.1 192.168.2.10
Switch(config)#ip dhcp excluded-address 192.168.3.1 192.168.3.10
Switch(config)#
```

9. **Save running configuration**

```
Switch#copy runn
Switch#copy running-config star
Switch#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Switch#
```

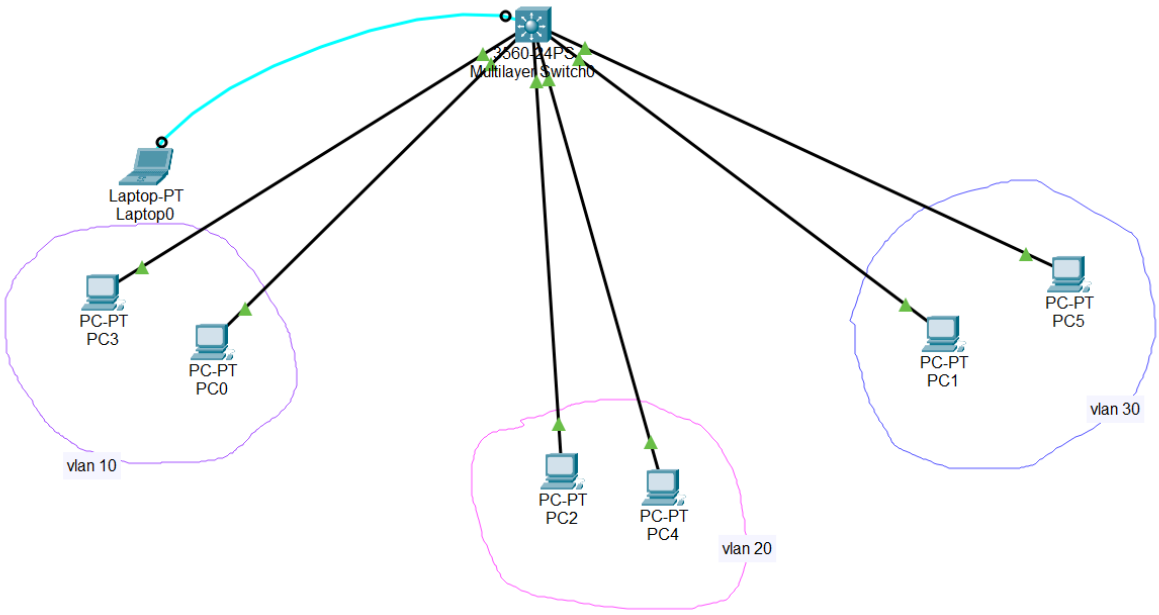


Checking the connection

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.3.11

Pinging 192.168.3.11 with 32 bytes of data:

Request timed out.
Reply from 192.168.3.11: bytes=32 time<1ms TTL=127
Reply from 192.168.3.11: bytes=32 time<1ms TTL=127
Reply from 192.168.3.11: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.3.11:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Ping to PC3 to PC 5

Logical topology



Physical Image :