PT Lab – Basic VLAN Configuration Solutions

ADDRESSING TABLE

Use the below addresses to help get started.

DEVICE	INTERFACE	IP ADDRESS / VLAN	SUBNET MASK
PC1	NIC	192.168.10.10	255.255.255.0
PC2	NIC	192.168.10.20	255.255.255.0
PC3	NIC	192.168.10.30	255.255.255.0
PC4	NIC	192.168.10.40	255.255.255.0
PC5	NIC	192.168.10.50	255.255.255.0
PC6	NIC	192.168.10.60	255.255.255.0
PC7	NIC	192.168.10.70	255.255.255.0
PC8	NIC	192.168.10.80	255.255.255.0
PC9	NIC	192.168.10.90	255.255.255.0
S1	F0/1 – F0/3	VLAN 10 – Floor1	N/A
S1	F0/4 – F0/6	VLAN 15 – Floor2	N/A
S1	F0/7 – F0/9	VLAN 20 – Floor3	N/A

OBJECTIVES

- Configure S1 with a basic switch configuration
    - Add a hostname [Hostname: S1] to the switch
    - Disable IP domain lookups
    - Configure an encrypted password [Password: Lab1]
    - Configure a password for the console [Password: Lab1]
    - Configure synchronous logging on the console
    - Configure a password for the virtual lines [Password: Lab1]

enable
config t
hostname S1
no ip domain-lookup
enable secret Lab1
line con 0
logging synchronous
password Lab 1
login
exit

```
line vty 0 15
logging synchronous
password Lab1
login
exit
```

- Add VLANs to S1
  - Add VLAN 10 to S1 [VLAN Name: Floor1]
  - Add VLAN 15 to S1 [VLAN Name: Floor2]
  - Add VLAN 20 to S1 [VLAN Name: Floor3]
  - Add VLAN 99 to S1 [VLAN Name: Blackhole]

```
vlan 10
name Floor1
exit
vlan 15
name Floor2
exit
vlan 20
name Floor3
exit
vlan 99
name Blackhole
exit
```

- Configure VLANs on S1 interfaces
  - VLAN 10 should be added to interfaces F0/1 – F0/3
  - VLAN 15 should be added to interfaces F0/4 – F0/6
  - VLAN 20 should be added to interfaces F0/7 – F0/9
  - Don't forget to turn on interfaces
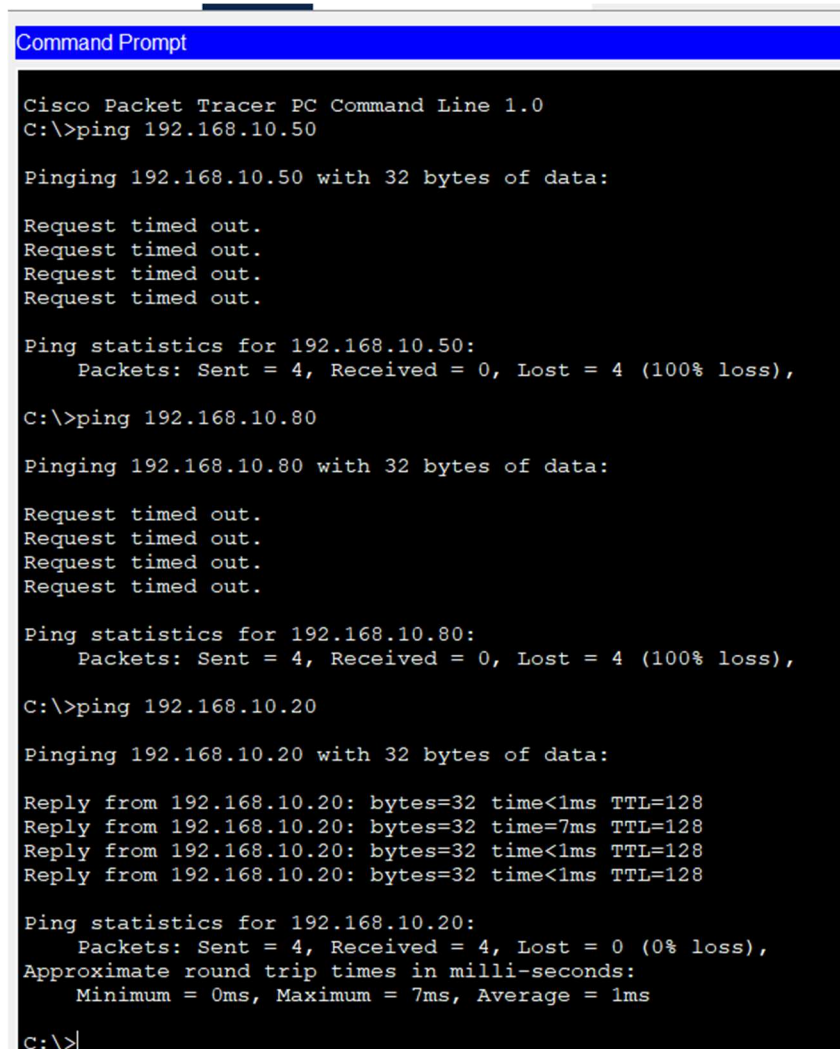 - All other interfaces should be placed in VLAN 99. These interfaces should be disabled.

```
interface range f0/1 - f0/3
switchport mode access
switchport access vlan 10
no shutdown
exit
interface range f0/4 - f0/6
switchport mode access
switchport access vlan 15
no shutdown
exit
interface range f0/7 - f0/9
switchport mode access
switchport access vlan 20
no shutdown
exit
```


interface range f0/11 - f0/24
switchport mode access
switchport access vlan 99
shutdown
exit

- Configure the PC workstations using the above addressing scheme. Use Packet Tracer's built-in IP configuration tool on the workstations.

Use built-in IP Configuration Tool

- Test VLAN connectivity
  - PCs in VLAN 10 should be able to ping each other
  - PCs in VLAN 15 should be able to ping each other
  - PCs in VLAN 20 should be able to ping each other

```
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.50

Pinging 192.168.10.50 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.10.50:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.10.80

Pinging 192.168.10.80 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.10.80:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.10.20

Pinging 192.168.10.20 with 32 bytes of data:

Reply from 192.168.10.20: bytes=32 time<1ms TTL=128
Reply from 192.168.10.20: bytes=32 time=7ms TTL=128
Reply from 192.168.10.20: bytes=32 time<1ms TTL=128
Reply from 192.168.10.20: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 7ms, Average = 1ms

C:\>
```
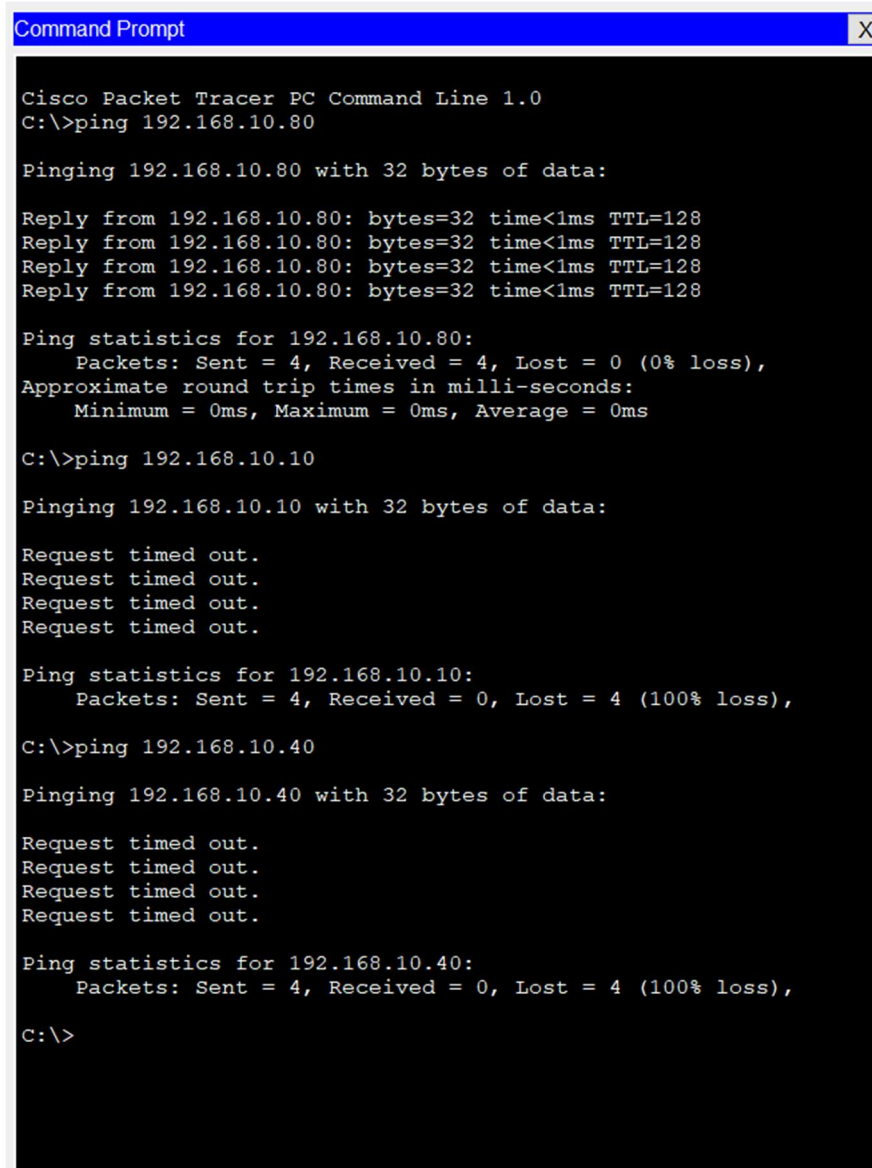
Testing PC1 – PC1 can ping other VLAN 10 PCs, but not PCs in VLANs 15 and 20

Testing PC4 – PC4 can ping other PCs in VLAN 15, but not PCs in VLANs 10 and 20

```
Command Prompt                                                    X

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.80

Pinging 192.168.10.80 with 32 bytes of data:

Reply from 192.168.10.80: bytes=32 time<1ms TTL=128
Reply from 192.168.10.80: bytes=32 time<1ms TTL=128
Reply from 192.168.10.80: bytes=32 time<1ms TTL=128
Reply from 192.168.10.80: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.80:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.10

Pinging 192.168.10.10 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.10.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.10.40

Pinging 192.168.10.40 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.10.40:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

Testing PC7 – PC7 can ping PCs in VLAN 20, but not PCS in VLANs 10 and 15