**3.3.12**

**S1, S2, S3**

enable

show vlan brief

**PC1**

ping 172.17.10.24

**PC2**

ping 172.17.20.25

**PC3**

ping 172.17.30.26

**Configure VLANs**

**S1**

S1(config)#vlan 10

S1(config-vlan)#name Faculty/Staff

S1(config-vlan)#vlan 20

S1(config-vlan)#name Students

S1(config-vlan)#exit

S1(config)#vlan 30

S1(config-vlan)#name Guest(Default)

S1(config-vlan)#vlan 99

S1(config-vlan)#name Managemnt&Native

S1(config-vlan)#vlan 150

S1(config-vlan)#name VOICE

S1#show vlan brief

**S2**

S2>enable

S2#configure terminal

S2(config)#vlan 10

S2(config-vlan)#name Faculty/Staff

S2(config-vlan)#vlan 150

S2(config-vlan)#name VOICE

S2(config-vlan)#vlan 99

S2(config-vlan)#name Management&Native

S2(config-vlan)#name Favulty/Staff

S2(config-vlan)#vlan 20

S2(config-vlan)#name Students

S2(config-vlan)#vlan 30

S2(config-vlan)#name Guest(Default)

Exit

Exit

show vlan brief

**S3**

S3>enable

S3#configure terminal

S3(config)#vlan 10

S3(config-vlan)#name Faculty/Staff

S3(config-vlan)#vlan 20

S3(config-vlan)#name Students

S3(config-vlan)#vlan 30

S3(config-vlan)#name Guest(Default)

S3(config-vlan)#vlan 99

S3(config-vlan)#name Managemnt&Native

S3(config-vlan)#vlan 150

S3(config-vlan)#name VOICE

Exit

Exit

show vlan brief

**Assign VLANS to Ports**

**Assign VLANs tot the active ports on S2**

S2#enable

S2#configure terminal

S2(config)#interface f0/11

S2(config-if)#switchport mode access

S2(config-if)#switchport access vlan 10

S2(config-if)#interface f0/18

S2(config-if)#switchport mode access

S2(config-if)#switchport access vlan 20

S2(config-if)#interface f0/6

S2(config-if)#switchport mode access

S2(config-if)#switchport access vlan 30

S2(config-if)#exit

**Assign VLANs tot the active ports on S3**

S3(config)#interface fastEthernet 0/11

S3(config-if)#switchport mode access

S3(config-if)#switchport access vlan 10

S3(config-if)#interface fastEthernet 0/18

S3(config-if)#switchport mode access

S3(config-if)#switchport access vlan 20

S3(config-if)#interface fastEthernet 0/6

S3(config-if)#switchport mode access

S3(config-if)#switchport access vlan 30

S3(config-if)#exit

**Assign the voice VLAN to FastEthernet 0/11 on S3**

S3(config)#interface fastEthernet 0/11

S3(config-if)#mls qos trust cos

S3(config-if)#switchport voice vlan 150

S3(config-if)#exit

S3(config)#exit

S3#

**3.4.5 Packet Tracer - Configure Trunks**

S1>enable

S1#show vlan brief

**Configure Trunks**

S1#configure terminal

S1(config)#interface range g0/1 - 2

S1(config-if-range)#switchport mode trunk

S1(config-if-range)#switchport trunk native vlan 99

---

S2#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S2(config)#interface gigabit0/1

S2(config-if)#switchport trunk native vlan 99

---

S3#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S3(config)#interface gigabitEthernet 0/2

S3(config-if)#switchport trunk native vlan 99

**3.4.6 Packet Tracer - Configure VLANs and Trunking - Physical Mode**

Switch>enable

Switch#configure terminal

Switch(config)#hostname S1

S1(config)#enable secret class

S1(config)#line console 0

S1(config-line)#password cisco

S1(config-line)#login

S1(config-line)#exit

S1(config)#enable secret class

S1(config)#line console 0

S1(config-line)#password cisco

S1(config-line)#login

S1(config-line)#exit

S1(config)#line vty 0 15

S1(config-line)#password cisco

S1(config-line)#login

S1(config-line)#exit

S1(config)#service password-encryption

S1(config)#banner motd &Unautorized Access is Prohibited!&

S1(config)#int vlan 1

S1(config-if)#ip address 192.168.1.11 255.255.255.0

S1(config-if)#no shutdown

S1(config)#int range f0/2-5,f0/7-24,g0/1-2

S1(config-if-range)#shutdown

S1#clock set 10:25:00 14 September 2022

S1#copy running-config startup-config

Step2

**Switch>enable**

**Switch#configure terminal**

**Enter configuration commands, one per line. End with CNTL/Z.**

**Switch(config)#hostname S2**

**S2(config)#enable secret class**

**S2(config)#line console 0**

**S2(config-line)#password cisco**

**S2(config-line)#login**

**S2(config-line)#exit**

**S2(config)#line vty 0 15**

**S2(config-line)#password cisco**

**S2(config-line)#login**

**S2(config-line)#exit**

**S2(config)#service password-encryption**

**S2(config)#banner motd &Unauthorized Access is Prohibited&**

**S2(config)#int vlan 1**

**S2(config-if)#ip address 192.168.1.12 255.255.255.0**

**S2(config-if)#exit**

**S2(config)#**

S2(config)#int range f0/2-17,f0/19-24,g0/1-2

S2(config-if-range)#shutdown

S2#clock set 12:30:00 14 September 2022

S2#copy running-config startup-config

S1#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S1(config)#vlan 10

S1(config-vlan)#name Operations

S1(config-vlan)#vlan 20

S1(config-vlan)#name Parking\_Lot

S1(config-vlan)#vlan 99

S1(config-vlan)#name Management

S1(config-vlan)#vlan 1000

S1(config-vlan)#name Native

S1(config-vlan)#end

S1#

S2#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S2(config)#vlan 10

S2(config-vlan)#name Operations

S2(config-vlan)#vlan 20

S2(config-vlan)#name Parking\_Lot

S2(config-vlan)#vlan 99

S2(config-vlan)#name Management

S2(config-vlan)#vlan 1000

S2(config-vlan)#name Native

S2(config-vlan)#exit

S1#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S1(config)#int f0/6

S1(config-if)#switchport mode access

S1(config-if)#switchport access vlan 10

S1(config-if)#int vlan 1

S1(config-if)#no ip address

S1(config-if)#shutdown

S1(config-if)#int vlan 99

S1(config-if)#ip address 192.168.1.11 255.255.255.0

S2#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S2(config)#int f0/18

S2(config-if)#switchport mode access

S2(config-if)#switchport access vlan 10

S2(config-if)#int vlan 1

S2(config-if)#no ip address

S2(config-if)#shutdown

S2(config-if)#int vlan 99

S2(config-if)#ip address 192.168.1.12 255.255.255.0

S1#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S1(config)#int range f0/11-24

S1(config-if-range)#switchport mode access

S1(config-if-range)#switchport acces vlan 99

S1(config-if-range)#end

S1#

S1#configure terminal

S1#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S1(config)#int range f0/11

S1(config-if-range)#int range f0/11,f0/21

S1(config-if-range)#switchport mode access

S1(config-if-range)#switchport acces vlan 10

S1(config-if-range)#end

S1#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S1(config)#int f0/1

S1(config-if)#switchport mode dynamic desirable

S2#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S2(config)#int f0/1

S2(config-if)#switchport mode trunk

S1#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S1(config)#int f0/1

S1(config-if)#switchport trunck native vlan 1000

^

% Invalid input detected at '^' marker.

S1(config-if)#switchport trunk native vlan 1000

S2#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S2(config)#int f0/1

S2(config-if)#switchport trunk native vlan 1000

**3.5.5.** Packet Tracer - Configure DTP

**S2>enable**

**S2#configure terminal**

**Enter configuration commands, one per line. End with CNTL/Z.**

**S2(config)#vlan 10**

**S2(config-vlan)#name Red**

**S2(config-vlan)#vlan 20**

**S2(config-vlan)#name Blue**

**S2(config-vlan)#vlan 30**

**S2(config-vlan)#name Tellow**

**S2(config-vlan)#name Yellow**

**S2(config-vlan)#do show vlan brief**

S3>enable

S3#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

S3(config)#vlan 10

S3(config-vlan)#name Red

S3(config-vlan)#vlan 20

S3(config-vlan)#name Blue

S3(config-vlan)#vlan 30

S3(config-vlan)#name Yellow

S3(config-vlan)#do show vlan brief

S2(config-vlan)#exit

S2(config)#int range fa0/1-8

S2(config-if-range)#switchport mode access

S2(config-if-range)#switchport access vlan 10

S2(config-if-range)#exit

S2(config)#int range fa0/9-16

S2(config-if-range)#switchport mode access

S2(config-if-range)#switchport access vlan 20

S2(config-if-range)#exit

S2(config)#int range fa0/17-24

S2(config-if-range)#switchport mode access

S2(config-if-range)#switchport access vlan 30

S2(config-if-range)#exit

S3(config-vlan)#

S3(config-vlan)#exit

S3(config)#int range fa0/1-8

S3(config-if-range)#switchport mode access

S3(config-if-range)#switchport access vlan 10

S3(config-if-range)#exit

S3(config)#int range fa0/9-16

S3(config-if-range)#switchport mode access

S3(config-if-range)#switchport access vlan 20

S3(config-if-range)#exit

S3(config)#int range fa0/17-24

S3(config-if-range)#switchport mode access

S3(config-if-range)#switchport access vlan 30

S3(config-if-range)#exit

S1>enable

S1#config terminal

Enter configuration commands, one per line. End with CNTL/Z.

S1(config)#int g0/1

S1(config-if)#switchport mode dynamic desirable

S1(config-if)#exit

S1(config)#int g0/2

S1(config-if)#switchport mode trunk

S1(config-if)#switchport nonegotiate

S1(config-if)#exit

S1(config)#int range g0/1-2

S1(config-if-range)#switchport trunk native vlan 999

S3(config)#

S3(config)#int g0/2

S3(config-if)#switchport native

%CDP-4-NATIVE\_VLAN\_MISMATCH: Native VLAN mismatch discovered on GigabitEthernet0/2 (1), with S1 GigabitEthernet0/2 (999).

vlan 999

^

% Invalid input detected at '^' marker.

S3(config-if)#switchport trunk native vlan 999

S3(config-if)#switchport mode trunk

S3(config-if)#switchport nonegotiate

S2(config)#int g0/1

S2(config-if)#switchport mode trunk

S2(config-if)#switchport nonegotiate

S2(config-if)#switchport trunk native vlan 999

S1(config-if-range)#

S1(config-if-range)#exit

S1(config)#vlan 10

S1(config-vlan)#name Red

S1(config-vlan)#vlan 20

S1(config-vlan)#name Blue

S1(config-vlan)#vlan 30

S1(config-vlan)#name Yellow

**3.6.1. Packet Tracer - Implement VLANs and Trunking**

**Part 1: Configure VLANs**

SWA>enable

SWA#configure terminal

SWA(config)#vlan 10

SWA(config-vlan)#name Admin

SWA(config-vlan)#vlan 20

SWA(config-vlan)#name Accounts

SWA(config-vlan)#vlan 30

SWA(config-vlan)#name HR

SWA(config-vlan)#vlan 40

SWA(config-vlan)#name Voice

SWA(config-vlan)#vlan 99

SWA(config-vlan)#name Management

SWA(config-vlan)#vlan 100

SWA(config-vlan)#name Native

SWA(config-vlan)#

**Part 2: Assign Ports to VLANs**

SWB#configure terminal

SWB(config)#interface fastEthernet 0/2

SWB(config-if)#switchport mode access

SWB(config-if)#switchport access vlan 20

SWB(config-if)#exit

SWB(config)#interface fastEthernet 0/1

SWB(config-if)#switchport mode access

SWB(config-if)#switchport access vlan 10

SWB(config-if)#exit

SWB(config)#interface fastEthernet 0/3

SWB(config-if)#switchport mode access

SWB(config-if)#switchport access vlan 30

SWB(config-if)#exit

SWC(config)#interface fa0/4

SWC(config-if)#switchport mode access

SWC(config-if)#switchport access vlan 10

SWC(config)#interface vlan 99

SWC(config-if)#

%LINK-5-CHANGED: Interface Vlan99, changed state to up

ip address 192.168.99.254 255.255.255.0

SWB(config)#interface vlan 99

SWB(config-if)#

%LINK-5-CHANGED: Interface Vlan99, changed state to up

SWB(config-if)#ip address 192.168.99.253 255.255.255.0

SWB#ping 192.168.99.252

**Part 3: Configure Static Trunking**

SWB(config)#int g 0/1

SWB(config-if)#switchport mode trunk

SWA(config-if)#interface gigabitEthernet 0/1

SWA(config-if)#switchport mode trunk

SWA(config-if)#switchport nonegotiate

SWA(config-if)#interface gigabitEthernet 0/1

SWA(config-if)#switchport mode trunk

SWA(config-if)#switchport nonegotiate

SWA(config-if)#switchport trunk native vlan 100

SWB(config-if)#switchport trunk native vlan 100

**Part 4: Configure Dynamic Trunking**

SWA(config)#interface gigabitEthernet 0/2

SWA(config-if)#switchport mode dynamic desirable

SWA(config)#interface gigabitEthernet 0/2

SWA(config-if)#switchport mode dynamic desirable