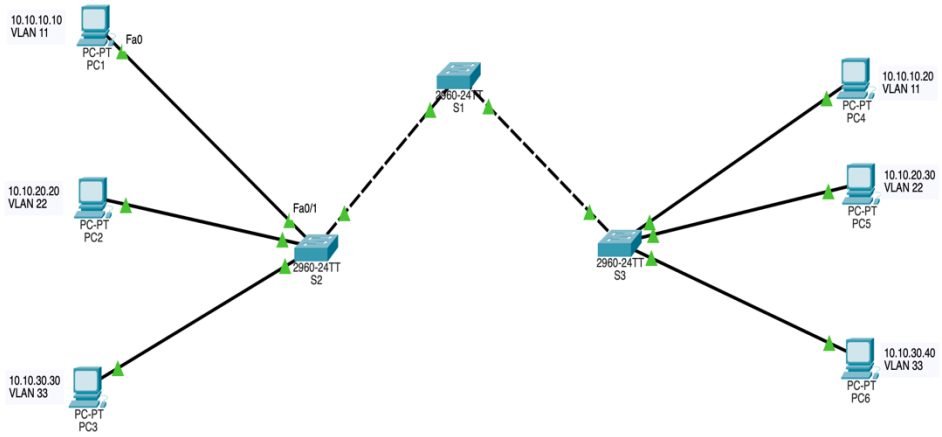
CS3800 – Computer Network
Exam-2

Topology Diagram



Addressing Table

Hostname	Interface	IP Address	Subnet Mask	Default Gateway
S1	VLAN 1	10.10.99.1	255.255.255.0	N/A
S2	VLAN 1	10.10.99.2	255.255.255.0	N/A
S3	VLAN 1	10.10.99.3	255.255.255.0	N/A
PC1	NIC	10.10.10.100	255.255.255.0	10.10.10.1
PC2	NIC	10.10.20.200	255.255.255.0	10.10.20.1
PC3	NIC	10.10.30.300	255.255.255.0	10.10.30.1
PC4	NIC	10.10.10.200	255.255.255.0	10.10.10.1
PC5	NIC	10.10.20.300	255.255.255.0	10.10.20.1
PC6	NIC	10.10.30.400	255.255.255.0	10.10.30.1

VLANs description:
VLAN ID: 11, Name: Management
VLAN ID: 22, Name: HR
VLAM ID: 33, Name: IT

Part 1: Build the Network and Configure Basic Device Settings
Task 1: Attach the devices as shown in the topology diagram, and cable as necessary

Task 2: Configure PC hosts as show in the Addressing Table for PC host address information.
Task 3: Test connectivity.
Verify that the PC hosts can ping one another.
They can all ping each other

Part 2: Create VLANs and Assign Switch Ports
(Made switches same order as diagram)
Task 1: Basic Switch Configurations
Create the VLANs on S1.

```
Switch#show vlan brief

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
Switch#
```

Issue the show vlan command to view the list of VLANs on S1
(Copy and past the screenshot that shows the output of the command)
Task 2: Create the VLANs on S2.
Issue the show vlan command to view the list of VLANs on S2

```
VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    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
11   Management                        active    Fa0/1
22   HR                                active    Fa0/2
33   IT                                active    Fa0/3
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
Switch#
```

(Copy and past the screenshot that shows the output of the command)
Task 3: Create the VLANs on S3.

```
VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/1, 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
11   Management                        active    Fa0/2
22   HR                                active    Fa0/3
33   IT                                active    Fa0/4
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
Switch#
```

Issue the show vlan command to view the list of VLANs on S3
(Copy and past the screenshot that shows the output of the command)

What is the default VLAN?
In S1: 1
In S2: 1
In S3: 1

Task 4: Assign switch ports to VLANs on S2.
Issue the show vlan command to view the list of VLANs and the assigned ports on S2.
(Copy and paste the screenshot that shows the output of the command)

Where is the screenshot here!!??? -1

Task 5: Assign switch ports to VLANs on S3.
Issue the show vlan command to view the list of VLANs and the assigned ports on S3.
(Copy and paste the screenshot that shows the output of the command)

```
VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/1, 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
11   Management                        active    Fa0/2
22   HR                                active    Fa0/3
33   IT                                active    Fa0/4
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
Switch#
```

Task 6: Test connectivity.
Verify that the PC hosts can ping one another.
Can PC1 ping PC2? _____, why? …No they are in different VLAN's
Can PC1 ping PC3? _____, why? …No they are in different VLAN's
Can PC1 ping PC4? _____, why? …No they are in different VLAN's, would also need a trunk
Can PC2 ping PC3? _____, why? …No they are in different VLAN's
Can PC2 ping PC5? _____, why? …No they are in different VLAN's, would also need a trunk
Can PC3 ping PC6? _____, why? …No they are in different VLAN's, would also need a trunk
Can PC4 ping PC5? _____, why? …No they are in different VLAN's
Can PC5 ping PC6? _____, why? …No they are in different VLAN's

Part 3: Configure an 802.1Q Trunk Between the Switches
Task 1: Ethernet trunks carry the traffic of multiple VLANs over a single link. Configure trunk interfaces to allow communication among computers of the same VLAN
Task 2: Verify trunk configuration
Issue the show interface trunk command to view the list of interfaces that have been configured.
S1: (Copy and paste the screenshot that shows the output of the command)

```
Switch(config)#interface fa0/4
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/4, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/4, changed state to up

Switch(config-if)#trunk native vlan 1
                  ^
% Invalid input detected at '^' marker.

Switch(config-if)#switchport trunk native vlan 1
Switch(config-if)#switchport trun allowed vlan
11,22,33,1
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
```

S2: (Copy and paste the screenshot that shows the output of the command)

```
Switch(config)#interface fa0/2
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/2, changed state to up

Switch(config-if)#switchport trunk native vlan 1
Switch(config-if)#switchport trunk allowed vlan
11,22,33,1
Switch(config-if)#end
```

S3: (Copy and paste the screenshot that shows the output of the command)

```
Switch(config)#interface fa0/2
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/2, changed state to up

Switch(config-if)#switchport trunk native vlan 1
Switch(config-if)#switchport trunk allowed vlan
11,22,33,1
Switch(config-if)#end
```

Task 3: Test connectivity.

Verify that the PC hosts can ping one another.

Can PC1 ping PC2? _____, why? …No different vlan's and no common link
Can PC1 ping PC3? _____, why? …No different vlan's and no common link
Can PC1 ping PC4? _____, why? …Yes they have common link
Can PC2 ping PC3? _____, why? …No different vlan's and no common link
Can PC2 ping PC5? _____, why? …Yes they have a common link
Can PC3 ping PC6? _____, why? …Yes they have a common link
Can PC4 ping PC5? _____, why? …No different vlan's and no common link
Can PC5 ping PC6? _____, why? …No different vlan's and no common link