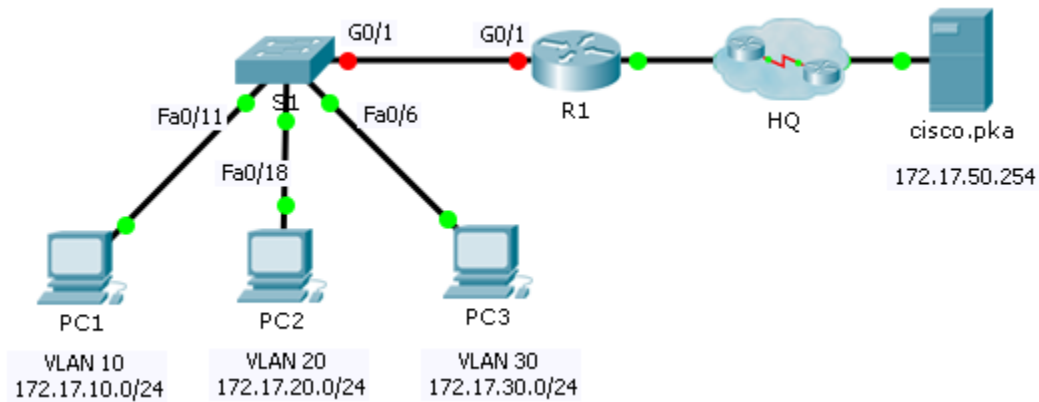# Packet Tracer – Skills Integration Challenge (Instructor Version)

Instructor Note: Red font color or Gray highlights indicate text that appears in the instructor copy only.

Topology

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/0	172.17.25.2	255.255.255.252	N/A
	G0/1.10	172.17.10.1	255.255.255.0	N/A
	G0/1.20	172.17.20.1	255.255.255.0	N/A
	G0/1.30	172.17.30.1	255.255.255.0	N/A
	G0/1.88	172.17.88.1	255.255.255.0	N/A
	G0/1.99	172.17.99.1	255.255.255.0	N/A
S1	VLAN 99	172.17.99.10	255.255.255.0	172.17.99.1
PC1	NIC	172.17.10.21	255.255.255.0	172.17.10.1
PC2	NIC	172.17.20.22	255.255.255.0	172.17.20.1
PC3	NIC	172.17.30.23	255.255.255.0	172.17.30.1

VLAN and Port Assignments Table

VLAN	Name	Interface
10	Faculty/Staff	Fa0/11-17
20	Students	Fa0/18-24
30	Guest(Default)	Fa0/6-10
88	Native	G0/1
99	Management	VLAN 99

Scenario

In this activity, you will demonstrate and reinforce your ability to implement inter-VLAN routing, including configuring IP addresses, VLANs, trunking and subinterfaces.

Requirements

- Assign IP addressing to **R1** and **S1** based on the **Addressing Table**.
- Create, name and assign VLANs on **S1** based on the **VLAN and Port Assignments Table**. Ports should be in access mode.
- Configure **S1** to trunk, allow only the VLANs in the **VLAN and Port Assignments Table**.
- Configure the default gateway on **S1.**
- All ports not assigned to a VLAN should be disabled.
- Configure inter-VLAN routing on **R1** based on the **Addressing Table**.
- Verify connectivity. **R1**, **S1**, and all PCs should be able to ping each other and the **cisco.pka** server.

```
!S1!!!!!!!!!!!!!!!
en
config t
interface vlan 99
ip address 172.17.99.10 255.255.255.0
no shutdown
ip default-gateway 172.17.99.1
!Note: VLAN naming only requires the first letter be correct
vlan 10
name Faculty/Staff
vlan 20
name Students
vlan 30
name Guest(Default)
vlan 88
name Native
vlan 99
```

```
name Management
interface range fa0/11 - 17
switchport mode access
switchport access vlan 10
interface range fa0/18 - 24
switchport mode access
switchport access vlan 20
interface range fa0/6 - 10
switchport mode access
switchport access vlan 30
interface g0/1
switchport mode trunk
switchport trunk native vlan 99
interface range fa0/1 - 5 , g1/2
shutdown
do write

!R1!!!!!!!!!!!!!!!!!!!
ena
conf t
interface GigabitEthernet0/1
no shutdown
interface GigabitEthernet0/1.10
encapsulation dot1Q 10
ip address 172.17.10.1 255.255.255.0
interface GigabitEthernet0/1.20
encapsulation dot1Q 20
ip address 172.17.20.1 255.255.255.0
interface GigabitEthernet0/1.30
encapsulation dot1Q 30
ip address 172.17.30.1 255.255.255.0
interface GigabitEthernet0/1.88
encapsulation dot1Q 88 native
ip address 172.17.88.1 255.255.255.0
interface GigabitEthernet0/1.99
encapsulation dot1Q 99
ip address 172.17.99.1 255.255.255.0
do write
```