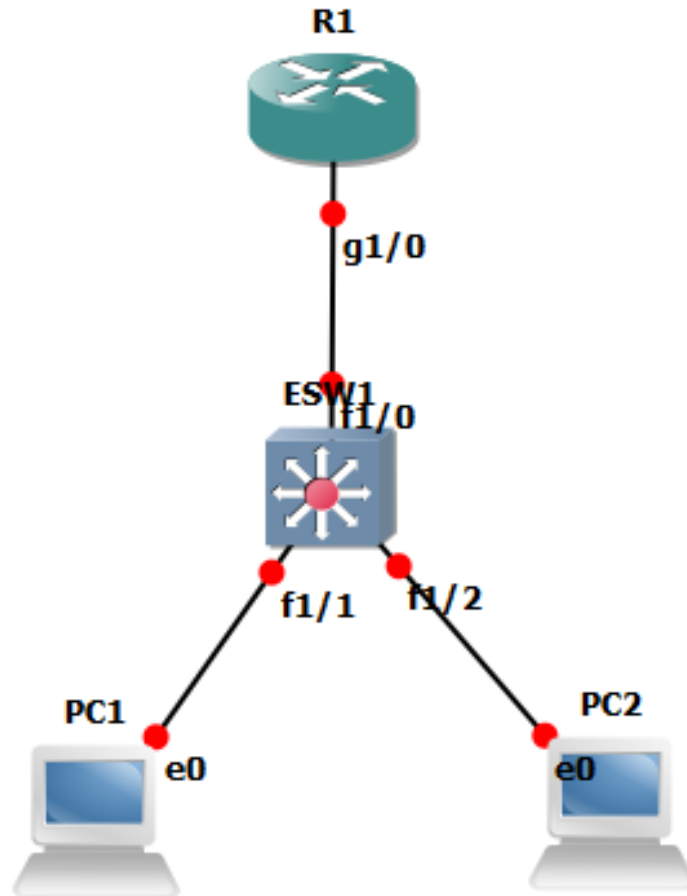# Inter VLAN Routing

Router-on-a-Stick

Topology

Verification

show vlan-switch

show vlans

show interface trunk

show vtp status

Goals

- Create VLAN 10 and 20 on switch ESW1
- Configure the interface Fa1/0 as trunk
- Configure Fa1/1 and Fa1/2 in ESW1 as switchport mode access
  - Fa1/1 in VLAN 10 and Fa1/2 in VLAN 20
- Configure IP address in PC
  - PC1 from VLAN 10 block with GW as 10.10.10.1
  - PC2 from VLAN 20 block with GW as 20.20.20.1
- Configure Gi1/0 of Router R1 with sub interface for VLAN 10 and VLAN 20
  - Gi1/0.10 with IP address 10.10.10.1/24
  - Gi1/0.20 with IP address 20.20.20.1/24
- Perform ping test between PC1 and PC2

Sample configuration: ESW1

```
interface FastEthernet1/0
 switchport mode trunk
interface FastEthernet1/1
 switchport mode access
 switchport access vlan 10
interface FastEthernet1/2
 switchport mode access
 switchport access vlan 20
```

Sample Configuration: R1

```
interface Gi1/0
 no shut
 no ip address
interface Gi1/0.10
 encapsulation dot1q 10
 ip address 10.10.10.1 255.255.255.0
interface Gi1/0.20
 encapsulation dot1q 20
 ip address 20.20.20.1 255.255.255.0
```

Sample Configuration: VPCS

PC1 and PC2 Configuration:
ip *<ip address> <subnet mask> <gateway>*

PC1: ip 10.10.10.2 255.255.255.0 10.10.10.1
PC2: ip 20.20.20.2 255.255.255.0 20.20.20.1