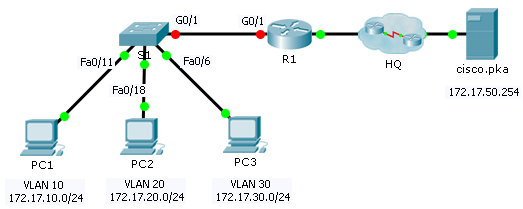
Packet Tracer – Inter-VLAN Routing Challenge

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 |

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 |

1. Scenario

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

1. 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