Packet Tracer - DHCP for IPv4 and Routing Between VLANs

# Addressing Table

| Device | Interface | IP Address | Subnet Mask | Default Gateway |
| --- | --- | --- | --- | --- |
| R1 | G0/0.10 | 172.31.10.1 | 255.255.255.224 | N/A |
| R1 | G0/0.20 | 172.31.20.1 | 255.255.255.240 | N/A |
| R1 | G0/0.30 | 172.31.30.1 | 255.255.255.128 | N/A |
| R1 | G0/0.40 | 172.31.40.1 | 255.255.255.192 | N/A |
| R1 | G0/1 | DHCP Assigned | DHCP Assigned | N/A |
| PC1 | NIC | DHCP Assigned | DHCP Assigned | DHCP Assigned |
| PC2 | NIC | DHCP Assigned | DHCP Assigned | DHCP Assigned |
| PC3 | NIC | DHCP Assigned | DHCP Assigned | DHCP Assigned |
| PC4 | NIC | DHCP Assigned | DHCP Assigned | DHCP Assigned |

# VLAN Port Assignments and DHCP Information

| Ports | VLAN Number - Name | DHCP Pool Name | Network |
| --- | --- | --- | --- |
| F0/5 - F0/9 | VLAN 10 - Sales | VLAN\_10 | 172.31.10.0/27 |
| F0/10 - F0/14 | VLAN 20 - Production | VLAN\_20 | 172.31.20.0/28 |
| F0/15 - F0/19 | VLAN 30 - Marketing | VLAN\_30 | 172.31.30.0/25 |
| F0/20 - F0/24 | VLAN 40 - HR | VLAN\_40 | 172.31.40.0/26 |

# Scenario

In this activity, you will configure VLANs, trunks, DHCP Server pools, and configure a router as a DHCP client.

# Requirements

Using the information in the tables above, implement the following requirements:

* Configure VLANs and trunking.
* Create VLANs on **S2** and assign VLANs to appropriate ports. Names are case-sensitive
* Configure **S2** ports for static trunking.
* Configure all non-trunk ports on **S2** as static access ports.
* Configure **R1** to route between VLANs. Subinterface numbers should match the VLAN number.
* Configure **R1** to act as a DHCP server for the VLANs attached to S2.
* Create a DHCP pool for each VLAN as shown in the VLAN Port Assignments and DHCP Information table. Names are case-sensitive.
* Assign the appropriate addresses to each pool.
* Configure DHCP to provide the default gateway address
* Configure the DNS server address of 209.165.201.14 for each pool.
* Prevent the first 10 addresses from each pool from being distributed to end devices.
* Configure **R1** as a DHCP client so that it receives an IP address from the ISP network.
* Verify that each PC has an address assigned from the correct DHCP pool.

**Note**: DHCP address assignments may take some time. Click **Fast Forward Time** to speed up the process.

* Verify all devices can now ping each other and **www.cisco.pka**.

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