

Troubleshooting the issue :

- Using **show vlan brief** on switch to verify that VLANs 10 and 20 exist and that ports are correctly assigned.
- Show interfaces switchport - command also used to verify
- If a router or Layer 3 switch is not configured, devices in different VLANs cannot communicate. To enable inter-VLAN routing, configure a router-on-a-stick or enable Layer 3 switching.

Router-on-a-Stick

It can be used to enable communication between VLAN 10 and VLAN 20.

By configuring a trunk link between the switch and the router, the router's sub-interfaces handle traffic for each VLAN.

For example,

GigabitEthernet0/0.10 is assigned to VLAN 10 with an IP like 192.168.10.1,

GigabitEthernet0/0.20 is assigned to VLAN 20 with 192.168.20.1.

Devices in each VLAN use the router as their default gateway, allowing traffic to be routed between VLANs.

Configuration involves enabling 802.1Q encapsulation on the router's interface and assigning IP addresses to each VLAN's sub-interface.

