

## METHODS USED

1. ***Access Point:*** Connected devices to the network using SSID.
2. ***Access and Trunk Configuration:*** Configured access and trunk ports at appropriate points in the network.
3. ***Subnetting and VLAN Configuration:*** Created 10 VLANs to segment the network and used Inter-VLAN routing for communication between VLANs.
4. ***HSRP:*** Configured HSRP between Layer 3 switches to enable a backup mechanism during potential outages.
5. ***OSPF:*** Implemented dynamic routing with OSPF among all Layer 3 switches and routers.
6. ***IPsec VPN:*** Established an IPsec VPN between management VLANs (VLAN 10-VLAN 70) to ensure fast and secure data transfer.

7. ***ACL (IN-OUT):*** Created rules to enhance security and manage specific traffic for all VLANs and servers.
8. ***Servers:*** Set up DHCP, DNS, HTTP, and SYSLOG servers to ensure efficient operation of devices within the network.
9. ***SSH:*** Configured SSH connections for management units and server switches (VLAN 10, VLAN 70, VLAN 100).
10. ***NAT and ISP:*** Managed internet access for internal devices and ensured uninterrupted communication with primary and backup ISP connections between R1 and R2.
11. ***Static and Dynamic Routes:*** Added static and dynamic IP routes at appropriate points in the network.