

NETWORKING & SECURITY



CCNA-Routing-Switching

TCP/IP

- ⇒ Tcp/ipip Address Class Level
- ⇒ Network Id
- ⇒ Broadcast Id
- ⇒ Gateway
- ⇒ Subnet Mask
- ⇒ Valid Ip
- ⇒ "ip Address Calculation
- ⇒ Binary To Decimal & Decimal To Binary"
- ⇒ VLSM
- ⇒ CIDR

Routing Protocols

- ⇒ Basic router IOS commands
- ⇒ EVNG LAB building
- ⇒ Initial router connecting and configuration.
- ⇒ Router types of modes
- ⇒ router make and model & Hardware specifications.

Static & Default routing

- ⇒ Static routing configuration & Working function.
- ⇒ Static floating (Admin failover) routing configuration.
- ⇒ IP SLA TRACK configuration.
- ⇒ ARP, ICMP, TTL, Traceroute detailed labs.
- ⇒ Default routing

Dynamic Routing Protocol

- ⇒ EIGRP
- ⇒ Eigrp basic configuration, Eigrp terminology, and Eigrp packets.
- ⇒ Eigrp Single AS number configuration.
- ⇒ Eigrp route summarization.
- ⇒ Eigrp with default Routing
- ⇒ Eigrp protocol authentication.
- ⇒ Eigrp Multi AS number configuration.

OSPF

- ⇒ Basic OSPF configuration and working function.
- ⇒ About OSPF LSA's, & Path selection process.
- ⇒ OSPF packets.
- ⇒ OSPF Neighbor states.
- ⇒ OSPF routes, codes and Area's information.
- ⇒ Importance of OSPF loopback address and configuration.
- ⇒ OSPF Single Area configuration along with Router id and priority id

- ⇒ OSPF DR and BDR configuration / Priority
- ⇒ OSPF Multi Area's configuration. (ABR)
- ⇒ OSPF Multi Area's configuration. (ASBR)
- ⇒ OSPF route Summarization.

Path Vector Protocol (Border Gateway Protocol)

- ⇒ BGP
- ⇒ About BGP history
- ⇒ BGP Packets
- ⇒ BGP Neighbor states.
- ⇒ Basic IBGP configuration
- ⇒ IBGP Neighbor configuration with physical interface
- ⇒ IBGP Neighbor configuration with loopback interface
- ⇒ Basic EBGP configuration
- ⇒ EBGP neighbor configuration with physical interface.
- ⇒ EBGP neighbor configuration with Loopback interface.

Redistribution routing protocols

- ⇒ About Redistribution and importance of Re-distribution protocol.
- ⇒ Eigrp to static routing configuration.
- ⇒ Eigrp to OSPF configuration.
- ⇒ Eigrp to Bgp configuration.
- ⇒ OSPF to Static routing configuration.
- ⇒ OSPF to Rip configuration.
- ⇒ OSPF to Eigrp configuration.
- ⇒ OSPF to Bgp configuration.
- ⇒ BGP to Static routing.
- ⇒ BGP to Eigrp configuration.
- ⇒ BGP to OSPF configuration.

IP Services Configuration

- ⇒ DHCP Configuration on Router and L3 Switch
- ⇒ DHCP Relay Agent Configuration.
- ⇒ DNS primary & Secondary configuration.
- ⇒ NTP(network Time protocol).

Switching Technology

- ⇒ Basic Switching commands & configuration
- ⇒ STP basic configuration.
- ⇒ STP working function.
- ⇒ Switch MAC table explaining
- ⇒ STP Modes.
- ⇒ V-lan's configuration (L2 & L3)
- ⇒ RSTP configuration.
- ⇒ PVSTP+ configuration.
- ⇒ L2 / L3 ether-channels configurations (Pagp & Lacp)
- ⇒ Trunk port configuration.
- ⇒ VTP configuration (Version2 Configuration).
- ⇒ IOS / flash backup and restore configuration.
- ⇒ Switch port Security configuration.
- ⇒ Remote Telnet and SSH configuration.
- ⇒ Types of Login's, Password's creation.

Security Topics

- ⇒ ACL configuration
- ⇒ Standard ACL (Name and Number)
- ⇒ Extended ACL (Name and Number)
- ⇒ NAT configuration
- ⇒ Static NAT
- ⇒ Dynamic NAT
- ⇒ PAT (Port address translation)
- ⇒ Router Site to Site IPSEC vpn configuration.
- ⇒ Remote access telnet and SSH
- ⇒ Password breaking and Recovery.

Paloalto-Firewall

Paloalto Topics

- ⇒ Introduction of Paloalto & Next Generation firewall.
- ⇒ Paloalto LAb building in EVE-NG.
- ⇒ Intraduction of Paloalto Zones.
 - A) Intra-Zone
 - B) Inter-Zone
 - C) (SP3) Architecture & Packet Flow.

Paloalto Security Policies configuration.

- ⇒ Basic security Policy configuration between the zones.
- ⇒ Ip based Security policy configuration and implementation.
- ⇒ Port /Application /Service based security policy configuration and implementation.
- ⇒ Paloalto types of Interfaces details & configuration.
 - A) Interface type L3
 - B) Interface type L2

- C) Interface type HA (High Availibility)
- D) Interface type TAP
- E) Interface type V-wire
- F) Interface type Tunnel
- G) Interface type sub-interface

Paloalto Routing

- ⇒ Paloalto firewall about VR and configuration.
- ⇒ Paloalto Multiple VR's configurations.
- ⇒ Paloalto Static routing implementation.
- ⇒ Paloalto Static routing implementation configuration.
- ⇒ Paloalto OSPF Single Area configuration and implementation.
- ⇒ Paloalto Multiple Area's configuration and Implementation.
- ⇒ Paloalto IBGP configuration.
- ⇒ Paloalto EBGP configuration.
- ⇒ Paloalto Import & Export rules implementation.
- ⇒ Paloalto BGP Protocol Authentication configuration.

Paloalto NAT

- ⇒ Paloalto Sourec NAT configuration and implemenation.
- ⇒ Paloalto Destination NAT configuration and implemenation.
- ⇒ Paloalto Source Static NAT configuration and implemenation.
- ⇒ Paloalto U-Turn NAT configuration and implemenation.

Paloalto Routing Policyes

- ⇒ Paloalto Dual-ISP configuration and implementation.
- ⇒ Paloalto Firewall Path Monitoring (IPSLA)
 - A) Nex-hop-IP-Monitoring.
 - B) Far-End-IP-Monitoring.
 - C) Policy based routing implementation and verification.
 - D) Paloalto ECMP configuration with methods.
 - E) Paloalto LLDP configuration

Paloalto Operations & Management Access

- ⇒ Local Administrators creation & access.
- ⇒ Administrator level of roles (L1,L2,L3) assigning and implementation.
- ⇒ DNS and NTP configuration & implementation.
- ⇒ Paloalto device config file back up & restore.
- ⇒ Paloalto operations states.

Paloalto Application & Services

- ⇒ Paloalto APP-ID features and implementation.
- ⇒ IP Address & IP Address Group.
- ⇒ Service object and Service group.
- ⇒ Application & Application Group.
- ⇒ Tags configuration.

Paloalto Service Route feature

- ⇒ About Service route requirement details.
- ⇒ How to Implement SRC (Service Route Configuration) in Paloalto
- ⇒ Integrating Syslog server with Paloalto. (Logs forwarding to External)
- ⇒ Integrating Neflow with Paloalto.
- ⇒ Integrating AD-server / Ldap with Paloalto. (User-ID)
- ⇒ Integrating Radius server with Paloalto. (user-ID)

Paloalto Authentication profiles

- ⇒ Paloalto Firewall Captive Portal Configuration (user-ID)

Paloalto High Availability

- ⇒ Paloalto HA configuration (Active and Standby)

paloalto Inspection policy

- ⇒ SSL-Decryption for outbound traffic.

Paloalto VPN

- ⇒ Paloalto Route based Site to Site VPN implementation & configuration & troubleshooting.
- ⇒ Paloalto policy based Site to site VPN implementation & configuration & troubleshooting.

Fortigate-Firewall

Fortigate Firewall Introduction Make & Model

- ⇒ Next gen Firewall features
- ⇒ How to access fortigate via Management
- ⇒ Packet flow in FortiGate
- ⇒ Backup and restore configuration

Fortigate types of Interfaces

- ⇒ Fortigate L3 interface configuration.
- ⇒ Fortigate L2 Interface.
- ⇒ Fortigate One arm sniffer.
- ⇒ Fortigate redundancy interface.
- ⇒ Fortigate Software Switch.
- ⇒ Fortigate Aggregate interface.
- ⇒ Fortigate Virtual Wire configuration.
- ⇒ Fortigate Sub-Interface configuration (SVI)

Fortigate firewall Routing

- ⇒ Fortigate Static routing configuration and implementation.
- ⇒ Fortigate Static with route summarization configuration
- ⇒ Fortigate Default routing configuration.
- ⇒ Fortigate RIP configuration (V2)
- ⇒ Fortigate OSPF single Area configuration.
- ⇒ Fortigate OSPF multiple Area's configuration.
- ⇒ Fortigate OSPF features.
- ⇒ Fortigate BGP (IBGP) configuration and implementation.
- ⇒ Fortigate BGP (EBGP) configuration and implementation.
- ⇒ Fortigate BGP features.
- ⇒ Fortigate LLDP configuration.

Fortigate Security Policy

- ⇒ Security policy introduction.
- ⇒ Interface based policy
- ⇒ Zone based policy
- ⇒ IP address based configuration.
- ⇒ Mac address-based policy
- ⇒ Application / service / port based configuration.
- ⇒ Fortigate Admin logins creation.
- ⇒ Application / service / port based configuration.

Fortigate NAT

- ⇒ Policy Based.
- ⇒ Introduction about NAT & types of NAT in Fortigate
- ⇒ Policy source NAT Overload / PAT
- ⇒ Source Static NAT configuration.
- ⇒ Policy dynamic NAT
- ⇒ Policy source One to one nat
- ⇒ Destination NAT / VIP configuration and implementation.
- ⇒ Policy source fixed port range nat
- ⇒ Policy source port block allocation nat
- ⇒ Policy destination NAT

Central Based

- ⇒ Central based Source NAT configuration and implementation.
- ⇒ Central Source NAT
- ⇒ Central destination NAT and VIP

Fortigate Firewall DHCP & DNS

- ⇒ FortiGate FW as DHCP server.
- ⇒ FortiGate FW as DHCP relay agent.
- ⇒ Fortigate firewall DNS configuration.

Fortigate policy routes

- ⇒ Fortigate Dual ISP configuration.
- ⇒ Fortigate IPSAL / monitoring
- ⇒ Fortigate Load balancing configuration and implementation.
- ⇒ Fortigate Policy based routing configuration and implementation.

Fortigate Authentication

- ⇒ Fortigate Captive Portal configuration.
- ⇒ Fortigate firewall integrating with AD server.

Fortigate High Availability

- ⇒ Fortigate HA configuration (Active and Standby)

Fortigate VPN

- ⇒ IPSEC VPN in FortiGate
- ⇒ FortiClient VPN
- ⇒ Fortigate VDOM

Fortigate inspection profiles

- ⇒ SSL inspection overview
- ⇒ SSL inspection in FortiGate
- ⇒ DOS policy
- ⇒ Upgrade procedures

Basic introduction and configuration about SDWAN



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