

CCNA Routing & Switching

1.0 LAN Switching Technologies

1. VLANs, Trunk, DTP
2. VLANs , Trunks and DTP Configuration
3. Voice Vlan – Configuration
4. VTP
5. VTP - Configuration
6. Spanning-tree
7. STP - PVST+ - Configuration
8. STP Portfast – Configuration
9. STP BPDU Guard Configuration – Part 1
10. STP BPDU Guard Configuration – Part 2
11. STP - RPVST+ - Configuration
12. EtherChannel
13. Layer 2 Etherchannel Configuration - Part 1
14. Layer 2 Etherchannel Configuration - Part 2
15. Layer 3 Etherchannel - LAB
16. Switch Stacking and Chassis Aggregation
17. 802.1X 18. DHCP Snooping

2.0 Routing Technologies

1. Inter-VLAN Routing
 - a. InterVLAN-Routing - Part1
 - b. InterVLAN-Routing – Part2
 - c. InterVLAN_Routing- Configuration-Part1
 - d. InterVLAN_Routing- Configuration-Part2
2. Distance Vector and Link-state routing protocols
3. Interior and exterior routing protocols
4. OSPFv2

5. OSPFv2 – Single Area Configuration
6. OSPFv2 – Multi Area Configuration
7. OSPFv2 – Default Originate
8. OSPFv2 – DR and BDR
9. OSPFv2 - Metric
10. OSPFv2 – timers
11. OSPFv3
12. OSPFv3 - LAB
13. IPv4 EIGRP
14. EIGRP Configuration
15. EIGRP Metrics, Successor, FS, Topology table
16. EIGRP Variance, Maximum paths
17. EIGRP Passive Interface
18. EIGRP Timers

3.0 WAN Technologies

1. PPP
2. PPP Configuration
3. PPP PAP Authentication Configuration
4. PPP CHAP Authentication Configuration
5. MLPPP Configuration
6. PPPoE Client – Configuration (Static IP)
7. PPPoE Client – Configuration (Local Pool)
8. PPPoE Default Route
9. WAN Topologies
10. WAN Access connectivity Options
11. BGP
12. eBGP neighborship – Configuration
13. eBGP Advertising Prefixes – Configuration
14. eBGP Discard route – Configuration
15. eBGP Debug logs

16. GRE Tunnel
17. GRE Tunnel Configuration

4.0 Infrastructure Services

1. First-hop redundancy protocols
2. HSRP Configuration
3. HSRP Version 2 - Configuration
4. Cloud Computing
5. QoS
6. Access Control List
7. IPv4 Standard Numbered ACL – Configuration
8. IPv4 Standard Named ACL - Configuration
9. IPv4 Extended Numbered ACL - Configuration
10. IPv6 Extended Named ACL – Configuration

5.0 Infrastructure Maintenance

1. SNMP
2. SNMP v2 – Configuration
3. SNMP v3 – Configuration
4. SNMP Verification – Packet Capture
5. IP SLA
6. IP SLA – Configuration
7. Local SPAN
8. Local SPAN - Configuration
9. AAA with TACACS+ and RADIUS
10. SDN and Network Programmability Features
11. Troubleshoot L3 end to end Connectivity issues

6.0 Network Fundamentals

1. Introduction to ICND1

2. OSI Model
3. TCP/IP Model
4. TCP and UDP – Part1
5. TCP and UDP – Part2
6. TCP Conn.Establishment,Reliability,- FlowControl
7. TCP Packet Capture Analysis
8. IP Introduction and Packet Capture Analysis
9. Ethernet
10. Infrastructure Components in an Enterprise Network
11. Three tier and Collapsed Core Architectures
12. Network Topologies
13. Cabling
14. Troubleshooting Methodologies
15. Collision, Broadcast Domain and IPv4 Address types – Part1
16. Collision, Broadcast Domain and IPv4 Address types – Part2
17. IPv4 Addressing – Theory
18. ARP
19. Host to Host to Communication – The Complete Picture
20. Subnetting – Part1
21. Subnetting – Part2
22. IPv4 addressing and Subnetting – Config
23. IPv6 Addressing – Theory
24. IPv6 Address Types
25. IPv6 addressing – Config
26. IPv6 Stateless address auto configuration – Config

7.0 LAN Switching Fundamentals

1. Catalyst Switches 2960X 3750X
2. LAN-Switching
3. Switch CLI
4. MAC Learning, Flooding and Table

5. Interface and Cabling issues
6. VLAN,Accessport,Trunkport – Theory
7. VLAN,Accessport,Trunkport – LAB – Part1
8. VLAN,Accessport,Trunkport – LAB – Part2
9. CDP
10. LLDP
11. Port-Security Theory
12. Port-Security LAB

8.0 Routing Fundamentals

1. Routing Concepts
2. Components of a Routing Table – CLI
3. Admin Distance
4. InterVLAN Routing – Part1
5. InterVLAN Routing – Part2
6. InterVLAN Routing LAB – Part1
7. InterVLAN Routing LAB – Part2
8. Static Routing and Dynamic Routing
9. IPv4 Static Routing
10. IPv6 Static Routing
11. RIPv2
12. RIPv2 – LAB

9.0 Infrastructure Services

1. DNS
2. DHCP - Theory
3. DHCP LAB
4. NTP 5. NTP LAB
6. IPv4 Standard ACLs (Numbered and Named)
7. NAT - Theory
8. NAT – LAB

10.0 Infrastructure Maintenance

1. Syslog - Theory
2. Device monitoring using Syslog - LAB
3. Device Management – LAB
4. Initial Device Config – LAB
5. Device Hardening – LAB
6. Login Banner
7. Cisco IOS Upgrades (FTP, TFTP, SCP, MD5 Verify)
8. Password Recovery and File Management
9. Cisco IOS Troubleshooting tools