

Network & Routing Administration

Day 1

Introduction to Internetworking

- Networking Basics
- Networking media, cables & connectors
- Types of Networks
- Protocols
- OSI reference model

Day 2

TCP/IP Protocols & addressing

- What is TCP/IP
- Comparison of OSI layer and TCP/IP suite
- What is Network Addressing
- Functionality of IP, TCP, UDP, ICMP protocols
- Understanding FTP, Telnet, SMTP, SNMP – upper layer protocols
- IP addressing scheme

Day 3

Subnetting

- Subnetting fundamentals
- Subnetting in Class A, B & C

LAN Implementation & Operation

- Configure IP addresses, net masks, and gateway addresses on hosts
- Implement a LAN

Day 4

Routing Basics & IOS

- Routing Fundamentals
- Routing Techniques , Static & Dynamic
- Router's Internal & External components
- Booting sequence of a Router
- How a Cisco device locates and loads IOS
- Different modes of Router
- Configuring router name & passwords
- Configuring Serial & Ethernet interface
- Examining the show commands
- Making configuration changes

Day 5

Managing CISCO IOS

- Configuration Register settings
- Use of CISCO IOS trouble Shooting Commands
- Using TFTP for taking Backup of configuration files

Routing Protocols

- Routing algorithms
- Routing tables/routing protocols
- IP ROUTING, STATIC ROUTING,DYNAMIC ROUTING
- Introduction to Routing Protocols
- Distance Vector & Link State Routing Protocols
- Configuring RIP
- Configuring IGRP

Day 6

Routing Protocols

- Configuring EIGRP

Building Networks with OSPF

- Implementing OSPF into a large scale multi-layer network using best current practices for scalability
- Design Consideration in Multiple Area OSPF (Summarization, Virtual Link)

Day 7

Understanding LAN & Switching

- LAN Basics
- Switching Ethernet, Forwarding & Filtering
- Switching Methods(MAC, LLC)
- Virtual LAN's
- Introduction to STP, VTP

Day 8

Advanced Switching Concepts

- Implementing VTP Configuration
- Implementing VTP Pruning
- Spanning-Tree Protocol & it's Design

(Types of STP, STP Configuration, Root Bridge Placement, Spanning-Tree Customization)

Day 9

WAN Technologies

- Fundamentals of WAN PROTOCOLS
- Introduction and configuration of PPP
- Configuration of CHAP
- Introduction to Frame Relay, PVC, SVC, ATM
- Configuration of Frame Relay
- Introduction to ISDN BRI, PRI

Day 10

Security

- Introduction to ACL
- Standard & Extended ACL
- Implementation of Standard ACL
- Implementation of Extended ACL