

## CCNA

Duration - 2 Months



### ✧ Understanding Networks and their Building Blocks

- Introduction to Networks
- Networking Types
- OSI Reference Model
- TCP/IP Model
- Ethernet Technologies and Cabling
- Cisco 3 Layer Model

### ✧ IP Addressing and Subnets

- IP Addresses - Composition, Types and Classes
- Private and Public IP addresses
- Subnetting
- Variable Length Subnet Masks (VLSM)
- Route Summarization

### ✧ Introduction to Cisco Routers, Switches and IOS

- Introduction to Cisco Routers, Switches, IOS & the Boot Process
- Using the Command-Line Interface (CLI)
- Basic Configuration of Router and Switches
- Configuring Router Interfaces
- Gathering Information and Verifying Configuration
- Configuring DNS & DHCP
- Saving, Erasing, Restoring and Backing up
- Configuration & IOS File

- Password Recovery on a Cisco Router
- Cisco Discovery Protocol (CDP)
- Using Telnet on IOS

### ✧ Introduction to IP Routing

- Understanding IP Routing
- Static, Default and Dynamic Routing
- Administrative Distance and Routing Metrics
- Classes of Routing Protocols
- Routing Loops

### ✧ Routing Protocols

- RIPv1 & RIPv2
- Configuring RIPv1 & RIPv2
- Verifying and Troubleshooting RIP
- Enhanced Interior Gateway Routing Protocol (EIGRP)
- Configuring EIGRP
- Verifying and Troubleshooting EIGRP
- Open Shortest Path First (OSPF)
- Configuring OSPF

### ✧ Switching and Spanning Tree Protocol

- Understanding Switching and Switches
- Initial Configuration of a Catalyst Switch
- Spanning Tree Protocol (STP)
- Cisco's additions to STP (Portfast, BPDUGuard, BPDUFilter, UplinkFast, BackboneFast)

- Rapid Spanning Tree Protocol (RSTP) – 802.1w
- EtherChannel

✧ **Access Lists**

- Introduction to Access Lists
- Standard Access Lists
- Extended Access Lists

✧ **Network Address Translation (NAT)**

- Introduction to NAT
- Static NAT Configuration & Verification
- Dynamic NAT Configuration
- NAT Overloading aka Port Address Translation (PAT)

✧ **Wide Area Networks**

- Introduction to Wide–Area Networks
- Point–to–Point WAN
- Troubleshooting Serial Links
- Frame Relay
- LMI and Encapsulation Types
- Frame Relay Configuration

✧ **Ipv6**

- IPv6 Introduction
- IPv6 Address Configuration

✧ **IP Services**

- High Availability – VRRP, HSRP, GLBP
- Cisco IOS NetFlow