

# Cisco Certified Network Professional

## Course Description:

CCNP R&S certification is a Professional level certification for candidates trying to wind up plainly guaranteed Routing and Switching advances equipped. After the culmination of CCNP Training, the candidate will have the capacity to design, execute, check and investigate neighborhood and wide-range undertaking Cisco networks. The CCNP R&S Certification preparing bundle comprises of preparing on three differed modules i.e. Course, SWITCH, and TSHOOT explained below:

### Routing:

This preparation module covers top to bottom investigation and reasonable preparing about IP Routing. You will get with ideas like arranging, building and testing \safe LAN and WAN arrangements utilizing changed sorts and number of directing conventions like EIGRP, OSPF, BGP, IPV6 and so forth.

### Switching:

This preparation module incorporates profound hypothetical and down to earth learning on arranging, building and executing venture exchanging arrangements with the assistance of exchanging innovations like VLAN, STP, VTP, RSTP, MSTP, EtherChannel, GLBP, HSRP, VRRP and so on.

### TSHOOT:

In this module, the hopeful figures out how to investigate and keep up IP networks. This incorporates the use of mechanical yet appropriate ways to deal with investigate different systems.

## Modes of Trainings Available:

Online Training  
Class Room Training  
Regular Classes Available  
Weekend Classes Available



## **Preparation:** **Course Outline**

How to Prepare For Cisco CCNP Enterprise

### **Routing Fundamentals:**

IPv4 Explained  
IPv4 Header Fields  
Introduction to ARP  
DHCP Server  
DHCP Relay  
Introduction to TCP and UDP  
ICMP Explained  
How to Configure Static Route on Cisco IOS Router  
Unicast Flooding Due To Asymmetric Routing

### **Redistribution:**

Introduction to Redistribution  
Redistribution between RIP and EIGRP  
Redistribution between OSPF and RIP  
Redistribution Route Tagging  
Troubleshooting Metric Redistribution  
Troubleshooting AD Redistribution

### **OSPF:**

Introduction to OSPF  
OSPF LSAs and LSDB Flooding  
OSPF Plain Text Authentication  
OSPF MD5 Authentication  
OSPF LSA Types  
OSPF Packets and Neighbor Discovery  
OSPF Router ID  
OSPF Passive Interface  
OSPF DR/BDR Election  
How to Configure OSPF Default Route



OSPF Hello and Dead Interval  
OSPF Summarization  
Introduction to OSPF Stub Areas  
How to Configure OSPF Stub Area  
How to Configure OSPF Totally Stub  
How to Configure OSPF NSSA (Not So Stubby) Area  
How to Configure OSPF Totally NSSA (Not So Stubby) Area  
OSPF Virtual Link  
OSPF LSA Type 3 Filtering  
OSPF LSA Type 5 Filtering  
OSPF Path Selection Explained  
OSPF Distribute-List Filtering  
OSPFv3 for IPv4

## **EIGRP:**

Introduction to EIGRP  
Basic EIGRP Configuration  
EIGRP Packets EIGRP Neighbor Adjacency  
EIGRP Static Neighbor  
EIGRP Neighbor and Topology Table  
EIGRP Unequal Load Balancing  
How to Configure EIGRP Unequal Load Balancing  
EIGRP K Values  
EIGRP K Values Configuration  
EIGRP Hold Time and Hello Packets  
EIGRP Summarization  
EIGRP Auto-Summary  
EIGRP Authentication  
EIGRP Default Network Route  
EIGRP Stub  
EIGRP Route-Map Filtering  
EIGRP Router ID

## **Route Selection:**

Administrative Distance  
CEF (Cisco Express Forwarding)  
PBR (Policy Based Routing)



## **BGP (Border Gateway Protocol):**

- Introduction to BGP
- How to Configure EBGP (External BGP)
- EBGP Multihop
- IBGP (Internal BGP) Explained
- BGP Private and Public AS Numbers
- How to Read the BGP Table
- How to Advertise Networks in BGP
- BGP Auto-Summary
- IBGP Next Hop Self
- BGP Neighbor Adjacency States
- BGP Messages
- BGP Weight Attribute
- BGP Local Preference
- BGP AS Path and Prepending
- BGP Origin Code
- BGP MED (Metric) Attribute
- BGP Regular Expressions
- BGP Filtering With Regular Expressions
- BGP Soft Reconfiguration
- BGP Route Refresh Capability

## **IPv6:**

- Introduction to IPv6
- Shortening IPv6 Addresses
- How to Find the IPv6 Prefix
- IPv6 Address Types
- IPv6 Address Assignment Example
- How to Configure IPv6 Static Routing
- How to Configure IPv6 RIPNG
- How to Configure IPv6 EIGRP
- How to Configure IPv6 OSPF
- IPv6 Redistribution between RIPNG and OSPFv3
- IPv6 Tunneling Over IPv4

## **Remote Site Connectivity and DHCP Client:**

- Introduction to NAT and PAT
- How to Configure Static NAT
- How to Configure Dynamic NAT
- How to Configure PAT
- GRE Tunneling



## **Router Security and Management:**

Introduction to CDP (Cisco Discovery Protocol)

Standard Access-List

Extended Access-List

SNMP

Syslog

NTP (Network Time Protocol)

