

Hands-on course , 5
day(s)
Ref : CNP

Participants

Engineers/administrators and
network technicians.

Pre-requisites

Have taken the courses
ICND1 and ICND2 or possess
equivalent knowledge.

Next sessions

Cisco ROUTE, CCNP Routing & Switching, certification preparation

This course will teach you all the techniques and methodologies needed to take the ROUTE exam to obtain CCNP certification. You'll learn advanced routing concepts and how to implement them with Cisco routers in enterprise networks large and small.

OBJECTIVES

Balanced mix of presentations, workshops on a simulator, and scenarios under similar conditions to the certification test.

1) Planning routing services

2) EIGRP

3) Multiarea network with the OSPF protocol.

4) Path Control

5) Connecting the enterprise network to an ISP network, the BGP protocol

6) The IPv6 protocol

Certification

The ROUTE 642902 exam is one of the three exams to pass in order to obtain CCNP certification from CISCO. The other exams are SWITCH 642813 and TSHOOT 642832. This course includes the voucher needed to register for and take the test from Cisco's partner, Pearson Vue.

1) Planning routing services

- How to assess needs.
- Complex enterprise networks.
- What methodology to adopt? Remote sites, connecting over the Internet, VPNs.

2) EIGRP

- Refreshers about EIGRP CCNA, overview.
- EIGRP neighborship, establishing it via WAN links.
- Building the EIGRP topology table and the routing table, optimizing convergence.
- Planning the EIGRP deployment.

Workshop

Verifying the operation of EIGRP and troubleshooting in various preconstructed scenarios on a simulator.

3) Multiarea network with the OSPF protocol.

- Neighborship and adjacency on LAN and WAN.
- The Link State database, LSAs, exchange and update processes.
- Route filtering, route aggregation.
- Implementing different types of area, virtual links.
- Configuring and verifying OSPF authentication.
- OSPF faced with a Frame Relay multipoint network.

Workshop

Verifying the operation of OSPF and troubleshooting in various preconstructed scenarios on a simulator.

4) Path Control

- The fundamentals of route redistribution.
- Redistribution in EIGRP and OSPF.
- Redistribution using route maps and distribution lists.
- Policybased conditional routing.

5) Connecting the enterprise network to an ISP network, the BGP protocol

- Routing in the Internet, how to save routing tables of acceptable size.
- Introduction to BGP, routing to the Internet.
- External/Internal BGP, the company's perspective, verifying the BGP table, injecting routes into BGP.
- Influencing the choice of the company's outgoing routes, influencing the choice of incoming routes with MED.

Workshop

Verifying the operation of BGP and configuring in various preconstructed scenarios on a simulator.

6) The IPv6 protocol

- Global addressing, routing, and subnetting, SLAAC, Stateless DHCP, Stateful DHCP.
- Routing protocols: RIPng, EIGRP, OSPF v3.
- Static routes, redistribution of routes.

- IPv4 and IPv6, cohabitation, migration.
- 6in4 static pointtopoint tunnels, GRE, 6to4 dynamic multipoint tunnels, ISATAP.

Workshop

Implementing IPv6 on routers, IPv6 encapsulation in IPv4.