

ENCOR

Implementing Cisco Enterprise Network Core Technologies

Description:

The goal of this course is to develop the core networking skills needed to configure, troubleshoot, and manage Enterprise wired and wireless network. It also requires you to understand and implement security principles within the Enterprise networks and introduces you to overlay network design by using solutions like SD-Access and SD-WAN. The course also lays focus implementing on automation and programmability in Enterprise networks.

Students will be able to:

- Implement VLANs and trunks.
- Implement different spanning-tree versions like STP, RSTP, and MST.
- Configure Etherchannels / Link aggregation.
- Use routing protocols including EIGRP, OSPF, and BGP.
- Know Cisco wireless technologies
- Know multicast protocols like PIM dense, sparse, and sparse-dense mode.
- Network designs and architectures
- Configure NAT/PAT and first hop redundancy protocols like HSRP, VRRP, or GLBP.
- Know Quality of Service (QoS) topics like queuing, policing, and shaping.
- Know how to monitor and troubleshoot your network.
- Know to secure your routers and switches.
- Know how network automation impacts traditional network management.
- Know Different virtualization technologies.
- And many other topics

Course requirements:

- experience with implementation of Enterprise LAN networks
- basic understanding of Enterprise routing and wireless connectivity
- basic understanding of python scripting

This course is intended for:

- Students preparing to take the CCNP Enterprise
- Network administrators
- Network engineers
- Systems engineers

Literature:

All participants will get original Cisco student and lab guides.

Hardware:

Labs are practised on Cisco delivered Virtual lab environment. Classrooms are equipped with high-performance computers with Internet access and the possibility of wireless connection.

Syllabus:

- Examining Cisco Enterprise Network Architecture

- Understanding Cisco Switching Paths

- Implementing Campus LAN Connectivity

- Building Redundant Switched Topology

- Implementing Layer 2 Port Aggregation

- Understanding EIGRP

- Implementing OSPF

- Optimizing OSPF

- Exploring EBGP

- Implementing Network Redundancy

- Implementing NAT

- Introducing Virtualization Protocols and Techniques

- Understanding Virtual Private Networks and Interfaces

- Understanding Wireless Principles

- Examining Wireless Deployment Options

- Understanding Wireless Roaming and Location Services

- Examining Wireless AP Operation

- Understanding Wireless Client Authentication

- Troubleshooting Wireless Client Connectivity

- Introducing Multicast Protocols*

- Introducing QOS*

- Implementing Network Services

- Using Network Analysis Tools

- Implementing Infrastructure Security

- Implementing Secure Access Control

- Understanding Enterprise Network Security Architecture*

- Exploring Automation and Assurance Using Cisco DNA Center*

- Examining the Cisco SD-Access Solution*

- Understanding the Working Principles of the Cisco SD-WAN Solution*

- Understanding the Basics of Python Programming*

- Introducing Network Programmability Protocols*

- Introducing APIs in Cisco DNA Center and vManage*

** Points in italics are defined as self-study according to the Cisco's company official curriculum.*

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