kod szkolenia: ENCOR / e-learning

Active Digital Learning - Implementing and Operating Cisco Enterprise Network Core Technologies v 1.4

Cisco - Active Digital Learning

The **Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR)** training gives you the knowledge and skills needed to configure, troubleshoot, and manage enterprise wired and wireless networks. You'll also learn how to implement security principles, automation, and programmability within an enterprise network, and overlay network design by using Cisco SD-Access and SD-WAN solutions.

This training prepares you for the 350-401 ENCOR v1.1 exam. If passed, you earn the Cisco Certified Specialist – Enterprise Core certification and satisfy the core exam requirements for the Cisco Certified Network Professional (CCNP) Enterprise, Cisco Certified Internetwork Expert (CCIE) Enterprise Infrastructure, and CCIE Enterprise Wireless certifications. This training also earns you 64 Continuing Education (CE) credits toward recertification.

Access Duration: 180 days

Continuing Education Credits: 64

Training recipients

The training is aimed at:

- Mid-level network engineers

- Network administrators
- Network support technicians
- Help desk technicians

Benefits

Skills you'll learn:

1. Configure and implement identified solutions by applying planned implementation processes using Cisco IOS Software commands and applications.
2. Verify appropriate show and debug commands and applications to ensure correct solution implementation and performance.
3. Troubleshoot appropriate show and debug commands and applications to identify the cause of basic-level network issues and correctly implement a solution that ensures that the network is performing as desired.

Training program

Learning Path Objectives

1. Illustrate the hierarchical network design model and architecture using the access, distribution, and core layers
2. Compare and contrast the various hardware and software switching mechanisms and operation, while defining the ternary content addressable memory (TCAM) and content addressable memory (CAM), along with process switching, fast switching, and Cisco Express Forwarding concepts
3. Troubleshoot Layer 2 connectivity using virtual local area networks (VLANs) and trunking
4. Implement redundant switched networks using Spanning Tree Protocol (STP)
5. Troubleshoot link aggregation using EtherChannel
6. Describe the features, metrics, and path selection concepts of Enhanced Interior Gateway Routing Protocol (EIGRP)
7. Implement and optimize Open Shortest Path First (OSPF)v2 and OSPFv3, including adjacencies, packet types, areas, summarization, and route filtering for internet protocol (IP)v4 and IPv6
8. Implement External Border Gateway Protocol (EBGP) interdomain routing, path selection, and single and dual-homed networking
9. Implement network redundancy using protocols including Hot Standby Routing Protocol (HSRP) and Virtual Router Redundancy Protocol (VRRP)
10. Implement internet connectivity within enterprise using static and dynamic Network Address Translation (NAT)
11. Describe the virtualization technology of servers, switches, and the various network devices and

components

12. Implement overlay technologies, such as Virtual Routing and Forwarding (VRF), Generic Routing Encapsulation (GRE), virtual private network (VPN), and Location Identifier Separation Protocol (LISP)
13. Describe the components and concepts of wireless networking including radio frequency (RF) and antenna characteristics, and define the specific wireless standards
14. Describe the various wireless deployment models available, including autonomous access point (AP) deployments and cloud-based designs within the centralized Cisco Wireless LAN Controller (WLC) architecture
15. Describe wireless roaming and location services
16. Describe how APs communicate with WLCs to obtain software, configurations, and centralized management
17. Configure and verify Extensible Authentication Protocol (EAP), WebAuth, and pre-shared key (PSK) wireless client authentication on a WLC
18. Troubleshoot wireless client connectivity issues using various available tools
19. Troubleshoot enterprise networks using services such as Network Time Protocol (NTP), Simple Network Management Protocol (SNMP), Cisco Internetwork Operating System (Cisco IOS®) IP Service Level Agreements (SLAs), NetFlow, and Cisco IOS Embedded Event Manager
20. Explain the use of available network analysis and troubleshooting tools, which include show and debug commands, as well as best practices in troubleshooting
21. Configure secure administrative access for Cisco IOS devices using the command-line interface (CLI) access, Role-Based Access Control (RBAC), access control list (ACL), and Secure Shell (SSH), and explore device hardening concepts to secure devices from less secure applications, such as Telnet and HTTP
22. Implement scalable administration using authentication, authorization, and accounting (AAA) and the local database, while exploring the features and benefits
23. Describe the enterprise network security architecture, including the purpose and function of VPNs, content security, logging, endpoint security, personal firewalls, and other security features
24. Explain the purpose, function, features, and workflow of Cisco Catalyst Center™ Assurance for intent-based networking (IBN), network visibility, proactive monitoring, and application experience
25. Describe the components and features of the Cisco SD-Access solution, including the nodes, fabric control plane, and data plane, while illustrating the purpose and function of the virtual extensible LAN (VXLAN) gateways
26. Define the components and features of Cisco SD-WAN solutions, including the orchestration plane, management plane, control plane, and data plane
27. Describe the concepts, purpose, and features of multicast protocols, including Internet Group Management Protocol (IGMP) v2/v3, Protocol-Independent Multicast (PIM) dense mode/sparse mode, and rendezvous points
28. Describe the concepts and features of Quality of Service (QoS), and describe the need within the enterprise network
29. Explain basic Python components and conditionals with script writing and analysis
30. Describe network programmability protocols such as Network Configuration Protocol (NETCONF) and

Representational State Transfer Configuration Protocol (RESTCONF)

31. Describe application programming interfaces (APIs) in Cisco Catalyst Center and Cisco Catalyst SD-WAN Manager

Expected preparation of the participant

Knowledge and skills you should have before attending this course:

- Implementation of Enterprise LAN networks
- Basic understanding of Enterprise routing and wireless connectivity
- Basic understanding of Python scripting

Training Includes

- Labs
- Assesments
- Courses

Language

- Training: English
- Materials: English

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Examination description

The training prepares you for the ENCOR 350-401 ENCOR exam, which can be taken for an additional fee at the PearsonVUE center. You can also take the exam on-line.

Details are available at: https://home.pearsonvue.com/cisco/onvue