Systems & Network Training

# CCNP (ENARSI)

A 5 day Hands on training course

Save on expenses. This course is also available on your premises.

## Description

The Implementing Cisco Enterprise Advanced Routing and Services (ENARSI) v1.0 gives you the knowledge you need to install, configure, operate, and troubleshoot an enterprise network. This course covers advanced routing and infrastructure technologies, expanding on the topics covered in the Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR) v1.0 course.

This course helps prepare for the exam, Implementing Cisco Enterprise Advanced Routing and Services (300-410 ENARSI), which leads to the new CCNP®

## Key outcomes

By the end of the course delegates will be able to:

- ✔ Gain the knowledge you need to install, configure, operate, and troubleshoot an enterprise network
- ✔ Qualify for professional-level job roles in advance routing and services
- ✔ Prepare for the Implementing Cisco Enterprise Advanced Routing and Services Exam (300-410 ENARSI) .

## Training Approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning. Hands on sessions are used throughout to allow delegates to consolidate their new skills.

## Details

**Who will benefit?**
Enterprise network engineers, System engineers, System administrators, Network administrators.

**Prerequisites**
CCNP core

**Duration:** 5 days

**Overall rating:** ★★★★★

| Generic Training | Small Class Sizes | Hands On Training | Our Courseware | Customise Your Course |
|---|---|---|---|---|
| Generic training complements product specific courses covering the complete picture of all relevant devices including the protocols "on the wire". | We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor. | The majority of our courses use hands on sessions to reinforce the theory. | We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text. | Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way. |
| "*Friendly environment with expert teaching that teaches the why before the how."* G.C. Fasthosts | *"Excellent course. The small class size was a great benefit..."* M.B. IBM | *"Not many courses have practice added to it. Normally just the theoretical stuff is covered."* J.W. Vodafone | *"Comprehensive materials that made the course easy to follow and will be used as a reference point."* V.B. Rockwell Collins | *"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."* S.R. Qinetiq |

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## Course Content

**Course Objectives**
Configure classic Enhanced Interior Gateway Routing Protocol (EIGRP) and named EIGRP for IPv4 and IPv6 ● Optimize classic EIGRP and named EIGRP for IPv4 and IPv6 ● Troubleshoot classic EIGRP and named EIGRP for IPv4 and IPv6 ● Configure Open Shortest Path First (OSPF)v2 and OSPFv3 in IPv4 and IPv6 environments ● Optimize OSPFv2 and OSPFv3 behaviour ● Troubleshoot OSPFv2 for IPv4 and OSPFv3 for IPv4 and IPv6 ● Implement route redistribution using filtering mechanisms ● Troubleshoot redistribution ● Implement path control using Policy-Based Routing (PBR) and IP Service Level Agreement (SLA) ● Configure Multiprotocol-Border Gateway Protocol (MP-BGP) in IPv4 and IPv6 environments ● Optimize MP-BGP in IPv4 and IPv6 environments ● Troubleshoot MP-BGP for IPv4 and IPv6 ● Describe the features of Multiprotocol Label Switching (MPLS) ● Describe the major architectural components of an MPLS VPN ● Identify the routing and packet forwarding functionalities for MPLS VPNs ● Explain how packets are forwarded in an MPLS VPN environment ● Implement Cisco Internetwork Operating System (IOS®) Dynamic Multipoint VPNs (DMVPNs) ● Implement Dynamic Host Configuration Protocol (DHCP) ● Describe the tools available to secure the IPV6 first hop ● Troubleshoot Cisco router security features ● Troubleshoot infrastructure security and services

**Course Outline**
Implementing EIGRP ● Optimizing EIGRP ● Troubleshooting EIGRP ● Implementing OSPF ● Optimizing OSPF ● Troubleshooting OSPF ● Configuring Redistribution ● Troubleshooting Redistribution ● Implementing Path Control ● Implementing Internal Border Gateway Protocol (IBGP) ● Optimizing BGP ● Implementing MP-BGP ● Troubleshooting BGP ● Exploring MPLS ● Introducing MPLS L3 VPN Architecture ● Introducing MPLS L3 VPN Routing ● Configuring Virtual Routing and Forwarding (VRF)-Lite ● Implementing DMVPN ● Implementing DHCP ● Introducing IPv6 First Hop Security ● Securing Cisco Routers ● Troubleshooting Infrastructure Security and Services ● Troubleshooting with DNA Center Assurance.

**Lab outline**
Configure EIGRP Using Classic Mode and Named Mode for IPv4 and IPv6 ● Verify the EIGRP Topology Table ● Configure EIGRP Stub Routing, Summarization, and Default Routing ● Configure EIGRP Load Balancing and Authentication ● Troubleshoot EIGRP Issues ● Configure OSPFv3 for IPv4 and IPv6 ● Verify the Link-State Database ● Configure OSPF Stub Areas and Summarization ● Configure OSPF Authentication ● Troubleshoot OSPF Issues ● Implement Routing Protocol Redistribution ● Manipulate Redistribution ● Manipulate Redistribution Using Route Maps ● Troubleshoot Redistribution Issues ● Implement PBR ● Configure IBGP and External Border Gateway Protocol (EBGP) ● Implement BGP Path Selection ● Configure BGP Advanced Features ● Configure BGP Route Reflectors ● Configure MP-BGP for IPv4 and IPv6 ● Troubleshoot BGP Issues ● Configure Routing with VRF -Lite ● Implement Cisco IOS DMVPN ● Obtain IPv6 Addresses Dynamically ● Troubleshoot DHCPv4 and DHCPv6 Issues ● Troubleshoot IPv4 and IPv6 Access Control List (ACL) Issues ● Configure and Verify Unicast Reverse Path Forwarding (uRPF) ● Troubleshoot Network Management Protocol Issues: Lab 1 and 2