

Cisco Aggregation Services Router 9000 Series Essentials

Duration: 4 Days Course Code: ASR9KE

Overview:

This instructor-led course introduces you to the features and functions of the Cisco® ASR 9000 Series platforms. Through a combination of lecture and hands-on labs, you will gain an understanding of all major aspects of the platform, including hardware; software; Layer 2 and Layer 3 services; Layer 2 and Layer 3 multicast; operations, administration, and management (OAM); and quality of service (QoS) features and network virtualization.

Target Audience:

This course is designed for technical professionals who need to know how to deploy Cisco ASR 9000 Series routers in their network environment.

Objectives:

- **After you complete this course you will be able to:**
- List and describe the major features and benefits of the Cisco ASR 9000 series
- List and describe the major features and benefits of the Cisco IOS XR Software operating system
- Understand data flow through the Cisco ASR 9000 Series router
- Configure the Cisco ASR 9000, back out of configuration changes, and restore older versions of configuration
- Install the Cisco IOS XR Software operating system, package information envelopes (PIEs), and software maintenance updates (SMUs)
- Enable multicast routing on a Cisco ASR 9000 Series router
- Configure Multiprotocol Label Switch-Traffic Engineering (MPLS-TE) on a Cisco ASR9000 Series router
- Configure Layer 3 VPN services
- Configure Ethernet link bundles
- Configure local E-Line L2VPN
- Configure Ethernet over MPLS E-Line L2VPN
- Configure EoMPLS with pseudowire backup
- Configure local E-LAN L2VPN
- Configure link-based Ethernet operations, administration, and maintenance (E-OAM)
- Configure virtual private LAN service (VPLS) L2VPN
- Configure VPLS with Border Gateway Protocol (BGP) autodiscovery
- Configure service-based connectivity fault management (CFM)
- Describe Multiple Spanning Tree-Access Gateway (MST-AG)
- Configure Layer 2 multicast features
- Describe basic QoS implementation
- Describe how to configure and verify network virtualisation (nV) on the ASR 9000 Series

Prerequisites:

Attendees should meet the following prerequisites :

- Basic knowledge of router installation and some experience with installation tools (**ICND1** and **ICND2** or **CCNABC** recommended)
- Routing protocol configuration experience with Border Gateway Protocol (BGP), Intermediate System-to-Intermediate System (IS-IS), and Open Shortest Path First (OSPF) (**ROUTE** recommended)

Testing and Certification

Recommended preparation for exam(s):

- There is no exam aligned to this course

- Knowledge of Layer 2 IEEE switching and related protocols (**SWITCH** recommended)
- Strong knowledge of MPLS configuration or multicast configuration experience (**MPLS** recommended)
- Experience troubleshooting Cisco routers in a large network environment
- MPLS - Implementing Cisco MPLSV3
- ROUTE - Implementing Cisco IP Routing
- SWITCH - Implementing Cisco Switched Networks

Content:

Introduction to the Cisco ASR 9000 Aggregation Series	Layer 3 Multicast	Cisco ASR 9000 Layer 2 Multicast
Cisco ASR 9000 Hardware	Cisco IOS XR MPLS	Cisco ASR 9000 QoS
Cisco IOS XR Software Overview	Cisco IOS XR Layer 3 VPN	Cisco ASR 9000 Network Virtualization
Cisco IOS XR Software Basics	Cisco ASR 9000 Layer 2 Architecture	
Cisco IOS XR Software Software Installation	Cisco ASR 9000 Point-to-Point Layer 2 Services	Labs:
Cisco IOS XR Software Operations	Cisco ASR 9000 Multipoint Layer 2 Services	<ul style="list-style-type: none"> ■ Lab 1: Hardware Discovery and Initial Configuration ■ Lab 2: Cisco IOS XR Software Installation ■ Lab 3: Cisco IOS XR Operations ■ Lab 4: OSPF Routing Configuration ■ Lab 5: IS-IS Routing Configuration ■ Lab 6: BGP Routing Configuration ■ Lab 7: Layer 3 Multicast ■ Lab 8: MPLS ■ Lab 9: Layer 3 VPN ■ Lab 10: Local E-Line ■ Lab 11: EoMPLS E-Line ■ Lab 12: Local E-LAN ■ Lab 13: VPLS ■ Lab 14: OAM ■ Lab 15: Layer 2 Multicast
Cisco IOS XR Routing Protocols	Cisco ASR 9000 Operations, Administration and Maintenance	

Further Information:

For More information, or to book your course, please call us on Head Office Tel.: +974 40316639

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