Cisco Aggregation Services Router 9000 Series Essentials (ASR9KE) v6.0 - On Demand

Modality: On Demand

Duration: 40 Hours

CLC: 10 Units

Course Information

About this course:

This course introduces you to the Cisco Aggregation Services Router (Cisco ASR) 9000 Series platforms covering its features and functions.

The course will provide you an understanding of all major aspects of the Cisco ASR 9000 Series platform, including hardware; routing protocols, including segment routing; Layer 2 and Layer 3 services; Layer 2 and Layer 3 multicast; network virtualization and quality of service (QoS) features. Cisco IOS XR 64-Bit Linux-based feature parity is investigated in the environment as well as how to install Cisco IOS XR 64-Bit Software packages.

Course Objective:

You will develop the following skills after completing this course:

- List and describe the major features and benefits of a Cisco ASR 9000 Series router
- List and describe the major features and benefits of the Cisco 64-Bit IOS XR operating system
- Understand data flow through the Cisco ASR 9000 Series router
- Configure Cisco ASR 9000, back out of configuration changes, and restore older versions of the configuration
- Configure Ethernet-over-MPLS (EoMPLS) with pseudowirebackup
- Configure local E-LAN L2VPN
- Describe Virtual Private LAN Services (VPLS) L2VPN
- Describe VPLS with Border Gateway Protocol (BGP) autodiscovery
- Configure service-based Connectivity Fault Management (CFM)
- Configure Layer 2 multicast features
- Describe basic QoS implementation
- Describe how to configure and verify Cisco Network Virtualization (nV) on the Cisco ASR 9000 series
- Install the Cisco IOS XR 64-Bit Software operating system, package information envelopes (PIEs), and software maintenance updates (SMUs)
- Enable multicast routing on a Cisco ASR 9900 Series router
- Configure Layer 3 VPN services
- Configure Ethernet link bundles
- Configure local E-Line L2VPN

- Configure Ethernet over Multiprotocol Label Switching (MPLS) E-Line L2VPN

Audience:

The course is ideal for candidates and professionals who want to build expertise around Cisco ASR Series routers. Following job roles may find this relevant

- System engineers
- Channel partners, resellers
- Technical support personnel

Prerequisite:

To fully benefit from this course, you should have the following knowledge and skills:

- Knowledge of Layer 2 IEEE switching and related protocols
- Strong knowledge of MPLS configuration or multicast configuration experience
- Experience troubleshooting Cisco routers in a large network environment
- Basic Cisco IOS XR 64-Bit Software configuration commands
- Basic knowledge of router installation and some experience with installation tools
- Routing protocol configuration experience with BGP, Intermediate System-to-Intermediate System (IS-IS), and Open Shortest Path First (OSPF)

Course Outline:

- **Module 1. Introduction to the Cisco ASR 9000 Aggregation Series**
- **Module 2. Cisco ASR 9000 Hardware**
- **Module 3. Cisco IOS XR Software Overview**
- **Module 4. Cisco IOS XR Software Basics**
- **Module 5. Cisco IOS XR Software Installation**
- **Module 6. Cisco IOS XR Software Operations**
- **Module 7. Cisco IOS XR Routing Protocols**
- **Module 8. Layer 3 Multicast**
- **Module 9. Cisco IOS XR MPLS**
- **Module 10. Cisco IOS XR Layer 3 VPN**
- **Module 11. Cisco ASR 9000 Layer 2 Architecture**
- **Module 12. Cisco ASR 9000 Point-to-Point Layer 2 Services**
- **Module 13. Cisco ASR 9000 Multipoint Layer 2 Services**
- **Module 14. Cisco ASR 9000 Operations, Administration, and Maintenance**
- **Module 15. Cisco ASR 9000 Layer 2 Multicast**
- **Module 16. Cisco ASR 9000 QoS**
- **Module 17. Cisco ASR 9000 Network Virtualization**