

Cisco Aggregation Services Router 9000 Series Essentials

Duration: 5 Days **Course Code: ASR9KE** **Version: 4.0** **Delivery Method: Company Event**

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.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

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:

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| <ul style="list-style-type: none"> ■ 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 | <ul style="list-style-type: none"> ■ 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 |
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- Configure Ethernet link bundles
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- Configure local E-Line L2VPN
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- 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)
- 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

Testing and Certification

Recommended preparation for exam(s):

- There is no exam aligned to this course

Content:

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

For More information, or to book your course, please call us on 0800/84.009

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www.globalknowledge.be