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 ofconfiguration

- 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 MPLS V3
- ROUTE - Implementing Cisco IP Routing
- SWITCH - Implementing Cisco Switched Networks

Content:

Introduction to the Cisco ASR 9000 Aggregation Series

Cisco ASR 9000 Hardware

Cisco IOS XR Software Overview

Cisco IOS XR Software Basics

Cisco IOS XR Software Software Installation

Cisco IOS XR Software Operations

Cisco IOS XR Routing Protocols

Layer 3 Multicast

Cisco IOS XR MPLS

Cisco IOS XR Layer 3 VPN

Cisco ASR 9000 Layer 2 Architecture

Cisco ASR 9000 Point-to-Point Layer 2 Services

Cisco ASR 9000 Multipoint Layer 2 Services

Cisco ASR 9000 Operations, Administration and Maintenance

Cisco ASR 9000 Layer 2 Multicast

Cisco ASR 9000 QoS

Cisco ASR 9000 Network Virtualization

Labs:

- Lab 1: Hardware Discovery and Intial 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

Further Information:

For More information, or to book your course, please call us on 00 20 (0) 2 2269 1982 or 16142

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