

Cisco Aggregation Services Router 9000 Series Essentials (ASR9KE) v6.1 Course

Course Duration: 32 Hours

Course Code: ASR9KE v6.1

1. Course Overview

The Cisco Aggregation Services Router 9000 Series Essentials (ASR9KE) v6.1 course is designed to provide in-depth knowledge and hands-on experience with the Cisco ASR 9000 Series routers. This course focuses on essential system features, hardware architecture, software components, routing protocols, and operational practices. Participants will learn how to configure, monitor, and troubleshoot Cisco ASR 9000 platforms to deliver high-performance, reliable, and scalable networks for service provider and enterprise environments.

2. What You'll Learn?

By the end of this course, you will be able to:

- Understand the hardware architecture and key features of Cisco ASR 9000 Series routers.
- Explore Cisco IOS XR software and its functionalities.
- Configure routing protocols such as OSPF, IS-IS, and BGP on ASR 9000.
- Implement MPLS, Layer 2, and Layer 3 services.
- Use system management tools for monitoring and troubleshooting.
- Apply security and high-availability features for reliable operations.
- Perform essential system setup, configuration, and software upgrades.

3. Target Audience

This course is intended for:

- Network Engineers
- System Engineers
- Network Designers
- Network Administrators
- Technical Support Personnel
- Professionals working in service provider or enterprise networking environments

4. Pre-Requisites

Participants should have:

- Basic knowledge of networking concepts and protocols.
- Familiarity with Cisco routing and switching platforms.
- Understanding of IP routing protocols (OSPF, IS-IS, BGP).
- Prior experience with command-line interfaces (CLI).

5. Course Content

Module 1: Cisco ASR 9000 Series Hardware and Architecture

- Hardware overview and components
- Modular design and scalability
- Line cards, fabric cards, and power systems

Module 2: Cisco IOS XR Software Fundamentals

- IOS XR architecture

- Configuration management
- Process and package management

Module 3: System Setup and Basic Configuration

- Initial system setup
- User management and authentication
- Interface configuration

Module 4: Routing Protocols

- Configuring OSPF and IS-IS
- Implementing BGP for scalability
- Route policy framework

Module 5: MPLS and VPN Services

- MPLS architecture and configuration
- L2VPN and L3VPN services
- Traffic engineering basics

Module 6: Layer 2 and Layer 3 Services

- Ethernet services configuration
- IPv4 and IPv6 routing
- High availability features

Module 7: System Monitoring and Troubleshooting

- Logging and monitoring tools
- Using show and debug commands
- Troubleshooting techniques

Module 8: Security and Maintenance

- Security features and access control
- Software upgrade and rollback

- Best practices for operations

