
Implementing Cisco Quality of Service

Duration: 5 Days **Course Code: QOS**

Overview:

The Implementing Cisco Quality of Service (QoS) course is designed to provide students with in-depth knowledge of IP QoS requirements, conceptual models using Differentiated Services (Diffserv), Integrated Services (IntServ) and Best Effort (over provisioning), and the implementation of IP QoS on Cisco IOS switch and router platforms. Case studies and lab exercises included in the course help students to apply the concepts mastered in individual modules to real-life scenarios.

Target Audience:

This course is designed for: Network designers and engineers responsible for implementation and management of IP QoS and students seeking Cisco CCIP & CCVP Certification.

Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
 - Explain the need to implement QoS and explain methods for implementing and managing QoS
 - Identify and describe different models used for ensuring QoS in a network and explain key IP QoS mechanisms used to implement these models
 - Explain the use of MQC and AutoQoS to implement QoS on the network.
 - Classify and Mark network traffic in order to implement a defined QoS Policy
 - Use Cisco queuing mechanisms to manage network congestion
 - Use Cisco QoS congestion avoidance mechanisms to reduce the effects of congestion on the network.
 - Use Cisco QoS traffic policing and traffic shaping mechanisms to effectively limit the rate of network traffic.
-

Prerequisites:

To gain the prerequisite skills and knowledge, Cisco strongly recommends the knowledge of the following courses:

- Interconnecting Cisco Networking Devices Part 1 (ICND1)
- Interconnecting Cisco Networking Devices Part2 (ICND2)

Testing and Certification

Recommended as preparation for:

- 642-642 - Implementing Cisco Quality of Service
-

Content:

Introduction to IP QoS

- Understanding the Need for QoS
- Understanding QoS
- Implementing QoS

The Building Blocks of IP QoS

- Identifying Models for implementing QoS
- Understanding the Integrated Services Model
- Understanding the Differentiated Services Model
- Identifying QoS Mechanisms
- Understanding QoS in the Life of a Packet.

Introduction to Modular QoS CLI and AutoQoS

- Introducing Modular QoS CLI
- Introducing Cisco AutoQoS VoIP
- Introducing Cisco AutoQoS Enterprise

Classification and Marking

- Understanding Classification and Marking
- Using MQC for Classification
- Using MQC for Class-Based Marking
- Using NBAR for Classification
- Configuring QoS Pre-Classify
- Configuring QoS Policy Propagation through BGP
- Configuring LAN Classification and Marking

Congestion Management

- Introducing Queuing
- Understanding Queuing Implementations
- Configuring FIFO and WFQ
- Configuring CBWFQ and LLQ
- Configuring LAN Congestion Management

Congestion Avoidance

- Introducing Congestion Avoidance
- Introducing RED
- Configuring Class-Based Weighted RED
- Configuring Explicit Congestion Notification

Traffic Policing and Shaping

- Understanding Traffic Policing and Shaping
- Configuring Class-Based Policing
- Configuring Class-Based Shaping
- Configuring Class-Based Shaping on Frame Relay Interfaces
- Frame Relay Voice – Adaptive Traffic Shaping and Fragmentation

Link Efficiency Mechanisms

- Understanding Link Efficiency Mechanisms
- Configuring Class-Based Header Compression
- Configuring Link Fragmentation and Interleaving

QoS Best Practices

- Understanding Traffic Classification Best Practices
- Deploying End-to-End QoS
- Providing QoS for Security

Further Information:

For More information, or to book your course, please call us on +254 713 027 191

training@clclearningafrica.com

www.clclearningafrica.com

Computer Learning Centre 2nd Floor Museum Hill Centre, Muthithi Road, Westlands, Nairobi, Kenya