

Implementing Cisco Quality of Service 3.0 (QoS)

COURSE OVERVIEW

The Implementing Cisco Quality of Service (QoS) training provides you with in-depth knowledge of QoS requirements, conceptual models such as best effort, IntServ, and DiffServ, and the implementation of QoS on Cisco platforms. The training covers the theory of QoS, design issues, and configuration of various QoS mechanisms to facilitate the creation of effective administrative policies providing QoS.

The training also gives you design and usage rules for advanced QoS features. This gives you the opportunity to design and implement efficient, optimal, and trouble-free multiservice networks. The new version of the training also includes QoS for modern wireless networks and software-defined networks.

WHO WILL BENEFIT FROM THIS COURSE?

- Pre- and post-sales technical engineers responsible for designing, implementing, or troubleshooting networks
- Network architects responsible for designing multiservice networks to carry voice, video, and data traffic in enterprise or service provider environments

PREREQUISITES

Cisco Certified Networking Associate v2.0 certification

COURSE OBJECTIVES

After completing the course, students will be able to:

- Explain the need for QoS, describe the fundamentals of QoS policy, and identify and describe the different models that are used for ensuring QoS in a network
- Explain the use of MQC and AutoQoS to implement QoS on the network and describe some of the mechanisms used to monitor QoS implementations
- Given a converged network and a policy defining QoS on the network and describe some of the mechanisms used to monitor QoS implementations
- Use Cisco QoS queuing mechanisms to manage network congestion
- Use Cisco QoS congestion avoidance mechanisms to reduce the effects of congestion on the network
- Describe how link efficiency mechanisms can be used collectively to improve bandwidth efficiency and reduce delay
- Describe the need for wireless QoS in WLANs due to the expansion of high-bandwidth data applications and time-sensitive multimedia applications in vertical and enterprise environments, and the need for a unified approach to support multi-vendor time-sensitive applications and accelerate the adoption rate of QoS



- Describe the need for QoS in modern Software-Defined Networks (SDN) for ensuring reliable performance of crucial applications and services
- Describe the steps and best practices for optimally deploying QoS and understand the network elements involved in an enterprise end-to-end QoS deployment, as well as the importance of QoS interaction between the enterprise and service provider networks

COURSE OUTLINE

- Section 1: Introduction to QoS
- Section 2: Implement and Monitor QoS
- Section 3: Classification
- Section 4: Marking
- Section 5: Congestion Management
- Section 6: Congestion Avoidance
- Section 7: Traffic Policing and Shaping
- Section 8: Link Efficiency Mechanisms
- Section 9: Introducing QoS for Modern Wireless Networks
- Section 10: Introducing QoS for Software-Defined Networks
- Section 11: Deploying End-to-End QoS

Lab Outline

- Case Study 1-1: QoS Mechanisms
- Lab 2-1: IP SLA Setup and QoS Baseline Measurement
- Lab 2-2: Configuring QoS with Cisco AutoQoS
- Case Study 3-1: Classification and Marking
- Lab 3-2: Classification and Marking Using MQC
- Lab 3-3: Using NBAR for Classification
- Lab 3-4: Configuring QoS Preclassify
- Lab 3-5: Campus Classification and Marking Using MQC
- Lab 4-1: Configuring Fair Queuing
- Lab 4-2: Configuring LLQ-CBWFQ
- Lab 4-3: Configuring Campus-Based Queuing Mechanisms
- Case Study 5-1: WRED Traffic Profiles
- Lab 5-2: Configuring DSCP-Based WRED
- Lab 5-3: Configuring WTD Thresholds
- Lab 6-1: Configuring Class-Based Policing
- Lab 6-2: Configuring Class-Based Shaping
- Lab 7-1: Configuring Class-Based Header Compression
- Lab 7-2: Configuring LFI

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Sunset Learning Institute (SLI) has been an innovative leader in developing and delivering authorized technical training since 1996. Our goal is to help our customers optimize their technology Investments by providing convenient, high quality technical training that our customers can rely on. We empower students to master their desired technologies for their unique environments.

What sets SLI apart is not only our immense selection of trainings options, but our convenient and consistent delivery system. No matter how complex your environment is or where you are located, SLI is sure to have a training solution that you can count on!

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Enhanced Learning Experience

- The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

Convenient and Reliable Training Experience

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- All Sunset Learning Institute classes are guaranteed to run – you can count on us to deliver the training you need when you need it!

Outstanding Customer Service

- You will work with a dedicated account manager to suggest the optimal learning path for you and/or your team
- An enthusiastic student services team is available to answer any questions and ensure a quality training experience

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