

NETLOGIC TRAINING CENTER

Course Training

Implemented Cisco Quality of Service (QoS) version 2.5

Course Content

This Implementing Cisco Quality of Service (QoS) course provides learners with an in-depth knowledge of QoS requirements, conceptual QoS models such as best effort, IntServ, and DiffServ are all reviewed along with the best practices for a QoS implementation on Cisco platforms. The curriculum covers the theory of QoS, design issues, and configuration of various QoS mechanisms to facilitate the creation of effective administrative policies providing QoS.

Case studies and lab exercises included in the course help learners to apply the concepts from the individual modules to real-life scenarios. Learners are provided with design and usage rule for advanced QoS features, giving them the opportunity to design and implement efficient, optimal, and trouble-free multiservice networks

Course Objective

Upon completion of the course, students will have the knowledge and skills to:

- Explain the need for QoS, describe the fundamentals of QoS policy, 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 requirements, classify and mark network traffic in order to implement the 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
- Use Cisco link efficiency mechanisms to improve the bandwidth efficiency of low-speed WAN links
- Describe the recommended best practices and methods used for end-to-end QoS deployment in the enterprise

Course Prerequisite

It is strongly recommended, that students have the following knowledge and skills:

- Valid CCNA (ICND1 and ICND2 or CCNAX)

Course Pre-Test

Not Required

Course Details

Day 1

Item	Subject	Details	Personal Lab and devices	Workgroup Lab and devices
1	Introduction QoS	<ul style="list-style-type: none">• Review Converged Networks• Understand QoS• Describe Best-Effort and Integrated Services Models• Describe the Differentiated Services Model	Theory and Lecture	
Break				
2	Implement and Monitoring QoS	<ul style="list-style-type: none">• MQC Introduction• Monitor QoS• Define Campus AutoQoS• Define WAN AutoQoS	Theory and Lecture	
	Summary challenge advance lab for factory default and preparing basic configuration	(Lab 1) Factory Default ISR router and Catalyst switch (Lab 2) Preparing ISR router and Catalyst Switch basic configuration	(Lab 1 and Lab 2) Real Devices Switch 3650 1unit ISR router 4300 4 unit Cisco IP Phone 7841 2 unit Cisco UCS Server 1 Unit	

Day 2

Item	Subject	Details	Trainee Lab and devices	Workgroup Lab and devices
3	Classification and Marking	<ul style="list-style-type: none"> • Classification and Marking Overview • MQC for Classification and Marking • NBAR for Classification • Use of QoS Preclassify • Campus Classification and Marking 	Theory and Lecture	
Break				
4	Congestion Management	<ul style="list-style-type: none"> • Queuing Introduction • Configure WFQ • Configure CBWFQ and LLQ • Configure Campus Congestion Management 	Theory and Lecture	
	Summary challenge advance lap for Auto QoS	(Lab 3) Configure Auto QoS for VoIP (on ISR router) (Lab 4) Configuration Auto QoS for Enterprise (on ISR router) (Lab 5) Configuration Auto QoS VoIP (on Switch)	(Lab 3 to Lab 5) Real Devices Switch 3650 1unit ISR router 4300 4 unit Cisco IP Phone 7841 2 unit Cisco UCS Server 1 Unit	

Day 3

Item	Subject	Details	Trainee Lab and devices	Workgroup Lab and devices
5	Congestion Avoidance	<ul style="list-style-type: none"> • Congestion Avoidance Introduction • Configure Class-Based WRED • Configure ECN • Describe Campus-Based Congestion Avoidance 	Theory and Lecture	
Break				
6	Traffic Shaping and Policing	<ul style="list-style-type: none"> • Traffic Policing and Shaping Overview • Configure Class-Based Policing • Campus Policing • Configure Class-Based Shaping • Configure Class-Based Shaping on Frame Relay Interfaces • Configure Frame Relay Voice-Adaptive Traffic Shaping and Fragmentation 	Theory and Lecture	
	Summary challenge advance lap for Classification and Marking	(Lab 6) Class-Base – Classification and Marking (Lab 7) Switch-Base - Classification and Marking (Lab 8) Class-Base – Weight Fair Queue (WFQ)	(Lab 6 to Lab 8) Real Devices Switch 3650 1unit ISR router 4300 4 unit Cisco IP Phone 7841 2 unit Cisco UCS Server 1 Unit	

Day 4

Item	Subject	Details	Personal Lab and devices	Workgroup Lab and devices
7	Link Efficiency Mechanisms	<ul style="list-style-type: none">• Link Efficiency Mechanisms Overview• Configure Class-Based Header Compression• Configure LFI	Theory and Lecture	
Break				
8	Deploy End-to-End QoS	<ul style="list-style-type: none">• End-to-End QoS Deployments	Theory and Lecture	
	Summary challenge advance lab for Low Latency Queue and WRR	(Lab 9) Configuration LLQ for VoIP (Lab 10) Configuration Weight Round Robin Queuing	(Lab 9 and Lab 10) Real Devices Switch 3650 1unit ISR router 4300 4 unit Cisco IP Phone 7841 2 unit Cisco UCS Server 1 Unit	

Day 5

Item	Subject	Details	Personal Lab and devices	Workgroup Lab and devices
	Summary challenge advance lab for Policing, RTP and LFI	(Lab 11) Configuration Class-Base – Policing (Lab 12) Configuration RTP Header Compression		
		Break		
	Summary challenge advance lab for Policing, RTP and LFI	(Lab 13) Configuration Link Fragmentation and Interleaving (LFI)	(Lab 11 to Lab 13)) Real Devices Switch 3650 1unit ISR router 4300 4 unit Cisco IP Phone 7841 2 unit Cisco UCS Server 1 Unit	

Course Post-Test

Not Required

Course Materials

Not include in this class training (but you can requested from sale team)

Course Devices Training (Per 1 Personal)



Cisco Catalyst 3650-CX



Cisco Router ISR 4321



Cisco IP Phone 7841



Cisco UCS

