
Junos Class of Service

Duration: 2 Days **Course Code: JCOS**

Overview:

This two-day course provides students with advanced class-of-service (CoS) knowledge and configuration examples. The course begins with an overview of CoS before going into classification, policing, scheduling, and rewriting. The course then covers class-based forwarding and finishes with a case study. Through demonstrations and hands-on labs, students will gain experience in configuring and verifying Junos CoS features.

Target Audience:

This course is designed for: Individuals responsible for configuring and monitoring devices running the Junos OS, especially those in a service provider environment. It also benefits individuals responsible for designing networks containing devices running the Junos OS.

Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
 - Understand the history and evolution of CoS.
 - Identify the CoS fields in various packet headers.
 - List the CoS processing stages on devices running the Junos OS.
 - Identify the default CoS settings on devices running the Junos OS.
 - Configure and verify behavior aggregate (BA) and multifield (MF) classification.
 - Configure and verify two-color and tricolor marking policers.
 - Configure and verify schedulers and their components.
 - Configure and verify the multiple levels of hierarchical schedulers.
 - Configure and verify packet header rewriting.
 - Configure and verify class-based forwarding.
 - Create a CoS configuration based on a set of design requirements.
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Prerequisites:

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

- Junos Operating System (IJSO)
- Junos Routing Essentials (JRE)
- Junos Intermediate Routing (JIR)

Testing and Certification

Recommended preparation for:

- JN0-660 - Juniper Networks Certified Internet Professional (JNCIP-SP)
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Follow-on-Courses:

- JMR - Junos Multicast Routing
 - AJSPR - Advanced Junos Service Provider Routing
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Content:

CoS Overview

- CoS History and Evolution
- CoS and DiffServe
- CoS Fields in Packet Headers
- CoS Processing

Packet Classification

- Classification Overview
- Forwarding Classes and Packet Loss Priority
- Fixed Classification
- Multifield Classification
- Behavior Aggregate Classification

Policing

- Policing Overview
- Single-Rate Two-Color Policer
- Tricolor Marking Policers
- Application—Directly on an Interface
- Application—Within a Firewall Filter

Scheduling

- Scheduling Overview
- Transmission Rate
- Queue Priority
- Delay Buffers
- Drop Profiles and Drop Profile Maps
- Scheduling Configuration

Hierarchical Scheduling

- Hierarchical Scheduling Overview
- Scheduler Modes
- Hierarchical Scheduling Levels
- Throughput Example
- Remaining Traffic
- Queue Properties in a Hierarchical Scheduling Context
- Putting It All Together

Rewrite Rules

- Packet Header Rewrite Overview
- Rewrite Rules and Tables
- Rewrite Combinations

CoS-Based Forwarding

- CBF Overview
- CBF Configuration

Case Study

- VOIP Case Study Overview
- VOIP Case Study: Ingress Node
- VOIP Case Study: Transit and Egress Nodes

CoS Processing on M Series, T Series, and MX Series Devices:

- M Series and T Series Architecture
- M Series and T Series CoS Packet Handling
- IQ2 PIC CoS Packet Handling
- MX Series (DPC and MPC/MIC) Architecture and CoS Packet Handling

Further Information:

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

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