Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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Junos Enterprise Switching (ELS)

CODE:	LENGTH:	PRICE:
JUN_JEX	16 Hours (2 days)	kr21,000.00

Description

This two-day course is designed to provide students with intermediate switching knowledge and configuration examples using Junos Enhanced Layer 2 Software. This course includes an overview of switching concepts and operations, virtual LANs (VLANs), the Spanning Tree Protocol (STP), port and device security features, and high availability (HA) features. Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring the Junos OS and in monitoring device operations. This course uses Juniper Networks EX4300 Series Ethernet Switches for the hands-on components, but the lab environment does not preclude the course from being applicable to other Juniper hardware platforms running the Junos OS. Optional lab components are available allowing attendees to perform network management and troubleshooting tasks using Junos Space Network Director 3.0. This course is based on Junos OS Release 17.1R1.8.

Course Level

Junos Enterprise Switching (JEX) is an intermediate-level course.

Objectives

After successfully completing this course, you should be able to:

- List the benefits of implementing switched LANs.
- Describe transparent bridging concepts and operations.
- Describe terms and design considerations for switched LANs.
- List enterprise platforms that support Layer 2 switching.
- Configure interfaces for Layer 2 switching operations.
- Display and interpret the Ethernet switching table.
- Explain the concept of a VLAN.
- Describe access and trunk port modes.
- Configure and monitor VLANs.
- Describe voice VLAN and native VLAN concepts.
- Explain inter-VLAN routing operations.
- Configure and monitor inter-VLAN routing.
- Explain when a spanning tree is required.
- Describe STP and Rapid Spanning Tree Protocol (RSTP) operations.
- List some advantages of using RSTP over STP.
- Configure and monitor RSTP.
- Describe the bridge protocol data unit (BPDU), loop, and root protection features.
- Configure and monitor the BPDU, loop, and root protection features.
- List and describe various port security features.
- Configure and monitor port security features.
- Describe the storm control feature.
- Configure and monitor storm control.
- Describe firewall filter support for EX Series Ethernet Switches.
- Implement and monitor the effects of a firewall filter.
- List and describe some features that promote high availability.
- Configure and monitor high availability features.
- Describe the basic concepts and operational details of a virtual chassis.
- Implement a virtual chassis with multiple EX4300 switches.
- Explain the concepts of Ethernet Ring Protection Switching (ERPS).
- Configure and monitor ERPS.
- Explain the concepts of Multiple Spanning Tree Protocol (MSTP).
- Configure and monitor MSTP.
- Discover, configure, and troubleshoot EX Series switches using Junos Space Network Director.

Audience

This course benefits individuals responsible for configuring and monitoring EX Series switches running Junos ELS.

Prerequisites

Students should have basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocol suite. Students should also attend the Introduction to the Junos Operating System (IJOS) course prior to attending this class.

Programme

Day 1
Chapter 1: Course Introduction
Chapter 2: Layer 2 Switching
- Ethernet Bridging Basics
- Terminology and Design Considerations
- Overview of Enterprise Switching Platforms
- Enabling and Monitoring Layer 2 Switching Operations
- EZSetup
- Junos Space Network Director Overview
- Junos Space Network Director Device Discovery
- Lab 1: Implementing Layer 2 Switching

Chapter 3: Virtual Networks
- Overview of VLANs
- Configuring and Monitoring VLANs
- Configuring and Deploying Network Director VLAN and Port Profiles
- Voice VLAN
- Native VLAN
- Routed VLAN Interfaces
- Lab 2: Implementing Virtual Networks

Chapter 4: Spanning Tree
- Spanning Tree Protocol
- Rapid Spanning Tree Protocol
- Configuring and Monitoring STP and RSTP
- Troubleshooting STP and RSTP
- Protection Features: BPDU Protection
- Protection Features: Loop Protection
- Protection Features: Root Protection
- Lab 3: Implementing Spanning Tree

Day 2
Chapter 5: Port Security
- MAC Limiting
- Persistent MAC Learning
- DHCP Snooping
- Dynamic ARP Inspection (DAI)
- IP Source Guard
- MACsec
- Lab 4: Implementing Port Security

Chapter 6: Device Security and Firewall Filters
- Storm Control
- Firewall Filters
- Lab 5: Implementing Storm Control and Firewall Filters

Chapter 7: Virtual Chassis
- Overview of Virtual Chassis
- Configuring and Monitoring a Virtual Chassis
- Lab 6: Implementing a Virtual Chassis System

Chapter 8: High Availability Features
- Overview of High Availability Networks
- Link Aggregation Groups
- Redundant Trunk Groups
- Graceful Routing Engine Switchover (GRES)
- Nonstop Active Routing (NSR)
- Nonstop Bridging (NSB)

- Lab 7: Implementing High Availability Features

Appendix A: Ethernet Ring Protection Switching
- Ethernet Ring Protection Switching (ERPS) Overview
- Configuring and Monitoring ERPS

Appendix B: Multiple Spanning Tree Protocol
- Multiple Spanning Tree Protocol (MSTP) Overview
- Configuring and Monitoring MSTP

Appendix C: ELS and Non-ELS Configuration Examples
- Switch Options
- IRB and VLAN Interfaces
- Q-in-Q-Tagging

Session Dates

På begäran, kontakta oss

Ytterligare information

Denna utbildning finns också som utbildning på plats. Kontakta oss för mer information.