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TRAINING OFFERING

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Juniper NETWORKS

Junos Enterprise Switching (JEX)

CODE:	LENGTH:	PRICE:
JUN_JEX	16 Hours (2 days)	£1,495.00

Description

This two-day course is designed to provide students with intermediate switching knowledge and configuration examples using Junos Enhanced Layer 2 Software (ELS).
This course includes an overview of switching concepts and operations, VLANs, the Rapid Spanning Tree Protocol (RSTP), 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 operating system (OS) and in monitoring device operations.
This course uses Juniper Networks EX4300 Series Ethernet switches for the hands-on components, but lab environment does not preclude the course from being applicable to other Juniper hardware platforms running Junos OS.
This course is based on Junos OS Release 21.4R1.12. Course Level
Junos Enterprise Switching (JEX) is an intermediate-level course. Relevant Juniper Product • EX Series • QFX Series

Objectives

• 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 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 Enhanced Layer 2 Software (ELS)

Prerequisites

- Basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocol suite

- Complete the Introduction to the Junos Operating System (IJOS) course, or equivalent knowledge

Programme

Day 1 Course Introduction Layer 2 Switching

- Describe Ethernet bridging basic

- Configure and monitor Layer 2 switching operations

Lab 1: Implementing Layer 2 Switching Switching Design Considerations

- Explain switching terminologies and design considerations

- Describe various Enterprise Switching platforms

Implement VLANs

- Define VLANs

- Create VLANs

- Monitor VLANs

Implement VLAN Features

- Describe voice LAN concepts and operations

- Describe native LAN concepts and operations

- Describe and implement IRB interfaces

Lab 2: Implementing Virtual Networks Spanning Tree Overview

- Explain the operations of STP

- Explain the operations of RSTP

Deploy Spanning Tree

- Configure STP and RSTP

- Monitor STP and RSTP

Spanning Tree Protection Features

- Explain and configure BPDU protection on spanning tree

- Explain and configure loop protection on spanning tree

- Explain and configure root protection on spanning tree

Lab 3: Implementing Spanning Tree Day 2 LAGs and RTGs

- Describe link aggregation groups (LAGs) and redundant trunk groups (RTGs)

- Configure and monitor LAG and RTG

Lab 4: Implementing LAGs and RTGs 10 Storm Control

- Describe storm control features

- Configure and monitor storm control features

Layer 2 Firewall Filters

- Describe firewall filter support for EX Series switches

- Implement and monitor the effects of a firewall filter

Lab 5: Implementing Storm Control and Firewall Filters Port Security—MAC Limiting, MAC Learning, and MACsec

- Describe MAC limiting, MAC learning, and MACsec

- Configure MAC limiting, MAC learning, and MACsec

- Monitor MAC limiting, MAC learning, and MACsec

Port Security—DHCP Snooping, Dynamic ARP Inspection, and IP Source Guard

- Describe DHCP snooping, dynamic ARP inspection, and IP source guard

- Configure DHCP snooping, dynamic ARP inspection, and IP source guard

- Monitor DHCP snooping, dynamic ARP inspection, and IP source guard

Lab 6: Implementing Port Security High Availability—GRES, NSR, and NSB

- Overview of high availability networks

- Explain graceful Routing Engine switchover (GRES)

- Explain nonstop active routing (NSR)

- Explain nonstop bridging (NSB)

Virtual Chassis

- Describe operational details of Virtual Chassis

- Implement Virtual Chassis and verify its operation

Deploy Virtual Chassis

- Configure and monitor Virtual Chassis

Lab 7: Implementing Virtual Chassis Systems
The following Appendices can be covered if requested at the time of booking and subject to time during the course:
Appendix A: Junos Space Network Director

- Describe Junos Space Network Director
- Configure Junos Space Network Director

Appendix B: MSTP

- Explain the operations of MSTP

- Configure and verify MSTP

Appendix C: Mist Integration with EX Series Switches

- Explain mist solution and supported devices

- Describe provisioning and deployment process

Appendix D: Mist Wired Assurance

- Describe the deployment options

- Explain wired assurance SLE and their classifiers

- Describe the role of Mist within campus and branch architecture

Appendix E: ELS and Non-ELS Configuration

- Configure switching options

- Understand IRB and RVI interfaces and its configuration
- Describe Q-in-Q VLAN tagging

Follow on courses

Recommended Next Course

- Advanced Junos Enterprise Switching (AJEX)

Test and Certification

JNCIS-ENT exam topics are based on the content of the recommended instructor-led training courses, as well as the additional resources.

- Exam code: JN0-348

- Written exam

- Administered by Pearson VUE

- Exam length: 90 minutes

- Exam type: 65 multiple-choice questions

- Pass/fail status is available immediately

- Software Release:

  - Junos 18.4

  - Junos Space Network Director 3.1

The JNCIS-ENT certification is valid for three years. Exams can be purchased and scheduled at
https://home.pearsonvue.com/junipernetworks/

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
22 Apr 2024	Virtual Classroom	BST	English	Instructor Led Online	Yes	~~£ 1,495.00~~ £1,196.00
24 Jun 2024	Virtual Classroom	BST	English	Instructor Led Online		~~£ 1,495.00~~ £1,345.50
16 Sep 2024	Virtual Classroom	BST	English	Instructor Led Online		£1,495.00
02 Dec 2024	Virtual Classroom	GMT	English	Instructor Led Online		£1,495.00
04 Nov 2024	Virtual Classroom	GMT	English	Instructor Led Online		£1,495.00

Additional Information

This training is also available as onsite training. Please contact us to find out more.