



TRAINING OFFERING

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CODE:	LENGTH:	PRICE:
JUN_JSPX	2 days	£1,195.00

Description

This two-day course is designed to provide students with intermediate switching knowledge and configuration examples. The course includes an overview of switching concepts such as LANs, Layer 2 address learning, bridging, virtual LANs (VLANs), provider bridging, VLAN translation, spanning-tree protocols, and Ethernet Operation, Administration, and Maintenance (OAM). This course also covers Junos operating system-specific implementations of integrated routing and bridging (IRB) interfaces, routing instances, virtual switches, load balancing, and port mirroring.

Furthermore, this course covers the basics of Multiple VLAN Registration Protocol (MVRP), link aggregation groups (LAGs), and multichassis LAG (MC-LAG).

This course uses MX Series 3D Ethernet Universal Edge Routers for the hands-on component.

This course is based on the Junos OS Release 18.1R1.9. Course Level

Junos Service Provider Switching (JSPX) is an intermediate-level course. **Relevant Juniper Product** • Automation • Switching • EX Series • Junos OS • MX Series

Objectives

- Describe carrier Ethernet. • Describe the different Ethernet standards organizations.
- Describe the Layer 2 services that are available on the MX Series 3D Ethernet Universal Edge Routers.
- Describe the function of an Ethernet LAN. • Describe learning and forwarding in a bridging environment.
- Describe Ethernet frame filtering. • Implement VLAN tagging. • Describe and implement MVRP. • Implement IRB.
- Implement a Layer 2 firewall filter. • Describe the usage of a routing instance. • Describe the function of a virtual router.
- Describe the function of a virtual switch. • Describe the usage of logical systems. • Implement a virtual switch.
- Describe interconnecting routing instances.
- Describe the different Institute of Electrical and Electronics Engineers (IEEE) VLAN stacking models. • Describe the components of provider bridging.
- Configure and monitor provider bridging. • Explain the purpose of the Spanning Tree Protocol (STP).
- Describe the basic operation of the STP, the Rapid Spanning Tree Protocol (RSTP), the Multiple Spanning Tree Protocol (MSTP), and the VLAN Spanning Tree Protocol (VSTP).
- Configure and monitor the STP, the RSTP, the MSTP, and the VSTP.
- Explain the purpose of bridge protocol data unit (BPDU), loop, and root protection. • Explain typical OAM features.
- Describe the basic operation of link fault management (LFM).
- Describe the basic operation of connectivity fault management (CFM). • Configure and monitor Ethernet OAM.
- Describe the basic operation of Ethernet Ring Protection (ERP). • Configure and monitor ERP.
- Describe the basic operation of LAGs and MC-LAGs. • Configure and monitor a LAG and MC-LAGs.
- Describe the basic functionality of MX Series Virtual Chassis. • Describe a basic troubleshooting method.
- List common issues that disrupt network operations. • Identify tools used in network troubleshooting.
- Use available tools to resolve network issues.

Audience

This course benefits individuals responsible for configuring and monitoring devices running the Junos OS.

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 Course Introduction Ethernet Switching and Virtual LANs • Ethernet LANs • Bridging • Configuring and Monitoring VLANs • Automating VLAN Administration • Configuring and Monitoring IRB • Layer 2 Address Learning and Forwarding • Layer 2 Firewall Filtering LAB 1: Ethernet Switching and VLANs Virtual Switches • Routing Instances Overview • Configuring and Monitoring Virtual Switches • Interconnecting Routing Instances • Logical Systems LAB 2: Virtual Switches Provider Bridging • Expanding the Bridged Network • Provider Bridging • Configuring and Monitoring Provider Bridging LAB 3: Provider Bridging Day 2 Spanning-Tree Protocols • Overview of STP • Overview of RSTP • Overview of MSTP • Overview of VSTP • Configuring and Monitoring Spanning-Tree Protocols • Understanding BPDU, Loop, and Root Protection LAB 4: MSTP Ethernet OAM • OAM Overview • LFM • CFM • Configuring and Monitoring Ethernet OAM LAB 5: Ethernet OAM High Availability and Network Optimization • ERP Overview • Configuring and Monitoring ERP • Link Aggregation Group Overview • Configuring and Monitoring a LAG • MC-LAG Overview • Configuring and Monitoring an MC-LAG LAB 6: High Availability and Network Optimization Troubleshooting and Monitoring • Introduction to Troubleshooting and Monitoring • Troubleshooting and Monitoring Tools • Troubleshooting Case Study: Network Congestion LAB 7: Troubleshooting and Monitoring

Please note that the following Appendices are not covered as standard during the training course unless requested by the customer, and agreed with Arrow, upon booking.

Appendix A: Carrier Ethernet • Ethernet in the WAN • Ethernet Standards Organization • MX Series Layer 2 Features
Appendix B: Deprecated Syntaxes Appendix C: MX Series Overview

Follow on courses

- Junos Layer 2 VPNs (JL2V)
- Junos Layer 3 VPNs (JL3V)
- Advanced Junos Service Provider Routing (AJSPR)
- Junos Class of Service (JCOS)
- Junos Multicast Routing (JMR)

Test and Certification

JNCIS-SP -<https://www.juniper.net/us/en/training/certification/certification-tracks/design-track?tab=jncda&tab-2=jncds-dc>

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
14 Feb 2022	London - Dowgate Hill	GMT	English	Classroom		£1,195.00
14 Feb 2022	Virtual Classroom	GMT	English	Instructor Led Online		£1,195.00
09 May 2022	London - Dowgate Hill	BST	English	Classroom		£1,195.00
09 May 2022	Virtual Classroom	BST	English	Instructor Led Online		£1,195.00
01 Aug 2022	London - Dowgate Hill	BST	English	Classroom		£1,195.00
01 Aug 2022	Virtual Classroom	BST	English	Instructor Led Online		£1,195.00
24 Oct 2022	London - Dowgate Hill	BST	English	Classroom		£1,195.00
24 Oct 2022	Virtual Classroom	BST	English	Instructor Led Online		£1,195.00

Additional Information

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