ΛRROW

Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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Juniper JNCIS-ENT (JEX and JIR - 4 days) Bundle

CODE:	LENGTH:	PRICE:
JUN_JNCIS_ENT	32 Hours (4 days)	£2,695.00

Description

This 4-day bundle course covers the content of both the Junos Enterprise Switching (JEX) and Junos Intermediate Routing (JIR) courses.

JEX

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 **JIR**

This two-day course provides students with intermediate routing knowledge and configuration examples.

The course includes an overview of protocol-independent routing features, load balancing and filter-based forwarding, OSPF, BGP, IP tunneling, and high availability (HA) features.

Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring the Junos OS and monitoring device operations.

This course uses Juniper Networks vSRX Series Services Gateways for the hands-on component, but the lab environment does not preclude the course from being applicable to other Juniper hardware platforms running the Junos OS.

This course is based on Junos OS Release 21.1R1.11. **Course Level**

Junos Intermediate Routing (JIR) is an intermediate-level course. **Relevant Juniper Product**

• Automation • Junos OS • M Series • MX Series • PTX Series • QFX Series • SRX Series • T Series

Objectives

JEX • 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.
JIR • Implement static routing within Junos OS   • Implement routing instances within Junos OS   • Describe routing instances
• Configure and share routes between routing instances   • Implement load balancing within Junos OS
• Implement filter-based forwarding within Junos OS   • Implement OSPF within Junos OS   • Deploy OSPF within Junos OS
• Implement BGP within Junos OS   • Deploy BGP within Junos OS   • Implement IP tunneling within Junos OS
• Implement graceful routing and bidirectional forwarding detection within Junos OS
• Implement high availability features—GRES, NSR, and unified ISSU within Junos OS   • Implement VRRP within Junos OS
• Implement IPv6 within Junos   • Implement IS-IS within Junos OS

Audience

This course benefits individuals responsible for configuring and monitoring EX Series switches running Junos Enhanced Layer 2 Software (ELS), and for configuring and monitoring devices running the Junos OS.

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

JEX 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 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 **JIR**
Day 1 Course Introduction Protocol-Independent Routing • Configure static routes • Configure aggregate routes
• Configure generated routes • Manage martian routes Routing Instance • Describe routing instances
• Configure and share routes between routing instances LAB 1: Protocol-Independent Routing and Routing Instance
Load Balancing • Describe load-balancing concepts and operations • Implement and monitor layer 3 load balancing
Filter-Based Forwarding • Illustrate benefits of filter-based forwarding • Configure and monitor filter-based forwarding
LAB 2: Load Balancing and Filter-Based Forwarding Fundamentals of OSPF • Overview of OSPF
• Adjacency Formation and the Designated Router Election • OSPF Scalability Deploying OSPF
• Configuring and Monitoring OSPF • Troubleshooting OSPF LAB 3: Deploying OSPF **Day 2** Fundamentals of BGP
• Overview of BGP and BGP Attributes Deploying BGP • IBGP Versus EBGP • Configuring and Monitoring BGP
LAB 4: BGP IP Tunneling • Overview of IP Tunneling, GRE and IP-IP Tunnels • Deploy GRE and IP-IP Tunnels
LAB 5: IP Tunneling GR and BFD • Overview of High Availability Networks and Graceful Restart
• Bidirectional forwarding detection LAB 6: GR and BFD GRES, NSR, and Unified ISSU • Graceful Routing Engine switchover
• Nonstop active routing • Unified ISSU VRRP • Describe, configure, and monitor VRRP
The following Appendices can be covered if requested at the time of booking and subject to time during the course:
Appendix A: IPv6 (Optional) • Describe the differences between IPv4 and IPv6
• Explain the IPv6 address format and the different address types
• Explain how IPv6 stateless and stateful autoconfigurations work • Configure and monitor IPv6 routing
•Implement IPv6-over-IPv4 tunnels Lab 7: IPv6 (Optional) Appendix B: IS-IS (Optional) • Overview of IS-IS and IS-IS PDUs
• Adjacency Formation and DIS Election • Configuring and Monitoring IS-IS • Basic IS-IS Troubleshooting
Lab 8: IS-IS (Optional)

Follow on courses

• Advanced Junos Enterprise Switching (AJEX) • Advanced Junos Enterprise Routing (AJER) • Junos Multicast Routing (JMR)
• Junos Class of Service (JCOS) • Advanced Junos Service Provider Routing (AJSPR) • Junos Layer 3 VPNs (JL3V)
• Junos Layer 2 VPNs (JL2V)

Test and Certification

Associated Certification **JEX and JIR**
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: o Junos 18.4
o Junos Space Network Director 3.1 The JNCIS-ENT certification is valid for three years. **JIR**
JNCIS-SP exam topics are based on the content of the recommended instructor-led training courses, as well as the additional resources.
• Exam code: JN0-362 • Written exam • Administered by Pearson VUE • Exam length: 90 minutes
• Exam type: 65 multiple-choice questions • Pass/fail status is available immediately • Junos Software Release: 19.4
The JNCIS-SP certification is valid for three years.
Exams can be purchased at an additional cost - please ask for details - and scheduled at
https://home.pearsonvue.com/junipernetworks/

Further Information

Delegates will receive an official set of e-kit courseware approximately 1 week prior to the start of the course.

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
24 Jun 2024	Virtual Classroom	BST	English	Instructor Led Online		£2,695.00
16 Sep 2024	Virtual Classroom	BST	English	Instructor Led Online		£2,695.00
02 Dec 2024	Virtual Classroom	GMT	English	Instructor Led Online		£2,695.00
04 Nov 2024	Virtual Classroom	GMT	English	Instructor Led Online		£2,695.00

Additional Information

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