Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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Juniper JNCIS-ENT (JEX and JIR - 5 days) Bundle

CODE:	LENGTH:	PRICE:
JUN_JNCIS_ENT	40 Hours (5 days)	£3,495.00

Description

This 5-day bundle course covers the content of both the Junos Enterprise Switching (JEX) and Junos Intermediate Routing (JIR) courses.

JEX

This two-day, intermediate-level 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 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 OS and in monitoring device operations. This course uses Juniper Networks EX4300-24T 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. This course is based on Junos OS Release 21.4R3.

Course Level

Intermediate

Relevant Juniper Product

• EX Series • QFX Series

JIR

This three-day, intermediate-level course provides students with intermediate routing knowledge and configuration examples. The course includes an overview of protocol-independent routing features, OSPF, IS-IS, BGP, routing policy, IP tunneling, load balancing, high availability (HA) features, Virtual Router Redundancy Protocol (VRRP), and IPv6.

Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring 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 Junos OS. This course is based on Junos OS Release 25.2R1.

Course Level

Intermediate

Relevant Juniper Product

• Junos OS • SRX 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
• Describe how routes enter a routing table, and how routers choose the best routes for forwarding traffic.
• Implement static routing within Junos OS.
• Describe OSPF within Junos OS.
• Describe how routing policies control what prefixes can enter the routing table and what prefixes can be advertised by protocols.
• Deploy OSPF within Junos OS.
• Implement IS-IS within Junos OS.
• Implement BGP within Junos OS.
• Deploy BGP within Junos OS.
• Describe some important advanced routing policy features and behaviors.
• Implement routing instances within Junos OS.
• Implement load balancing within Junos OS.
• Implement VRRP within Junos OS.
• Implement graceful routing and Bidirectional Forwarding Detection (BFD) within Junos OS.
• Implement high availability features—GRES, NSR, and unified ISSU—within Junos OS.
• Implement IP tunneling within Junos OS.
• Describe IPv6 within Junos OS.
• Implement filter-based forwarding (FBF) within Junos OS.

Audience

Individuals responsible for configuring and monitoring EX Series switches running Junos OS.
This course benefits individuals responsible for configuring and monitoring devices running the Junos operating system (OS).

Prerequisites

•Basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocolsuite
•Attend the *Introduction to the Junos Operating System* course prior to attending this class

Programme

DAY 1

Module 1: Layer 2 Switching
•Describe Ethernet bridging basics
•Configure and monitor Layer 2 switching operations
Lab 1: Implementing Layer 2 Switching

Module 2: Switching Design Considerations
•Explain switching terminologies and design considerations
•Describe various Enterprise Switching platforms

Module 3: Implementing VLANs
•Provide an overview of VLANs
•Configure and monitor VLANs

Module 4: 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

Module 5: Spanning Tree Overview
•Explain the operations of Spanning Tree Protocol
•Explain the operations of Rapid Spanning Tree Protocol

Module 6: Deploying Spanning Tree
•Configure and monitor STP and RSTP

Module 7: Spanning Tree Protection Features
•Explain and configure BPDU protection on spanning tree
•Explain and configure root protection on spanning tree
•Explain and configure loop protection on spanning tree
Lab 3: Implementing Spanning Tree

DAY 2

Module 8: LAGs and RTGs
•Describe, configure, and monitor LAGs
•Describe, configure, and monitor RTGs
Lab 4: Implementing LAGs and RTGs

Module 9: Storm Control
•Describe, configure, and monitor the storm control features

Module 10: Layer 2 Firewall Filters
• Describe, implement, and monitor firewall filters
Lab 5: Implementing Storm Control and Firewall Filters

Module 11: Port Security—MAC Limiting, MAC Learning, and MACsec
•Describe, configure, and monitor MAC limiting
•Explain and configure persistent MAC learning
•Describe, configure, and monitor MACsec

Module 12: Port Security—DHCP Snooping, Dynamic ARP Inspection, and IP Source Guard
•Describe, configure, and monitor DHCP snooping
•Explain and configure persistent dynamic ARP inspection
•Describe, configure, and monitor IP source guard
Lab 6: Implementing Port Security

Module 13: High Availability—GRES, NSR, and NSB
•Review high availability networks
•Describe graceful Routing Engine switchover
•Explain nonstop active routing
•Describe nonstop bridging

Module 14: Virtual Chassis
•Describe the operational details of Virtual Chassis

Module 15: Deploying Virtual Chassis
•Configure and monitor a Virtual Chassis
Lab 7: Implementing Virtual Chassis Systems

SELF-STUDY MODULES

Module 16: Juniper Mist Wired Assurance—Overview
•Provide an overview of Juniper Mist Wired Assurance
•Describe the provisioning options and how they work

Module 17: Juniper Mist Wired Assurance, Day One—Deployment and Configuration
•Describe the deployment options and how they work
•Describe the configuration process
•List Wired Assurance SLEs

JIR
DAY 1

Module 01: Routing Fundamentals
• Explain the role of a router in a network
• Define the difference between directly connected, static, and dynamic routes
• Explain how route preference selects the best route to a destination
• Explain the process of longest prefix match lookups
• Demonstrate how to view and verify the inet.0 and inet6.0 routing tables

Module 02: Protocol Independent Routing
• Configure static routes
• Configure aggregate routes
• Configure generated routes
• Manage martian routes
Lab 01: Protocol Independent Routing

Module 03: Fundamentals of OSPF
• Describe OSPF
• Explain adjacency formation and the designated router election
• Explain OSPF scalability
• Explain basic OSPF configuration

Module 04: Routing Policy
• Explain how import and export policies can re-advertise prefixes between protocols
• Describe the CLI syntax of a routing policy
• Demonstrate how a routing policy can export static routes into OSPF

Module 05: Deploying OSPF
• Configure and monitor OSPF
• Troubleshoot OSPF
Lab 02: OSPF

DAY 2

Module 06: IS-IS
• Explain IS-IS
• Describe IS-IS PDUs
• Define adjacency formation and DIS election
• Configure and monitor IS-IS
• Troubleshoot IS-IS
Lab 03: IS-IS

Module 07: Fundamentals of BGP
• Explain BGP
• Describe BGP attributes

Module 08: Deploying BGP
• Explain IBGP and EBGP
• Configure and monitor BGP
• Describe the BGP route reflection operation
• Examine the route reflection configuration
Lab 04: Border Gateway Protocol

Module 09: Advanced Routing Policy Features
• Describe advanced route-filter options
• Describe how to refer to a prefix list in a routing policy
• Explain route filters with mixed prefix lengths

Module 10: Routing Instances
• Describe routing instances
• Configure and share routes between routing instances
Lab 05: Routing Instances

Module 11: Load Balancing
• Describe the load-balancing concepts and operations
• Implement and monitor Layer 3 load balancing
Lab 06: Load Balancing

DAY 3

Module 12: VRRP
• Describe, configure, and monitor VRRP

Module 13: Graceful Restart and Bidirectional Forwarding Detection
• Describe high availability
• Explain graceful restart
• Explain Bidirectional Forwarding Detection
Lab 07: High Availability

Module 14: GRES, NSR, and Unified ISSU
• Explain graceful Routing Engine switchover
• Explain nonstop active routing
• Explain unified ISSU

Module 15: IP Tunneling
• Describe IP tunneling
• Describe GRE and IP-IP tunnels
• Deploy GRE and IP-IP tunnels
Lab 08: IP Tunneling

Module 16: IPv6
• Explain IPv6 addressing
• Explain routing protocol configuration examples
• Describe tunneling IPv6 over IPv4
Lab 09: IPv6

SELF-STUDY MODULES

Module 17: Filter-Based Forwarding
• Illustrate the benefits of filter-based forwarding
• Configure and monitor filter-based forwarding
Lab 10: Filter-Based Forwarding

Module 18: Class of Service
• Describe the purpose and benefits of CoS
• Implement traffic classification within Junos
• Describe traffic queuing within Junos
• Configure traffic scheduling within Junos
• Implement CoS for a given use case
Lab 11: Class of Service

Follow on courses

Junos Service Provider Switching

Test and Certification

Related Certification
https://learningportal.juniper.net/juniper/user_activity_info.aspx?id=JUNIPER-LEARNING-PATHS-HOME
Exam vouchers available at an additional charge – please ask for details.

Further Information

Please note that courseware is provided in e-kit format for training courses.

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
21 Sep 2026	Virtual Classroom	BST	English	Instructor Led Online		£3,495.00
23 Nov 2026	Virtual Classroom	GMT	English	Instructor Led Online		£3,495.00

Additional Information

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