



Arrow ECS Finland Oy - Education Services

TRAINING OFFERING

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Junos Intermediate Routing (JIR)

CODE:	LENGTH:	PRICE:
JUN_JIR-V	24 Hours (3 days)	€2,350.00

Description

This three-day 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, 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 23.4R1

Objectives

- 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

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

Prerequisites

- Basic networking knowledge and an understanding of the OSI model and the TCP/IP protocol suite
- Completion of the Introduction to the Junos Operating System course prior to attending this class

Programme

- 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

Day 1

1 Routing Fundamentals 2 Protocol Independent Routing

- Configure aggregate routes
- Configure generated routes
- Manage martian routes

Lab 1: Protocol Independent Routing

- Describe OSPF
- Explain adjacency formation and the designated router election
- Explain OSPF scalability

3 Fundamentals of OSPF

- Explain how import and export policies can re-advertise prefixes between protocols
- Describe the CLI syntax of a routing policy

4 Routing Policy • Demonstrate how a routing policy can export static routes into OSPF

5 Deploying OSPF

- Explain IS-IS
- Describe IS-IS PDUs

Day 2

- Define adjacency formation and DIS election Lab 3: IS-IS
- Configure and monitor IS-IS

- Configure and monitor OSPF

- Troubleshoot OSPF

Lab 2: OSPF 6 IS-IS • Troubleshoot IS-IS

7 Fundamentals of BGP

- Explain BGP

- Describe BGP attributes 8 Deploying BGP • Examine the route reflection configuration

- Describe advanced route-filter options
- Describe how to refer to a prefix list in a routing policy
- Explain route filters with mixed prefix lengths

10 Routing Instances

- Describe routing instances
- Configure and share routes between routing instances Lab 5: Routing Instances

11 Load Balancing

- Describe the load-balancing concepts and operations
- Implement and monitor Layer 3 load balancing

12 VRRP

Lab 6: Load Balancing Day 3 • Describe, configure, and monitor VRRP

13 Graceful Restart and Bidirectional Forwarding Detection • Describe high availability

- Explain graceful restart
- Explain Bidirectional Forwarding Detection

- Explain graceful Routing Engine switchover
- Explain nonstop active routing

Lab 7: High Availability 14 GRES, NSR, and Unified ISSU • Explain unified ISSU

15 IP Tunneling

- Describe IP tunneling
- Describe GRE and IP-IP tunnels
- Deploy GRE and IP-IP tunnels

- Explain IPv6 addressing
- Explain routing protocol configuration examples

Lab 8: IP Tunneling 16 IPv6 • Describe tunneling IPv6 over IPv4

Lab 9: IPv6

- Illustrate benefits of filter-based forwarding

SELF-STUDY MODULE 17 Filter-Based Forwarding • Configure and monitor filter-based forwarding

Lab 10: Filter-Based Forwarding

Follow on courses

- Junos Service Provider Switching
- Junos Enterprise Switching

Test and Certification

JNCIS-SP, JNCIS-ENT, JNCIS-DC

Session Dates

Aikataulutamme kiinnostuksen mukaan. [Ota yhteyttä](#)

Additional Information

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