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

Day 1

1 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

2 Protocol Independent Routing

• Configure static routes
• Configure aggregate routes
• Configure generated routes
• Manage martian routes
Lab 1: Protocol Independent Routing

3 Fundamentals of OSPF
• Describe OSPF
• Explain adjacency formation and the designated router election
• Explain OSPF scalability

4 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
5 Deploying OSPF
• Configure and monitor OSPF
• Troubleshoot OSPF
Lab 2: OSPF

Day 2

6 IS-IS
• Explain IS-IS
• Describe IS-IS PDUs
• Define adjacency formation and DIS election
• Configure and monitor IS-IS
• Troubleshoot IS-IS
Lab 3: IS-IS

7 Fundamentals of BGP
• Explain BGP
• Describe BGP attributes

8 Deploying BGP
• Explain IBGP and EBGP
• Configure and monitor BGP
• Describe the BGP route reflection operation
• Examine the route reflection configuration
Lab 4: BGP
9 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
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

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

13 Graceful Restart and Bidirectional Forwarding Detection

• Describe high availability
• Explain graceful restart
• Explain Bidirectional Forwarding Detection
Lab 7: High Availability
14 GRES, NSR, and Unified ISSU

• Explain graceful Routing Engine switchover
• Explain nonstop active routing
• Explain unified ISSU
15 IP Tunneling
• Describe IP tunneling
• Describe GRE and IP-IP tunnels
• Deploy GRE and IP-IP tunnels
Lab 8: IP Tunneling
16 IPv6
• Explain IPv6 addressing
• Explain routing protocol configuration examples
• Describe tunneling IPv6 over IPv4
Lab 9: IPv6
SELF-STUDY MODULE
17 Filter-Based Forwarding
• Illustrate benefits of 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.