Arrow ECS Finland Oy - Education Services

TRAINING OFFERING

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Advanced Junos Enterprise Routing (AJER)

CODE:	LENGTH:	PRICE:
JUN_AJER	40 Hours (5 days)	€3,800.00

Description

This four-day course is designed to provide students with the tools required for implementing, monitoring, and troubleshooting Layer 3 components in an enterprise network. Detailed coverage of OSPF, BGP, class of service (CoS), and multicast is strongly emphasized. The course also exposes students to common troubleshooting commands and tools used to troubleshoot various intermediate to advanced issues. Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring the Junos operating system and in monitoring device and protocol operations. This course uses Juniper Networks vSRX virtual firewall 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 15.1X49-D80.
Course will be delivered using latest available course material version offered by Juniper

Objectives

- Describe the various OSPF link-state advertisement (LSA) types.
- Explain the flooding of LSAs in an OSPF network.
- Describe the shortest-path-first (SPF) algorithm.
- Describe OSPF area types and operations.
- Configure various OSPF area types.
- List useful common commands to troubleshoot and verify OSPF.
- Isolate different OSPF issues.
- Summarize and restrict routes.
- Identify scenarios that require routing policy or specific configuration options.
- Use routing policy and specific configuration options to implement solutions for various scenarios.
- Describe basic BGP operation and common BGP attributes.
- Explain the route selection process for BGP.
- Describe how to alter the route selection process.
- Configure some advanced options for BGP peers.
- Describe various BGP attributes in detail and explain the operation of those attributes.
- Manipulate BGP attributes using routing policy.
- List common commands used to troubleshoot and verify BGP.
- Isolate different issues with BGP communication and configuration.
- Describe common routing policies used in the enterprise environment.
- Explain how attribute modifications affect routing decisions.
- Implement a routing policy for inbound and outbound traffic using BGP.
- Isolate problems relating to routing policy structure and configuration.
- Identify common commands for troubleshooting routing policy.
- Identify environments that may require a modified CoS implementation.
- Describe the various CoS components and their respective functions.
- Explain the CoS processing along with CoS defaults on SRX Series Services Gateways.
- Describe situations when some CoS features are used in the enterprise.
- Implement some CoS features in an enterprise environment.
- Verify and troubleshoot CoS.
- Describe IP multicast traffic flow.
- Identify the components of IP multicast.
- Explain how IP multicast addressing works.
- Describe the need for reverse path forwarding (RPF) in multicast.
- Explain the role of Internet Group Management Protocol (IGMP) and describe the available IGMP versions.
- Configure and monitor IGMP.
- Identify common multicast routing protocols.
- Describe rendezvous point (RP) discovery options.
- Configure and monitor Physical Interface Module (PIM) sparse modes.

- Configure and monitor RP discovery mechanisms.
- Describe the basic requirements, benefits, and caveats of source-specific multicast (SSM).
- List the address ranges used for SSM.
- Illustrate the role of Internet Group Management Protocol version 3 (IGMPv3) and PIM sparse mode (PIM-SM) in an SSM implementation.

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) model and the TCP/IP protocol suite. Students should also have working experience with basic routing principles. Students should also attend the Introduction to the Junos Operating System (IJOS) and Junos Intermediate Routing (JIR) courses prior to attending this class.

Programme

Day 1 1 COURSE INTRODUCTION 2 OSPF

- OSPFv2 Review
- Link-State Advertisements
- Protocol Operations
- OSPF Authentication
- OSPFv3

LAB 1: Configuring and Monitoring OSPF **3 OSPF Areas**

- Review of OSPF Areas
- Stub Area Operation
- Stub Area Configuration
- NSSA Operation
- NSSA Configuration
- Route Summarization

LAB 2: Configuring and Monitoring OSPF Areas and Route Summarization **4 OSPF Case Studies and Solutions**

- IGP Transition Overview
- Transition Case Study
- OSPF Multiarea Adjacencies
- External Reachability
- Virtual Links

LAB 3: Configuring and Monitoring Routing Policy and Advanced OSPF Policy **Day 2 5 Troubleshooting OSPF**

- OSPF Troubleshooting

LAB: Troubleshooting OSPF **6 BGB**

- Review of BGP
- BGP Operations
- Load Balancing Options
- Path Selection and Configuration Options

LAB: Implementing BGP **7 BGP Attributes and Policy**

- Policy and BGP
- BGP Attributes
- Details and Manipulation of Common BGP Path Attributes

LAB: BGP Attributes **8 Troubleshooting BGP**

- BGP Troubleshooting
- BGP Case Study

LAB: Troubleshooting BGP

Follow on courses

JNCIE-ENT Bootcamp

Test and Certification

JNCIP-ENT

Session Dates

Aikataulutamme kiinnostuksen mukaan. Ota yhteyttä

Additional Information

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