Junos Enterprise Routing Skills Camp (JIR, AJER)

Duración: 5 Días Código del Curso: JIR-AJER

Temario:

Build your intermediate and advanced Juniper routing skills in this convenient, skills-focused course. We combined two authorized Juniper courses, Junos Intermediate Routing (JIR) and Advanced Junos Enterprise Routing (AJER), to create this convenient Skills Camp in which you'll build your intermediate and advanced Junos enterprise routing skills. You will gain hands-on experience implementing, monitoring, and troubleshooting Layer 3 components

Dirigido a:

Network technicians responsible for configuring and monitoring devices running the Junos OS

Objetivos:

- After successfully completing this course, you should be able to:
- Describe typical uses of static, aggregate, and generated routes.
- Configure and monitor static, aggregate, and generated routes.
- Explain the purpose of Martian routes and add new entries to the default list.
- Describe typical uses of routing instances.
- Configure and share routes between routing instances.
- Describe load-balancing concepts and operations.
- Implement and monitor Layer 3 load balancing.
- Illustrate benefits of filter-based forwarding.
- Configure and monitor filter-based forwarding.
- Explain the operations of OSPF.
- Describe the role of the designated router.
- List and describe OSPF area types.
- Configure, monitor, and troubleshoot OSPF.
- Describe BGP and its basic operations.
- Name and describe common BGP attributes.
- List the steps in the BGP route selection algorithm.
- Describe BGP peering options and the default route advertisement rules.
- Configure and monitor BGP.
- Describe IP tunneling concepts and applications.
- Identify scenarios requiring routing policy or a specific configuration option.
- Describe basic BGP operation.
- List 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.
- Manipulate BGP attributes using routing policy.
- 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.
- 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.

- Explain the basic operations of generic routing encapsulation (GRE) and IP over IP (IP-IP) tunnels.
- Configure and monitor GRE and IP-IP tunnels.
- Describe various high availability features supported by the Junos OS.
- Configure and monitor some of the highlighted high availability features.
- 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.
- Summarize and restrict routes.
- Configure and monitor Protocol Independent Multicast–Sparse Mode (PIM-SM).
- 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-SM in an SSM implementation.
- Configure and monitor SSM.
- Identify environments that might 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 devices .
- Describe situations when some CoS features are used in the enterprise.
- Implement some CoS features in an enterprise environment.

Prerequisitos:

Students should have basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocol suite. Students should also attend the Introduction to the Junos Operating System (IJOS) and Junos Routing Essentials (JRE) courses prior to attending this class.

- IJOS - Introduction to the Junos Operating System
- IJOS-JRE - Junos Foundations: JNCIA-Junos Boot Camp
- JRE - Junos Routing Essentials

Exámenes y certificación

This course is part of the following programs or tracks:

- Juniper Networks Certified Internet Professional - Enterprise Routing and Switching (JNCIP-ENT)

Siguientes cursos recomendados:

JEX-AJEX - Junos Enterprise Switching Skills Camp

Contenido:

Protocol-Independent Routing

- Static Routes
- Aggregated Routes
- Generated Routes
- Martian Addresses
- Routing Instances
- Lab: Protocol-Independent Routing

Load Balancing and Filter-Based Forwarding

- Overview of Load Balancing
- Configuring and Monitoring Load Balancing
- Overview of Filter-Based Forwarding
- Configuring and Monitoring Filter-Based Forwarding
- Lab: Load Balancing and Filter-Based Forwarding

Open Shortest Path First

- Overview of OSPF
- Adjacency Formation and the Designated Router Election
- OSPF Scalability
- Configuring and Monitoring OSPF
- Basic OSPF Troubleshooting
- Lab: Open Shortest Path First

Border Gateway Protocol

- Overview of BGP
- BGP Attributes
- IBGP Versus EBGP
- Configuring and Monitoring BGP
- Lab: Border Gateway Protocol

IP Tunneling

- Overview of IP Tunneling
- GRE and IP-IP Tunnels
- Implementing GRE and IP-IP Tunnels
- Lab: IP Tunneling

High Availability

- Overview of High Availability Networks
- GR
- Graceful RE Switchover
- Nonstop Active Routing
- BFD
- VRRP
- Lab: High Availability

OSPF

- OSPFv2 Review
- Link State Advertisements
- Protocol Operations
- OSPF Authentication
- Lab: Configuring and Monitoring OSPF

OSPF Areas

- Review of OSPF Areas
- Stub Area Operation
- Stub Area Configuration
- NSSA Operation
- NSSA Configuration
- Route Summarization
- Lab: Configuring and Monitoring OSPF Areas and Route Summarization

OSPF Case Studies and Solutions

- Transitioning to OSPF from a Different IGP
- External Reachability
- Virtual Links
- Multiarea Adjacency
- Lab: Configuring and Monitoring Routing Policy and Advanced OSPF Options

BGP

- Review of BGP
- BGP Operations
- BGP Path Selection and Options
- Configuration Options
- Lab: Implementing BGP

BGP Attributes and Policy

- BGP Policy
- Next Hop
- Origin and MED
- AS Path
- Local Preference
- Communities
- Lab: BGP Attributes

Enterprise Routing Policies

- Topology-Driven Routing Policy
- Primary/Secondary Routing Policy
- Load-Shared Per Prefix Routing Policy
- Lab: Implementing Enterprise Routing Policies

Introduction to Multicast

- Overview of Multicast
- Multicast Addresses
- Reverse Path Forwarding
- Internet Group Management Protocol

Multicast Routing Protocols and SSM

- Overview of Multicast Routing Protocols
- PIM-SM
- Lab: Implementing PIM-SM
- Source-Specific Multicast
- Lab: Implementing SSM

Class of Service

- Review of CoS Components
- CoS Processing and Feature Overview
- Policing
- Virtual Channels
- Lab: Implementing CoS Features in the Enterprise

Más información:

Para más información o para reservar tu plaza llámanos al (34) 91 425 06 60

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