JNCIS-ENT Bootcamp (JIR & JEX)

Cursusduur: 4 Dagen **Cursuscode: JNCIS-ENT**

Beschrijving:

Prepare to operate Juniper based networks and pass the JNCIA-Junos and JNCIS-ENT exams. Gain the foundation required to work with the Junos operating system (OS) and to configure and route a Junos device-based network in this two-day course. After a brief overview of the Junos device families, you'll learn about the key architectural components of the software. Through demonstrations and hands-on labs, you will gain experience in configuring and monitoring the Junos OS and monitoring basic device operations. You will dive into routing and configuration, beginning with an overview of general routing concepts and covering routing policy and firewall filters and Class of Service (CoS). You'll also get hands-on experience configuring and monitoring the Junos OS and monitoring basic device operations.
overview of protocol-independent routing features, load balancing and filter-based forwarding, OSPF, BGP, IP tunneling, and high availability (HA) features.
Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring the Junos OS and monitoring device operations. This course uses Juniper Networks SRX 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 the Junos OS. virtual LANs (VLANs), the Spanning Tree Protocol (STP), port and device security features, and high availability (HA) features
This course is based on Junos OS Release 15.1X49-D70.3.
This bootcamp includes the content of the IJOS, JRE, JIR & JEX courses.

Doelgroep:

Individuals responsible for configuring and monitoring devices running the Junos OS

Doelstelling:

- **After you complete this course you will be able to:**
- Describe the basic design architecture of the Junos OS
- Perform secondary configuration tasks for features and services such as system logging (syslog) and tracing, Network Time Protocol
- Identify and provide a brief overview of Junos devices. (NTP), configuration archival, and SNMP.
- Navigate within the Junos CLI. Monitor basic operation for the Junos OS and devices.
- Perform tasks within the CLI operational and configuration Modes
- Identify and use network utilities.
- Upgrade the Junos OS.
- Restore a Junos device to its factory-default state.
- Perform file system maintenance and password recovery on a Junos
- Perform initial configuration tasks. device.
- Configure and monitor network interfaces.
- Navigate within the Junos J-Web interface.
- Explain basic routing operations and concepts.
- 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.
- 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.
- 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.

- View and describe routing and forwarding tables.
- Configure and monitor static routing.
- Configure and monitor OSPF.
- Describe the framework for routing policy and firewall filters.
- Explain the evaluation of routing policy and firewall filters.
- Identify instances where you might use routing policy.
- Write and apply a routing policy.
- Identify instances where you might use firewall filters.
- Write and apply a firewall filter.
- Describe the operation and configuration for unicast reverse path forwarding (RPF).
- Explain the purpose and benefits of CoS.
- List and explain the various components of CoS.
- Implement and verify proper operation of CoS.
- 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.
- 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 EX4200 switches.

Vereiste kennis en vaardigheden:

Students should have basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocol suite.

Examens en certificering

This course is part of the following programs or tracks:

Juniper Networks Certified Internet Associate - Junos (JNCIA-Junos)

Enterprise Routing and Switching, Specialist (JNCIS-ENT)

Vervolgcursussen:

The following courses are recommended for further study:

- JNCIS Security Certification Boot Camp (JSEC, JUTM)
- Advanced Junos Enterprise Routing (AJER)
- Advanced Junos Enterprise Switching (AJEX)
- Junos Security Skills Camp (JSEC, AJSEC)

Cursusinhoud:

Junos Operating System Fundamentals

- The Junos OS
- Traffic Processing
- Platforms Running the Junos OS

User Interface Options

- User Interface Options
- The Junos CLI: CLI Basics
- The Junos CLI: Operational Mode
- The Junos CLI: Configuration Mode
- Lab: The Junos CLI

Initial Configuration

- Factory-Default Configuration
- Initial Configuration
- Interface Configuration
- Lab: Initial System Configuration

Secondary System Configuration

- User Configuration and Authentication
- System Logging and Tracing
- Network Time Protocol
- Archiving Configurations
- SNMP
- Lab: Secondary System Configuration

Operational Monitoring and Maintenance

- Monitoring Platform and Interface Operation
- Network Utilities
- Maintaining the Junos OS
- Password Recovery
- Lab: Operational Monitoring and Maintenance

Routing Fundamentals

- Routing Concepts: Overview of Routing
- Routing Concepts: The Routing Table
- Routing Concepts: Routing Instances
- Static Routing
- Dynamic Routing
- Lab: Routing Fundamentals

Routing Policy and Firewall Filters

- Routing Policy Overview
- Case Study: Routing Policy
- Lab: Routing Policy
- Firewall Filters Overview
- Case Study: Firewall Filters
- Unicast Reverse-Path-Forwarding Checks
- Lab: Firewall Filters

Class of Service

- CoS Overview
- Traffic Classification
- Traffic Queuing
- Traffic Scheduling

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
- Overview of High Availability Networks
- Link Aggregation Groups
- Redundant Trunk Groups
- Lab 6: Configuring LAGs and RTG
- Overview of Virtual Chassis
- Configuring and Monitoring a Virtual Chassis
- Lab 7: Implementing a Virtual Chassis System

Routing Information Protocol

- Introduction to RIP
- RIP Configuration Examples
- Monitoring and Troubleshooting RIP

Layer 2 Switching

- Ethernet Bridging Basics
- Terminology and Design Considerations
- Overview of Enterprise Switching Platforms
- Enabling and Monitoring Layer 2 Switching Operations
- Lab 1: Implementing Layer 2 Switching

Virtual Networks

- Overview of VLANs
- Configuring and Monitoring VLANs
- Voice VLAN
- Native VLAN
- Routed VLAN Interfaces
- Lab 2: Implementing Virtual Networks

Spanning Tree

- Spanning Tree Protocol
- Rapid Spanning Tree Protocol
- Configuring and Monitoring STP and RSTP
- Protection Features: BPDU Protection
- Protection Features: Loop Protection
- Protection Features: Root Protection
- Lab 3: Implementing Spanning Tree

Port Security

- MAC Limiting
- DHCP Snooping
- Dynamic ARP Inspection (DAI)
- IP Source Guard
- Lab 4: Implementing Port Security

Device Security and Firewall Filters

- Storm Control
- Firewall Filters
- Lab 5: Implementing Storm Control and Firewall Filters

High Availability

- Overview of High Availability Networks
- GR
- Graceful RE Switchover
- Nonstop Active Routing
- BFD
- VRRP
- Lab: High Availability
- Overview of High Availability Networks
- Link Aggregation Groups
- Redundant Trunk Groups
- Lab 6: Configuring LAGs and RTG
- Overview of Virtual Chassis

- Case Study: CoS
- Lab: Class of Service

IPv6

- Introduction to IPv6
- Routing Protocol Configuration Examples
- Tunneling IPv6 over IPv4
- Lab (Optional): IPv6

IS-IS

- Overview of IS-IS
- Overview of IS-IS PDUs
- Adjacency Formation and DIS Election
- Configuring and Monitoring IS-IS
- Basic IS-IS Troubleshooting
- Lab (Optional): IS-IS

- Configuring and Monitoring a Virtual Chassis
- Lab 7: Implementing a Virtual Chassis System

Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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