Juniper Networks Certified Internet Specialist (ENT)

The Juniper Networks Certification Program (JNCP) Enterprise Routing and Switching track allows participants to demonstrate competence with Juniper Networks technology. Successful candidates demonstrate thorough understanding of networking technology in general and Juniper Networks enterprise routing and switching platforms. This course provides students with intermediate routing knowledge and configuration examples. The course includes an 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. JNCIS-ENT exam topics are based on the content of the recommended instructor led training courses, as well as the additional resources.

JNCIS ENT Syllabus

Protocol-Independent Routing

☐ Static Routes

☐ Aggregated Routes

☐ Generated Routes

☐ Martian Addresses

☐ Routing Instances

☐ Lab 1: 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 2: 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 3: Open Shortest Path First

Border Gateway Protocol

 Overview of BGP

 BGP Attributes

 IBGP Versus EBGP

 Configuring and Monitoring BGP

 Lab 4: Border Gateway Protocol

IP Tunneling

 Overview of IP Tunneling

 GRE and IP-IP Tunnels

 Implementing GRE and IP-IP Tunnels

 Lab 5: IP Tunneling

High Availability

 Overview of High Availability Networks

 GR

 Graceful RE Switchover

 Nonstop Active Routing

 BFD

 VRRP

 Lab 6: High Availability

IPv6

 Introduction to IPv6

 Routing Protocol Configuration Examples

 Tunneling IPv6 over IPv4

 Lab 7 (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 8 (Optional): IS-IS

Routing Information Protocol

☐ Introduction to RIP

☐ RIP Configuration Examples

☐ Monitoring and Troubleshooting RIP

JUNOS ENTERPRISE SWITCHING

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

Virtual Chassis

☐ Overview of Virtual Chassis

☐ Configuring and Monitoring a Virtual Chassis

☐ Lab 6: Implementing Virtual Chassis Systems

High Availability Features

☐ Overview of High Availability Networks

☐ Link Aggregation Groups

☐ Redundant Trunk Groups

☐ Lab 7: Implementing High Availability Features

Ethernet Ring Protection Switching

Multiple Spanning Tree Protocol