Advanced Juniper Security (AJSEC)

JUNIPER NETWORKS
EDUCATION SERVICES

Engineering Simplicity

COURSE LEVEL

Advanced Juniper Security (AJSEC) is an advanced-level course.

AUDIENCE

This course benefits individuals responsible for implementing, monitoring, and troubleshooting Juniper security components.

PREREQUISITES

- Strong level of TCP/IP networking and security knowledge
- Complete the *Juniper Security* (JSEC) course prior to attending this class

ASSOCIATED CERTIFICATION

JNCIP-SEC

RELEVANT JUNIPER PRODUCT

- Security
- Junos OS
- SRX Series
- vSRX Series
- Sky ATP
- SDSN

RECOMMENDED NEXT COURSE

JNCIE-SEC Bootcamp

CONTACT INFORMATION

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COURSE OVERVIEW

This four-day course, which is designed to build off the current *Juniper Security* (JSEC) offering, delves deeper into Junos security, next-generation security features, and ATP supporting software.
Through demonstrations and hands-on labs, you will gain experience in configuring and monitoring the advanced Junos OS security features with advanced coverage of advanced logging and reporting, next generation Layer 2 security, next generation advanced anti-malware with Juniper ATP On-Prem and SecIntel. This course uses Juniper Networks SRX Series Services Gateways for the hands-on component.

This course is based on Junos OS Release 20.1R1.11, Junos Space Security Director 19.4, Juniper ATP On-Prem version 5.0.7.

OBJECTIVES

- Demonstrate understanding of concepts covered in the prerequisite *Juniper Security* courses.
- Describe the various forms of security supported by the Junos OS.
- Describe the Juniper Connected Security model.
- Describe Junos security handling at Layer 2 versus Layer 3.
- Implement next generation Layer 2 security features.
- Demonstrate understanding of Logical Systems (LSYS).
- Demonstrate understanding of Tenant Systems (TSYS).
- Implement virtual routing instances in a security setting.
- Describe and configure route sharing between routing instances using logical tunnel interfaces.
- Describe and discuss Juniper ATP and its function in the network.
- Describe and implement Juniper Connected Security with Policy Enforcer in a network.
- Describe firewall filters use on a security device.
- Implement firewall filters to route traffic.
- Explain how to troubleshoot zone problems.
- Describe the tools available to troubleshoot SRX Series devices.
- Describe and implement IPsec VPN in a hub-and-spoke model.
- Describe the PKI infrastructure.
- Implement certificates to build an ADVPN network.
- Describe using NAT, CoS and routing protocols over IPsec VPNs.
- Implement NAT and routing protocols over an IPsec VPN.
- Describe the logs and troubleshooting methodologies to fix IPsec VPNs.
- Implement working IPsec VPNs when given configuration that are broken.
- Describe Incident Reporting with Juniper ATP On-Prem device.
- Configure mitigation response to prevent spread of malware.
- Explain SecIntel uses and when to use them.
- Describe the systems that work with SecIntel.
- Describe and implement advanced NAT options on the SRX Series devices.
- Explain DNS doctoring and when to use it.
- Describe NAT troubleshooting logs and techniques.

COURSE CONTENT

Day 1

1 COURSE INTRODUCTION

2 Junos Layer 2 Packet Handling and Security Features

- Transparent Mode Security
- Secure Wire
- Layer 2 Next Generation Ethernet Switching
- MACsec

LAB 1: Implementing Layer 2 Security

3 Firewall Filters

- Using Firewall Filters to Troubleshoot
- Routing Instances
- Filter-Based Forwarding

LAB 2: Implementing Firewall Filters

4 Troubleshooting Zones and Policies

- General Troubleshooting for Junos Devices
- Troubleshooting Tools
- Troubleshooting Zones and Policies
- Zone and Policy Case Studies

LAB 3: Troubleshooting Zones and Policies

Day 2

5 Hub-and-Spoke VPN

- Overview
- Configuration and Monitoring

LAB 4: Implementing Hub-and-Spoke VPNs

6 Advanced NAT

- Configuring Persistent NAT
- Demonstrate DNS Doctoring
- Configure IPv6 NAT Operations
- Troubleshooting NAT

LAB: 5: Implementing Advanced NAT Features

7 Logical and Tenant Systems

- Overview
- Administrative Roles
- Differences Between LSYS and TSYS
- Configuring LSYS
- Configuring TSYS

LAB 6: Implementing TSYS

Day 3

8 PKI and ADVPNs

- PKI Overview
- PKI Configuration
- ADVPN Overview
- ADVPN Configuration and Monitoring

LAB 7: Implementing ADVPNs

9 Advanced IPsec

- NAT with IPsec
- Class of Service with IPsec
- Best Practices
- Routing OSPF over VPNs

LAB 8: Implementing Advanced IPsec Solutions

10 Troubleshooting IPsec

- IPsec Troubleshooting Overview
- Troubleshooting IKE Phase 1 and 2
- IPsec Logging
- IPsec Case Studies

LAB 9: Troubleshooting IPsec

Day 4

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Juniper Connected Security

- Security Models
- Enforcement on Every Network Device

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SecIntel

- Security Feed
- Encrypted Traffic Analysis
- Use Cases for SecIntel

LAB 10: Implementing SecIntel

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Advanced Juniper ATP On-Prem

- Collectors
- Private Mode
- Incident Response
- Deployment Models

LAB 11: Implementing Advanced ATP On-Prem

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Automated Threat Mitigation

- Identify and Mitigate Malware Threats
- Automate Security Mitigation

LAB 12: Identifying and Mitigating Threats

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Group VPNs

- Overview
- Implementing Group VPNs

AJSEC07102020