



Juniper: Junos IJOS, JRE, JSEC, JUTM, AJSEC, JIPS

پیش نیاز :

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 knowledge of security policies

اهداف :

This course provides students with the foundational knowledge required to work with the Junos operating system and to configure Junos devices

and foundational routing knowledge and configuration examples, and includes an overview of general routing concepts, routing policy, and firewall filters.

and covers the configuration, operation, and implementation of SRX Series Services Gateways in a typical network environment

This course also includes detailed coverage of Web filtering, antivirus (AV), antispam, and content filtering.

and designed to build off of the current *Junos Security* (JSEC) offering, delves deeper into Junos security

and designed to provide an introduction to the Intrusion Prevention System (IPS) feature set available on the Juniper Networks SRX Series Services Gateway

سرفصل :

Chapter 1: Course Introduction

Chapter 2: Junos Operating System Fundamentals

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

Chapter 3: User Interface Options

- User Interface Options
- The Junos CLI: CLI Basics
- The Junos CLI: Operational Mode
- The Junos CLI: Configuration Mode
- Lab 1: The Junos CLI

Chapter 4: Initial Configuration

- Factory-Default Configuration
- Initial Configuration
- Interface Configuration
- Lab 2: Initial System Configuration

Chapter 5: Secondary System Configuration

- User Configuration and Authentication
- System Logging and Tracing
- Network Time Protocol
- Archiving Configurations
- SNMP
- Lab 3: Secondary System Configuration

Chapter 6: Operational Monitoring and Maintenance

- Monitoring Platform and Interface Operation
- Network Utilities
- Maintaining the Junos OS
- Password Recovery
- Lab 4: Operational Monitoring and Maintenance

Chapter 1: Course Introduction

Chapter 2: Routing Fundamentals

- Routing Concepts: Overview of Routing
- Routing Concepts: The Routing Table
- Routing Concepts: Routing Instances
- Static Routing
- Dynamic Routing
- Lab 1: Routing Fundamentals

Chapter 3: Routing Policy

- Routing Policy Overview
- Case Study: Routing Policy
- Lab 2: Routing Policy

Chapter 4: Firewall Filters

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

Lab 3: Firewall Filters

Chapter 1: Course Introduction

Chapter 2: Introduction to Junos Security

- Traditional Routing
- Traditional Security
- The Junos OS Architecture

Chapter 3: Zones

- The Definition of Zones
- Zone Configuration
- Monitoring Security Zones
- Lab 1: Configuring and Monitoring Zones

Chapter 4: Security Policies

- Security Policy Overview
- Junos ALGs
- Policy Components
- Verifying Policy Operation
- Policy Scheduling and Rematching
- Policy Case Study
- Lab 2: Security Policies

Chapter 5: Firewall User Authentication

- Firewall User Authentication Overview
- Pass-Through Authentication
- Web Authentication
- Client Groups
- Using External Authentication Servers
- Verifying Firewall User Authentication

- Lab 3: Configuring Firewall Authentication

Chapter 6: Screen Options

- Multilayer Network Protection
- Stages and Types of Attacks
- Using Junos Screen Options—Reconnaissance Attack Handling
- Using Junos Screen Options—Denial of Service Attack Handling
- Using Junos Screen Options—Suspicious Packets Attack Handling
- Applying and Monitoring Screen Options
- Lab 4: Implementing Screen Options

Chapter 7: Network Address Translation

- NAT Overview
- Source NAT Operation and Configuration
- Destination NAT Operation and Configuration
- Static NAT Operation and Configuration
- Proxy ARP
- Monitoring and Verifying NAT Operation
- Lab 5: Network Address Translation

Chapter 8: IPsec VPNs

- VPN Types
- Secure VPN Requirements
- IPsec Details
- Configuration of IPsec VPNs
- IPsec VPN Monitoring
- Lab 6: Implementing IPsec VPNs

Chapter 9: Introduction to Intrusion Detection and Prevention

- Introduction to Junos IDP
- IDP Policy Components and Configuration
- Signature Database
- Case Study: Applying the Recommended IDP Policy
- Monitoring IDP Operation
- Lab 7: Implementing IDP

Chapter 10: High Availability Clustering Theory

- High Availability Overview
- Chassis Cluster Components
- Advanced Chassis Cluster Topics

Chapter 11: High Availability Clustering Implementation

- Chassis Cluster Operation
- Chassis Cluster Configuration

- Chassis Cluster Monitoring
- Lab 8: Implementing High Availability Techniques

Chapter 1: Course Introduction

Chapter 2: UTM Overview

- Branch Office Challenges
- UTM Feature Overview
- Design Basics
- Hardware Support
- Licensing of Features
- Lab 1: Connecting to the Lab Equipment and Testing Connectivity

Chapter 3: Antispam

- Antispam Terminology
- Overview of Antispam Process
- UTM Policy Overview
- Configuration Steps
- Monitoring Antispam
- Lab 2: Configuring an Antispam Policy

Chapter 4: Full File-Based and Express Antivirus

- Antivirus Terminology
- Overview of Antivirus Process
- AV Operation
- Full File-based AV Configuration
- Express AV Configuration
- Monitoring AV
- Lab 3: Antivirus Configuration and Testing

Chapter 5: Content and Web Filtering

- Overview and Terminology
- Configuration
- Verification and Monitoring

Lab 4: Configuring Content and Web Filtering

Chapter 1: Course Introduction

Chapter 2: AppSecure

- AppSecure Overview
- AppID
- AppTrack
- AppFW
- AppDoS
- AppQoS
- Lab 1: Implementing AppSecure

Chapter 3: Junos Layer 2 Packet Handling and Security Features

- Transparent Mode Security
- Layer 2 Ethernet Switching
- Lab 2: Implementing Layer 2 Security

Chapter 4: Virtualization

- Virtualization Overview
- Routing Instances
- Logical Systems
- Lab 3: Implementing Junos Virtual Routing

Chapter 5: Advanced NAT Concepts

- Operational Review
- NAT: Beyond Layer 3 and Layer 4 Headers
- DNS Doctoring
- IPv6 NAT
- Advanced NAT Scenarios
- Lab 4: Advanced NAT Implementations

Chapter 6: IPsec Implementations

- Standard VPN Implementations Review
- Public Key Infrastructure
- Hub-and-Spoke VPNs
- Lab 5: Hub-and-Spoke IPsec VPNs

Chapter 7: Enterprise IPsec Technologies: Group and Dynamic VPNs

- Group VPN Overview
- GDOI Protocol
- Group VPN Configuration and Monitoring
- Dynamic VPN Overview
- Dynamic VPN Implementation

- Lab 6: Configuring Group VPNs

Chapter 8: IPsec VPN Case Studies and Solutions

- Routing over VPNs
- IPsec with Overlapping Addresses
- Dynamic Gateway IP Addresses
- Enterprise VPN Deployment Tips and Tricks
- Lab 7: Implementing Advanced IPsec VPN Solutions

Chapter 9: Troubleshooting Junos Security

- Troubleshooting Methodology
- Troubleshooting Tools
- Identifying IPsec Issues

Lab 8: Performing Security Troubleshooting Techniques

Chapter 1: Course Introduction

Chapter 2: Introduction to Intrusion Prevention Systems

- Network Asset Protection
- Intrusion Attack Methods
- Intrusion Prevention Systems
- IPS Traffic Inspection Walkthrough

Chapter 3: IPS Policy and Initial Configuration

- SRX IPS Requirements
- IPS Operation Modes
- Basic IPS Policy Review
- Basic IPS Policy Lab

Chapter 4: IPS Rulebase Operations

- Rulebase Operations
- IPS Rules
- Terminal Rules
- IP Actions
- Configuring IPS Rulebases Lab

Chapter 5: Custom Attack Objects

- Predefined Attack Objects
- Custom Attack Objects
- Fine-Tuning the IPS Policy
- Custom Signatures Lab

Chapter 6: Additional Attack Protection Mechanisms

- Scan Prevention
- Blocking Evasion and DoS Attacks
- Security Flow Protection Mechanisms
- Security Flow Protection Mechanisms Lab

Chapter 7: IPS Logging and Reporting

- Junos Syslog and Operational Commands
- STRM IPS Logging

IPS Logging Lab
