



EDUCATION SERVICES

AUTHORIZED PARTNER

JUNIPER NETWORKS FIREWALLS/IPSEC VPNS INTO HIGH-PERFORMANCE NETWORKS

Course No: EDU-JUN-IFVH

Length: Three days

Course Overview

This three-day course focuses on the ScreenOS features that are typically required in large-scale networks, including dynamic routing, virtual systems, traffic shaping, and high availability. Upon completing this course, students should be able to return to work and successfully install, configure, and verify that a ScreenOS-based device is interoperating in the network as desired. Through demonstrations and hands-on labs, students gain experience in configuring, testing, and troubleshooting these advanced features of ScreenOS software.

Objectives

After successfully completing this course, you should be able to:

- Configure virtual systems, including standard, IP-based, and transparent mode.
- Configure dynamic routing protocols, including OSPF and BGP.
- Configure multicast operations, including IGMP and PIM-SM.
- Configure high availability in both static routing and dynamic routing environments.
- Configure traffic shaping features.
- Verify operations and troubleshoot all previous configurations.

Intended Audience

This course is intended for network engineers, network support personnel, and reseller support personnel.

Course Level

This is an intermediate-level course.

Prerequisites

This course prerequisites for this course include the following:

- Completion of the [Configuring Juniper Networks Firewall/IPSec VPN Products \(CJFV\)](#) course or equivalent product experience;
- Completion of the [Security Manager Fundamentals \(SMF\)](#) course or equivalent product experience if using Security Manager; and
- General networking knowledge, including Ethernet, TCP/IP, and routing concepts.



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Course Contents

Day 1

Chapter 1: Course Introduction

Chapter 2: ScreenOS VPN Basics Review

- Concepts Review
- Configuration Review
- Lab 1: ScreenOS Basics Review

Chapter 3: OSPF

- OSPF Operations
- OSPF Configuration
- Verification and Troubleshooting
- Lab 2: Part 1—Configuring OSPF
- Route Redistribution
- Lab 2: Part 2—Configuring Redistribution
- Route Optimization
- Lab 2: Part 3—Optimizing Routing Tables

Chapter 4: BGP

- BGP Operations
- EBGP Configuration
- Filtering on Per-Peer Basis
- Verification and Troubleshooting
- IBGP Configuration
- BGP Connectivity
- Lab 3: Configuring BGP

Day 2

Chapter 5: Advanced Static Routing

- Source-Based Routing
- Policy-Based Routing
- Destination Routing
- Lab 4: Configuring Advanced Static Routes

Chapter 6: Multicast

- IGMP Operations
- IGMP Configuration
- PIM-SM Operations



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- PIM-SM Configuration
- Multicast Policies
- Lab 5: Configuring Multicast Support

Chapter 7: Virtual Systems

- VSYS Operations and Concepts
- Configuring VSYS Using Interface Classification
- Lab 6: Part 1—Creating a VSYS
- VSYS Resource Management
- Inter-VSYS Routing
- Lab 6: Part 2—Inter-VSYS Routing
- Lab 6: Part 3—Route Export
- Address Translation
- Lab 6: Part 4—Address Translation

*Day 3***Chapter 8: Redundancy**

- NSRP Terms and Concepts
- Configuring NSRP Active/Passive
- Configuring NSRP Active/Active, VSD-Less Cluster, and NSRP-Lite
- Tuning Failover Performance
- Redundant Interfaces
- Demo: NSRP

Chapter 9: Traffic Management

- Need for Traffic Management
- Egress Traffic Shaping
- Ingress Policing
- DSCP Marking

Appendix A: Virtual Systems Variations

- VSYS with IP Classification
- Transparent Mode VSYS