

## *Juniper Technical Support Fundamentals*

### COURSE OVERVIEW

This two-day course provides students with the foundational knowledge required to work in a Technical Support Engineer role. The course summarizes technical support concepts and provides a basic introduction to Juniper products and software. Key topics within this course include technical support concepts, networking, Linux fundamentals, troubleshooting process, and basic introduction to Juniper products and software. This course uses Junos OS Release 22.1R1, and cSRX Container Firewall and containerized routing protocol process daemon (cRPD) devices in the lab. Labs of this course use Ubuntu 20.04.4 long-term support (LTS) to cover Linux fundamentals.

### COURSE LEVEL

[Juniper Technical Support Fundamentals](#) is an introductory-level course.

### AUDIENCE

The primary audiences for this course include:

- Individuals who want a basic understanding of Technical Support skillset; and
- Individuals who want to learn Junos OS and support Juniper networking technologies/products.

### PREREQUISITES

- Basic networking knowledge and an understanding of the OSI reference model and the TCP/IP protocol suite; and
- [Getting Started with Networking](#) (e-learning).

### RELATED JUNIPER PRODUCTS

Software, Support, Switching, Routing, and Security

### RECOMMENDED NEXT COURSE

[Introduction to the Junos Operating System](#)

### OBJECTIVES

- Describe Juniper hardware and software products.
- Describe the job of a Technical Support Engineer.
- Describe Linux administration fundamentals.
- Describe networking device fundamentals.
- Describe Linux networking concepts.
- Describe Junos OS architecture, Juniper hardware components, and J-Web.
- Perform Junos OS administration tasks using the CLI.
- Perform process-based troubleshooting tasks.
- Perform basic network troubleshooting tasks.
- Describe the Juniper Technical Assistance Centre (JTAC) organization structure and support model.
- Demonstrate effective customer communication skills.

## COURSE CONTENTS

### DAY 1

#### Module 1: Introduction

#### Module 2: Introduction to Juniper Products

- Describe Juniper products, solutions, and services

#### Module 3: Requirements of a Technical Support Engineer

- List the expected technical capabilities
- Identify the expected behaviors

#### Module 4: Linux System Administration Fundamentals

- Identify the components of an OS
- Manage users and permissions
- Explain the Linux filesystem and file permissions
- Manage Linux processes
- Manage software packages

##### Lab 1: Using the CloudShell Lab Environment (Optional)

##### Lab 2: Linux Administration Fundamentals

#### Module 5: Networking Device Fundamentals

- Explain ARP protocol and identify the various fields in the header
- Explain the working of DHCP protocol
- Explain the working of DNS protocol
- Differentiate between HTTP and HTTPS protocols
- Describe the traffic flow through a Switch
- Describe the traffic flow through a Router
- Describe the traffic flow through a Firewall
- Explain ping, traceroute, and tcp dump utilities

##### Lab 3: Capturing and Analyzing Network Traffic

#### Module 6: Linux Networking Fundamentals

- Configure IP addresses
- Describe Linux networking basics: bridging, routing, and security
- Describe name resolution (DNS)

##### Lab 4: Exploring Linux Networking Basics

### Day 2

#### Module 7: Introduction to Junos OS Architecture

- Describe the Junos OS architecture
- Identify the major hardware components in Juniper products
- Explore the Junos J-Web user interface

## Module 8: Introduction to Junos OS CLI

- Explore the Junos CLI operational mode
- Explore the Junos CLI configuration mode
- Configure basic system settings, interfaces, and static routes
- Configure and analyze system logging, traceoptions, and packet captures

### Lab 5: Introduction to Junos OS CLI

## Module 9: Troubleshooting as a Process

- Describe process-based methodology
- Describe common troubleshooting steps

## Module 10: Basic Network Troubleshooting

- Troubleshoot a communication flow between two PCs connected by a switch, a router, and a firewall

### Lab 6: Basic Network Troubleshooting

## Module 11: Overview of JTAC

- Identify the Global Support Organization structure
- Describe the JTAC support model
- Navigate Juniper Support Portal and other tools
- Describe the RMA process

### Lab 7: Walk-Through of JTAC Support Portals

## Appendix A: Effective Customer Communication

- Demonstrate effective use of phones for audio communication
- Demonstrate effective use of e-mails for business writing
- Identify the principles of time and priority management

IJMA20250426