



Course No: (TWI-JUN-WXCMS)

Length: 2 days

About this Course

This two-day course is designed to provide introductory troubleshooting skills for engineers in a network operations center (NOC) environment. Key topics within this course include troubleshooting methodology, troubleshooting tools, hardware monitoring and troubleshooting, interface monitoring and troubleshooting, and troubleshooting data and control planes on devices running the Junos operating system. This course is based on Junos OS Release 10.3R1.9.

Objectives

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

- Reduce the time it takes to identify and isolate the root cause of an issue impacting your network.
- Gain familiarity with Junos products as they pertain to troubleshooting.
- Become familiar with online resources valuable to Junos troubleshooting.
- Gain familiarity with Junos tools used in troubleshooting.
- Identify and isolate hardware issues.
- Troubleshoot problems with the control plane.
- Troubleshoot problems with interfaces and other data plane components.

Intended Audience

The course content is aimed at operators of devices running the Junos OS in a NOC environment. These operators include network engineers, administrators, support personnel, and reseller support personnel.

Course Level

JTNOC is an introductory-level course.

Prerequisites

Students should have basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocol suite. Students should also attend the Introduction to the Junos Operating System (IJOS) course or have equivalent experience prior to attending this class.

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Course Contents

Day1

Chapter 1: Course Introduction

Chapter 2: Troubleshooting as a Process

- Before You Begin
- The Troubleshooting Process
- Special Challenges
- Lab 1: The Troubleshooting Process

Chapter 3: Junos Product Families

- The Junos OS
- Control Plane and Data Plane
- Field-Replaceable Units
- Junos Product Families
- Lab 2: Identifying Hardware Components

Chapter 4: Troubleshooting Toolkit

- Troubleshooting Tools
- Best-Practices
- Online Resources
- Lab 3: Monitoring Tools and Establishing a Baseline

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Day 2

Chapter 5: Hardware and Environmental Conditions

- Hardware Troubleshooting Overview
- Memory and Storage
- Boot Monitoring
- Hardware-Related System Logs
- Chassis and Environmental Monitoring
- Lab 4: Monitoring Hardware and Environmental Conditions

Chapter 6: Control Plane

- Control Plane Review
- Monitoring System and User Processes
- Monitoring Routing Tables and Protocols
- Monitoring Bridging
- Monitoring the Address Resolution Protocol
- Lab 5: Control Plane Monitoring and Troubleshooting

Chapter 7: Data Plane: Interfaces

- Interface Properties
- General Interface Troubleshooting
- Ethernet Interface Troubleshooting
- Lab 6: Monitoring and Troubleshooting Ethernet Interfaces

Chapter 8: Data Plane: Other Components

- Definition of a Data Plane Problem
- Data Plane Components
- Data Plane Forwarding
- Load-Balancing Behavior
- Firewall Filters and Policers
- Data Plane Troubleshooting Case Study

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