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## Troubleshooting QFabric Systems

**Duration: 2 Days**    **Course Code: TQS**

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### Overview:

This two-day course is designed to provide students with detailed coverage of the QFabric system components, design, and architecture. Students will learn about the tools available for troubleshooting the system and will be provided examples of how those tools are used. Through demonstrations and hands-on labs, students will gain knowledge of detailed system operations and experience troubleshooting the QFabric system.

This course is intended to prepare individuals for typical troubleshooting issues they would meet in the field. It assumes that the deepest level of system troubleshooting will continue to be provided by the Juniper Networks Technical Assistance Center (JTAC).

This course uses the Juniper Networks QFX3000-M system for the hands-on component. This course is based on the Junos operating system Release 13.2X52-D10.5. Troubleshooting QFabric Systems is an advanced-level course. Specifically, this course benefits anyone needing to perform typical troubleshooting issues in the field.

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### Target Audience:

This course benefits all individuals responsible for deploying and supporting QFabric systems.

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### Objectives:

- **After successfully completing this course, you should be able to:**
  - Describe QFabric system components.
  - List and use troubleshooting tools.
  - Explain a basic troubleshooting approach.
  - Describe management connections and the communications performed over those connections.
  - Describe control plane connections and the communications performed over those connections.
  - Describe data plane connections and the communications performed over those connections.
  - List and describe key services and processes.
  - Monitor and troubleshoot services and processes.
  - Define key elements used for Layer 2 operations.
  - Explain how broadcast, unknown unicast, and multicast Layer 2 traffic is processed in a QFabric system.
  - Describe the Layer 2 MAC address learning process.
  - Illustrate Layer 2 traffic forwarding in a QFabric system.
  - Describe Layer 3 routing operations.
  - Explain fabric control protocol operations.
  - Monitor and troubleshoot Layer 3 operations.
  - Recover the password on a Director group.
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### Prerequisites:

The prerequisites for this course are as follows:

- Intermediate TCP/IP networking knowledge;
- Intermediate Layer 2 switching knowledge;
- Introductory data center technologies knowledge; and
- Attendance of the Configuring and Monitoring QFabric Systems (CMQS) course, or equivalent experience.

### Testing and Certification

This course is recommended training for the Juniper Networks Certified Specialist, QFabric (JNCIS-QF). The current exam is JNO-370.

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## Content:

### Chapter 1: Course Introduction

### Chapter 2: Troubleshooting Essentials

- System Components
- Troubleshooting Tools
- A Troubleshooting Approach
- Lab 1: Troubleshooting Essentials

### Chapter 3: Connections and Communications

- Management Connections and Communications
- Control Plane Connections and Communications
- Data Plane Connections and Communications
- Lab 2: Connections and Communications

### Chapter 4: System Services and Processes

- Overview of Services and Processes
- Master Services
- Managed Services
- Director Group Processes
- Lab 3: System Services and Processes

### Chapter 5: Monitoring and Troubleshooting Layer 2 Operations

- Layer 2 Operations Overview
- BUM Traffic Processing
- Learning Layer 2 MAC Addresses
- Forwarding Layer 2 Traffic
- Case Study
- Lab 4: Monitoring and Troubleshooting Layer 2 Operations

### Chapter 6: Monitoring and Troubleshooting Layer 3 Operations

- Overview of Layer 3 Operations
- Troubleshooting Layer 3 Operations
- Case Study
- Lab 5: Monitoring and Troubleshooting Layer 3 Operations

### Appendix A: Director Group Password Recovery

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## Further Information:

For More information, or to book your course, please call us on 00 20 (0) 2 2269 1982 or 16142

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