

## F5-TRG-BIG-TRBL-INT2

### Troubleshooting BIG-IP v.15.1

#### Overview

This course gives networking professionals hands-on knowledge of how to troubleshoot a BIG-IP system using a number of troubleshooting techniques as well as troubleshooting and system tools. This course includes lectures, labs, and discussions

#### Course Length

2 days

#### Topics covered in this course Include

- Configuration Project
- Troubleshooting Methodology
- F5 Support
- Troubleshooting - Bottom to Top
- Troubleshooting Tools
- Using System Logs

#### Audience


This course assumes that you have successfully completed the Administering BIG-IP course, or equivalent, and have hands-on experience working in a production BIG-IP environment for several months. You should have a solid understanding of the environment in which the BIG-IP is deployed. This course is meant for BIG-IP administrators, network engineers, applications engineers, etc., who will be responsible for troubleshooting problems associated with their BIG-IP system.

#### Prerequisites

Students must complete one of the following F5 prerequisites before attending this course:

- Administering BIG-IP instructor-led course
- F5 Certified BIG-IP Administrator

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The following free web-based training courses, although optional, will be very helpful for any student with limited BIG-IP administration and configuration experience. These courses are available at Learn F5:

- Getting Started with BIG-IP web-based training
- Getting Started with BIG-IP Local Traffic Manager (LTM) web-based training

The following general network technology knowledge and experience are recommended before attending any F5 Global Training Services instructor-led course:

- OSI model encapsulation
- Routing and switching
- Ethernet and ARP
- TCP/IP concepts
- IP addressing and subnetting
- NAT and private IP addressing
- Default gateway
- Network firewalls
- LAN vs. WAN

The following **course-specific** knowledge and experience is suggested before attending this course:

- HTTP, HTTPS, FTP and SSH protocols

### Course Outline

- Chapter 1: Setting Up the BIG-IP System
  - Introducing the BIG-IP System
  - Initially Setting Up the BIG-IP System
  - Archiving the BIG-IP System Configuration
- Chapter 2: Reviewing Local Traffic Configuration
  - Reviewing Nodes, Pools, and Virtual Servers
  - Reviewing Address Translation
  - Reviewing Routing Assumptions
  - Reviewing Application Health Monitoring
  - Reviewing Traffic Behavior Modification with Profiles
  - Reviewing the TMOS Shell (TMSH)
  - Reviewing Managing BIG-IP Configuration Data

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- Reviewing High Availability (HA)
- Chapter 3: Troubleshooting Methodology
  - Step-By-Step Process
    - Step 1: State the Problem
    - Step 2: Specify the Problem
    - Step 3: Map the System
    - Step 4: Develop Possible Causes
    - Step 5: Test Theories
    - Step 6: Iterate Until Root Cause Identified
  - Documenting a Problem
  - Putting Troubleshooting Steps to Use
- Chapter 4: Working with F5 Support
  - Leveraging F5 Support Resources
    - AskF5.com
    - DevCentral
    - iHealth
    - Leveraging F5 Labs
  - Working with F5 Technical Support
  - Running End User Diagnostics (EUD) - Hardware Only
  - New Platform Diagnostic Tools
  - Always-On Management (AOM) Subsystem
  - Requesting Return Materials Authorization
  - F5's Software Version Policy
  - Managing the BIG-IP License for Upgrades
  - Managing BIG-IP Disk Space
  - Upgrading BIG-IP Software
- Chapter 5: Troubleshooting – Bottom to Top
  - Introducing Differences between BIG-IP and LINUX Tools
  - Troubleshooting with Layer 1/Layer 2 Tools
  - Troubleshooting with Layer 2/Layer 3 Tools
  - Troubleshooting with Layer 3 Tools
  - Troubleshooting Network Communication
  - Troubleshooting Memory and CPU

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- Troubleshooting with watch
- Troubleshooting with Additional tmsh commands
- Chapter 6: Troubleshooting Tools
  - tcpdump
  - Wireshark
  - ssldump
  - Fiddler
  - diff
  - KDiff3
  - cURL
- Chapter 7: Using System Logs
  - Configuring Logging
  - Log Files
  - Understanding BIG-IP Daemons Functions
  - Triggering an iRule
  - Deploying and Testing iRules
  - Application Visibility and Reporting
- Chapter 8: Troubleshooting Lab Projects
  - Network Configurations for Projects

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