Troubleshooting BIG-IP (TRG-BIG-TRBL-INT2)

ID TRG-BIG-TRBL-INT2 **Price** US $ 2,178.—(excl. tax) **Duration** 2 days

Course 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.

Topics covered in this course include:

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

Who should attend

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 (TRG-BIG-OP-ADMIN) instructor-led course
- F5 Certified BIG-IP Administrator

The following free web-based courses, although optional, will be very helpful for any student with limited BIG-IP administration and configuration experience:

- 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 Objectives

- Describe the role of the BIG-IP system as a full proxy device in an application delivery network
- Set up, start/restart/stop, license, and provision the BIG-IP system
- Create a basic network configuration on the BIG-IP system including VLANs and self IPs
- Use the Configuration utility and TMOS Shell (tmsh) to manage BIG-IP resources and use as a resource when troubleshooting
- Create, restore from, and manage BIG-IP archives
- Understand and implement troubleshooting methodology to find and resolve issues
- View resource status, availability, and statistical information and use this information to determine how the BIG-IP system is currently processing traffic
- Use iApps to update BIG-IP configuration
- Perform troubleshooting and problem determination activities including using the iHealth diagnostic tool, researching known issues and solutions on AskF5, submitting a problem ticket to F5 Technical Support, and view traffic flow using tcpdump

- Understand the tools (ping, netstat, tcpdump, ssldump, WireShark, diff, Kdiff3, Fiddler, BIG-IP logs, etc.) available to use to identify BIG-IP and network issues from bottom to top
- List log files available, understand log levels, and use the appropriate files, log levels, and filters for troubleshooting
- Use High Speed Logging (HSL) and SNMP trap implementations to perform troubleshooting and problem determination activities
- Describe the role of iRules in affecting traffic behavior and how to use them to aid with troubleshooting and problem determination

Course Content

- Setting Up the BIG-IP System
- Reviewing Local Traffic Configuration
- Troubleshooting Methodology
- Working with F5 Support
- Troubleshooting – Bottom to Top
- Troubleshooting Tools
- Using System Logs
- Troubleshooting Lab Projects

Detailed 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
- 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
- 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 Project

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