

F5 Networks Troubleshooting v14 BIG-IP LTM

Course Summary

Description

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.

Objectives

After taking this course, students will be able to:

- 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.

Topics

- 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

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Course Summary (cont.)

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.

Prerequisite

Administering BIG-IP, OSI model, TCP/IP addressing and routing, WAN, LAN environments, and server redundancy concepts; or having achieved TMOS Administration Certification

Duration

Two Days

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Course Outline

- I. **Setting Up the BIG-IP System**
 - A. Introducing the BIG-IP System
 - B. Initially Setting Up the BIG-IP System
 - C. Archiving the BIG-IP System Configuration
- II. **Reviewing Local Traffic Configuration**
 - A. Reviewing Nodes, Pools, and Virtual Servers
 - B. Reviewing Address Translation
 - C. Reviewing Routing Assumptions
 - D. Reviewing Application Health Monitoring
 - E. Reviewing Traffic Behavior Modification with Profiles
 - F. Reviewing the TMOS Shell (TMSH)
 - G. Reviewing Managing BIG-IP Configuration Data
 - H. Reviewing High Availability (HA)
- III. **Troubleshooting Methodology**
 - A. Step-By-Step Process
 - B. Step 1: State the Problem
 - C. Step 2: Specify the Problem
 - D. Step 3: Map the System
 - E. Step 4: Develop Possible Causes
 - F. Step 5: Test Theories
 - G. Step 6: Iterate Until Root Cause Identified
 - H. Documenting a Problem
 - I. Putting Troubleshooting Steps to Use
- IV. **Working with F5 Support**
 - A. Leveraging F5 Support Resources
 - B. AskF5.com
 - C. DevCentral
 - D. iHealth
 - E. Leveraging F5 Labs
 - F. Working with F5 Technical Support
 - G. Running End User Diagnostics (EUD) – Hardware Only
 - H. New Platform Diagnostic Tools
 - I. Always-On Management (AOM) Subsystem
 - J. Requesting Return Materials Authorization
- K. F5's Software Version Policy
- L. Managing the BIG-IP License for Upgrades
- M. Managing BIG-IP Disk Space
- N. Upgrading BIG-IP Software
- V. **Troubleshooting – Bottom to Top**
 - A. Introducing Differences between BIG-IP and LINUX Tools
 - B. Troubleshooting with Layer 1/Layer 2 Tools
 - C. Troubleshooting with Layer 2/Layer 3 Tools
 - D. Troubleshooting with Layer 3 Tools
 - E. Troubleshooting with LINUX Tools
 - F. Troubleshooting Memory and CPU
 - G. Troubleshooting with watch
 - H. Troubleshooting with Additional tmsh commands
- VI. **Troubleshooting Tools**
 - A. tcpdump
 - B. Wireshark
 - C. ssldump
 - D. Fiddler
 - E. diff
 - F. KDiff3
 - G. cURL
- VII. **Using System Logs**
 - A. Configuring Logging
 - B. Log Files
 - C. Understanding BIG-IP Daemons Functions
 - D. Triggering an iRule
 - E. Deploying and Testing iRules
 - F. Application Visibility and Reporting
- VIII. **Troubleshooting Lab Projects**
 - A. Network Configurations for Project