Training: F5
Troubleshooting BIG-IP

TRAINING GOALS:

Apply bottom-to-top techniques to troubleshoot BIG-IP systems. Review a variety of lower layer tools including ping, bigtop, netstat and tcpdump for manipulating different flags for viewing hex and ASCII.

Analyze network protocols using Wireshark and a variety of capture file formats including pcap and tcpdump. Build filters and use different commands and expressions to capture data on different connections in hands-on lab scenarios. Use the Fiddler HTTP proxy to view and analyze different session elements including URL, Content-Type and other headers, bytes sent/received, response codes, and performance statistics. Explore various curl command options for testing endpoint availability and analyzing ingress and egress payloads in detail.

Learn how to use KDiff to compare files from different BIG-IP devices for locating different traffic processing objects. Gain familiarity with using local and remote logging data, facilities, messaging, and levels for troubleshooting. See how iRules can be used for setting up message logging and logging levels. Finally, learn how to create an analytics profile to view traffic statistics, application visibility, and reporting.

Audience

This course is intended for network administrators responsible for managing the normal day-to-day operation and administration of a BIG-IP application delivery network.

CONSPECT:

- 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

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- 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
  - Documenting a Problem
  - Putting Troubleshooting Steps to Use
- Chapter 4: Working with F5 Support
  - Leveraging F5 Support Resources
  - 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
  - SSL/TLS
  - Fiddler

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    - 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
- Chapter 9: Additional Training and Certification
    - Getting Started Series Web-Based Training
    - F5 Instructor Led Training Curriculum
    - F5 Professional Certification Program

REQUIREMENTS:

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

- Administering BIG-IP (instructor-led training)
- F5 Certified BIG-IP Administrator
- Administering BIG-IP Equivalency Assessment

The following free Self-Directed Training (SDT) courses, although optional, are helpful for any student with limited BIG-IP administration and configuration experience:

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

General network technology knowledge and experience are recommended before attending any F5 Global Training Services instructor-led course, including OSI model encapsulation, routing and switching, Ethernet and ARP, TCP/IP concepts, IP addressing and subnetting, NAT and private IP addressing, NAT and private IP addressing, default gateway, network firewalls, and LAN vs. WAN.

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Students should be familiar with and be able to configure basic BIG-IP elements such as virtual servers, pools, pool members, and nodes, pool monitors, and basic virtual server profiles. In addition, students should be familiar with the basics of the Linux command line, and have solid understanding of Layer 2 Ethernet and ARP networking, Layer 3 and 4 TCP/IP networking, including IP addressing and subnetting, Layer 7 HTTP networking, and HTML.

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

- Web application delivery
- HTTP, HTTPS, FTP and SSH protocols
- TLS/SSL

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by F5 (course completion).

TRAINER:

Certified F5 Networks Trainer.

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