Troubleshooting BIG-IP

2 day course

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.

Participants

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

IMPORTANT INFORMATION:

F5 US has brought out a BIG-IP Admin exam which can be taken before attending the LTM course. Indeed, this test should be taken by anyone wanting to attend any of the F5 specialist classes (DNS, APM, ASM, AFM etc.) if they have not attended the BIG-IP Admin or LTM class.

Although this is not mandatory, F5 would like to stress the importance of anyone attending F5 specialist classes if they have not attended an Admin class or passed the test below with 70% or greater. Obviously, a 201 BIG-IP Administrator exam certification is an instant prerequisite.

Step 1: get an account on F5 University (https://university.f5.com)
Step 2: goto: https://wbt.training.f5.com/wbt/go?id=2110

Take the test. Pass mark is 70%.
Step 3: take a screen shot as proof of your results.

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

Objectives

- Configuration Project
- Troubleshooting Methodology
- F5 Support
- BIG-IP Product Architecture
- Troubleshooting - Bottom to Top
- Troubleshooting Tools
o   Using tcpdump, ssldump, and Wireshark
- Using System Logs
- Troubleshooting HTTP with AVR

Throughout this course you will have access to a BIG-IP that uses a typical Internal-External VLAN architecture with a pool of servers (HTTP, HTTPS, SSH, FTP, etc) along with web application servers. In the lab for this module, you will license the BIG-IP, set up the Internal and External VLANs, and create the Pools and Virtual Servers that you will use as part of your troubleshooting exercises.

In addition to the topics above, lab exercises will provide a chance to practice troubleshooting problems using the BIG-IP information, troubleshooting methodology, and tools that you have learned

Programme

Chapter 1: Setting Up the BIG-IP System

- Introducing the BIG-IP System
- Initially Setting Up the BIG-IP System
- Archiving the BIG-IP Configurations
- Leveraging F5 Support Resources and Tools

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

Chapter 3: Troubleshooting Methodology

- Troubleshooting Methodology
- Troubleshooting Methodology Steps
- Step 1: Define the Problem
- Step 2: Gather Information
- Step 3: Define Hypotheses
- Step 4: Develop a Test Plan
- Steps 5 and 6: Implement the Plan and Observe the Results
- Step 7: Repeat as Necessary
- Documenting a Problem
- Putting the Troubleshooting Steps to Use

Chapter 4: Working with F5 Support

- Leveraging AskF5
- Finding Resources on DevCentral
- Using the BIG-IP iHealth System
- Working with F5 Technical Support
- Running End User Diagnostics (EUD)
- Requesting Return Materials Authorization
- Understanding F5's Software Version Policy
- Managing Upgrades and Hotfixes
- Managing the BIG-IP License for Upgrades
- Managing BIG-IP Disk Space
- Upgrading BIG-IP Software

Chapter 5: Product Architecture

- Introducing BIG-IP Architecture
- Introducing and Accessing AOM
- Introducing Switch Fabric Function
- Introducing Host Subsystem Function

Chapter 6: 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 with LINUX Tools
- Troubleshooting Memory and CPU

- Troubleshooting with watch
- Troubleshooting with Additional tmsh commands
- Troubleshooting with End-User Diagnostics (EUD)

Chapter 7: Troubleshooting Tools

- tcpdump
- Wireshark
- ssldump
- Fiddler
- diff
- KDiff3
- cURL

Chapter 8: Using System Logs

- Configuring Logging
- Log Files
- Understanding BIG-IP Daemons Functions
- Triggering an iRule
- Deploying and Testing iRules
- Application Visibility and Reporting

Chapter 9: Troubleshooting Lab Projects

- Network Configurations for Projects

Chapter 10: Additional Training and Certification

- Getting Started Series Web-Based Training
- F5 Instructor Led Training Curriculum
- F5 Professional Certification Program

Appendix A: Support Requirements

- L1 and L2 Partner Support Requirements

Appendix B: iApps Template Usage

- Overview
- Lab Expected Results
- iApps Template

Appendix C: Initial Configuration Step