

F5 BIG-IP LTM - F5 Networks Configuring BIG-IP LTM: Local Traffic Manager

Course Summary

Description

This course gives network professionals a functional understanding of BIG-IP Local Traffic Manager, introducing students to both commonly used and advanced BIG-IP LTM features and functionality. Incorporating lecture, extensive hands-on labs, and classroom discussion, the course helps students build the well-rounded skill set needed to manage BIG-IP LTM systems as part of a flexible and high performance application delivery network.

Objectives

After taking this course, students will be able to:

- Back up the BIG-IP system configuration for safekeeping
- Configure virtual servers, pools, monitors, profiles, and persistence objects
- Test and verify application delivery through the BIG-IP system using local traffic statistics
- Configure priority group activation on a load balancing pool to allow servers to be activated only as needed to process traffic
- Compare and contrast member-based and node-based dynamic load balancing methods
- Configure connection limits to place a threshold on traffic volume to particular pool members and nodes
- Differentiate between cookie, SSL, SIP, universal, and destination address affinity persistence, and describe use cases for each
- Describe the three Match Across Services persistence options and use cases for each
- Configure health monitors to appropriately monitor application delivery through a BIG-IP system
- Configure different types of virtual services to support different types of traffic processing through a BIG-IP system
- Configure different types of SNATs to support routing of traffic through a BIG-IP system
- Configure VLAN tagging and trunking
- Restrict administrative and application traffic through the BIG-IP system using packet filters, port lockdown, and virtual server settings
- Configure SNMP alerts and traps in support of remote monitoring of the BIG-IP system
- Use an F5-supplied iApp template to deploy and manage a website application service
- Use iRules and local traffic policies appropriately to customize application delivery through the BIG-IP system
- Configure the BIG-IP to detect and mitigate some common attacks at the network and application layers using LTM features such as SYN check, eviction policies, iRules and Local Traffic Policies

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Course Summary (cont.)

Topics

- Setting Up the BIG-IP System
- Reviewing Local Traffic Configuration
- Load Balancing Traffic with LTM
- Modifying Traffic Behavior with Persistence
- Monitoring Application Health
- Processing Traffic with Virtual Servers
- Modifying Traffic Behavior with Profiles
- Selected Topics
- Deploying Application Services with iApps
- Customizing Application Delivery with iRules and Local Traffic Policies
- Securing Application Delivery with LTM
- Final Lab Project

Audience

This course is intended for system and network administrators responsible for installation, setup, configuration, and administration of the BIG-IP LTM 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

Three 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 Configuration
 - D. Leveraging F5 Support Resources and Tools
- 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
- III. **Load Balancing Traffic with LTM**
 - A. Exploring Load Balancing Options
 - B. Using Priority Group Activation and Fallback Host
 - C. Comparing Member and Node Load Balancing
- IV. **Modifying Traffic Behavior with Persistence**
 - A. Reviewing Persistence
 - B. Introducing Cookie Persistence
 - C. Introducing SSL Persistence
 - D. Introducing SIP Persistence
 - E. Introducing Universal Persistence
 - F. Introducing Destination Address Affinity Persistence
 - G. Using Match Across Options for Persistence
- V. **Monitoring Application Health**
 - A. Differentiating Monitor Types
 - B. Customizing the HTTP Monitor
 - C. Monitoring an Alias Address and Port
 - D. Monitoring a Path vs. Monitoring a Device
 - E. Managing Multiple Monitors
 - F. Using Application Check Monitors
 - G. Using Manual Resume and Advanced Monitor Timer Settings
- VI. **Processing Traffic with Virtual Servers**
 - A. Understanding the Need for Other Virtual Server Types
 - B. Forwarding Traffic with a Virtual Server
 - C. Understanding Virtual Server Order of Precedence
 - D. Path Load Balancing
- VII. **Processing Traffic with SNATs**
 - A. Overview of SNATs
 - B. Using SNAT Pools
 - C. SNATs as Listeners
 - D. SNAT Specificity
 - E. VIP Bounceback
 - F. Additional SNAT Options
 - G. Network Packet Processing Review
- VIII. **Modifying Traffic Behavior with Profiles**
 - A. Profiles Overview
 - B. TCP Express Optimization
 - C. TCP Profiles Overview
 - D. HTTP Profile Options
 - E. OneConnect
 - F. Offloading HTTP Compression to BIG-IP
 - G. HTTP Caching
 - H. Stream Profiles
 - I. F5 Acceleration Technologies
- IX. **Selected Topics**
 - A. VLAN, VLAN Tagging, and Trunking
 - B. Restricting Network Access
 - C. SNMP Features
 - D. Segmenting Network Traffic with Route Domains

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Course Outline (cont.)

- X. *Deploying Application Services with iApps*
 - A. Simplifying Application Deployment with iApps
 - B. Using iApps Templates
 - C. Deploying an Application Service
 - D. Leveraging the iApps Ecosystem on DevCentral

- XI. *Customizing Application Delivery with iRules and Local Traffic Policies*
 - A. Getting Started with iRules
 - B. Triggering an iRule
 - C. Introducing iRule Constructs
 - D. Leveraging the DevCentral Ecosystem
 - E. Deploying and Testing iRules
 - F. Getting Started with Local Traffic Policies
 - G. What Can You Do with a Local Traffic Policy?
 - H. How Does a Local Traffic Policy Work?
 - I. Understanding Local Traffic Policy Workflow
 - J. Introducing the Elements of a Local Traffic Policy
 - K. Specifying the Matching Strategy
 - L. What Are Rules?
 - M. Understanding Requires and Controls
 - N. Configuring and Managing Policy Rules
 - O. Configuring a New Rule
 - P. Including Tcl in Certain Rule Settings

- XII. *Securing Application Delivery with LTM*
 - A. Understanding Today's Threat Landscape
 - B. Integrating LTM Into Your Security Strategy
 - C. Defending Your Environment Against SYN Flood Attacks
 - D. Defending Your Environment Against Other Volumetric Attacks
 - E. Addressing Application Vulnerabilities with iRules and Local Traffic Policies

- XIII. *Final Lab Project*
 - A. About the Final Lab Project
 - B. Possible Solution to Lab 14.0