

F5 Networks Configuring

BIG-IP LTM: Local Traffic Manager



Days: 3

Course Overview: 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.

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

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

Course Objectives:

- 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 BIGIP 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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OUTLINE:

LESSON 1: SETTING UP THE BIG-IP SYSTEM

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

LESSON 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

LESSON 3: LOAD BALANCING TRAFFIC WITH LTM

- Exploring Load Balancing Options
- Using Priority Group Activation and Fallback Host
- Comparing Member and Node Load Balancing

LESSON 4: MODIFYING TRAFFIC BEHAVIOR WITH PERSISTENCE

- Reviewing Persistence
- Introducing Cookie Persistence
- Introducing SSL Persistence
- Introducing SIP Persistence
- Introducing Universal Persistence
- Introducing Destination Address Affinity Persistence
- Using Match Across Options for Persistence

LESSON 5: MONITORING APPLICATION HEALTH

- Differentiating Monitor Types
- Customizing the HTTP Monitor

- Monitoring an Alias Address and Port
- Monitoring a Path vs. Monitoring a Device
- Managing Multiple Monitors
- Using Application Check Monitors
- Using Manual Resume and Advanced Monitor Timer Settings

LESSON 6: PROCESSING TRAFFIC WITH VIRTUAL SERVERS

- Understanding the Need for Other Virtual Server Types
- Forwarding Traffic with a Virtual Server
- Understanding Virtual Server Order of Precedence
- Path Load Balancing

LESSON 7: PROCESSING TRAFFIC WITH SNATS

- Overview of SNATs
- Using SNAT Pools
- SNATs as Listeners
- SNAT Specificity
- VIP Bounceback
- Additional SNAT Options
- Network Packet Processing Review

LESSON 8: MODIFYING TRAFFIC BEHAVIOR WITH PROFILES

- Profiles Overview
- TCP Express Optimization
- TCP Profiles Overview
- HTTP Profile Options
- OneConnect
- Offloading HTTP Compression to BIG-IP
- HTTP Caching
- Stream Profiles
- F5 Acceleration Technologies

LESSON 9: SELECTED TOPICS

- VLAN, VLAN Tagging, and Trunking
- Restricting Network Access
- SNMP Features

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- Segmenting Network Traffic with Route Domains

LESSON 10: DEPLOYING APPLICATION SERVICES WITH IAPPS

- Simplifying Application Deployment with iApps
- Using iApps Templates
- Deploying an Application Service
- Leveraging the iApps Ecosystem on DevCentral

LESSON 11: CUSTOMIZING APPLICATION DELIVERY WITH IRULES AND LOCAL TRAFFIC POLICIES

- Getting Started with iRules
- Triggering an iRule
- Introducing iRule Constructs
- Leveraging the DevCentral Ecosystem
- Deploying and Testing iRules
- Getting Started with Local Traffic Policies
- What Can You Do with a Local Traffic Policy?
- How Does a Local Traffic Policy Work?
- Understanding Local Traffic Policy Workflow
- Introducing the Elements of a Local Traffic Policy
- Specifying the Matching Strategy
- What Are Rules?
- Understanding Requires and Controls
- Configuring and Managing Policy Rules
- Configuring a New Rule
- Including Tcl in Certain Rule Settings

LESSON 12: SECURING APPLICATION DELIVERY WITH LTM

- Understanding Today's Threat Landscape
- Integrating LTM Into Your Security Strategy
- Defending Your Environment Against SYN Flood Attacks
- Defending Your Environment Against Other Volumetric Attacks

- Addressing Application Vulnerabilities with iRules and Local Traffic Policies

LESSON 13: FINAL LAB PROJECT

- About the Final Lab Project
- Possible Solution to Lab 14.0