F5 ADMINISTERING BIG-IP & CONFIGURING BIG-IP LOCAL TRAFFIC MANAGER

DURATION - 5 DAYS

Description

This course provides a practical introduction to deploying and administering the F5 BIG-IP platform. Participants learn how to set up the system, configure networking, licensing, modules, user access, logging, and high availability, while gaining confidence using both the Configuration Utility and TMSH for day-to-day operations.

The training then focuses on BIG-IP Local Traffic Manager (LTM) functions, including traffic processing, load balancing, virtual servers, pools, health monitors, SSL offload, profiles, persistence, caching, and compression. Hands-on labs help participants build real-world skills in creating and optimizing application delivery configurations.

Learners also explore troubleshooting tools such as TCPDUMP, statistics, advanced logging, and iHealth, along with customization options using iRules and local traffic policies. By the end of the course, attendees will be able to install, configure, operate, secure, and maintain BIG-IP and LTM systems in production environments.

Course Outline

Module 1: Introduction to the BIG-IP System

- Overview of BIG-IP architecture and TMOS
- BIG-IP system components and administrative interfaces
- BIG-IP setup workflow
- Archiving and restoring BIG-IP configuration
- Leveraging F5 support tools & iHealth

Module 2: Initial Setup & Administratio

- Initial device setup and management access
- Configuring management interfaces
- Activating software licenses
- Provisioning modules (LTM, GTM, ASM, etc.)
- Importing and managing device certificates
- Configuring NTP, DNS, and platform settings
- Managing users, roles, and administrative partitions
- Working with vCMP

Module 3: Networking & High Availability

- Configuring VLANs, trunks, and tagged interfaces
- Static routes and routing assumptions
- Introduction to Device Service Clustering (DSC)
- Device trust and sync-failover groups
- Traffic groups and failover behavior
- Achieving stateful failover with mirroring

Module 4: Traffic Processing Building Blocks

- Traffic processing objects: nodes, pools, pool members
- Configuring virtual servers
- Load balancing concepts: Round Robin, Least Connections, Ratio, etc.
- Viewing statistics, logs, and performance metrics

Module 5: Address Translation (NATs & SNATs)

- Understanding NAT and SNAT
- Configuring NAT mappings
- SNAT Auto Map and SNAT pools
- Routing issues solved by SNAT
- Port exhaustion detection and mitigation

Module 6: Application Health Monitoring

- Purpose and operation of health monitors
- Monitor types (Layer 3/4/7)
- Interval and timeout settings

- Creating and customizing monitors
- Managing resource states (pool, node, members)
- Using the Network Map

Module 7: Traffic Behavior Modification with Profiles

- Introduction to profiles
- Profile types and dependencies
- TCP, HTTP, HTTP/2, OneConnect
- SSL offload, SSL re-encryption, and certificate handling
- Caching and compression
- Web acceleration profiles

Module 8: Managing Persistence

- Purpose of persistence
- Source address affinity persistence
- Cookie persistence
- SSL persistence, Universal persistence, Destination persistence
- Match Across services/members/virtual servers
- Default and fallback persistence behavior

Module 9: Advanced Local Traffic Processing

- Virtual server types and order of precedence
- Forwarding virtual servers
- Path load balancing
- SNAT listeners, VIP bounceback, specificity rules
- Network packet processing deep dive

Module 10: Customizing Delivery with iRules

- Introduction to iRules and TCL basics
- Events and triggers
- Constructing, applying, and testing iRules
- Logging and troubleshooting iRules
- Exploring iRules documentation

Module 11: Local Traffic Policies

- Policy structure and rule components

- Configuring and assigning policies
- Common use cases (header modification, redirects, routing)

Module 12: Securing Application Delivery with BIG-IP LTM

- Current threat landscape overview
- Using LTM within a security architecture
- SYN flood and volumetric attack mitigation
- Using iRules and policies for application vulnerability protection
- Detecting and blocking common HTTP threats

Module 13: System Logging & Troubleshooting

- Configuring local and remote logging
- High-Speed Logging (HSL) overview and configuration
- Using TMSH for troubleshooting
- Using TCPDUMP and packet captures
- System performance and statistics monitoring
- Leveraging BIG-IP iHealth for diagnostics

Module 14: Final Lab: End-to-End BIG-IP Deployment

- Build a working traffic management environment
- Configure nodes, pools, virtual servers
- Apply profiles and persistence
- Implement monitors and load balancing
- Deploy iRules and policies
- Configure HA and verify failover
- Validate logs, statistics, and system behavior

Module 15: Further Learning & Certification

- F5 Getting Started series
- Recommended instructor-led courses
- F5 Professional Certification overview