

# Configuring BIG-IP DNS (formerly GTM)

Length 2 Days

## Description

This course gives networking professionals a functional understanding of the BIG-IP DNS system as it is commonly used. The course covers installation, configuration, and management of the BIG-IP DNS system, and includes a combination of lecture, discussion, and hands-on labs.

## Participants

This course is intended for system and network administrators responsible for installation, setup, configuration, and administration of BIG-IP DNS systems.

## Prerequisites

There are no F5-technology-specific prerequisites for this course: However, completing the following before attending would be helpful for students with limited BIG-IP administration and configuration experience:

- Administering BIG-IP instructor-led course or
- F5 Certified BIG-IP Administrator

## IMPORTANT INFORMATION:

F5 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

## Objectives

- BIG-IP initial setup (licensing, provisioning, and network configuration)
- Overview of the Domain Name System and DNS resolution flow through BIG-IP DNS
- Configuring DNS listeners
- Accelerating DNS resolution with DNS Express, DNS cache, and DNS server load balancing
- Intelligent DNS resolution with wide IPs and wide IP pools
- Using probes and metrics to assist the intelligent DNS resolution process
- Intelligent DNS load balancing methods
- Monitoring intelligent DNS resources
- Logging GSLB load-balancing decisions
- Using DNSSEC
- Integrating iRules in the DNS resolution process
- Managing BIG-IP DNS sync groups

## Programme

### Chapter 1: Setting Up the BIG-IP System

- Introducing the BIG-IP System
- Initially Setting Up the BIG-IP System
- Configuring the Management Interface
- Activating the Software License
- Provisioning Modules and Resources
- Importing a Device Certificate
- Specifying BIG-IP Platform Properties
- Configuring the Network
- Configuring Network Time Protocol (NTP) Servers
- Configuring Domain Name System (DNS) Settings
- Configuring High Availability Options
- Archiving the BIG-IP Configuration
- Leveraging F5 Support Resources and Tools
- BIG-IP System Setup Labs

### Chapter 2: Introducing the Domain Name System (DNS) and BIG-IP DNS

- Understanding the Domain Name System (DNS)
- Reviewing the Name Resolution Process
- Implementing BIG-IP DNS
- Using DNS Resolution Diagnostic Tools

### Chapter 3: Accelerating DNS Resolution

- Introducing DNS Resolution with BIG-IP DNS
- BIG-IP DNS Resolution Decision Flow
- Configuring BIG-IP DNS Listeners
- Resolving DNS Queries in the Labs (Lab Zone Records)
- Load Balancing Queries to a DNS Server Pool
- Accelerating DNS Resolution with DNS Cache
- Accelerating DNS Resolution with DNS Express
- Introducing Wide IPs
- Using Other Resolution Methods with BIG-IP DNS
- Integrating BIG-IP DNS into Existing DNS Environments

### Chapter 4: Implementing Intelligent DNS Resolutions

- Introducing Intelligent DNS Resolution
- Identifying Physical Network Components
- Identifying Logical Network Components
- Collecting Metrics for Intelligent Resolution
- Configuring Data Centers
- Configuring a BIG-IP DNS System as a Server
- Configuring a BIG-IP LTM System as a Server
- Establishing iQuery Communication between BIG-IP Systems
- Configuring a Non-F5 Server
- Defining Links and Routers
- Configuring Wide IP Pools
- Configuring Wide IPs

- Managing Object Status
- Using the Traffic Management Shell (TMSH)

#### Chapter 5: Using LDNS Probes and Metrics

- Introducing LDNS Probes and Metrics
- Types of LDNS Probes
- Excluding an LDNS from Probing
- Configuring Probe Metrics Collection

#### Chapter 6: Load Balancing Intelligent DNS Resolution

- Introducing Load Balancing on BIG-IP DNS
- Using Static Load Balancing Methods
- Round Robin
- Ratio
- Global Availability
- Static Persist
- Other Static Load Balancing Methods
- Using Dynamic Load Balancing Methods
- Round Trip Time
- Completion Rate
- CPU
- Hops
- Least Connections
- Packet Rate
- Kilobytes per Second
- Other Dynamic Load Balancing Methods
- Using Quality of Service Load Balancing
- Persisting DNS Query Responses
- Configuring GSLB Load Balancing Decision Logs
- Using Manual Resume
- Using Topology Load Balancing

#### Chapter 7: Monitoring Intelligent DNS Resources

- Exploring Monitors
- Configuring Monitors
- Assigning Monitors to Resources
- Monitoring Best Practices

#### Chapter 8: Advanced BIG-IP DNS Topics

- Implementing DNSSEC
- Setting Limits for Resource Availability
- Using iRules with Wide IPs
- Introducing Other Wide IP Types
- Implementing BIG-IP DNS Sync Groups

#### Chapter 9: Final Configuration Projects

- Review Questions

#### Chapter 10: Additional Training and Certification

- Getting Started Series Web-Based Training

- F5 Instructor Led Training Curriculum
- F5 Professional Certification Program

#### Appendix A: Working with Local BIND and ZoneRunner

- Introducing BIND and ZoneRunner
- Configuring BIND Files with ZoneRunner

#### Appendix B: Troubleshooting

- Working with F5 Technical Support