

## F5-TRG-BIG-DNS-IL

### Configuring BIG-IP DNS v15.1

#### Overview

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

#### Course Length

2 days

#### Topics covered in this course Include

- 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

#### Audience

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



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## 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

The following free web-based courses, although optional, will be very helpful for any student with limited BIG-IP administration and configuration experience. These courses are available at [LeranF5](#):

- Getting Started with BIG-IP web-based training
- Getting Started with BIG-IP DNS 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:

- DNS resolution process
- Experience configuring DNS content and resolution servers
- DNSSEC



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## Course Outline

- Chapter 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
- 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 and State
- 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



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