Training: F5
Configuring BIG-IP DNS

TRAINING GOALS:

Learn how to configure and deploy BIG-IP DNS as it is commonly used. Learn how the Domain Name System (DNS) resolves hostnames into IP addresses, and how to use DNS Express to cache DNS query responses, accelerating DNS resolution. Practice working with key features to perform intelligent DNS resolution and configure wide IP pools to use a path load balancing method. Explore using persistence to effectively return one or more clients to the same virtual server on each query. Practice manual controls for resuming certain load balancing behaviors in the event of an outage. Configure BIG-IP DNS to participate in the DNSSEC chain of trust. Configure limit settings on virtual servers, and wide IP pools to temporarily direct client traffic away from resources that may not be performing at certain thresholds of efficiency. Customize intelligent DNS resolution using iRules on a wide IP. Learn how to configure a BIG-IP DNS sync group.

Reinforce knowledge transfer through the use of hands-on labs, and gain the confidence needed to start using BIG-IP DNS in a production environment.

Audience

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

CONSPECT:

- 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

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- 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

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- 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

REQUIREMENTS:

The following free Self-Directed Training (SDT) courses, although optional, are helpful for any student with limited BIG-IP administration and configuration experience:

- Getting Started with BIG-IP
- Getting Started with BIG-IP DNS

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General network technology knowledge and experience are recommended before attending any F5 Global Training Services instructor-led course, including OSI model encapsulation, routing and switching, Ethernet and ARP, TCP/IP concepts, IP addressing and subnetting, NAT and private IP addressing, NAT and private IP addressing, default gateway, network firewalls, and 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

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by F5 (course completion).

This course helps prepare participants for the F5 Certified Technology Specialist, BIG-IP DNS (F5-CTS, BIG-IP DNS) certification. Candidates must first hold the F5 Certified Administrator, BIG-IP credential and then pass the BIG-IP DNS Specialist exam (302).

More information: https://education.f5.com/learning-path/view/14

This course helps prepare participants for the F5 Certified Solution Expert, Cloud (F5-CSE, CLD) certification. Before taking the Cloud Solutions exam (402), candidates must hold all of the following credentials: F5 Certified Administrator, BIG-IP (F5-CA, BIG-IP); F5 Certified Technology Specialist, BIG-IP LTM (F5-CTS, BIG-IP LTM); and F5 Certified Technology Specialist, BIG-IP DNS (F5-CTS, BIG-IP DNS).

More information: https://education.f5.com/learning-path/view/22

TRAINER:

Certified F5 Networks Trainer.

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