Course Objectives

1. **Develop a Solid Foundation in Networking and OSI Layers**
    - Understand the OSI model and its application in networking.
    - Compare and contrast protocols and technologies at each layer, including data link, network, transport, and application layers.
2. **Dive into F5 Technologies and Solutions**
    - Gain expertise in using F5 products like iRules and iApps for efficient traffic management.
    - Understand full proxy and packet-based architectures, along with their use cases and benefits.
    - Configure and manage high availability (HA) for robust and fault-tolerant systems.
3. **Learn the Essentials of Load Balancing**
    - Explore the purpose, use cases, and considerations of load balancing in application delivery.
    - Differentiate between client and server roles in load balancing scenarios.
4. **Enhance Security Knowledge**
    - Learn to implement positive and negative security models for robust application protection.
    - Understand the role of cryptographic services and authentication mechanisms in securing systems.
5. **Understand Application Delivery Platforms**

- Study the use cases, challenges, and advantages of hardware-based and virtual platforms.
- Gain knowledge about advanced acceleration techniques to optimize application delivery.

6. **Specialize in Local Traffic Manager (LTM)**
   - Install, configure, and manage BIG-IP LTM components, including
   - virtual servers, pools, monitors, and profiles.
   - Implement SSL traffic processing, NAT/SNAT configurations, and iRules for custom traffic handling.
   - Set up redundancy and high availability to ensure continuous service delivery.

7. **Hands-On Practice with Labs**
   - Perform practical exercises to reinforce theoretical knowledge, including installation, configuration, and troubleshooting.
   - Work with real-world scenarios for managing persistence, failover, and performance optimization.
8. **Prepare for Real-World Challenges**
   - Equip yourself with tools, resources, and documentation for continuous learning and professional support.
   - Build confidence in managing application delivery networks using F5 technologies.

How the Course Will Benefit You

1. **Comprehensive Understanding of Networking Fundamentals**
   - Gain a clear and practical understanding of the OSI model and networking protocols, which are essential for managing modern IT infrastructures.

2. **Mastery of F5 Technologies**
    - Learn to effectively use F5 products like BIG-IP, iRules, and iApps to optimize and secure network traffic.
    - Develop skills to configure high availability and ensure uninterrupted service delivery in critical environments.
3. **Enhanced Load Balancing Skills**
    - Acquire expertise in designing and managing load-balancing solutions, ensuring efficient resource utilization and application performance.
4. **Strengthened Security Knowledge**
    - Build a solid foundation in implementing security models, cryptographic services, and authentication to safeguard applications and networks.
5.

Basic F5

Section 1 - OSI

Explain, compare, and contrast the OSI layers

Explain Protocols and Technologies Specific to the Data Link Layer

Explain protocols and apply technologies specific to the network layer

Explain the features and functionality of protocols and technologies specific

to the transport layer

Explain the features and functionality of protocols and technologies specific

to the application layer

Section 2 - F5 Solutions and Technology

Articulate the role of F5 products

Explain the purpose, use, and advantages of iRules

Explain the purpose, use, and advantages of iApps

Explain the purpose of and use cases for full proxy and packet

forwarding/packet based architectures

Explain the advantages and configurations of high availability (HA)

Section 3 – Load Balancing Essentials

Discuss the purpose of, use cases for, and key considerations related to

load balancing

Differentiate between a client and server

Section 4 – Security

Compare and contrast positive and negative security models

Explain the purpose of cryptographic services

Describe the purpose and advantages of authentication

Application Delivery Fundamentals

Section Application Delivery Platforms

Describe the purpose, advantages, use cases, and challenges associated with

hardware based application delivery platforms and virtual machines

Describe the purpose of the various types of advanced acceleration techniques

LTM

Module-1 Installation and Initial Access

- Big-IP LTM overview
- Licensing and Setup utility Provisioning
- Installation and setup labs Big-IP hardware platforms
- Lab-1 Changing Initial IP address
- Lab-2 Licensing the system
- Lab-3 Setup Utility
- Lab-4 Configuration Utility
- Lab-5 Configuration backup

Module-2 Load Balancing

- Virtual Servers and pools
- Network MAP
- Load Balancing Modes
- Lab-1 Vertual servers and pools
- Lab-2 Load Balancing

Module-3 Monitors

- Monitor Concepts
- Monitor Configurations
- Monitor Assignments
- Monitor Status Reporting
- Lab-1 Monitors for Nodes
- Lab-2 Monitors for Pools and members

Module-4 Profiles

- Profiles
- Profiles Types and Dependencies
- Protocol profile Types and settings
- Lab-1 Configuring Profile

Module-5 Persistence

- Concept of Persistence
- Source Address persistence
- Cookie Persistence
- Object Management
- Lab-1 Source Address persistence
- Lab-2 Cookie Persistence
- Lab-3 Disabled Members
- Module-6 Processing SSL Traffic
- SSL termination / Initiation
- SSL profile Configuration
- Lab-1 Client SSL termination
- Lab-2 Client and Server SSL (Optional)

Module-7 NATs and SNATs

- NATs
- SNATs
- Lab-1 Configuring NAT
- Lab-2 Configuring SNAT

Module-8 iRules

- iRules Concept
- iRules Events
- Lab-iRules

Modlule-9 Redundant Pair Installation

- Redundant Pair Concept
- Synchronization state and Failover
- Redundant Pair Communication
- Upgradation

Module-10 High Availability

- Failover triggers
- Failover triggers configurations

- Failover detection
- Stateful failover
- MAC Masquerading

Module-11 Maintainig BIG-IP LTM

- Additional Tools and Resources
- Documentation for F5 Supports