

# Table of Contents

<b>F5 Product Overview .....</b>	<b>P-1</b>
F5 Product Suite Overview .....	P-1
Enterprise Manager Series.....	P-3
ARX Series.....	P-3
Hardware .....	P-4
Virtual Editions .....	P-9
F5 Services .....	P-10
F5 Resources and Tools.....	P-12
<b>Chapter 1: Installation and Initial Access.....</b>	<b>1-1</b>
BIG-IP LTM Overview .....	1-1
Licensing, Provisioning and the Setup Utility.....	1-2
<b>Lab</b> – Setup Utility .....	1-9
<b>Lab</b> – Changing Initial IP Address .....	1-10
<b>Lab</b> – Licensing and Provisioning .....	1-11
<b>Lab</b> – User Accounts and Network Config.....	1-14
<b>Lab</b> – Configuration Utility .....	1-17
<b>Lab</b> – Configuration Backup .....	1-19
BIG-IP Hardware Platforms .....	1-22
F5 Support Resources and Tools .....	1-23
<b>Lab</b> – AOM IP Address (Optional).....	1-25
<b>Lab</b> – AskF5 Resource.....	1-26
<b>Chapter 2: Review and Lab Project .....</b>	<b>2-1</b>
BIG-IP Concepts .....	2-1
<b>Lab</b> – Configuration Lab Project .....	2-12
Command Line Configuration.....	2-14
BIG-IP Configuration files .....	2-17
<b>Lab</b> – tmsh Configuration .....	2-20
<b>Lab</b> – Monitor (Optional) .....	2-23
<b>Lab</b> – SNAT (Optional).....	2-24
<b>Lab</b> – Short Answer Review Questions .....	2-25

<b>Chapter 3: Load Balancing</b> .....	<b>3-1</b>
Load Balancing Modes.....	3-1
<b>Lab</b> – Network Map and Load Balancing.....	3-6
<b>Lab</b> – Ratio Node Load Balancing .....	3-7
<b>Lab</b> – Priority Group Activation.....	3-8
<b>Lab</b> – Member Threshold (Optional).....	3-9
<b>Chapter 4: Persistence</b> .....	<b>4-1</b>
Persistence Concepts .....	4-1
Persistence Revisited .....	4-2
Persistence Options .....	4-3
Other Types of Persistence .....	4-4
<b>Lab</b> – Universal Persistence.....	4-7
<b>Lab</b> – Match Across Services .....	4-8
<b>Chapter 5: Monitors</b> .....	<b>5-1</b>
Monitor Configuration and Review.....	5-1
Monitor Assignment.....	5-2
Monitor Status Reporting .....	5-5
Scripted Monitors .....	5-7
Configuring Monitors.....	5-14
Other Monitor Options .....	5-16
<b>Lab</b> – Monitors .....	5-18
<b>Chapter 6: Profiles</b> .....	<b>6-1</b>
Profiles Review .....	6-1
Common Protocol Profile Types and Settings.....	6-4
Configuring and Using Profiles.....	6-6
TCP Express Optimization .....	6-8
Performance Improvements.....	6-11
HTTP Profile Options.....	6-14
OneConnect.....	6-16
HTTP Compression .....	6-18
HTTP Caching.....	6-19
F5 Acceleration Technologies .....	6-22
Analytics.....	6-23

<b>Lab</b> – Compression .....	6-27
<b>Lab</b> – Web Acceleration and Streaming .....	6-28
<b>Chapter 7: iApps .....</b>	<b>7-1</b>
iApps .....	7-1
Application Services.....	7-2
Templates .....	7-3
<b>Lab</b> – Import Template and Deploy App Services .....	7-5
<b>Lab</b> – Deploying an App Service for a Web App .....	7-8
<b>Lab</b> – Deploying a Second Application Service .....	7-11
<b>Lab</b> – Copy and Export an iApps Template.....	7-12
<b>Lab</b> – Customize Template (Optional) .....	7-13
<b>Lab</b> – Review F5 HTTP Template (Optional) .....	7-15
<b>Chapter 8: High Availability.....</b>	<b>8-1</b>
Sync-Failover Group Concepts .....	8-1
Synchronization, State and Failover .....	8-2
Traffic Group Concepts .....	8-4
<b>Lab</b> – Sync-Failover .....	8-6
N+1 Concepts .....	8-10
<b>Lab</b> – Traffic Group.....	8-12
<b>Lab</b> – Routing (Optional).....	8-13
<b>Chapter 9: High Availability Part 2.....</b>	<b>9-1</b>
Upgrading the BIG-IP System.....	9-1
Failover Triggers and Detection .....	9-3
<b>Lab</b> – VLAN Failsafe .....	9-7
Stateful Failover .....	9-9
<b>Lab</b> – Connection Mirroring .....	9-10
<b>Lab</b> – Persistence Mirroring .....	9-11
Device Group Communication.....	9-13
<b>Lab</b> – N+1 Availability.....	9-14
Sync-Only Device Groups.....	9-16
<b>Lab</b> – Sync-Only Group.....	9-17

<b>Chapter 10: Virtual Servers .....</b>	<b>10-1</b>
Virtual Servers Concepts .....	10-1
<b>Lab</b> – Forwarding Virtual Servers .....	10-3
Path Load Balancing.....	10-4
Auto Last Hop .....	10-6
<b>Chapter 11: SNATs.....</b>	<b>11-1</b>
SNATs Revisited .....	11-1
SNAT Auto Map .....	11-3
SNAT Pools.....	11-6
SNATs as Listeners .....	11-7
SNAT Configuration .....	11-8
SNAT Specificity .....	11-9
<b>Lab</b> – More and Less Specific .....	11-10
<b>Lab</b> – SNAT as Listener .....	11-12
VIP Bounceback.....	11-13
<b>Lab</b> – VIP Bounceback.....	11-14
Additional SNAT Options.....	11-15
Network Packet Processing .....	11-17
<b>Chapter 12: Selected Topics .....</b>	<b>12-1</b>
Review Administration Topics.....	12-1
Internet Protocol Version 6 (IPv6) .....	12-16
<b>Lab</b> – IPv6 .....	12-18
Route Domains.....	12-20
<b>Lab</b> – Route Domain.....	12-25

**Chapter 13: iRules ..... 13-1**

- iRules Concepts ..... 13-1
- iRules Events ..... 13-3
- Configuring iRules ..... 13-5
  - Lab – iRules #1** ..... 13-6
  - Lab – iRules #2** ..... 13-9
- iRules Revisited ..... 13-11
- iRules Events ..... 13-13
- iRules Commands ..... 13-17
- Context ..... 13-21
- Other iRules Concerns ..... 13-23

**Chapter 14: Final Lab Project ..... 14-1**

- Next Steps ..... 14-1
- Lab Project Options ..... 14-1
  - Lab – Scenario: Customer Requirements Configuration** ..... 14-2
  - Lab – iRules Lab #1-#5** ..... 14-5

**Appendix A: Installation ..... A-1**

**Appendix B: BIG-IP Release Notes ..... B-1**

**Appendix C: Additional Labs ..... C-1**

**Appendix D: Optional Labs ..... D-1**

