EXAM BLUEPRINT

201 — TMOS Administration

ABOUT THE *201 – TMOS ADMINISTRATION* EXAM

The 201 – TMOS Administration exam is the second exam required to achieve Certified F5 BIG-IP Administrator status.

Successful completion of the BIG-IP Administrator exam acknowledges the skills and understanding necessary for the day-to-day management of Application Delivery Networks. (ADNs).

WHAT IS THE *201 – TMOS ADMINISTRATION EXAM* BLUEPRINT?

F5 Certified exam blueprints list all the objectives an exam has to measure, much like a syllabus for the exam itself. Blueprints provide a detailed breakdown of the skills and knowledge a candidate should have to pass the exam. They contain section levels, objectives and examples, and can be used to identify areas for additional study. The examples are illustrative, not exhaustive.

F5 Certification exams are designed to test the knowledge, skills, and abilities of the candidate. These exams are not designed to test version-specific TMOS features, but rather assess knowledge and understanding of F5 technology solutions for which the exam is developed. Refer to individual exam blueprints for exam publication date.

PREREQUISITE:

101 – Application Delivery Fundamentals

CREDENTIAL AWARDED:

F5 Certified BIG-IP Administrator (F5-CA)

201 – TMOS Administration

Section 1 : TROUBLESHOOT BASIC CONNECTIVITY ISSUES		
Objectives and Examples		**CC***
1.01	**Explain the relationship between interfaces, trunks, VLANs, self-IPs, routes and their status/statistics** • Illustrate the use of a trunk in a BIG-IP solution • Demonstrate ability to assign VLAN to interface and/or trunk • Identify, based on traffic, which VLAN/route/egress IP would be used • Distinguish between tagged vs untagged VLAN • Compare Interface status (Up/Down) • Explain the dependencies of interfaces/trunks, VLANs, self-IPs	**U/A**
1.02	**Determine expected traffic behavior based on configuration** • Identify traffic diverted due to persistence • Consider the packet and/or virtual server processing order (wildcard vips) • Identify traffic diverted due to status of traffic objects (vs, pool, pool member) • Determine the egress source IP based on configuration • Identify when connection/rate limits are reached	**U/A**
1.03	**Identify the reason a virtual server is not working as expected** • Identify the current configured state of the virtual server • Identify the current availability status of the virtual server • Identify conflicting/misconfigured profiles • Identify misconfigured IP address and/or Port	**U/A**
1.04	**Identify the reason a pool is not working as expected** • Identify the reason a pool member has been marked down by health monitors • Identify a pool member not in the active priority group • Identify the current configured state of the pool/pool member • Identify the current availability status of the pool/pool member	**U/A**

Section 2 : TROUBLESHOOT BASIC PERFORMANCE ISSUES		
Objectives and Examples		**CC***
2.01	**Determine resource utilization** • Distinguish between control plane and data plane resources • Identify CPU statistics per virtual server • Interpret Statistics for interfaces • Determine Disk utilization and Memory utilization	**U/A**
2.02	**Identify the different virtual server types** • Standard, Forwarding, Stateless, Reject • Performance (Layer 4) and Performance (HTTP)	**R**

* Cognitive Complexity Key: **R** = Remember, **A/E** = Analyze/Evaluate, **U/A** = Understand/Apply

2.03	**Identify network level performance issues** • Identify when a packet capture is needed within the context of a performance issue • Interpret availability status of interfaces • Identify when drops are occurring • Identify Speed and Duplex • Distinguish TCP profiles (optimized profiles)	**U/A**
2.04	**Identify the reason load balancing is not working as expected** • Consider persistence, priority group activation, rate/connection limits • Identify misconfigurations (incorrect health checks, action on service down, etc.) • Identify current availability status	**U/A**

Section 3 : ADMINISTER SYSTEM CONFIGURATION		
Objectives and Examples		**CC***
3.01	**Identify and report current device status** • Interpret the LCD panel warning messages • Use the dashboard to gauge the current running status of the system • Review the Network Map in order to determine the status of objects • Interpret current systems status via GUI or TMSH • Interpret high availability and device trust status	**U/A**
3.02	**Apply procedural concepts required to manage the state of a high availability pair** • Execute force to standby procedure • Report current active/standby failover state • Execute force to offline procedure • Show device trust status	**U/A**
3.03	**Identify management connectivity configurations** • Identify the configured management-IP address • Interpret port lockdown settings to Self-IP • Show remote connectivity to the BIG-IP Management interface • Explain management IP connectivity issue • Identify HTTP/SSH access list to management-IP address	**U/A**
3.04	**List which log files could be used to find events and/or hardware issues** • Identify use of /var/log/ltm, var/log/secure, /var/log/audit • Identify severity log level of an event • Identify event from a log message	**R**
3.05	**Apply procedural concepts required to create, manage, and restore a UCS archive** • Execute UCS backup procedure • Execute UCS restore procedure • Summarize the use case of a UCS backup • Explain proper long-term storage of UCS backup file • Explain the contents of the UCS file (private keys)	**U/A**

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3.06	**Apply procedural concepts required to manage software images** • Given an HA pair, describe the appropriate strategy for deploying a new software image • Perform procedure to upload new software image • Show currently configured boot location • Demonstrate creating new volume for software images	**U/A**
3.07	**Identify which modules are licensed and/or provisioned** • Show provisioned modules • Report modules which are licensed • Show resource utilization of provisioned modules • Report modules which are provisioned but not licensed	**U/A**
3.08	**Explain authentication methods** • Explain how to create a user • Explain how to modify user properties • Explain options for remote authentication provider • Explain use of groups using remote authentication provider	**U/A**
3.09	**Identify configured system services** • Show proper configuration for: DNS, NTP, SNMP, syslog	**U/A**
3.10	**Explain config sync** • Demonstrate config sync procedure • Report errors which occur during config sync • Explain when a config sync is necessary • Show config sync status • Compare configuration timestamp	**U/A**

Section 4 : MANAGE EXISTING APPLICATION DELIVERY SERVICES		
Objectives and Examples		**CC***
4.01	**Apply procedural concepts required to modify and manage virtual servers** • Apply appropriate persistence profile • Apply appropriate HTTPS encryption profile • Apply appropriate protocol specific profile • Identify iApp configured objects • Report use of iRules • Show default pool configuration	**U/A**

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4.02	**Apply procedural concepts required to modify and manage pools** • Determine configured health monitor • Determine the load balancing method for a pool • Determine the active nodes in a priority group configuration • Determine pool member service port configuration • Apply appropriate health monitor • Apply load balancing method for a pool • Apply pool member service port configuration	**U/A**

Section 5 : USE SUPPORT RESOURCES		
Objectives and Examples		**CC***
5.01	**Define characteristics of a support ticket with F5** • List ways to open support ticket with F5 • List where to open a support ticket with F5 • List severity levels of a support ticket with F5 • List what to include in a support ticket with F5	**R**
5.02	**Explain the processes of licensing, license reactivation, and license modification** • Show where to license (activate.F5.com) • Identify license issues • Identify Service Check Date (upgrade)	**U/A**
5.03	**Apply procedural concepts required to perform** • Understand impact of running EUD • Understand requirements of EUD • Understand how to collect EUD output (console/log) • Identify methods of booting the EUD	**U/A**
5.04	**Apply procedural concepts required to generate a qkview and collect results from iHealth** • Identify methods of running qkview • Identify method of retrieving qkview • Understand information contained in qkview • Identify when appropriate to run qkview • Understand where to upload qkview (iHealth)	**U/A**
5.05	**Identify which online support resource/tool to use** • DevCentral • AskF5.com • iHealth • Support Portal	**U/A**

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Exam Details

HOW MUCH DO F5 EXAMS COST?

All F5 exams are currently priced at US$180 (not including local taxes and fees) per exam, per attempt.

HOW LONG ARE F5 EXAMS?

This exam is 90 minutes long (not including any non-native English or other accommodations).

WHAT IS THE PASSING SCORE FOR F5 EXAMS?

F5 exams require a passing score of 245 out of a range between 100 and 350.

SCALED SCORING

Scaled scores ensure that the reported scores across exam forms and versions have the same meaning regardless of difficulty. Fair and consistent decisions can then be made about exam results regardless of the exam form or version. More information ›

HOW MANY QUESTIONS ARE THERE?

This exam has 80 questions (70 items that are scored, 10 pilot/beta items).

WHAT FORMAT ARE F5 EXAMS?

F5 exams are all computer-based, multiple-choice-response exams. Some questions contain exhibits or scenarios that you will need to view in order to answer the question.

WHAT IS THE F5 RETAKE POLICY?

1st failure: Exam hold for 15 days (You cannot take the exam again for 15 days.)
2nd failure: Exam hold for 30 days
3rd failure: Exam hold for 45 days
4th failure: Exam hold for 365 days
5th and subsequent failed attempts: 90 days

Cognitive Complexity Descriptions

Lower Order Thinking Skills → Higher Order Thinking Skills

Remember	Understand/Apply	Analyze/Evaluate	Create
Information retrieval	Knowledge transfer	Critical thinking and reasoning	Innovation or creative thinking
Rote memorization	Comprehension or ability to apply knowledge to a standard process	Determine how parts relate to whole or knowledge integration and application to new situations	Forming an original work product
Retrieve relevant knowledge from long-term memory	Construct meaning from information	Make judgments based on criteria	Combine or reorganize parts to form a new pattern or structure
E.g., recall, retrieve, recognize	E.g., interpret, classify, compare, explain, implement	E.g., troubleshoot, attribute, diagnose, critique	E.g., generate, plan, produce

Alpine Testing Solutions' suggested cognitive complexity levels and associated verb references consider multiple approaches to defining cognitive processing (e.g., Anderson et al., Webb, Bloom, Frisbie). Above material created with assistance from Alpine and distributed with Alpine's permission as an attachment to certification test

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