

201 - TMOS ADMINISTRATION

EXAM BLUEPRINT

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 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. The blueprint provides the detailed breakdown of the skills and knowledge a candidate should have to pass the exam. Blueprints can be used to identify areas for additional study, and are best used in conjunction with the Exam Study Guides.

PREREQUISITE:

101-Application Delivery Fundamentals

CREDENTIAL AWARDED:

F5 Certified BIG-IP Administrator (F5-CA)

THIS EXAM IS BASED ON V11.4.



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Section 1: Troubleshoot basic virtual server connectivity issues		Cognitive Complexity
Objective 1.01	Given a connectivity troubleshooting situation, consider the packet and virtual server processing order	U/A
Examples	Explain how a packet is processed once it arrives at device (connection table, packet filters, etc.) Explain how a virtual server processes a request (most specific to least specific) Given a specific connectivity issue, isolate where the problem might be according to the processing order	
Objective 1.02	Identify the reason a virtual server is not working as expected	U/A
Examples	Determine the state of a virtual server (offline, enabled, etc.) Determine if a virtual server is configured for the proper listening port Determine if a virtual server is configured with the proper IP address configuration Determine if the virtual server is configured with the appropriate profiles Determine if the pool configuration has an effect on virtual server state Determine which tools to use in order to diagnose the issue Explain the difference between the virtual servers status definitions	
Objective 1.03	Identify the reason a pool member has been marked down by health monitors	U/A
Examples	Discuss the effects of health monitors on the status of pool members/nodes Determine the state and availability of the pool member/node in question Verify the pool member/node Ratio configuration Verify the pool member/node connection configuration and count	
Objective 1.04	Identify a pool member not in the active priority group	U/A
Examples	Explain the concept of "persistence" Verify the type of persistence profile assigned to the virtual server in question Validate the expected persistence behavior Differentiate between fallback and primary persistence Use the appropriate tool to troubleshoot persistence	
Objective 1.05	Identify traffic diverted due to persistence record	U/A
Objective 1.06	Identify the current configured state of the pool member	U/A
Objective 1.07	Identify a persistence issue	U/A
Section 2: Troubleshoot basic hardware issues		Cognitive Complexity
Objective 2.01	Perform an End User Diagnostic per F5 documentation and collect the output	U/A
Examples	Reboot an F5 platform into the EUD Download output from the unit an EUD was run on Interpret the output from an EUD and determine if the test passed or failed	

Cognitive Complexity Key:

R=Remember

A/E=Analyze/Evaluate

U/A=Understand/Apply

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Objective 2.02	Interpret the LCD Warning Messages	U/A
Examples	<p>Locate the LCD on an F5 Platform</p> <p>Correlate the LCD message to message in the corresponding log file</p> <p>Identify which tasks the buttons on the LCD perform</p>	
Objective 2.03	Identify a possible hardware issue within the log files	U/A
Examples	<p>Indicate which logs would contain debugging information</p> <p>Given a log file, determine the nature of a hardware issue</p> <p>Given a possible issue, determine which log file entries to review</p>	
Objective 2.04	Force an active unit to standby under the appropriate circumstances	U/A
Objective 2.05	Understand the relationship between interfaces, trunks, VLANs and their status/statistics	U/A
Section 3:	Troubleshoot basic performance issues	Cognitive Complexity
Objective 3.01	Recognize when a packet capture is needed within the context of a performance issue	U/A
Objective 3.02	Use BIG-IP tools in order to identify potential performance issues	U/A
Examples	<p>Differentiate between performance issue types (i.e. Latency, Congestion, broken content)</p> <p>Establish the frequency of a given issue (random, continuous, isolated, intermittent, repetitive intervals)</p> <p>Explain how to get performance statistics in addition to the those shown in the dashboard (Overview - Performance)</p>	
Section 4:	Troubleshoot basic device management connectivity issues	Cognitive Complexity
Objective 4.01	Verify remote connectivity to the BIG-IP in order to determine the cause of a management connectivity issue	U/A
Examples	<p>Isolate potential causes of basic network connectivity issues, given scenarios related to: client configuration, client network access, device network access, network topologies</p> <p>Apply connectivity troubleshooting tools (i.e. ping, traceroute, http/https availability, remote shell access, network based console access) in the appropriate situation</p>	

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Objective 4.02	Check and interpret port lockdown settings and packet filters in order to determine the cause of a management connectivity issue to a Self-IP	U/A
Examples	Given a scenario, review port lockdown settings on the Self-IP to determine the cause of the issue Describe appropriate use cases for the use of port lockdown	
Objective 4.03	Given the use of a remote authentication server, verify proper DNS and NTP settings in order to diagnose a connectivity issue	U/A
Examples	Determine whether a filter is enabled Interpret a packet filter rule list in a given situation	
Section 5:	Open a support ticket with F5	Cognitive Complexity
Objective 5.01	Identify the appropriate supporting components and severity levels for an F5 support ticket	R
Examples	Identify the necessary components for all support cases (Qkview uploaded to iHealth/ or attached to case, serial number of device, problem description, other supporting data) Identify severity levels and the associated response times	
Objective 5.02	Given an issue, determine the appropriate severity according to F5 guidelines	U/A
Objective 5.03	Provide quantitative and relevant information appropriate for a given issue	A/E
Examples	Distinguish between qualitative/quantitative statements in order to assemble an accurate problem description Distinguish between relevant/irrelevant information in order to assemble an accurate problem description	
Section 6:	Identify and report current device status	Cognitive Complexity
Objective 6.01	Review the Network Map in order to determine the status of objects	U/A
Examples	Explain the status icons of objects on the map Explain what virtual servers, pools, nodes and pool members are	
Objective 6.02	Use the dashboard to gauge the current running status of the system	U/A
Examples	Interpret each of the statistic types displayed by the dashboard Given a situation, predict the appropriate dashboard statistics	
Objective 6.03	Review log files and identify possible events	U/A
Examples	Given log file snippets, describe an event sequence Given log file snippets, identify critical events	
Objective 6.04	Use iApps Analytics to gauge the current running status of application services	U/A

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Examples	<p>Explain the purpose of iApps Analytics</p> <p>Describe how to capture application statistics</p> <p>Given a current running status, recognize significant statistics</p>
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Section 7:	Maintain system configuration	Cognitive Complexity
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Objective 7.01	Create and restore a UCS archive under the appropriate circumstances	U/A
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Examples	<p>Discuss scenarios in which restoring a UCS archive is appropriate</p> <p>Discuss the tasks involved in successfully restoring a UCS archive</p> <p>Given a scenario, discuss when it is appropriate to create a UCS archive</p>
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Objective 7.02	Identify which high-level tasks can be automated using BIG-IQ	R
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Objective 7.03	Manage software images	U/A
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Objective 7.04	Given an HA pair, describe the appropriate strategy for deploying a new software image	U/A
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Objective 7.05	Understand the processes of licensing, license reactivation, and license modification (add-ons)	U/A
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Objective 7.06	Identify which modules are licensed and/or provisioned	U/A
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Objective 7.07	Explain how to create a user	U/A
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Objective 7.08	Explain how to modify user properties	U/A
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Section 8:	Manage existing system and application services	Cognitive Complexity
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Objective 8.01	Modify and manage virtual servers	U/A
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Examples	<p>Given a proposed virtual server configuration change, outline the scope of the change and for which connections those changes will affect (active connections, new connections, persisted sessions)</p> <p>Given a description of an application, identify the correct virtual server configured for it (HTTP/HTTPS, TCP/UDP, VLANs-enabled, route-domain)</p> <p>Given a situation where a virtual server configuration change did not appear to immediately take effect, determine why</p>
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Objective 8.02	Modify and manage pools	U/A
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Examples

Distinguish between disabling a member and forcing it down

Determine use cases for disabling a member

Determine use cases for forcing down a member

Given a situation where a pool member has been disabled but still appears to be receiving traffic, determine the cause

Articulate the characteristics of a pool member that has been disabled or forced offline (Such as for new connections, persisted connections, etc.)

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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 situation(s)	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 blueprints.



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