



EXAM BLUEPRINT

101 – Application Delivery Fundamentals

ABOUT THE 101 – APPLICATION DELIVERY FUNDAMENTALS EXAM

The *101 – Application Delivery Fundamentals* exam is the first exam required to achieve Certified F5 BIG-IP Administrator status.

Successful completion of the *101 – Application Delivery Fundamentals* exam acknowledges the skills and understanding necessary for day-to-day management of Application Delivery Networks (ADNs).

WHAT IS THE 101 – APPLICATION DELIVERY FUNDAMENTALS 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.

PREREQUISITE:

None.

CREDENTIAL AWARDED:

None. (Prerequisite to the *201 – TMOS Administration* exam)

THIS EXAM IS BASED ON V13.1

This exam blueprint is to be used to prepare for the *101 – Application Delivery Fundamentals* exam published October 2019.



Section 1 : CONFIGURATION		
Objectives and Examples		CC*
1.01	Given a set of requirements, configure VLANs <ul style="list-style-type: none"> Assign a numeric tag to the VLAN, if required Determine appropriate layer 3 addressing for VLAN Specify if VLAN is tagged or untagged 	U/A
1.02	Given a scenario, determine switch, router, and application connectivity requirements <ul style="list-style-type: none"> Explain the function and purpose of a router, of a firewall and of a switch Interpret network diagrams 	U/A
1.03	Given a set of requirements, assign IP addresses <ul style="list-style-type: none"> Interpret address and subnet relationships Understand public/private, multicast addressing, and broadcast Explain the function and purpose of NAT and of DHCP Determine valid address IPv6 	U/A
1.04	State the service that ARP provides <ul style="list-style-type: none"> Identify a valid MAC address Define ARP and explain what it does State the purpose of a default gateway 	R
1.05	Given a scenario, establish required routing <ul style="list-style-type: none"> Explain why a route is needed Explain network hops Given a destination IP address and current routing table, identify a route to be used 	U/A
1.06	Define ADC application objects <ul style="list-style-type: none"> Define load balancing including intelligent load balancing and server selection Explain features of an application delivery controller Explain benefits of an application delivery controller 	R

Section 2 : TROUBLESHOOTING		
Objectives and Examples		CC*
2.01	Identify application and network errors <ul style="list-style-type: none"> Identify general meanings of HTTP error codes Identify possible reasons and methods for connection termination Identify possible causes for failure to establish connection 	R

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



2.02	Given a scenario, verify Layer 2 mapping (ARP) <ul style="list-style-type: none"> • Explain one-to-one mapping of MAC to IP • Given a network diagram or ARP command output, determine if ARP resolution was successful • Given the ARP command output, determine if ARP resolution was successful • Explain the purpose of MAC masquerading 	U/A
2.03	Given a scenario, verify traffic is arriving at a destination <ul style="list-style-type: none"> • Explain how to acquire packet captures • View a packet capture and identify source and destination • Interpret statistics to show traffic flow 	U/A
2.04	Given a scenario, verify Layer 1 connectivity <ul style="list-style-type: none"> • Given an exhibit of the front ethernet panel, explain why there is an imbalance in link use • Interpret ifconfig output (interface bandwidth) • Explain potential L1 failure modes (duplex settings, cable out of specification) 	U/A

Section 3 : MAINTENANCE

Objectives and Examples		CC*
3.01	Given a scenario, review basic stats to confirm functionality <ul style="list-style-type: none"> • Interpret traffic object statistics • Interpret network configuration statistics 	U/A
3.02	Given a scenario, determine device upgrade eligibility <ul style="list-style-type: none"> • Determine when to upgrade software • Determine when to upgrade platform • Determine steps to minimize upgrade downtime 	U/A
3.03	Given a scenario, interpret traffic flow <ul style="list-style-type: none"> • Explain application client-server communication • Interpret traffic graphs (Interpret SNMP results) 	U/A
3.04	Given a scenario, interpret service status <ul style="list-style-type: none"> • Compare active vs inactive ADC elements • Infer services for given netstat output • Determine whether a service is listening on a given port based on netstat output 	U/A
3.05	Given a scenario, interpret system health <ul style="list-style-type: none"> • Generate a Qkview and upload to iHealth • Review logs • Ensure efficacy of maintenance tasks (alert endpoints, verify backups) • Review system vitals (disk space, CPU load, memory, bandwidth) 	U/A

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Section 4 : KNOWLEDGE		
Objectives and Examples		CC*
4.01	Explain common uses for ICMP <ul style="list-style-type: none"> • Explain the purpose of an IP TTL • Explain the purpose of ICMP echo request/reply • Explain reasons for ICMP unreachable 	R
4.02	Map functionality to OSI model <ul style="list-style-type: none"> • Identify the layer for a MAC address • Identify the layer for a UDP/TCP port • Identify the layer for an IP address • Identify the layer for applications 	R
4.03	Explain use of TLS/SSL <ul style="list-style-type: none"> • Explain the purpose of TLS/SSL certificates (self signed vs CA signed) • Explain the rationale for using TLS/SSL 	R
4.04	Explain the function of a VPN <ul style="list-style-type: none"> • Explain the rationale for using VPN (privacy, encryption, anonymity) • Identify valid uses for VPN 	R
4.05	Explain high availability (HA) concepts <ul style="list-style-type: none"> • Explain methods of providing HA integrity • Explain methods of providing HA • Explain advantages of HA 	R
4.06	Explain reasons for support services (DNS, NTP, syslog, SNMP, etc.) <ul style="list-style-type: none"> • Explain the purpose of DNS • Given a list of tools, select the appropriate tool to confirm DNS resolution is successful for a host name • Explain what syslog is • Explain the purpose of NTP • Explain SNMP as it pertains to ADC element monitoring 	R

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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

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