

101 – APPLICATION DELIVERY FUNDAMENTALS

EXAM BLUEPRINT

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 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. 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:

None

CREDENTIAL AWARDED:

None (prerequisite to the TMOS Administration exam)

THIS EXAM IS BASED ON V11.4.



CERTIFIED
ADMINISTRATOR®

101 – APPLICATION DELIVERY FUNDAMENTALS

EXAM BLUEPRINT



CERTIFIED
ADMINISTRATOR

Section 1: OSI		Cognitive Complexity
Objective 1.01	Explain, compare, and contrast the OSI layers	U/A
Examples	Describe the function of each OSI layer Differentiate between the OSI layers Describe the purpose of the various address types at different OSI layers	
Objective 1.02	Explain protocols and technologies specific to the data link layer	U/A
Examples	Explain the purpose of a switch's forwarding database Explain the purpose and functionality of ARP Explain the purpose and functionality of MAC addresses Explain the purpose and functionality of a broadcast domain Explain the purpose and functionality of VLANs Explain the purpose and functionality of link aggregation	
Objective 1.03	Explain protocols and apply technologies specific to the network layer	U/A
Examples	Explain the purpose and functionality of IP addressing and subnetting Given an IP address and net mask, determine the network IP and the broadcast IP Given a routing table and a destination IP address, identify which routing table entry the destination IP address will match Explain the purpose and functionality of Routing protocols Explain the purpose of fragmentation Given a fragment, identify what information is needed for reassembly Explain the purpose of TTL functionality Given a packet traversing a topology, document the source/destination IP address/MAC address changes at each hop	
Objective 1.04	Explain the features and functionality of protocols and technologies specific to the transport layer	U/A
Examples	Compare/Contrast purpose and functionality of MTU and MSS Explain the purpose and functionality of TCP Explain the purpose and functionality of UDP Explain the purpose and functionality of ports in general Explain how retransmissions occur Explain the purpose and process of a reset Describe various TCP options Describe a TCP checksum error Describe how TCP addresses error correction Describe how the flow control process occurs	
Objective 1.05	Explain the features and functionality of protocols and technologies specific to the application layer	U/A

Cognitive Complexity Key:

R=Remember

A/E=Analyze/Evaluate

U/A=Understand/Apply

101 – APPLICATION DELIVERY FUNDAMENTALS

EXAM BLUEPRINT



CERTIFIED
ADMINISTRATOR

Examples	<p>Explain the purpose and functionality of HTTP</p> <p>Differentiate between HTTP versions</p> <p>Interpret HTTP status codes</p> <p>Determine an HTTP request method for a given use case</p> <p>Explain the purpose and functionality of HTTP keepalives, HTTP headers, DNS, SIP, FTP</p> <p>Differentiate between passive and active FTP</p> <p>Explain the purpose and functionality of SMTP</p> <p>Explain the purpose and functionality of a cookie</p> <p>Given a situation in which a client connects to a remote host, explain how the name resolution process occurs</p> <p>Explain the purpose and functionality of a URL</p>
----------	---

Section 2:	F5 Solutions and Technology	Cognitive Complexity
-------------------	------------------------------------	----------------------

Objective 2.01	Articulate the role of F5 products	U/A
-----------------------	------------------------------------	-----

Examples	Explain the purpose, use, and benefits of APM, LTM, ASM, GTM
----------	--

Objective 2.02	Explain the purpose, use, and advantages of iRules	U/A
-----------------------	--	-----

Examples	<p>Explain the purpose of iRules</p> <p>Explain the advantages of iRules</p> <p>Given a list of situations, determine which would be appropriate for the use of iRules</p>
----------	--

Objective 2.03	Explain the purpose, use, and advantages of iApps	U/A
-----------------------	---	-----

Examples	<p>Explain the purpose of iApps</p> <p>Explain the advantages of iApps</p> <p>Given a list of situations, determine which would be appropriate for the use of iApps</p>
----------	---

Objective 2.04	Explain the purpose of and use cases for full proxy and packet forwarding/packet based architectures	U/A
-----------------------	--	-----

Examples	<p>Describe a full proxy architecture</p> <p>Describe a packet forwarding/packet based architecture</p> <p>Given a list of situations, determine which is appropriate for a full proxy architecture</p> <p>Given a list of situations, determine which is appropriate for a packet based architecture</p>
----------	---

Objective 2.05	Explain the advantages and configurations of high availability (HA)	U/A
-----------------------	---	-----

Examples	<p>Explain active/active</p> <p>Explain active/standby</p> <p>Explain the benefits of deploying BIG-IP devices in a redundant configuration</p>
----------	---

Cognitive Complexity Key:

R=Remember

A/E=Analyze/Evaluate

U/A=Understand/Apply

101 – APPLICATION DELIVERY FUNDAMENTALS

EXAM BLUEPRINT



CERTIFIED
ADMINISTRATOR®

Section 3: Load Balancing Essentials		Cognitive Complexity
Objective 3.01	Discuss the purpose of, use cases for, and key considerations related to load balancing	U/A
Examples	<ul style="list-style-type: none"> Explain the purpose of distribution of load across multiple servers Given an environment, determine the appropriate load balancing algorithm that achieves a desired result Explain the concept of persistence 	
Objective 3.02	Differentiate between a client and server	U/A
Examples	<ul style="list-style-type: none"> Given a scenario, identify the client/server Explain the role of a client Explain the role of a server 	
Section 4: Security		Cognitive Complexity
Objective 4.01	Compare and contrast positive and negative security models	U/A
Examples	<ul style="list-style-type: none"> Describe the concept of a positive security model Describe the concept of a negative security model Given a list of scenarios, identify which is a positive security model Given a list of scenarios, identify which is a negative security model Describe the benefits of a positive security model Describe the benefits of a negative security model 	
Objective 4.02	Explain the purpose of cryptographic services	U/A
Examples	<ul style="list-style-type: none"> Describe the purpose of signing Describe the purpose of encryption Describe the purpose of certificates and the certificate chains Distinguish between private/public keys Compare and contrast symmetric/asymmetric encryption 	
Objective 4.03	Describe the purpose and advantages of authentication	U/A

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

101 – APPLICATION DELIVERY FUNDAMENTALS

EXAM BLUEPRINT



CERTIFIED
ADMINISTRATOR

Examples	<p>Explain the purpose of authentication</p> <p>Explain the advantages of single sign on</p> <p>Explain the concepts of multifactor authentication</p> <p>Describe the role authentication plays in AAA</p>
----------	---

Objective 4.04	Describe the purpose, advantages, and use cases of IPsec and SSL VPN	U/A
-----------------------	--	-----

Examples	<p>Explain the purpose, advantages, and challenges associated with IPsec</p> <p>Explain the purpose, advantages, and challenges associated with SSL VPN</p> <p>Given a list of environments/situations, determine which is appropriate for an IPsec solution</p> <p>Given a list of environments/situations, determine which is appropriate for an SSL VPN solution</p>
----------	---

Section 5:	Application Delivery Platforms	Cognitive Complexity
-------------------	---------------------------------------	----------------------

Objective 5.01	Describe the purpose, advantages, use cases, and challenges associated with hardware based application delivery platforms and virtual machines	U/A
-----------------------	--	-----

Examples	<p>Explain when a hardware based application deliver platform solution is appropriate</p> <p>Explain when a virtual machine solution is appropriate</p> <p>Explain the purpose, advantages, and challenges associated with hardware based application deliver platform solutions</p> <p>Explain the purpose, advantages, and challenges associated with virtual machines</p> <p>Given a list of environments/situations, determine which is appropriate for a hardware based application deliver platform solution</p> <p>Given a list of environments/situations, determine which is appropriate for a virtual machine solution</p> <p>Explain the advantages of dedicated hardware (SSL card, compression card)</p>
----------	---

Objective 5.02	Describe the purpose of the various types of advanced acceleration techniques	U/A
-----------------------	---	-----

Examples	<p>Describe the purpose of TCP optimization</p> <p>Describe the purpose of HTTP keepalives, caching, compression, and pipelining</p>
----------	--

Cognitive Complexity Key:

R=Remember

A/E=Analyze/Evaluate

U/A=Understand/Apply



EXAM DETAILS

How much do Certified exams cost?

\$135 USD (not including local taxes and fees).

How long is the 101 exam and what is the passing score?

The 101 exam is 90 minutes long and the passing score is 69%.

How many questions are there?

The 101 exam has 80 questions. Some of the questions contain exhibits that you will have to view to answer the question.

What format is the 101 exam?

The 101 exam is multiple choice.

What is the retake policy?

1st failure: Exam hold for 15 days.

2nd failure: Exam hold for 30 days.

3rd failure: Retake permission form and a 45-day exam hold.

4th failure: Exam hold for two (2) years.

Exam day tips:

- Make sure the name on your Pearson VUE account matches the name on your ID. To change your name and other personal information, see (insert URL).
- If you need to reschedule your exam, you must contact Pearson VUE 24 hours before your exam time



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.



Alpine Testing Solutions, Inc. (Alpine) gives F5 Networks permission to distribute the PDF "Cognitive Complexity Description 20130418.pdf" as an attachment to certification test blueprints created with assistance from Alpine into the exam blueprint.

©2014 F5 Networks, Inc. All rights reserved. F5, F5 Networks, and the F5 logo are trademarks of F5 Networks, Inc. in the U.S. and in certain other countries. Other F5 trademarks are identified at f5.com. Any other products, services, or company names referenced herein may be trademarks of their respective owners with no endorsement or affiliation, express or implied, claimed by F5.