

EXAM PREPARATION GUIDE | Implementing Citrix NetScaler 10.5 for App and Desktop Solutions



Implementing Citrix NetScaler 10.5 for App and Desktop Solutions

1Y0-253 Exam

Preparation Guide 1.3 February 18, 2015



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Disclaimer

This exam preparation guide is designed to provide candidates with necessary information about the exam, including study resources and sample questions which enable candidates to assess the types of questions that may be asked during the Citrix certification exam. Please be aware that the content of this guide in no way ensures a passing score on the certification exam.

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1 The Exam

1.1 Purpose of the Preparation Guide and Exam

This guide provides a detailed description of the exam, including intended audience and topics covered, as well as direct links to resources used to build the exam, information on how to prepare for the exam and details on the types of questions the exam contains. The guide is intended to help candidates prepare for the 1Y0-253 Implementing Citrix NetScaler 10.5 for App and Desktop Solutions exam. Candidates should read this guide carefully before attempting this exam.

The 1Y0-253 exam was developed to measure the minimum knowledge and skills required to implement Citrix NetScaler 10.5 for app and desktop solutions. Passing this exam means a candidate demonstrated the minimum level of knowledge and skills required to install, administer and/or operate enterprise environments consisting of NetScaler Gateway 10.5.

1.2 Standard Setting

The passing score for the Implementing Citrix NetScaler 10.5 for App and Desktop Solutions (1Y0-253) exam is based on the analysis of ratings provided by subject matter experts (SMEs) during a standard setting workshop. A professional analyzed the SME ratings to determine which questions should be kept in the final version of the exam. This analysis provided the basis for a recommended passing score and time limit for the exam.



1.3 Number of Questions

The 1Y0-253 exam is a 65-question exam written in English.

1.4 Passing Score

The passing score for this exam is 64%.

1.5 Time Limit

Type of Candidate	Time Limits Allowed	Notes
Native English	105 minutes	
Speakers		
Non-native English	105 minutes	Time extension
speakers who take		granted automatically
exam in countries	+30 minutes (time	
where English is a	extension)	
foreign language		
Non-native English	105 minutes	Must call Pearson VUE
speakers who take		or register in person
exam in countries	+30 minutes	to explicitly request
where English is NOT		the time extension
a foreign language		
		A \$7 USD surcharge will
		be added to phone
		registrations.

1.6 Registration and Administration

This exam is administered at Pearson VUE testing centers worldwide. To learn more about the rules and process of taking an exam, please visit http://training.citrix.com/exams.

Worldwide, visit the Pearson VUE website (www.pearsonvue.com/citrix) to locate a testing center in your area and register for an exam. To register in the United States and Canada, you may also register in person at any Pearson VUE testing center or call 1-800-931-4084. *Note: A \$7 USD surcharge will be added to phone registrations*.

1.7 Certification Tracks

The 1Y0-253 exam is a requirement for the Citrix Certified Associate – Networking track.

This exam may also fulfill requirements for advanced certification tracks. For the most up-to-date certification information visit http://training.citrix.com/cms/education/certification/.



1.8 Citrix Exam Retake Policies

Candidates must wait 24 hours from their original appointment time before they can register to retake an exam. After a second attempt, and any attempt thereafter, the candidate must wait 14 calendar days to retake the exam. Beta exams may only be taken once.

Citrix Education monitors retake activity for breaches of this policy. Breach of this policy can result in sanctions up to and including a temporary ban from taking Citrix exams and/or decertification.

For more information on the Citrix Exam Retake Policy, please visit http://training.citrix.com/exams.

1.9 Citrix Candidate Conduct Policy

All Citrix Certification candidates are required to read and agree to be bound by the Candidate Conduct Policy. This policy details specific information regarding what Citrix Education defines as cheating and breaches of security. Violations of this policy can result in actions including, but not limited to, classification of scores as invalid, decertification and testing bans.

To review the Candidate Conduct Policy, please visit http://training.citrix.com/exams.

1.10 Commenting During Live Exam

Citrix Education is committed to continually monitoring and updating our exams as needed. As a practice, Citrix Education regularly reviews and revises exams even after closing the beta period. Comments typed into the exam interface during an exam are considered when making decisions about revising questions.

Candidates are encouraged to use the commenting feature to provide feedback to Citrix Education. However, candidates should be mindful of the time used to provide comments on an exam as it will be subtracted from the allocated time of the test. Candidates can refer to the time clock at any time to view and be cognizant of the test time remaining.



2 The Intended Audience

2.1 Intended Audience

The 1Y0-253 exam is focused on those topics that are most important to those who install, administer and operate NetScaler Gateway 10.5 environments. Citrix Education selected these topics based on feedback from subject matter experts (SMEs) who perform these tasks in the field. Those who install, administer and operate NetScaler Gateway 10.5 environments may hold various job titles such as:

- Network Administrator
- Network Engineer
- Systems Administrator
- Sales/System Engineer (SE)
- Citrix Administrator



3 Preparatory Recommendations for the Exam

3.1 Introduction

Citrix Education recommends that prior to taking this exam candidates have the knowledge, skills and abilities required to install, administer and operate an enterprise environment that contains NetScaler Gateway 10.5.

3.2 Recommended Knowledge and Skills

Specifically, candidates should have the following knowledge and skills prior to taking this exam:

- Understanding of the OSI model
- Basic knowledge of application and network protocols (e.g. IP, HTTP and DNS), devices, and commonly used tools
- Basic knowledge of network management and auditing protocols (such as SNMP and SysLog)
- Working knowledge of basic routing and layer 2 switching concepts
- Strong working knowledge of commonly used network appliances (NetScaler appliances, load balancers, firewalls, routers, switches)
- Practical experience with troubleshooting tools such as protocol analyzers (e.g. Ethereal (WireShark) and NetMon)
- Knowledge of AAA (authentication, authorization and accounting) protocols such as LDAP or RADIUS
- Basic knowledge of command-line interfaces
- Basic knowledge of VPN concepts
- Knowledge of desktop operating systems (Windows and Mac) and desktop security concepts (e.g. antivirus software and personal firewalls)
- Basic knowledge of XenDesktop, XenApp, XenMobile web servers and file servers
- Knowledge of certificate management and basic understanding of SSL

3.3 Recommended Product Experience

We recommend that candidates have about six months of experience with the following tasks in a NetScaler Gateway 10.5 environment:

- Assessing the infrastructure needs for a NetScaler implementation
- Designing the NetScaler implementation
- Building the solution to enable remote access



- Securing the NetScaler
- Integrating with Citrix, Microsoft and third-party technologies
- Configuring redundancy
- Customizing traffic in the NetScaler implementation
- Setting up auditing, monitoring and reporting for the NetScaler implementation
- Troubleshooting issues on NetScaler

3.4 Recommended Course

Citrix Education recommends that candidates have hands-on experience with NetScaler Gateway 10.5 prior to taking this exam. One of the best ways to do this is by taking formal Citrix training courses. The following courses provide basic training on administrative tasks.

 CNS-207: Implementing Citrix NetScaler 10.5 for App and Desktop Solutions (instructor-led training course or self-study)

As with all Citrix exams, it is recommended that candidates get hands-on experience by working directly with the products covered on the exam.

While this hands-on experience can be done on the job, Citrix Education official courses offer a safe and robust environment to learn these tasks. Thus they are one of the best ways to prepare for the exam.

3.5 Unauthorized Preparation Materials

At this time, Citrix Education does not offer practice tests. While there are companies who advertise practice tests and have a money-back guarantee that customers will pass the exam, most of these companies are selling unauthorized preparation materials that include stolen exam questions and answers.

Citrix Education continuously monitors these sites, and when possible, takes appropriate actions.

Citrix Education also monitors exam results to ensure that candidates are not using unauthorized materials to prepare for exams. If it is determined that a candidate used unauthorized materials to prepare for an exam, the candidate's score will be invalidated and his or her certification will be revoked.

When looking for materials in addition to authorized Citrix training to prepare for certification, Citrix Education recommends visiting http://www.certguard.com to verify the legitimacy of the site. This site flags sites that are acting as brain dumps.



4 Exam Sections and Weights

4.1 Introduction

The 1Y0-253 exam is divided into nine (9) sections.

Each section of the exam is weighted as follows, totaling 100%.

4.2 Section
Titles and
Weights

Section	Weight
Assessing Infrastructure Needs for the NetScaler	5%
Implementation	
Designing the NetScaler Implementation	10%
Building the Solution to Enable Remote Access	26%
Securing the NetScaler	11%
Integrating with Citrix, Microsoft and Third-party	9%
Technologies	
Configuring Redundancy	9%
Customizing Traffic in the NetScaler Implementation	7%
Setting Up Auditing, Monitoring and Reporting for	5%
the NetScaler Implementation	
Troubleshooting Issues on NetScaler	18%
Total	100%

4.3 How Section Weights Relate to Questions on the Exam The section weights included in this guide are intended to help you in understanding how much of the exam is devoted to the topics listed. In fact, the percentages directly map to the number of questions on the exam. For example, if an exam has 60 questions, and Section 1 is weighted at 50%, then 30 of the questions on the exam will relate to Section 1 (60*50% = 30).

Please be warned that section weights are NOT used to calculate your score. Scoring is far more complicated as exam questions may be given different weights based on their overall importance. Because some questions may have different point values assigned to them, section weights and exam scores do not always have a one-to-one correlation.



For example, in an exam where each question is worth one point, a candidate's exam score can be calculated using the arithmetic mean. The candidate's final score would be:

Section	Number of Questions	Maximum Points per Question	Number of Questions Correct	Percentage Score per Section	Arithmetic Mean Score ((Section 1 + Section 2)/2)
1	4	1	2	50%	=(50%+50%)/2 =
2	8	1	4	50%	50%

In the example above, the arithmetic means worked. However, if the same concept is used with questions that are weighted differently, that is, they have different maximum point values, this calculation would not work. See the example below.

Section	Number of Questions	Maximum Points per Question	Number of Questions Correct	Percentage Score per Section	Arithmetic Mean Score ((Section 1 + Section 2)/2)
1	10	1	7	70%	=(70%+30%)/2 =
2	10	10	3	30%	50%

The final score produced above is incorrect because 30 points in Section 2 weigh far more than 7 points in Section 1. On Citrix exams, we tend to calculate the final score as a percentage of:

Total Points Earned / Total Points Possible

Which means, the correct score should be:

$$(7 * 1) + (3 * 10) / (10 * 10) + (10 * 1)$$

Which is equal to: 37/110

And thus, the final score is 34%.

For more information on how scoring works in Citrix exams read the blog The Scoring Secrets for Citrix Exams - Divulged.



5 Exam Objectives and Resources for the Exam

5.1 Introduction

All questions on this exam were developed based on objectives identified by subject matter experts. Exam tasks are used to focus the exam on the most important concepts. The tasks for this exam can be found in section 5.3.

In this guide we list all of the tasks and provide you with suggested reading material to help prepare for the exam. In some cases, the tasks require that candidates have field experience including hands-on experience installing, administering and operating NetScaler Gateway 10.5 in enterprise environments. By obtaining this experience, candidates are more likely to pass this exam.

The following resources were used to develop this exam:

5.2 Resources Used to Develop the Exam

Citrix Knowledge Base Article			
Resource	Location*		
	http://support.citrix.com/search?s		
CTX Article	earchQuery=NetScaler+Gateway+1		
Citri	0.5 x eDocs		
Citiz			
	http://support.citrix.com/proddocs		
Key Features	/topic/netscaler-gateway-105/ng-		
,	key-features-con.html		
	http://support.citrix.com/proddocs		
Understanding the NetScaler	/topic/netscaler-getting-started-		
Onderstanding the NetScaler	map-10-5/ns-gen-wrapper.html		
	http://support.citrix.com/proddocs		
	/topic/netscaler-gateway-105/ng-		
System Requirements	system-requirements-con.html		
	http://support.citrix.com/proddocs		
	/topic/netscaler-gateway-105/ng-		
	xa-xd-integration-edocs-		
Integration	landing.html		
	http://support.citrix.com/proddocs		
	/topic/netscaler-gateway-105/ng-		
Customization	advanced-wrapper-con.html		
	http://support.citrix.com/proddocs		
	/topic/netscaler-gateway-105/ng-		
	maintain-appliance-wrapper-		
Maintenance and Monitoring	con.html		



Installation Configurations	http://support.citrix.com/proddocs/topic/netscaler-gateway-105/ng-
Installation Configurations	install-wrapper-con.html
	http://support.citrix.com/proddocs/topic/netscaler-gateway-105/ng-
	configuration-mgmt-wrapper-
NetScaler Configuration	con.html
	http://support.citrix.com/proddocs
	/topic/netscaler-gateway-105/ng-
User Connections	connect-users-wrapper-con.html
Traffic Management	http://support.citrix.com/proddocs/ /topic/netscaler-10-5/ns-tmg- wrapper-10-con.html
	http://support.citrix.com/proddocs
NotCooley FA Oo	/topic/netscaler-10-5/ns-faq-
NetScaler FAQs	wrapper-con.html

^{*}Links are subject to change



5.3 Sections and Objectives The following table provides a list of the exam objectives. Below each objective are examples of what you should know for each objective. These examples do NOT encompass all potential topics that can be tested and are only provided as examples.

Section	1: Assessing infrastructure needs for the NetScaler
Section	implementation
Objective	
Number	Objective
	Determine the services to provide including the
1.02	resources to access
	Understand what NetScaler services are needed if you
	have XenDesktop deployed to remote users.
	Understand what NetScaler services are needed if you
	have a XenApp deployed to remote users.
	Understand what NetScaler services are needed if you
	have a XenMobile deployed to remote users.
1.03	Determine user access needs
	Understand if users access secure VPN.
	Understand which servers/services require load
	balancing.
	Understand which servers/services require
	Acceleration/Optimization/Security-Protection.
	Understand if Citrix Receiver is used to access the
	environment.
1.04	Identify connection types
	Understand the external connection types used in the
	environment.
	Understand the internal connection types used in the
	environment.
	Understand if ICA, VPN or MicroVPN is used in the
	environment
	tion 2: Designing the NetScaler implementation
2.01	Develop the implementation plan
	Understand the security requirements.
	Understand which networks are involved in the
	implementation.
	Understand the existing network architecture.
	Determine the authentication methods in the
2.02	environment
	Understand the order of two-factor authentication.
	Understand how to configure and secure LDAP.



	T
	Understand the appropriate configuration method in
	Directory Services.
	Understand how and where to implement certificate-
	based authentication.
	Identify the feature requirements for the
2.03	environment that impact the NetScaler implementation
2.03	Understand the access requirements for the
	environment.
	Understand how to design acceleration features.
	Understand how to design optimization features.
	Understand how to design security-protection
	features.
	Identify prerequisites for implementing certain
2.04	features
	Understand the monitor method used to control
	traffic route.
	Understand the prerequisites for implementing Global
	Server Load Balancing (GSLB).
	Understand how to administrate NetScaler Gateway in
	a dedicated network.
	on 3: Building the solution to enable remote access
Section 3.01	Prepare the NetScaler for initialization
	Prepare the NetScaler for initialization Understand how to obtain and install licenses.
	Prepare the NetScaler for initialization Understand how to obtain and install licenses. Understand how to configure date and time (time
	Prepare the NetScaler for initialization Understand how to obtain and install licenses. Understand how to configure date and time (time server or manual).
	Prepare the NetScaler for initialization Understand how to obtain and install licenses. Understand how to configure date and time (time server or manual). Understand how to configure NetScaler IP (NSIP).
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3.01 3.02 3.03 3.04	Prepare the NetScaler for initialization Understand how to obtain and install licenses. Understand how to configure date and time (time server or manual). Understand how to configure NetScaler IP (NSIP). Understand how to configure basic routes. Configure Domain Name Service's (DNS) and Virtual IP (VIP) for Load Balancing Understand how to configure DNS monitor. Understand how to configure the A record. Determine when to use Subnet IP (SNIP) Understand when to use SNIP. Bind services/service groups to Virtual Servers Understand how to create an HTTP virtual server. Understand how to create a backup virtual server. Create custom monitors or modify existing monitors Understand how to create a custom XenApp XML
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	Understand how a public cortificate is associated with
	Understand how a public certificate is associated with the Virtual IP (VIP).
	Understand how to generate new certificates.
3.07	Create/bind policies to services/service groups
3.07	Understand how to setup policies for Web Access and
	Citrix Receiver (including StoreFront settings).
	Understand how to prioritize conflicting policies.
3.08	Configure different authentication methods
3.00	Understand how to configure LDAP.
	Understand how to configure a Smart Card.
2.00	Understand how to configure RADIUS.
3.09	Create Virtual Servers
	Understand how to configure HTTP parameters.
	Understand how to configure Security Parameters (SSL
2.40	Renegotiations, Cipher Groups, etc.).
3.10	Configure policies pre/post authentication.
	Understand how to retrieve client type (device IP
0.44	address, OS, client version, etc.).
3.11	Configure NetScaler Gateway settings
	Understand how to setup ICA proxy.
	Understand how to configure smart access.
	Understand how to configure maximum
0.10	authentication users.
3.12	Customize the User Experience
	Understand how to deploy SSL/VPN clients.
	Understand how to customize client options.
	Understand how to customize the Portal Page.
	Understand how to customize the location of
	important files (ns.conf, SSL certs, Licensing, web
0.10	pages).
3.13	Integrate Citrix mobile products
	Understand how to configure XenMobile MicroVPN.
	Identify when to configure advanced TCP Parameters
3.14	(either Global or Net Profile)
_	Understand how to isolate traffic monitoring.
3.15	Configure basic networking
	Understand how to create a virtual server.
	Understand how to configure NetScaler routing.
	Understand how to configure VLANs.
	Section 4: Securing the NetScaler
	Configure the compliance and security capabilities
4.01	that are native to NetScaler



	Understand how to configure the NetScaler to
	conform to be PCIDSS compliant.
	Understand how to configure Rate Limiting.
	Understand how to configure Access Control Lists
	(ACL).
	Understand how to secure management access for
	NetScaler.
4.02	Import, link and verify certificates
	Understand how to generate new certificates.
	Understand how to import SSL certificates.
	Understand how to implement a certificate chain.
	Configure Authentication, Authorization, Accounting
	(AAA) for NetScaler administration and traffic
4.03	management
	Understand how NetScaler is integrated with Active
	Directory.
	Understand how to configure command-line (CLI)
	policies.
	Understand how to integrate NetScaler with token
	authentication.
4.04	Set up two factor authentication
	Understand how to setup two-factor authentication
	using RADIUS.
	Understand how to setup two-factor authentication
	using TACACS.
	Understand how to setup two-factor authentication
	using LDAP.
Section	1 5: Integrating with Citrix, Microsoft and third-party
	technologies Configure NotScalar for integration with Citrix
5.01	Configure NetScaler for integration with Citrix products
5.01	•
	Understand how to configure Secure Ticket Authority (STA) for integrating NetScaler with
	XenDesktop/XenApp.
	Understand how to configure XML load balancing.
	Understand how to configure NetScaler for integration with XenMobile.
	Understand how to use wizards to integrate
	XenDesktop/XenApp with NetScaler.
	Understand how to configure Web Interface.
	Section 6: Configuring Redundancy
6.01	Understand the options between high availability
6.01	(HA), Cluster and GSLB as a form of redundancy



r	T
	Understand the location requirements for
	redundancy.
	Understand the bandwidth requirements for
	redundancy.
	Understand the sizing/growth constraints for
6.00	redundancy.
6.02	Configure high availability
	Understand how to test HA.
	Understand the configuration requirements for HA.
6.03	Configure clustering
	Understand what nodes can be added to an existing
	cluster.
6.05	Configure redundancy for the virtual server
	Understand how to configure a backup load balancing
	virtual server.
	Understand how to configure a backup URL.
Section	7: Customizing Traffic in a NetScaler implementation
7.01	Configure Responder, Rewrite or URL transform
	Understand how to use a virtual server to configure
	HTTP to HTTPS redirect.
	Implement and Configure SSL and identify when it
7.02	should be used
	Understand how to configure SSL bridge.
	Understand how to configure SSL offload.
	Understand when to use SSL proxy.
	Understand when to use SSL renegotiation.
7.03	Configure Content Switching
	Understand how to setup access to multiple websites
	on a server.
	Understand the Content Switching binding options.
7.05	Administer caching
	Understand how to invalidate objects.
	Understand how to apply a no-cache policy.
	Understand how to change a pre-fetch.
	Understand when to use caching.
Section 8: Setting up auditing, monitoring and reporting for the	
	NetScaler implementation
	Determine what services/servers need to be
8.01	monitored
	Understand how to create account monitors.
8.02	Identify which reporting tool to use for monitoring



	Understand when to use EdgeSight for monitoring purposes.
	Understand when to use Syslog for monitoring
	purposes.
	Understand when to use NetScaler Insight Center for
	monitoring purposes.
8.04	Configure auditing and alerts
	Understand how to use Syslog for monitoring
	purposes.
	Understand how to use NSlog for monitoring
	purposes.
	Section 9: Troubleshooting issues on NetScaler
	Debug Authentication, Authorization and Accounting
9.01	(AAA)
	Understand how to use the aaad.debug file for
	troubleshooting.
	Understand how to use the CLI to identify
	authentication problems.
9.02	Troubleshoot license issues
	Understand how to review the license.log file.
9.03	Troubleshoot certificates
	Understand how to resolve issues related to trusts
	between certification authorities.
	Understand how to verify certificate expiration dates.
	Understand how to verify certificate links.
9.04	Troubleshoot network related issues
	Understand how to use traceroute commands.
	Understand how to verify network settings.
	Understand how to determine the root cause of
	network failures.
	Understand how to use the Visualizer to view the
	network configuration on a node.
9.05	Read and interpret logs
	Understand how to review logs to identify problems.
	Understand how to export a log from NetScaler.
9.06	Use "show techsupport" command
	Understand when to use the "show techsupport"
	command.
9.07	Troubleshoot redundancy issues
	Understand how to resolve HA issues.
	Understand how to resolve clustering issues.
	Understand how to resolve GSLB issues.



9.10	Upgrade a NetScaler
	Understand how a NetScaler can be upgraded via the
	NetScaler Configuration Utility.
	Understand how a NetScaler can be upgraded via CLI.
	Understand how a NetScaler can be upgraded
	with/without HA.



6 Appendix: Interpretation of Objectives

6.1 Sample

Questions

Sample Question 1

Which two tasks must a Citrix Administrator complete to enable Client Certificate Authentication on the NetScaler Gateway? (Choose two.)

- A. Create a pre-authentication policy.
- B. Create an LDAP authentication policy.
- C. Import the root certificate onto the NetScaler Gateway.
- D. Import all client certificates onto the NetScaler Gateway.
- E. Enable the Client Authentication option on the virtual server.

Answers: C and E

Objective: Determine the authentication methods in the environment

Source: Citrix eDocs - http://support.citrix.com/proddocs/topic/netscaler-gateway-105/ng-client-cert-configuration-tsk.html

Sample Question 2

Which two default key formats of SSL certificates could be installed by the NetScaler system? (Choose two.)

- A. PFX
- B. P7B
- C. PEM
- D. DER

Answers: C and D

Objective: Install/configure SSL Certificates

Source: Citrix Support – http://support.citrix.com/article/CTX109260

Sample Question 3

What is required to configure a NetScaler Gateway cluster?



A. Striped IP addresses

B. Strict option is enabled

C. Sticky option is enabled

D. Enterprise or Platinum license

Answer: C

Objective: Configure Clustering

Source: Citrix eDocs - http://support.citrix.com/proddocs/topic/ns-system-10-5-map/ns-cluster-node-groups-behav-con.html

Sample Question 4

Scenario: A Citrix Administrator is upgrading a high availability pair to NetScaler 10.5. After upgrading the secondary appliance, the administrator forces a failover to test the new firmware, but the show ha node command shows the sync state and propagation as disabled.

Why are the settings showing as disabled?

- A. The appliances did NOT properly failover.
- B. The NSIPs are no longer able to communicate.
- C. The settings are automatically disabled until the other appliance is upgraded.
- D. The upgrade process failed to run to completion on the secondary appliance.

Answer: C

Objective: Upgrade a NetScaler

Source: Citrix eDocs - http://support.citrix.com/proddocs/topic/netscaler-migration-10-5/ns-instpk-upgrd-high-avail-pair-tsk.html