

# Citrix NetScaler 8.0: Administration

## 731 Exam

Enablement Guide

Citrix Education

1.0 (*guide version*)

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**Disclaimer**

This exam enablement guide is designed to allow you to assess the types of questions that may be asked during the subject Citrix certification exam. Please be aware that your review of the content of this guide in no way ensures a passing score on the certification exam.

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# 1 The Exam

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**1.1 Purpose of Exam** This exam certifies that successful exam-takers have the knowledge and skills necessary to install, administer and support Citrix NetScaler implementations in an enterprise environment.

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**1.2 Beta Testing an Exam** Once all the questions are developed for an exam, it is offered at no charge to individuals that have expressed interested in obtaining the certification.

A minimum of 50 exam-takers take this exam and complete a survey. A professional and Psychometrician analyzes the exam and surveys in order to determine which questions will be kept in the final versions of the exam; the Psychometrician also recommends the passing score range and the timing for the exam.

If, after the analysis is complete and the passing score is determined, an exam-taker gets a passing score on the beta exam, it will count towards their certification. Exam-takers are allowed to take any particular beta exam only once.

The Citrix NetScaler 8.0: Administration (731) exam was beta-tested from 06/07 to 08/07.

If you are interested in participating in future beta exams, please e-mail us at [training@citrix.com](mailto:training@citrix.com) to be added to the beta exam mailing list.

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**1.3 Number of Questions** The 731 exam is a 58-question exam written in English.

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**1.4 Passing Score** The passing score is based on a statistical analysis of beta exam scores. The beta exam participants answered a survey that helped determine their skill level with the product. Their skill level and their score, as a group, are compared to determine the final passing score.

The passing score for this exam is 60%. The passing score for CCIs in this exam is 72%.

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**1.5 Time Limit** The timing for each exam is determined by a statistical analysis that compares

the time of all beta exam-takers with that of successful beta exam-takers (those who passed the exam).

Native English speakers have 90 minutes to complete the exam. Non-native English speakers who take the exam in English have 120 minutes to complete the exam.

If a non-native English speaker wishes to have the time extension when registering for the exam in English, they must ask for it; it will not be given as a default. Pearson VUE and Prometric have different processes regarding time extensions for non-native English speakers so exam-takers should verify the specific process with the test provider they choose.

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**1.6 Registration and Administration**

This exam is administered through Prometric and Pearson VUE. For details on the rules and procedures associated with registering for and taking the exam, please visit the Exams page at [www.CitrixEducation.com](http://www.CitrixEducation.com).

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**1.7 Registering with Prometric**

In the United States and Canada, call 1-800-481-EXAM (3926). Worldwide, visit the Prometric website ([www.2test.com](http://www.2test.com)) to locate a testing center in your area and register for an exam with Prometric.

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**1.8 Registering with Pearson VUE**

In the United States and Canada, call 1-800-931-4084. Worldwide, visit the Pearson VUE website ([www.VUE.com](http://www.VUE.com)) to locate a testing center in your area and register for an exam with Pearson VUE.

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**1.9 Certification Tracks**

Currently, the 731 exam is the only qualification for obtaining the Citrix Certified Administrator (CCA) for NetScaler certification.

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**1.10 Citrix Exam Retake Policies**

Regardless of whether someone takes the exam at a Pearson VUE or Prometric center, in the event of a failed exam, they must wait 24 hours to register for a second attempt of any Citrix exam. If they fail it once again, they must wait 14 days after a second attempt to register for a third or any subsequent attempt of a Citrix exam.

Beta exams can 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 temporary ban from taking Citrix exams and/or decertification.

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**1.11  
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 refreshes exams and exam questions even after the beta period is over. Comments made during beta and live exams are used as anecdotal feedback and considered when making decisions about the exam.

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## 2 The Intended Audience

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### 2.1 Intended Audience

The 731 exam is a rigorous examination of subjects that are critical to an administrator's role, as defined by Citrix Systems' subject matter experts (SMEs). This role includes, but is not limited to:

- Network Administrators
- Network Engineers
- Security Administrators
- Systems Engineers
- Technical Support Staff
- Consultants
- Architects and Integrators
- Trainers
- Sales Engineers

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### 2.2 Defining the Role Being Tested

The intended audience was determined by subject matter experts (SMEs) for the product through a Job Task Analysis (JTA) procedure. The SMEs defined the exam audience by discussing which job functions require use of the Citrix NetScaler 8.0 product.

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## 3 Preparatory Recommendations for the Exam

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### 3.1 Introduction

It is recommended that exam-takers have the knowledge, skills and abilities necessary to install, administer and support Citrix NetScaler 8.0 implementations in an enterprise environment prior to taking this exam.

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### 3.2 Recommended Knowledge and Skills

Exam-takers should have the following knowledge and skills prior to taking this exam:

- Intermediate knowledge of TCP/IP and HTTP protocols and understanding of the OSI model
  - Experience with network devices (e.g. routers, switches), various networking protocols, and aspects of application and site architecture (e.g. DMZ, VLANS)
  - Moderate exposure to UNIX (particularly BSD variants)
  - Exposure to basic systems administration concepts, including logging, software upgrade procedures and high availability operations
  - Familiarity with web server software (e.g. Apache, IIS, WebSphere)
  - Basic knowledge of DNS, SSL and compression concepts
  - Understanding of concepts related to server load balancing and content switching
  - Knowledge of network security threats and site protection concepts (e.g. firewalls, worms, DDoS attacks)
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### 3.3 Recommended Product Experience

It is recommended that exam-takers have at least one year of experience with the NetScaler 8.0 product.

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### 3.4 Recommended Course

Exam-takers should attend or self-study the Citrix Course CTX-1730AI Citrix NetScaler® 8.0: Basic Operations and the Citrix Course CTX-1731AI Citrix NetScaler® 8.0: Administration.

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## 4 Exam Sections and Weights

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### 4.1 Introduction

The Citrix NetScaler 8.0: Administration exam (731) is divided into five (5) sections. Each section of the exam is weighted as follows, totaling 100%.

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### 4.2 Section Titles and Weights

Sections	Weight
Planning the Network Deployment and Architecture	21%
Initial Configuration and Installation	17%
Managing and Securing	36%
Auditing and Monitoring	14%
Configuring High Availability	12%
<b>Total</b>	<b>100%</b>

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### 4.3 How Section Weights Relate to Questions on the Exam

Section weights correlate directly 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 ( $60 * 50\% = 30$ ).

Section weights are NOT used to calculate an exam-taker's score on the exam. Section weights are meant to give an idea of the percentage of coverage on certain content. 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.

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## 5 Exam Objectives and Resources for the Exam

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### 5.1 Introduction

The questions for the exam were developed directly from the exam objectives. The exam objectives are used to test the knowledge, skills and abilities related to each section of the exam.

Some of the exam objectives will correspond, or map, to field experience. Exam-takers are expected to have at least one year of experience with Citrix implementations of Citrix NetScaler 8.0 to increase their likelihood of passing this exam.

For optimal performance on this exam, Citrix recommends that exam-takers attend or self-study the Citrix Course CTX-1733AI Citrix NetScaler® 8.0: Basic Operations and Administration and obtain field experience.

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### 5.2 Obtaining an Evaluation License of NetScaler 8.0

Exam-takers can get hands-on experience by attending the CTX-1733AI Citrix NetScaler® 8.0: Basic Operations and Administration course.

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### 5.3 Resources Used to Develop the Exam

The following resources were used to develop this exam:

Resource	How to Obtain
CTX-1733AI Citrix NetScaler® 8.0: Basic Operations and Administration	This course is available at Citrix Authorized Learning Centers (CALCs) worldwide. To find the CALC nearest you, please visit the Citrix Education web site. <a href="http://www.citrix.com/English/SS/education/feature.asp?contentID=24019&amp;ntref=edu_training">http://www.citrix.com/English/SS/education/feature.asp?contentID=24019&amp;ntref=edu_training</a> .
Citrix NetScaler 8.0 Administrator's Guide	Available with the purchase of the Citrix NetScaler 8.0 appliance

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### 5.4 Exam Objectives

For each exam objective, the chart below lists the corresponding Citrix course and/or available technical publications.

For all sections, at least one year of experience administering a Citrix

NetScaler 8.0 implementation is recommended.

<b>Section</b>	<b>Objectives</b>	<b>Citrix Course and/or Technical Publication</b>
Planning the Network Deployment and Architecture	<ul style="list-style-type: none"> <li>• Given a description of a network environment, identify the DNS needs.</li> <li>• Given a description of a network environment, identify the Global Server Load Balancing needs.</li> <li>• Given a description of a network environment, determine whether an RNAT configuration is necessary and which devices require it.</li> <li>• Given a description of a network environment, determine the IP addressing needs.</li> <li>• Given a description of a network environment and/or a set of needs including routing and forwarding needs, determine the routing requirements.</li> <li>• Given a description of a network environment and/or a list of requirements, determine the steps needed to identify an appropriate migration plan including new features.</li> <li>• Based on throughput or redundancy requirements, determine when link aggregation should be used.</li> <li>• Given a description of network environment monitoring and</li> </ul>	<ul style="list-style-type: none"> <li>• CTX-1733AI Citrix NetScaler® 8.0: Basic Operations and Administration</li> <li>• Citrix NetScaler 8.0 Administrator's Guide</li> <li>• IEEE 802.3ad</li> </ul>

	<p>management needs, determine SNMP configuration</p> <ul style="list-style-type: none"> <li>Given a description of network environment, auditing, accounting, diagnostic, troubleshooting, and/or statistical needs, determine how to configure logging to meet those needs.</li> </ul>	
Initial Configuration and Installation	<ul style="list-style-type: none"> <li>Given a list of steps, select the correct step(s) and/or order to specify the system IP address and NSIPs in either the console or the command line utility.</li> <li>Given a scenario, determine whether the default router should be defined, and if so, how it should be defined in the command line utility or in the console.</li> <li>Given a list of steps, select the correct step(s) and/or their order to specify MIPs and SNIPs in either the console or the command line utility.</li> <li>Given a list of steps, select the correct step(s) to set and/or change the nsroot password in either the console or the command line utility.</li> <li>Based on a given scenario, determine how or whether to configure an HA monitor including whether or not to disable unnecessary interfaces.</li> <li>Given a description of an environment, decide how to set a node and/or how to configure High</li> </ul>	<ul style="list-style-type: none"> <li>CTX-1733AI Citrix NetScaler® 8.0: Basic Operations and Administration</li> <li>Citrix NetScaler 8.0 Administrator's Guide</li> </ul>

	Availability.	
Managing and Securing	<ul style="list-style-type: none"> <li>• Based on a scenario, determine how to create servers and/or configure services by Name or IP-based services and type.</li> <li>• Based on a scenario, determine which advanced options to configure and/or how to configure them.</li> <li>• Given a set of requirements, determine what needs to be customized in the custom monitors created to meet those requirements.</li> <li>• Given a description of service dependencies in an environment, determine how to configure monitoring to accurately reflect the dependencies.</li> <li>• Given a set of requirements for an environment, select a particular load balancing method to meet the needs of the environment.</li> <li>• Based on a scenario, determine which advanced options to configure for a load balancing server to meet the needs of the scenario.</li> <li>• Based on a scenario, decide the type of vserver needed for the type of SSL traffic.</li> <li>• Given a scenario and a list of steps, determine the correct step(s) and order to add/configure compression policies.</li> <li>• Given a required action, determine the correct expression.</li> </ul>	<ul style="list-style-type: none"> <li>• CTX-1733AI Citrix NetScaler® 8.0: Operations and Administration</li> <li>• Citrix NetScaler 8.0 Administrator's Guide</li> <li>• Knowledge Base Articles</li> </ul>

	<ul style="list-style-type: none"> <li>• Given an unary or named expression, determine the resulting action.</li> <li>• Given a scenario, determine how to bind/associate the actions to policies in order to meet the needs of the scenario.</li> <li>• Given a set of requirements, determine when to define a content switching vserver, the necessary steps and/or order to correctly define a content switching vserver.</li> </ul>	
Auditing and Monitoring	<ul style="list-style-type: none"> <li>• Given specific environment requirements, determine how to configure health checks to meet the needs of the environment.</li> <li>• Given a set of requirements, identify which information to get from the Dashboard to meet those requirements.</li> <li>• Based on a scenario, determine how to configure SNMP traps and alarms to meet the needs of the environment.</li> </ul>	<ul style="list-style-type: none"> <li>• CTX-1733AI Citrix NetScaler® 8.0: Basic Operations and Administration</li> <li>• Citrix NetScaler 8.0 Administrator's Guide</li> </ul>
Configuring High Availability	<ul style="list-style-type: none"> <li>• Based on a scenario requiring High Availability, determine which interfaces to use, or which interfaces to disable HA monitoring on, and/or the steps to disable unused interfaces/HA monitoring.</li> <li>• Based on HA requirements, determine if HA is needed and, if so, how to implement it including node type.</li> <li>• Given a list of testing options, determine which</li> </ul>	<ul style="list-style-type: none"> <li>• CTX-1733AI Citrix NetScaler® 8.0: Basic Operations and Administration</li> <li>• Citrix NetScaler 8.0 Administrator's Guide</li> </ul>

	options should be used to identify the network events that would or would not trigger a failover.	
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**5.5 How Objectives Relate to Questions on the Exam**

Objectives are developed by Exam Developers and subject matter experts (SMEs) based on the identified tasks related to performing the job of administrator using the NetScaler 8.0 in the Job Task Analysis (JTA). SMEs defined the tasks involved to complete each of the job activities, ensuring that the test content is proportional to actual job requirements. The test objectives and describe what the test is designed to measure.

All questions in a Citrix exam are based on objectives.

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## 6 Interactive Item Usage

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### 6.1 Introduction

The Citrix NetScaler 8.0: Administration exam consists primarily of traditional multiple-choice items. This exam also includes Drag and Drop items. These types of items allow for exam-takers to answer questions by interacting with the interface by dragging objects to pre-defined destinations.

Traditional multiple-choice items store the selected answers so that exam-takers may revisit the item and see their chosen answers. In non-traditional items, this is **NOT** the case. If exam-takers navigate away from a non-traditional item, their previous selection is **NOT** visible to them once they revisit the item. **If exam-takers revisit a previously answered non-traditional item, they will be prompted to answer the item again.**

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### 6.2 Description of Drag and Drop Items

Drag and drop items instruct exam-takers to drag objects to pre-defined destinations. These types of items are usually used to test an exam-taker's understanding of a process, order or other regimented or ordered concept.

In these items, pre-defined destinations are marked by rectangular objects called destination panels. Destination panels indicate where objects can be placed in the user interface. These panels contain instructions, such as "Place Here" or "Place First Here" (as shown in Figures 6.1 and 6.2) or similar text that alerts exam-takers that this is a panel onto which an object should be dragged. Objects which can be moved are marked by an action word or sentence.

As with the other non-traditional items, exam-takers must click the "Done" button in the task window when finished in order to record their answer(s) and move on to the next item.

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### 6.3 Specialized cursors in Drag and Drop Items

While dragging these objects, exam-takers should pay careful attention to the cursor. Figures 6.4 and 6.5 depict the two cursors that exam-takers will see while completing a Drag and Drop item in this exam.

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**Figure 6.4**  
**Prohibited**  
**Cursor**  
**Indicator**



In this figure, an exam-taker is attempting to drag an object to a destination panel and the prohibited symbol appears. The exam-taker will not be able to drop the source panel into the destination panel when the prohibited symbol is present and should reposition the source panel on the desired destination panel until he or she sees the insert symbol shown in Figure 6.5.

**Figure 6.5**  
**Insert Cursor**  
**Indicator**



In this figure, an exam-taker is attempting to drag an object to a destination panel and the insert symbol appears. The exam-taker will be able to drop the source panel into the desired destination panel when the insert symbol is present.

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**6.6 Deselecting an Option in a Drag and Drop Item**

If an exam-taker moves an object to the incorrect destination panel, they can remove the item by dragging it out of the destination panel towards the original location of the object.

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## 7 Appendix: Practice

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### Question 1

**Scenario:** A company has distributed Internet sites and installations spread across multiple network locations and plans to have the Citrix NetScaler load balance DNS requests with GSLB.

To ensure DNS resolves GSLB requests appropriately, the administrator should \_\_\_\_\_ or \_\_\_\_\_. (Choose the two phrases that correctly complete the sentence.)

- A. Add a location file
- B. Enable weighted round robin load balancing
- C. Bind explicit monitors to the remote services
- D. Verify that Metric Exchange Protocol is enabled

Answers: C and D

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### Question 2

Besides the default VLAN, which type of VLAN does an administrator need to configure in an environment that requires more interfaces than those available on the Citrix NetScaler system?

- A. Tagged
- B. Port-based
- C. MAC-based
- D. Protocol-based

Answer: A

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**Question 3**

**Scenario:** An administrator needs to configure a Citrix NetScaler system so that back-end servers, which have not been configured on the NetScaler system but are on the same subnet as the front, can be accessed. Traffic still needs to go through the NetScaler system.

What will the administrator need to enable to meet the needs of this environment?

- A. L2 mode
- B. L3 mode
- C. Static route advertisement
- D. Dynamic route advertisement

Answer: A

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**Question 4**

Which two environment needs require an administrator to configure Link Aggregation on the Citrix NetScaler system? (Choose two.)

- A. Link redundancy
- B. Multipoint aggregations
- C. Operation across multiple data rates
- D. Aggregation of data from multiple ports into a single link

Answers: A and D

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**Question 5**

The auditing and security policy of a company requires that all transactions that can be logged must be logged.

Which two options must an administrator configure for a syslog server in order to meet this requirement? (Choose two.)

- A. Access logs
- B. Device counters
- C. Event messages
- D. System counters

Answers: A and C

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**Question 6**

In order for a pair of Citrix NetScaler systems to be configured as a High Availability pair, High Availability \_\_\_\_\_. (Choose the correct phrase to complete the sentence.)

- A. Must be enabled for all interfaces on both devices
- B. Monitoring must be disabled on the secondary device
- C. Must be enabled for all interfaces on the primary device
- D. Monitoring must be enabled on at least one of the interfaces on both devices

Answer: D

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**Question 7**

**Scenario:** A former administrator has just been replaced. The new administrator now has responsibility over the Citrix NetScaler system, which was installed using inline mode as a High Availability pair. The former administrator had all interfaces enabled, but only two of them are physically connected to the switches. The new administrator has decided to disable the unused interfaces.

Which two methods can the administrator use to disable the interfaces? (Choose two.)

- A. Use the command `disable interface <ifnum>`
- B. Use the command `set interface <ifnum> -hamonitor OFF`
- C. Use the configuration utility and select the interface in question under system node and select disable in the interface subnode
- D. Use the configuration utility and select the interface in question under network node and select disable in the interface subnode

Answers: A and D

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