



1Y0-341 Citrix ADC Advanced Topics: Security, Management and Optimization

Exam Preparation Guide 1.0

February 18, 2020

Disclaimer

This exam preparation guide is designed to provide candidates with necessary information about the 1Y0-341 exam, including study resources and ways to interpret the exam objectives to better enable candidates to assess the types of questions that may be asked during the 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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Exam Overview

Number of Items

The 1Y0-341 exam is a 69 question exam written in English. The exam consists of multiple choice items only.

Passing Score

The passing score for this exam is 66%.

Time Limit

Type of Candidate	Time Limits*	Notes
Native English speakers	75 minutes	
Non-native English speakers that take the exam in countries where English is a foreign language	75 minutes +30 minutes (time extension)	Time extension granted automatically
Non-native English speakers that take the exam in countries where English is NOT a foreign language	75 minutes +30 minutes (time extension)	Must request time extension from Citrix. Submit your request here: Time Extension Request

The time limit for this exam is 75 minutes. The total seat time is 75 + 35 minutes. The total seat time includes times allotted for the NDA and surveys.

Intended Audience

The 1Y0-341 exam was developed for candidates who have demonstrated the minimum requisite knowledge and skills required for a Citrix networking professional who can deploy and/or manage Citrix Web App Firewall to secure application access in a Citrix ADC 13 environment, as well as Citrix Application Delivery Management to administer a Citrix ADC environment or optimize Citrix ADC-managed application delivery traffic.

The tasks tested in this exam will represent those skills, which are deemed as advanced topics such as Security, Management, and Optimization

Primary Audience:

- Network Administrators
- Network Engineers
- Network Architects
- Citrix Administrators
- Systems Engineers /Systems Administrators

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 (<http://www.pearsonvue.com/citrix>) to locate a testing center in your area and register for an exam. You may also register in person at any Pearson VUE testing center. If you reside in the United States or Canada, you may also register by calling 1-800-931-4084.

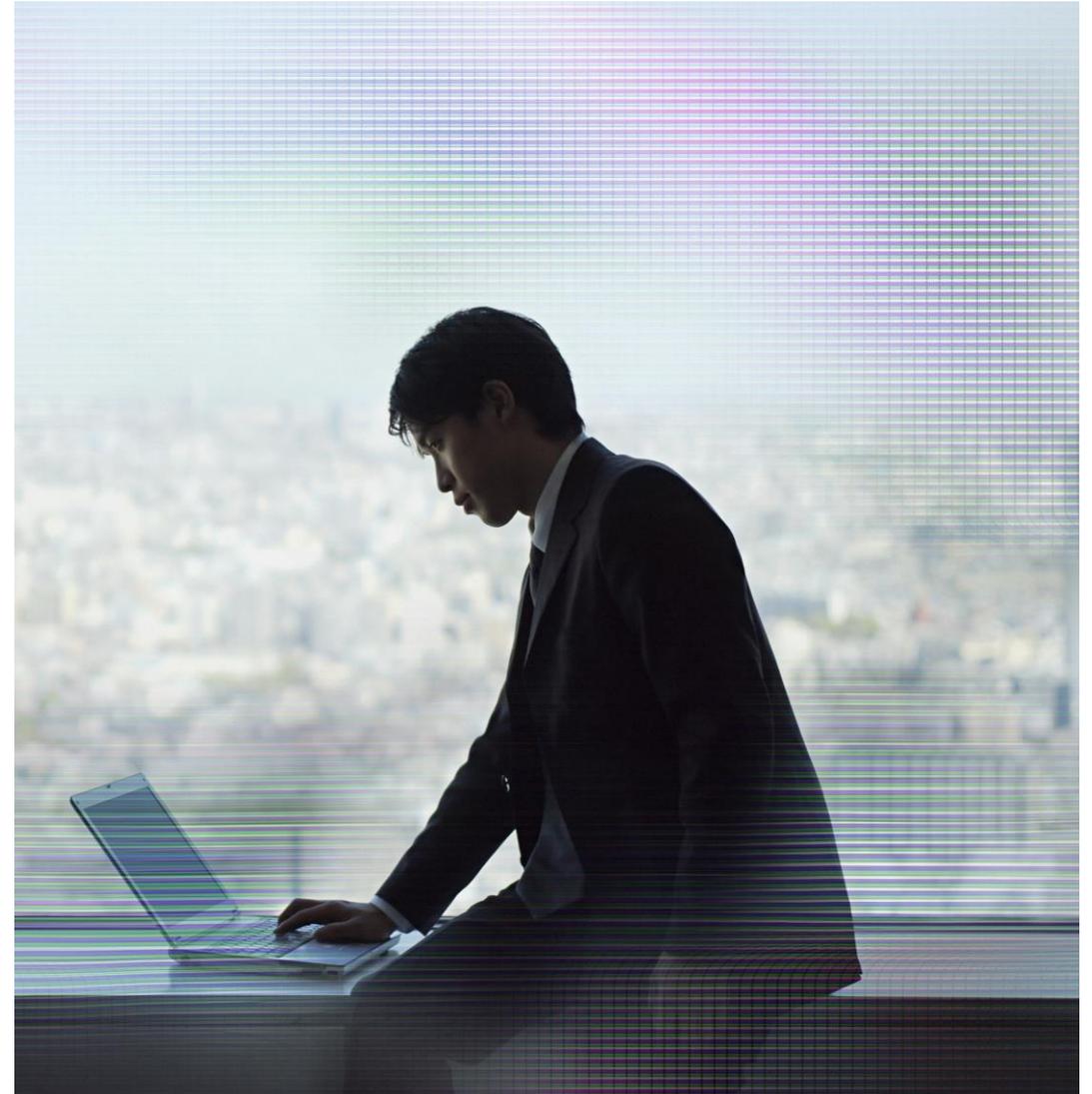
Note: A \$7 USD surcharge will be added to phone registrations.

Retake Policy

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.

Breach of this policy can result in sanctions up to and including a ban from taking Citrix exams and/or decertification.

For more information about our policies, including the Citrix Exam Retake Policy and the Candidate Conduct Policy, please visit <http://training.citrix.com/exams>



Prepping for the Exam

Recommended Knowledge and Skills

Candidates should have knowledge of the following prior to taking this exam:

- Intermediate knowledge of TCP/IP, 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
- Familiar with web server software (e.g. Apache, IIS, WebSphere)
- Familiar with Windows and Linux Server administration
- 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)
- Familiar with regular expressions
- Knowledge of Active Directory
- Knowledge of virtualization
- Knowledge of application optimization
- Familiar with basic concepts of cloud computing

Recommended Product Experience

We recommend that candidates have at least six months of experience with the following topics in a Citrix ADC 12 solution:

- Introducing Citrix Web App Firewall
- Citrix Web App Firewall Profiles and Policies
- Implementing Citrix Web App Firewall Protections
- Additional Citrix Web App Firewall Protections
- Monitoring and Troubleshooting Citrix Web App Firewall
- Citrix ADC Security and Filtering
- Authentication using Security Assertion Markup Language (SAML)
- Authentication using OAuth and OpenID
- Introduction and Configuration of Citrix Application Delivery Management (ADM)
- Managing and Monitoring Citrix ADC Instances
- Managing Citrix ADC Configurations
- Integrated Caching
- Front End Optimization
- Performance Tuning and Other Optimizations

Recommended Training

Citrix Education recommends that candidates have hands-on experience implementing Citrix ADC 13 in an enterprise environments, prior to taking this exam. One of the best ways to do this is by taking a formal Citrix training course. The following course provides the skills to assess, design, and implement advanced configurations of Citrix ADC, Citrix Gateway, and Citrix Application Delivery Management..

[CNS-320 Citrix ADC 12.x Advanced Concepts - Security, Management and Optimization](#)

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

Unauthorized Preparation Materials

Citrix Education 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.

Interpretation of Objectives

Candidates should refer to the objectives and examples listed in this guide in order to determine which topics will be on the exam, as well as examples of the topics that could be tested.

For example, if the objective reads “Configure monitors” and one of the examples reads, “determine when to use which type of monitor,” exam-takers could expect to see:

- A question that requires determining which type of monitor to configure...
 - *Which type of monitor should a Citrix Administrator configure...*
- ...based on given requirement(s)
 - *...to validate that a specific text string is returned in a web server response?*

Note: The examples listed in the “Sections, Objectives, Examples and References” section of this guide do NOT encompass all potential topics that could be tested. The examples are only provided as guidance.

The objectives and examples for this exam were developed by Exam Project Managers and Subject Matter Experts (SMEs) based on identified tasks that related to Citrix ADC 13 in enterprise environments.

The number of questions written for each objective relates directly to the importance of that objective and is proportional to how frequently that task is performed.

Sections, Objectives and References

- Citrix Product Documentation: <http://docs.citrix.com>
- Citrix Support: <http://www.citrix.com/support>
- Citrix Blogs: <http://blogs.citrix.com/>

Objective Number	Objective	References
Section 1: Introducing Citrix Web App Firewall		
1.01	Determine how to audit for PCI-DSS compliance.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall.html https://www.citrix.com/blogs/2017/06/02/achieve-pci-compliance-with-netScaler-waf/ https://www.citrix.com/networking/pci-dss.html
1.02	Determine the appropriate methodology to use for a given scenario.	https://www.citrix.com/content/dam/citrix/en_us/documents/data-sheet/citrix-application-firewall-datasheet.pdf https://docs.citrix.com/en-us/citrix-adc/13/application-firewall.html
1.03	Determine the functionality of Citrix Web App Firewall, given a scenario.	https://docs.citrix.com/en-us/citrix-adc/13/load-balancing/load-balancing-advanced-settings/retrieve-location-details-using-ip-address-from-geolocation-database.html https://docs.citrix.com/en-us/citrix-web-app-firewall-service.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/profiles/learning.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/url-protections/starturl-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/dataleak-prevention/safeobject-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/top-level-protections/cookie-consistency-check.html
Section 2: Citrix Web App Firewall Profiles and Policies		
2.01	Determine how to configure Citrix Web App Firewall Policies.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/policies/firewall-policies.html

Objective Number	Objective	References
2.02	Determine how to create or implement (binding) Citrix Web App Firewall profiles.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/profiles.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/DeploymentGuide.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/profiles/configuring-profiles.html
2.03	Determine how to configure Citrix Web App Firewall learning for a given scenario.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/profiles/learning.html
2.04	Determine how to analyze Citrix Web App Firewall settings.	https://support.citrix.com/article/CTX131488 https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/configuring-global-settings/engine-settings.html
Section 3: Implementing Citrix Web App Firewall Protections		
3.01	Determine how to configure security checks to meet given requirements.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/top-level-protections/html-cross-site-scripting-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/top-level-protections/html-sql-injection-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/form-protections/form-field-consistency-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/dataleak-prevention/creditcard-check.html
3.02	Determine how to analyze data flow to meet given requirements.	https://docs.citrix.com/en-us/citrix-adc/13/getting-started-with-citrix-adc.html#processing-order-of-features https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/dataleak-prevention/safeobject-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/DeploymentGuide.html https://docs.citrix.com/en-us/citrix-adc/13/getting-started-with-citrix-adc.html#processing-order-of-features
3.03	Determine how to configure rules and adaptive learning to meet the needs of a given environment.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/configuring-application-firewall/using-gui.html#to-configure-the-learning-feature-by-using-the-gui https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/profiles/learning.html

Objective Number	Objective	References
3.04	Determine how to create or modify signature rules based on given requirements.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/signatures/updating-signatures.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/signatures/modifying-signatures.html https://support.citrix.com/article/CTX138858
3.05	Determine how to configure the various top-level protections based on the needs of an environment.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/top-level-protections/buffer-over-flow-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/top-level-protections/html-sql-injection-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/top-level-protections/html-cross-site-scripting-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/url-protections/denyurl-check.html
Section 4: Additional Citrix Web App Firewall Protections		
4.01	Determine how to configure cookie consistency checks for an environment.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/top-level-protections/cookie-consistency-check.html
4.02	Determine how to configure advanced form protection checks for an environment.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/form-protections/form-field-consistency-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/form-protections/field-formats-check.html
4.03	Determine how to appropriately protect URLs based on a description of an environment.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/url-protections/starturl-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/form-protections/cross-site-request-forgery-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/dataleak-prevention/safeobject-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/debugging-troubleshooting/learning.html https://docs.citrix.com/en-us/netScaler/12/application-firewall/url-protections/denyurl-check.html

Objective Number	Objective	References
4.04	Determine how to appropriately protect the data based on a description of an environment.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/dataleak-prevention/creditcard-check.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/dataleak-prevention/safeobject-check.html
Section 5: Monitoring and Troubleshooting Citrix Web App Firewall		
5.01	Determine how to deploy Citrix Web App Firewall for a given environment.	https://support.citrix.com/article/CTX227310
5.02	Determine how Citrix Web App Firewall interacts with applications in a given environment.	https://support.citrix.com/article/CTX131488
5.03	Determine how to resolve Citrix Web App Firewall configuration issues given a description of an issue.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/debugging-troubleshooting/large-file-upload-failure.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/policies/firewall-policies/binding_policies.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/profiles/configuring-profiles.html
5.04	Determine how to Implement logging and reporting.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/policies/auditing-policies.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/logs.html https://docs.citrix.com/en-us/citrix-adc/13/system/troubleshooting-citrix-adc/how-to-free-space-on-var-directory.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/DeploymentGuide.html
5.05	Determine how to customize error pages for a given environment.	https://support.citrix.com/article/CTX140293

Objective Number	Objective	References
5.06	Identify troubleshooting methods for Citrix Web App Firewall.	https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/appendixes/nstrace-with-violation-logs.html https://developer-docs.citrix.com/projects/citrix-adc-command-reference/en/latest/appfw/appfw-transactionrecords/appfw-transactionrecords/ https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/debugging-troubleshooting.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/debugging-troubleshooting/learning.html https://docs.citrix.com/en-us/citrix-adc/13/application-firewall/policies/firewall-policies/configuring_policies.html https://developer-docs.citrix.com/projects/citrix-adc-command-reference/en/latest/appfw/appfw-stats/appfw-stats/
Section 6: Citrix ADC Security and Filtering		
6.01	Determine how to implement HTTP Callout.	https://docs.citrix.com/en-us/citrix-adc/13/appexpert/http-callout/configuring-http-callouts.html https://docs.citrix.com/en-us/citrix-adc/13/appexpert/http-callout/invoking-http-callout.html
6.02	Determine how to implement IP rate-limiting.	https://docs.citrix.com/en-us/citrix-adc/13/appexpert/rate-limiting/configuring-binding-traffic-rate-policy.html https://docs.citrix.com/en-us/citrix-adc/13/appexpert/rate-limiting/configuring-binding-traffic-rate-policy1.html
6.03	Determine how to implement IP reputation.	https://docs.citrix.com/en-us/citrix-adc/13/reputation/ip-reputation.html
6.04	Determine how to Implement AppQoE.	https://docs.citrix.com/en-us/citrix-adc/13/appexpert/appqoe/appqoe-actions.html https://docs.citrix.com/en-us/citrix-adc/13/appexpert/appqoe/appqoe-parameters.html
Section 7: Authentication using Security Assertion Markup Language (SAML)		
7.01	Determine how to configure SAML based on a given scenario.	https://docs.citrix.com/en-us/citrix-adc/13/aaa-tm/saml-authentication/citrix-adc-saml-sp.html https://docs.citrix.com/en-us/citrix-adc/13/aaa-tm/saml-authentication/citrix-adc-saml-idp.html

Objective Number	Objective	References
Section 8: Authentication using OAuth and OpenID		
8.01	Determine how to configure OAuth and OpenID based on a description of a Citrix ADC environment.	https://support.citrix.com/article/CTX234873
8.02	Determine how to configure multi-factor authentication in a Citrix ADC environment based on a given scenario.	https://docs.citrix.com/en-us/citrix-adc/13/aaa-tm/multi-factor-nfactor-authentication/nfactor-authentication-working.html https://docs.citrix.com/en-us/citrix-adc/13/aaa-tm/multi-factor-nfactor-authentication/nfactor-authentication-configuration-basics.html
Section 9: Introduction and Configuration of Citrix Application Delivery Management		
9.01	Determine which features of Citrix Application Delivery Management should be used based on a description of an environment.	https://docs.citrix.com/en-us/citrix-application-delivery-management-service/analytics.html
9.02	Determine what is needed for the Citrix ADM Service.	https://docs.citrix.com/en-us/citrix-application-delivery-management-service/system-requirements.html https://docs.citrix.com/en-us/citrix-application-delivery-management-service/setting-up.html
9.03	Determine how to deploy Citrix Application Delivery Management based on a given scenario.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/deploy/high-availability-deployment.html
9.04	Determine how to perform the initial configuration of Citrix Application Delivery Management.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/deploy/prerequisites-to-install-citrix-adm.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/configure/add-instances.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/configure/enable-analytics-on-virtual-servers.html
9.05	Determine how to create additional instances of Citrix Application Delivery Management.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/configure/add-instances.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/instance-management/configure-sites-geomaps.html

Objective Number	Objective	References
Section 10: Managing and Monitoring Citrix ADC Instances		
10.01	Determine how to manage multiple instances in a single Citrix Application Delivery Management deployment with Instance Management.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/instance-management/create-instance-groups.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/instance-management/how-to-search-instances-using-tags-properties.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/configure/add-instances.html
10.02	Determine how to manage the aspects of Authentication and Authorization on Citrix ADM.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/access-control/multi-tenancy.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/access-control/role-based-access-control.html
10.03	Identify what data is captured and utilized with Analytics and Automation.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/analytics.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/events.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/application-analytics-and-management/application-security-analytics.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/analytics/logstream.html
10.04	Determine how to configure and install SSL Certificates on Citrix Application Delivery Management.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/ssl-certificate-dashboard/how-to-configure-enterprise-policy.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/ssl-certificate-dashboard/how-to-install-ssl-certificates-on-netscaler-instance.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/ssl-certificate-dashboard/how-to-set-up-notificationsfor-ssl-certificate-expiry.html

Objective Number	Objective	References
10.05	Determine how to monitor user connections using dashboards.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/analytics/secure-web-gateway-analytics/dashboards.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/application-analytics-and-management/application-security-analytics.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/application-analytics-and-management.html
Section 11: Managing Citrix ADC Configurations		
11.01	Determine how to manage applications in a Citrix ADC environment.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/application-analytics-and-management/application-security-analytics.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/application-analytics-and-management/application-performance-analytics.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/application-analytics-and-management/create-application-definition.html
11.02	Determine how to create, manage, and configure StyleBooks.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/stylebooks/how-to-create-custom-stylebooks.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/stylebooks/how-to-create-custom-stylebooks/create-composite-stylebook.html
11.03	Determine how to complete configuration jobs based on a scenario.	https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/configuration-jobs/how-to-use-variables.html https://docs.citrix.com/en-us/citrix-application-delivery-management-software/13/networks/configuration-jobs/replicate-configuration.html

Objective Number	Objective	References
Section 12: Integrated Caching		
12.01	Determine when to use static or dynamic content requests.	https://docs.citrix.com/en-us/citrix-adc/13/optimization/integrated-caching.html https://docs.citrix.com/en-us/citrix-adc/13/optimization/integrated-caching/configure-policies-for-caching-and-invalidation.html
12.02	Determine how to configure cache policies.	https://docs.citrix.com/en-us/citrix-adc/13/optimization/integrated-caching/configure-policies-for-caching-and-invalidation.html
12.03	Determine which content group settings to configure based on a given scenario.	https://docs.citrix.com/en-us/citrix-adc/13/optimization/integrated-caching/configure-selectors-basic-content-groups.html https://docs.citrix.com/en-us/citrix-adc/13/optimization/integrated-caching/improve-cache-performance.html
Section 13: Front End Optimization		
13.01	Determine how to utilize front-end optimizations based on a given scenario.	https://docs.citrix.com/en-us/citrix-adc/13/optimization/front-end-optimization.html
Section 14: Performance Tuning and Other Optimizations		
14.01	Determine how the Citrix ADC system uses HTTP connections based on a given description.	https://docs.citrix.com/en-us/citrix-adc/13/system/http-configurations.html#configure-http-profile-to-drop-trace-or-track-invalid-requests https://docs.citrix.com/en-us/citrix-adc/13/system/http-configurations.html
14.02	Determine how to Tune HTTP and TCP behaviors in Connection Profiles.	https://docs.citrix.com/en-us/citrix-adc/13/system/tcp-configurations.html#built-in-tcp-profiles

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