CNS-222-1I: NetScaler for Apps and Desktops

Overview

Designed for students with little or no previous NetScaler, NetScaler Gateway or Unified Gateway experience, this course is best suited for individuals who will be deploying or managing NetScaler, NetScaler Gateway, or Unified Gateway environments.

What's New:

The course has been completely redeveloped and improves upon CNS-207: Implementing Citrix NetScaler 11 for App and Desktop Solutions via the following:

- Improved course structure and flow to focus on NetScaler essentials for the first 3 days, and NetScaler Gateway and Unified Gateway features for the remaining 2.
- A new lab environment, redesigned and built for enhanced performance.
- Incorporated course feedback that has been gathered over the last year.
- New content introduced throughout the course.

Part 1: NetScaler Essentials (Days 1-3)

Learn the skills required to implement NetScaler components including secure Load Balancing, High Availability, and NetScaler Management. At the end of the course students will be able to configure their NetScaler environments to address traffic delivery and management requirements including load balancing, availability, and NetScaler operation management.

Part 2: NetScaler Gateway and Unified Gateway (Days 4-5)

Learn the skills required to configure and manage NetScaler Gateway and Unified Gateway features, including how to implement Gateway components including NetScaler Gateway and Unified Gateway. At the end of the course students will be able to configure their NetScaler environments to address remote access requirements for Apps and Desktops.

Recommended pre-requisite courses:

- CNS-102 NetScaler Overview

Note: Students looking to expand their knowledge around NetScaler Traffic Management functionality are recommended to take CNS-220 (Citrix NetScaler Essentials and Traffic Management) instead of this class.

This course is based on the Citrix NetScaler 11 product, but the skills and fundamental concepts learned are common to earlier product versions.

Key Skills

- Identify the functionality and capabilities of the NetScaler
- Explain basic NetScaler network architecture
- Explain how SSL is used to secure the NetScaler
- Configure Authentication and Authorization
- Define End User Access and Experience
- Integrate NetScaler Gateway with XenApp and XenDesktop
- Integrate Unified Gateway with additional resources
- Employ recommended tools and techniques to troubleshoot common NetScaler Gateway network and connectivity issues

Audience

Students interested in learning how to implement and manage the advanced NetScaler features using leading practices. Specifically:

- Administrators
- Implementers / Engineers
- Architects

Instructional Method

This course is offered in instructor-led training (ILT)/virtual instructor-led training (vILT) formats with application of concepts through hands-on exercises in a live lab environment.

Course Length

5 days

Course Materials

As part of this course, students will receive the following materials:

- Access to a lab environment for the duration of the course
- Lab exercise guide
- Access to final course deliverables once the course is available in general availability including copies of all official materials presented by the instructor with additional notes and references as well as videos with experts throughout Citrix around course topics and lab exercises.

Preparatory Recommendations

Citrix recommends students prepare for this course by taking the following course:

- CNS-102 NetScaler Overview

It is also recommended to gain a basic understanding of the following concepts and technologies:

- Basic Networking
- Windows and Linux Server administration

- Experience with Citrix virtualization technologies, such as XenDesktop and XenApp
- Experience with Microsoft SQL Server or enterprise database servers
- Experience with Active Directory and Group Policy
- Basic understanding of Microsoft Remote Desktop Services
- Basic understanding of VPN concepts, including SSL encryption and certificates

Certification Preparation

In addition to field experience, this course helps prepares candidates for the 1Y0-253: Implementing Citrix NetScaler 10.5 for App and Desktop Solutions exam. By passing the 1Y0-253: Implementing Citrix NetScaler 10.5 for App and Desktop Solutions exam, candidates will gain the Citrix Certified Associate – Networking (CCA-N). Go here to learn more about Citrix Certifications.

Topic Outline

Part 1

- Getting Started
    - Introduction to the NetScaler System
    - TriScale
    - NetScaler Use Cases
    - NetScaler Functionality
    - NetScaler Overview
    - Product Features
    - NetScaler Operating System Overview
    - nCore Configuration Architecture
    - NetScaler File system
    - Deployment Scenarios
    - Logging in to the NetScaler System
    - NetScaler Licenses
- Basic Networking
    - OSI Networking Model
    - NetScaler Architecture Overview
    - NetScaler-Owned IP Addresses
    - Network Topology
    - NetScaler Network Interfaces
    - Virtual Local Area Networks (VLANs)
    - IP Routing
    - Determining the Source IP Address
    - Packet Forwarding
    - Use Source IP Mode

    - Client-IP HTTP Header Insertion
    - Path MTU Discovery
    - Link Aggregation
    - Access Control Lists
    - Network Address Translation (NAT)
- NetScaler Platforms
    - Architecture and General Concepts
    - Hardware Platforms
    - Hardware Components
    - MPX Overview
    - VPX Overview
    - CPX Overview
    - SDX Overview
    - Identify the unique capabilities and functionality of the NetScaler SDX platform
    - Identify the networking characteristics of the NetScaler SDX platform
    - Explain the process of provisioning and administration of NetScaler VPX instances on a NetScaler SDX appliance
- High Availability
    - High Availability Functionality
    - High Availability Node Configuration
    - Propagation and Synchronization
    - Failover, Route Monitors, Fail Safe
    - Propagation, Synchronization
    - High Availability Management
    - Performing an Upgrade
    - Troubleshooting
    - Upgrading HA pair
- Load Balancing
    - Local Load Balancing concepts
    - Naming conventions
    - Persistence
    - Service Types
    - LB Methods
    - Disabling Entities
    - Diagnostics/Troubleshooting
    - L4 vs L7 for TCP services
    - UDP ping vs L7
    - Monitor attributes

    - Built in L7 monitors
    - Monitors from Scripts
    - EAV Monitors
    - ECV Monitors
    - DataStream
- SSL Offload
    - SSL and TLS
    - SSL Session Process
    - SSL Administration
    - SSL Offload Overview
    - SSL Attacks Overview
    - SSL Troubleshooting
    - Cipher Suites
    - Certificate Management
    - Feature and Benefits
    - Offload Performance
    - Deployment Scenarios
    - Citrix Recommendations for SSL
- Securing the NetScaler
    - NetScaler Communication Ports
    - Overview of AAA
    - Authentication on the NetScaler
    - NetScaler Users
    - Command Policies
    - Admin Partitions
- Monitoring, Management, and Troubleshooting
    - Monitoring Needs
    - NetScaler Log Management
    - Simple Network Management Protocol
    - AppFlow on the NetScaler System
    - NetScaler Insight Overview
    - NetScaler Command Center Overview
    - Network Traffic Capture using NSTRACE
    - Troubleshooting with Filter Expressions
    - Decoding SSL Traffic with Wireshark
    - Display NetScaler System Information

Part 2

- Authentication and Authorization
    - System and AAA Users Groups
    - External Authentication
    - Authentication Actions and Policies
    - Authentication Configuration
    - Supported Authentication Types
- Access Policies
    - Endpoint Analysis
    - Policy, Profiles, and Expressions
    - Pre-Authentication Policies and Profiles
    - Post-Authentication Policies
    - Endpoint Analysis Troubleshooting
- End-User Access and Experience
    - Connection Methods
    - Endpoint Session Policies Settings
    - Timeout Settings
    - RDP Proxy
    - Clientless Access
    - VLAN Options
- Gateway Services Load Balancing
    - SSL Offload Overview
    - Traffic Types
    - Ldap, HDX, StoreFront Load Balancing
    - Extended Content Verification (ECV) Monitoring
- Integrating NetScaler with XenApp and XenDesktop
    - Required Firewall Rules
    - Web Interface or StoreFront Integration with NetScaler Gateway
    - WebFront Overview
    - Session Policies
- Unified Gateway
    - NetScaler Unified Gateway Overview
    - NetScaler Unified Gateway Reference Architecture Review
    - Unified Gateway Key Features
    - Unified Gateway Topologies