

**5 Days**

## CNS-222: Citrix NetScaler Essentials and Unified Gateway

The CNS-222 training course makes you learn the skills to implement NetScaler components like the secure load balancing, high availability, and the management. One can gain skills to implement, configure and manage NetScaler Gateway and Unified Gateway. Further, the candidate will be able to configure NetScaler environments and address the remote access requirements for desktops and the apps.

### Course Objective

The course brings you the following benefits

- Basic NetScaler Network architecture
- NetScaler functionality and capabilities
- Secure the NetScaler with SSL
- Configure authentication and authorization
- Integration of NetScaler Gateway with XenApp and XenDesktop
- Integrate Unified Gateway with additional resources
- Troubleshooting using tools and techniques

## Course Details

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### Course Outline

#### 1. Introduction to NetScaler System

- Overview, Features, Use Cases, Functionality
- Operating system
- nCore Configuration Architecture
- NetScaler file system and deployment scenarios
- Logging into NetScaler System
- Licenses of NetScaler

#### 2. Basic Networking

- OSI Networking Model
- NetScaler Architecture Overview, Network Interfaces
- Virtual Local Area Networks [VLANs]
- IP Routing & determining source of IP Address
- Packet Forwarding
- Use Source IP Mode, Client-IP HTTP Header Insertion
- Link Aggregation, Access Control Lists
- Network Address Translation[NAT]

#### 3. NetScaler Platforms

- General Concepts and Architecture
- Hardware Components and Platforms
- MPX, CPX, VPX, and SDX overview
- Networking characteristics, Capabilities, and functionality
- Provisioning and administration of NetScaler VPX instances on a NetScaler SDX appliance

#### 4. High Availability

- High Availability Functionality, Node Configuration, and Management
- Propagation and Synchronization
- Failover, Route monitors, and fail safe
- Performing an upgrade
- Troubleshooting

#### 5. Load Balancing

- Understanding Local load balancing
- Naming conventions
- Persistence
- Service Types
- Disabling entities
- LB Methods
- L4 vs L7 for TCP services
- UDP ping vs L7
- Diagnostics and Troubleshooting
- Monitor Attributes
- EAV, ECV Monitors, Built-in L7 Monitors
- DataStream

#### 6. SSL Offload

- SSL and TLS
- SSL session process, administration, offload and attacks overview
- SSL Troubleshooting
- Feature and Benefits
- Cipher Suites
- Certificate Management
- Deployment Scenarios
- Citrix Recommendations for SSL

#### 7. NetScaler Security

- NetScaler Communication Ports
- Authentication on the NetScaler
- Overview of AAA
- Admin partitions and Command policies
- NetScaler Users

#### 8. Monitoring and Troubleshooting

- Overview of NetScaler Insight, Command Center
- Log Management
- Simple Network Management Protocol
- AppFlow on the NetScaler System
- Network Traffic Capture using NSTRACE
- Decoding SSL Traffic with Wireshark
- Display NetScaler System Information
- NetScaler Command Line Tools

#### 9. Authentication and Authorization

- System and AAA Users Groups
- Authentication Configuration
- External Authentication
- Authentication Policies and Actions
- Supported Authentication Types

#### 10. Access Policies

- Policy, Profiles, and Expressions
- Pre-Authentication Policies and Profiles
- Post-Authentication Policies
- Endpoint Analysis & Troubleshooting

## 11. End-User Access and Experience

- Connection Methods
- Endpoint Session Policies Settings
- Timeout Settings
- RDP Proxy
- Clientless Access
- VLAN Options

## 12. Gateway Services Load Balancing

- SSL Offload Overview
- Traffic Types
- Extended Content Verification (ECV) Monitoring
- Ldap, HDX, StoreFront Load Balancing

## 13. Integrating NetScaler with XenApp and XenDesktop

- Web Interface or StoreFront Integration with NetScaler Gateway
- WebFront Overview
- Firewall Rules
- Session Policies

## 14. Unified Gateway

- Overview
- Reference Architecture Review
- Key Features
- Topologies

# Who Should Attend

- Administrators
- Implementers
- Engineers
- Architects

# Pre Requisite

### Basic Understanding of

- Concept of Networking
- Microsoft Remote Desktop Services
- VPN Concepts

### Experience in :

- Windows and Linux administration
- Citrix Virtualization Technologies like XenDesktop and XenApp
- Microsoft SQL Server
- Enterprise Database Server
- Active Directory and Group Policy
- Recommended Course:
  - CNS-102 NetScaler Overview

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