Advanced Administration & Performance Management (AAPM)

COURSE OVERVIEW

If you are an experienced Nutanix administrator, this course will serve as a deep dive that gives you a rich, nuanced understanding of the Nutanix platform, and will help you get the most out of your Nutanix solutions. AAPM is divided into six major sections, each focused on performance improvements and advanced administration techniques for different aspects of your clusters:

- Storage: Take a deep dive into AOS storage services, different aspects of Acropolis Distributed Storage, storage optimization, and storage best practices for application workloads.
- Networks: Learn how to optimize physical and virtual workloads, as well as how to implement Flow Virtual Networking and Virtual Private Clouds (VPCs).
- VMs: Learn about sizing the CVM and Prism Central VMs, alternate methods of VM provisioning (such as via CLI), how to work with GPUs, and how to improve VM storage and network performance.
- Security: Understand important features such as authentication, RBAC, IAM, and encryption. Learn how to use essential security products, such as Flow Security Central and Flow Network Security.
- Analyzing Problems: Explore ways to monitor and identify health issues, network performance, VM performance, and cluster performance.
- Business Continuity and Disaster Recovery: Learn about Nutanix data backup, web-scale data protection, protection from ransomware, self service restore, and third-party integrations. You will also learn how to use protection domains and Nutanix Leap for disaster recovery.

WHO WILL BENEFIT FROM THIS COURSE?

- IT administrators and architects who manage Nutanix clusters but would like more in-depth knowledge of Nutanix datacenter administration
- Anyone preparing for the Nutanix Certified Master -Multicloud Infrastructure (NCM-MCI) certification

PREREQUISITES

- Nutanix Enterprise Cloud Administration (ECA) classroom training or an NCP-MCI certification
- Basic knowledge of Nutanix datacenter administration techniques
- Familiarity with traditional virtualization storage architectures
- Comfort with Linux command-line interface

To ensure AAPM is the right fit, we encourage you to complete our online Readiness Evaluation. Questions are based on topics covered in the ECA course and NCP-MCI exam that you should be familiar with before attending.

COURSE OUTLINE

Exploring Nutanix Storage Features

- Understanding Nutanix AOS Services and AOS Storage Services
- Exploring Storage Components
- AOS Storage Data Pathing

Hands-on Labs

- Creating a Storage Container
- Updating Reported Capacity

Creating a Highly Available, Performant, and Resilient Storage Layer

- Creating Highly Available, Resilient Infrastructure
- Storage Optimization and Data Efficiency
- Optimizing and Planning for New Workloads
- Storage Best Practices for Application Workloads

Hands-on Labs

- Observing Nutanix Cloning Efficiency
- Reserving Rebuild Capacity in AHV
- Observing the Rebuild Process
- Disabling Rebuild Capacity Reservation
- Creating a Storage Container with Deduplication Enabled
- Reviewing Deduplication Savings
- Enabling Replication Factor 1 and Creating a Storage Container

Optimizing Physical and Virtual Networks in AOS

- Optimizing Physical & Virtual Networks
- Best Practices

Hands-on Labs

- Managing Virtual Switches and Uplinks
- Viewing Virtual Switches from Prism Element
- Configuring CVM Network Segmentation
- Configuring QoS Traffic Marking

Optimizing Overlay Networks Using Flow Networking

- Optimizing Physical & Virtual Networks
- Implementing Flow Networking
- Implementing VPCs
- Overlay Network Use Cases

Hands-on Labs

- Enabling Flow Networking
- Creating an External Subnet
- Creating a VPC
- Creating VMs using the Overlay Subnets
- Configuring Local and Remote Gateways
- Establishing a VPN Connection
- Verifying VPN Connectivity

Optimizing VM Performance

- Sizing the CVM & Prism Central
- Alternate Methods of Provisioning User VMs
- Working with GPUs in AHV
- Improving VM Storage and Network Performance

Hands-on Labs

- Creating VMs with the REST API
- Configuring VirtIO Multi-Queue
- Configuring Volumes Block Storage

Analyzing Nutanix Cluster Security Options

- Nutanix Security Technologies
- User Authentication and Permissions
- Hardening AHV and the CVM
- Using Flow Network Security & Flow Security Central
- Data Encryption with Nutanix
- Managing Log Files

Hands-on Labs

- Configuring Cluster Lockdown
- Replacing Default SSL Certificates
- Configuring Syslog Integration
- Managing User Permissions

Microsegmentation with Flow Network Security

- Flow Policy Constructs
- Security Policy Models and Types
- Enabling Microsegmentation
- Creating and Applying Policies

Hands-on Labs

- Enabling Flow Microsegmentation
- Creating Categories
- Creating VMs and Assigning Categories
- Configuring Isolation and Application Security Policies

Microsegmentation with Flow Network Security

- Evaluating Cluster Health
- Network Packet Capture and Inspection
- Acropolis Service Failures
- Ensuring Efficient Physical Resource Consumption with Machine Learning
- Application Monitoring and Discovery
- Monitoring Performance

Hands-on Labs

- Creating a Prism Central Performance Monitoring Dashboard
- Creating Charts to Analyze Metrics Using Prism Central
- Creating Charts to Analyze Entities Using Prism Element

Business Continuity

- Assessing Business Continuity and Disaster Recovery
- High Availability and Data Protection
- Third Party Backup Integrations
- Best Practices

Hands-on Labs

- Configuring Self Service Restore

Implementing Disaster Recovery

- Replicating Data with AOS
- Disaster Recovery Orchestration
- Disaster Recovery with Protection Domains
- Getting Started with Nutanix Leap
- Protecting Against Ransomware

Hands-on Labs

- Enabling Nutanix Leap
- Configuring an Availability Zone
- Configuring a Protection Policy
- Creating Production and Test VLANs
- Preparing VMs for Nutanix Leap
- Configuring a Recovery Plan
- Performing Test and Planned Failover

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