Nutanix Enterprise Cloud Administration (ECA)

If you already have experience with administering a Nutanix environment, this course will extend, deepen, and broaden your knowledge as you grow in your career as a Nutanix administrator.

Designed with Prism Central as the focal point, this course illustrates the breadth and depth of Nutanix's centralized management capabilities and allows you to explore the wide variety of features that are available in this one, single web console.

ECA is divided into four topic areas:

1. Understanding core Nutanix concepts, such as hyperconverged infrastructure (HCI) and the various Nutanix cloud solution packages. Also, the basic configuration of a cluster and the components that are needed to create and manage VMs – namely, networks and images.
2. Creating and managing VMs, working with Projects, how to protect VMs and their data, how to apply storage optimization features at the VM level, and how to migrate your workloads to a Nutanix environment.
3. Learn about alerts, events, log collection, reporting, and how to use various features in Prism Central to identify, analyze, and remediate performance issues.
4. Learn how to set up a cluster for maintenance activities – such as starting and stopping nodes and clusters – and how to upgrade installed software and firmware with just a few clicks.

Audience

- Administrators, engineers, and others who manage Nutanix clusters in the datacenter
- Managers and technical staff seeking information to drive purchase decisions
- Anyone seeking the Nutanix Certified Professional - Multicloud Infrastructure (NCP-MCI) certification

Course Outline

1: Getting Started with a Nutanix Cluster

- Understand three-tier and HCI
- Understand the Nutanix product portfolio
- Understand nodes, blocks, clusters, and cluster services
- Get started with Prism Central and Prism Element
- Understand when to use Prism Central and Prism Element

Hands-on-Labs

- Connecting to and exploring Prism Element
- Adding data services IP, an NTP server, and a name server in Prism Element
- Connecting to, exploring, and configuring Prism Central

2: Configuring Cluster Networking

- Understand AHV networking terminology
- Use Prism Central to monitor cluster networks
- Use Prism Element to explore the Network Visualizer
- Create and update subnets and virtual switches
- Understand subnet extension and network segmentation

Hands-on Labs

- Creating unmanaged and managed networks
- Exploring the AHV network configuration
- Viewing virtual switches from Prism Element

3: Managing Images

- Understand the image service
- Use Prism Central to monitor, upload, import, and manage images

Hands-on Labs

- o Uploading and importing images to Prism Central
- o Configuring an image placement policy

4: Creating VMs

- Use Prism Central to create VMs
- Use Prism Central's self-service capabilities to create VM templates
- Use Projects in Prism Central
- Install and enable Nutanix Guest Tools

Hands-on Labs

- o Creating Windows and Linux VMs
- o Installing Windows and Linux operating systems
- o Installing Nutanix Guest Tools on Windows and Linux
- o Creating a Project
- o Exploring the Self Service Dashboard in Prism Central

5: Managing VMs

- Update, clone, customize, export, and apply placement rules to VMs
- Create and apply storage policies to VMs
- Create playbooks to automate common VM administrative tasks

Hands-on Labs

- o Updating a VM
- o Assign categories to a VM
- o Creating a snapshot and restoring a VM
- o Creating a template and a clone
- o Exporting a VM as an Open Virtual Appliance (OVA) file
- o Creating and running a playbook

6: Configuring and Managing Cluster Storage

- Understand AOS Storage
- Understand key storage concepts such as storage pools, storage containers, redundancy factor, replication factor, capacity reservation, and snapshots
- Understand fault tolerance and failure handling mechanisms
- Create and update storage containers
- Create and update volume groups
- Use various capacity optimization features

Hands-on Labs

- o Exploring the Storage dashboard
- o Creating containers with and without compression
- o Comparing data in a compressed vs uncompressed container
- o Configuring volume groups
- o Migrating vdisks between storage containers

7: Data Protection and Disaster Recovery

- Understand data protection terms and concepts
- Understand synchronous and asynchronous replication capabilities
- Create snapshots and recovery points
- Use Prism Element to configure local and remote backup and DR
- Use Nutanix Disaster Recovery to create protection policies and recovery plans
- Back up and restore Prism Central

Hands-on Labs

- o Backing up and restoring Prism Central
- o Configuring Self Service Restore
- o Creating protection domains and local VM restore
- o Creating containers for replication
- o Configuring remote sites and creating protection domains
- o Performing VM migration and migrating back to primary

8: Securing a Nutanix Cluster

- Understand Nutanix's approach to security
- Use the Security Dashboard in Prism Central
- Use Prism Central to configure authentication, users, and RBAC
- Implement hardening features for AHV and the CVM
- Understand policies in Flow Network Security
- Understand Data-at-Rest Encryption

Hands-on-Labs

  o Exploring the Security Dashboard
  o Adding a local user
  o Adding Active Directory Authentication
  o Configuring Role Mapping
  o Verifying a new user account
  o Cluster lockdown

9: Migrating Workloads with Nutanix Move

- Understand, install, and upgrade Nutanix Move
- Use Move to migrate VMs
- Download Move logs

Hands-on Labs

  o Preparing a VM for migration
  o Deploying a Move VM
  o Configuring Move and a migration plan

10: Monitoring Cluster Performance

- Understand performance monitoring features in Prism Central
- Create sessions, charts, and reports
- View and manage project resource utilization
- Create custom dashboards in Prism Central

- Resource planning and capacity runway

Hands-on Labs

- o Creating a Prism Central performance monitoring dashboard
- o Creating charts to analyze metrics using Prism Central
- o Creating and managing reports

11: Monitoring Cluster Health

- Understand health monitoring features in Prism Central and Prism Element
- Get summarized and detailed health information from Prism
- Use Nutanix Cluster Check
- Collect and forward logs

Hands-on Labs

- o Using Nutanix Cluster Check health checks
- o Collecting logs for Support
- o Verifying cluster health

12: Maintaining and Upgrading a Cluster

- Perform a health check
- Use node maintenance mode
- Understand hardware upgrade and replacement tasks
- Start and stop nodes and clusters
- Add and remove nodes
- Understanding and exploring Life Cycle Manager (LCM)
- Using LCM to perform inventory and upgrades

Hands-on Labs

- Using node maintenance mode

- Performing upgrades with LCM (with and without internet access)

13: Investigating and Remediating Performance Issues

- Understand alerts and events and the associated dashboards in Prism Central
- Troubleshooting issues with protection policies, LCM, security, performance, and so on
- Identify problematic or inefficient VMs
- Potential methods of remediating problematic VMs

Hands-on Labs

- Working with Alerts
- Exploring Events

Software Versions

- AOS 6.10

- Prism Central 2024.1.0.2