Using Astra Trident with Kubernetes

Duration: 3 Days Course Code: NEP_UATWK

Overview:

English - Please note this course is only available in English.
Nederlands - Let op: deze training is alleen in het Engels beschikbaar.
Français - Veuillez noter que ce cours est uniquement disponible en anglais.
Learn how to install, configure, and use NetApp® Trident to manage Kubernetes with NetApp ONTAP® based storage systems. Deploy NetApp Trident by using the Trident operator and then use the tridentctl and kubectl methods to manage configurations. Configure NFS-backed, iSCSI-backed, NAS economy-backed, and NVMe-over-TCP (NVMe/TCP) backed storage. Manage Snapshot copies, expand volumes, and import non-NetApp Trident volumes to become managed volumes. Install and configure Trident Protect to protect Kubernetes applications by using snapshots and backups. Restore snapshots and backups in place and to new namespaces. Finally, protect applications across clusters by using cloning and asynchronous SnapMirror.
Written for Kubernetes v1.29, NetApp Trident 24.10, and NetApp Trident Protect 24.10.1, this course includes appendixes on Kubernetes certifications, operator design patterns to extend Kubernetes, and a GitOps introduction.

Target Audience:

Systems Administrators Architects Integration Engineers

Objectives:

- Describe Kubernetes storage concepts
- Explain how Trident makes managing persistent storage easier, and install Trident in a Kubernetes cluster
- Configure back ends, storage classes, and persistent volumes to use storage that Trident manages
- Use Trident to manage common scenarios
- Install and use Trident Protect to protect Kubernetes applications
- Protect across clusters by cloning and mirroring applications
- Monitor Trident by using Prometheus and Grafana
- Investigate security options to ensure a secure Kubernetes environment

Prerequisites:

Basic Linux Administration Skills

Content:

Module 1: Kubernetes Storage

- Persistent storage in Kubernetes
- Container storage
- Kubernetes storage concepts
- Static provisioning
- Dynamic provisioning

Module 2: Trident installation

NetApp Trident details

NetApp Trident installation

Module 3: Configuration

Configure back ends

Manage storage classes

Create persistent volumes by using NetApp Trident

Custom naming conventions

Module 4:Usage Scenarios

Manage Snapshot copies

Expand volumes

Import volumes

Manage multiple -zone storage

Consumption and performance control

Cross-namespace volume access

Module 5: Protection

Trident Protect installation

Application protection

Application restoration

Tridentctl-protect

Module 6: Business continuity

Use cases

Restoring an app to a new cluster

Application mirroring

MetroCluster support

Module 7: Monitoring

Available options for monitoring NetApp Trident

Monitor with Prometheus and Grafana

Module 8: Security

SVM hardening

NFS hardening

iSCSI hardening

Module 9: Next steps

Appendix 1: Kubernetes Certifications

• Cloud Native Computing Foundation exams

• NetApp Kubernetes-related exams

Appendix 2:Introduction to operators

• Design patterns for extending Kubernetes

• Operators

• Example operator implementation

Appendix 3: GitsOps introduction

• GitOps definition

• Benefits of GitOps

• Set up Argo CD

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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