Using Astra Trident with Kubernetes

Duration: 3 Days **Course Code: NEP_UATWK** **Delivery Method: Virtual Learning**

Overview:

Learn how to install, configure, and use NetApp® Trident to manage Kubernetes with NetApp ONTAP® based storage systems. Deploy 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 Volume and VolumeGroup 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. Protect applications across clusters by using cloning and SnapMirror asynchronous technology. Finally, manage and protect KubeVirt virtual machines (VMs) using Trident and Trident Protect.

Written for Kubernetes v1.35, NetApp Trident, and NetApp Trident protect 26.02, this course includes appendixes on Kubernetes certifications, operator design patterns to extend Kubernetes, and a GitOps introduction.

Updated October 2026

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

Systems administrator, architect, and integration engineer

Objectives:

- **This course focuses on enabling you to do the following:**
- 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
- Explore how to run virtual machines in Kubernetes

Prerequisites:

- Basic Linux administration skills

Testing and Certification

None

Follow-on-Courses:

None

Content:

Module 1: Kubernetes storage

Lessons for Module 1:

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

Exercise for Module 1:

- Working with Kubernetes storage volumes

Module 2: Trident installation

Lessons for Module 2:

- NetApp Trident details
- NetApp Trident installation

Exercise for Module 2:

- Installing NetApp Trident

Module 3: Configuration

Lessons for Module 3:

- Configure back ends
- Manage storage classes
- Create persistent volumes by using NetApp Trident
- Custom naming conventions

Exercise for Module 3:

- Working with NetApp Trident

Module 4: Usage scenarios

Lessons for Module 4:

- Manage Snapshot copies
- Expand volumes
- Import volumes
- Manage multiple-zone storage
- Consumption and performance control
- Cross-namespace volume access

Exercise for Module 4:

- Managing storage using NetApp Trident

Module 5: Protection

Lessons for Module 5:

- Trident protect installation
- Application protection
- Application restoration
- Tridentctl-protect

Exercise for Module 5:

- Protecting Trident workloads

Module 6: Business continuity

Lessons for Module 6:

- Use cases
- Restoring an app to a new cluster
- Application mirroring
- MetroCluster support

Exercise for Module 6:

- Protecting Trident workloads across clusters

Module 7: Monitoring

Lessons for Module 7:

- Available options for monitoring NetApp Trident
- Monitor with Prometheus and Grafana

Exercise for Module 7:

- Monitoring NetApp Trident

Module 8: Security

Lessons for Module 8:

- SVM hardening
- NFS hardening
- iSCSI hardening

Module 9: Virtualization in Kubernetes

Lessons for Module 9:

- Installation
- Using VMs in Kubernetes
- Storage considerations
- Data protection

Exercise for Module 9:

- Managing KubeVirt

Module 10: 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: GitOps 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

info@globalknowledge.be

www.globalknowledge.com/en-be/