



Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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ONTAP Performance Analysis (ONTAP 9.6)

CODE:	LENGTH:	PRICE:
NEP_OT-CLU-PA9.6	24 Hours (3 days)	kr28,350.00

Description

This course enables you to collect and analyze system performance data from NetApp® storage systems that run NetApp ONTAP® 9 software. You learn how to interpret data and how to identify and implement changes that improve system efficiency. You also learn how to use system commands and features to monitor and enhance storage system performance. You learn from hands-on exercises, case studies, and technical discussions.

Objectives

- Describe how to use NetApp tools for performance measurement
- Describe the layers within the ONTAP architecture
- Diagram the flow of read and write requests through the network and data layers of ONTAP software
- Discuss how storage quality of service (QoS) operates in an ONTAP cluster
- Explain how to monitor and manage workload performance
- Use the performance analysis tools to identify NAS and SAN performance obstacles

Audience

Professionals who manage NetApp storage systems and would like a deeper understanding of Clustered Data ONTAP system performance

Prerequisites

Hands-on experience with ONTAP software (6 months to 12 months) is required in addition to the OT-CLU-DPA instructor led class..
OT-CLU-DPA - ONTAP Cluster Administration and Data Protection

Programme

Basic Concepts of Performance	
Module 1: Performance Analysis Fundamentals	Module 2: Performance Analysis Tools
Performance terminology	FAS and AFF Architecture
Using Active IQ Unified Manager	Data Flow
Module 3: Storage System Architecture and Data Flow	NVRAM Functionality
WAFL Functions	Identifying CPU Performance Bottlenecks
WAFL Readahead	Resolving CPU Performance Bottlenecks
Module 4: WAFL	Identifying Memory Performance Bottlenecks
Resolving WAFL issues	Resolving Memory Performance Bottlenecks
Module 5: CPU and Memory	
Disk Subsystem Hardware	
Analyzing and Isolating Disk Subsystem Bottlenecks	
Analyzing Disk Subsystem Bottlenecks with Statit	
Module 6: Disk Subsystem	Module 7: Cache Subsystem
Resolving Disk Subsystem Bottlenecks	
Cache Subsystem Overview	
Flash Cache Feature	
Flash Pool Feature	
Flash Cache Policies and Flash Pool Policies	
Storage Pool	
Cache Sizing	
Module 8: Storage Quality of Service	Managing System Performance with QoS

NAS functions

Identifying NAS Bottlenecks

Module 10: SAN Subsystem Queue depth

Labs:

Analyzing performance statistics

OnCommand performance manager thresholds, events and alerts

Identifying and resolving storage controller performance issues

WAFL performance monitoring and analysis

Identifying and resolving disk I/O bottlenecks

Exploring cache performance

Cluster interconnect performance

Workload management with storage QoS

NAS performance

SAN protocol performance