Storage & Storage Area Networks (SAN)

Overview

This hands-on practical course provides participants with a practical introduction to storage and storage area networks (SAN). Organizations rely on data and generate vast amounts that needs to be stored and indexed securely and with provision of backup and redundancy. Storage is particularly since organisations rely on "Big Data" and performing analytics on this. This is to provide persistent access to information. With the speed and availability of our networks, it is common for organizations to choose network-based storage, and here we discuss the key types of networked storage available. The course provides an understanding of each storage type and builds skills in deploying and managing storage environments and configuring backup systems. The learning is facilitated with many practical exercises and activities.

You will be able to

- Evaluate and select a suitable storage solution
- Understand the differences between different types of solutions
- Manage different media types
- Configure storage options
- Configure encrypted File systems
- Set up a RAID system
- Set up and manage a network attached storage system
- Manage user rights & privileges
- Configure and manage a SAN
- Set up virtual storage
- Set up an iSCSI based SAN system
- Evaluate different SAN communication protocols

Who can benefit

All those who need to be familiar with storage solutions and storage area networking

Pre requisite knowledge

Basic technical knowledge of computer & operating systems

Outline

Introduction to Storage

- Basics of storage
- Applications
- Different storage types:
  - Direct attached storage
  - Network attached storage
  - Storage Area Networks (SAN)

Storage and File Structure

- Physical storage media types
- File organisation in different environments
- File systems
- Encrypted File systems
- Redundancy
- RAID systems

Network Attached Storage

- NAS architecture
- Network file sharing protocols: NFS, SMB/CIFS & AFP
- Configuring a NAS environment
- NAS using NFS
- NAS using Samba
- Security and NAS
- Clustering

Storage Area Networks

- Differences between SAN and NAS
- SAN infrastructure
- Storage virtualization
- Key SAN systems/vendors
- SAN architectures
- Comparison of storage communications protocols
  - iSCSI
  - FibreChannel
  - GE/10GE
- Storage security and quality

iSCSI based SAN

- Introduction to SCSI
- iSCSI protocol
- iSCSI storage devices
- Configuring and iSCSI environment
- Storage and backup

ZFS SAN

- The ZFS file system
- Logical volume management
- Data integrity protection
- Data compression & encryption

SAN troubleshooting

- Troubleshooting connectivity
- Service bottlenecks
- Monitorying load levels

DURATION	5 days
MAXIMUM CLASS SIZE	20