



STORAGE & BACKUP SOLUTIONS

AN . NAS . OBJECT STORAGE
RAID . SNAPSHOTS . REPLICATION
BACKUP POLICY . DR . TESTING

DURATION

40 Hours

LEVEL

Intermediate

MODULES

8

MODE

**Classroom ·
Online · Hybrid**

01 COURSE OVERVIEW

A storage and data protection course covering architectures, backup strategy and disaster recovery. The course covers block, file and object storage, RAID and erasure coding, snapshots and replication, then backup strategy: retention, the 3-2-1 rule, immutability against ransomware, and recovery testing.

Learners write and test a backup and disaster recovery plan with measured RTO and RPO.

WHO IT IS FOR

System and storage administrators

Infrastructure engineers

IT managers responsible for continuity

Cloud engineers designing durability

PREREQUISITES

Server administration and networking fundamentals.

02 LEARNING OUTCOMES

01 Choose between block, file and object storage.

03 Use snapshots and replication appropriately.

05 Design backup schedules and retention policies.

07 Plan and rehearse disaster recovery.

02 Design RAID and understand rebuild risk.

04 Define RPO and RTO with the business.

06 Protect backups against ransomware.

08 Monitor capacity and performance.

01 STORAGE FOUNDATIONS

Block, file and object

Protocols: iSCSI, FC, NFS, SMB, S3

DAS, NAS, SAN

IOPS, throughput, latency

02 DISK AND ARRAY DESIGN

RAID levels

Hot spares

SSD vs HDD tiers

Rebuild times

Erasure coding

Caching

LAB

RAID AND VOLUME SETUP

03 NAS AND FILE SERVICES

Shares and permissions

Deduplication

Snapshots

Quotas

Compression

File auditing

04 SAN AND OBJECT

Zoning and LUN masking

Thin provisioning

Lifecycle rules

Multipathing

S3 buckets and classes

05 BACKUP STRATEGY

Full, incremental, differential

Retention and legal hold

Backup windows

3-2-1 rule

Application-aware backup

LAB

BACKUP POLICY DESIGN

06 RANSOMWARE RESILIENCE

Immutable storage

Access separation

Clean recovery process

Air gaps

Detection

Tabletop exercise

07 REPLICATION AND DR

Synchronous vs asynchronous

Failover and failback

RTO and RPO measurement

Site design

DR runbooks

LAB

REPLICATION TEST

08 OPERATIONS

Capacity planning

Firmware and lifecycle

Documentation

Performance troubleshooting

Monitoring and alerting

PROJECT

TESTED BACKUP AND DR PLAN

04 ASSESSMENT & CERTIFICATION

Module assignments and labs

25%

Mini projects

20%

Internal assessments

15%

Final project and review

40%

CERTIFICATION

Learners who complete all modules, submit the final project and clear the review receive a course completion certificate from Kaizen Infinities Private Limited. Project work is documented for the learner's portfolio, and interview preparation is included in the closing sessions.

05 CAREER OUTCOMES

ROLES THIS PROGRAMME PREPARES FOR

STORAGE ADMINISTRATOR

BACKUP ADMINISTRATOR

INFRASTRUCTURE ENGINEER

IT OPERATIONS ENGINEER

BUSINESS CONTINUITY ANALYST

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