Information Storage and Management (ISM) v3

Length: 5 Days

Summary: Information Storage and Management (ISM) is a unique course that provides a comprehensive understanding of the various storage infrastructure components in data center environments. The latest iteration of this popular course — ISM v3 (version 3) — enables participants to make informed decisions on storage-related technologies in increasingly complex IT environments, which are fast changing with the adoption of software-defined infrastructure management and third platform technologies (cloud, Big Data, social, and mobile technologies).

ISMv3 provides a strong understanding of storage technologies and prepares participants for advanced concepts, technologies, and processes. Participants will learn the architectures, features, and benefits of intelligent storage systems outlined the course module section below.

COURSE CONTENT

MODULE 1: INTRODUCTION TO INFORMATION STORAGE

- Digital data and its types
- Information storage
- Key characteristics of data center
- Evolution of computing platforms

MODULE 2: THIRD PLATFORM TECHNOLOGIES

- Cloud computing and its essential characteristics
- Cloud services and cloud deployment models
- Big data analytics
- Social networking and mobile computing
- Characteristics of third platform infrastructure
- Imperatives for third platform transformation

MODULE 3: DATA CENTER INFRASTRUCTURE

- Building blocks of a data center
- Compute systems and compute virtualization
- Software-defined data center

MODULE 4: INTELLIGENT STORAGE SYSTEMS

- Components of an intelligent storage system
- Components, addressing, and performance of hard disk drives and solid state drives
- RAID
- Types of intelligent storage systems
- Scale-up and scale-out storage architecture

MODULE 5: BLOCK-BASED STORAGE SYSTEM

- Components of block-based storage system
- Storage provisioning and storage tiering

MODULE 6: FILE-BASED STORAGE SYSTEM

- Components and architecture of NAS
- NAS file sharing methods
- File-Level virtualization and tiering

MODULE 7: OBJECT-BASED AND UNIFIED STORAGE

- Components of object-based storage device (OSD)
- Key features of OSD
- Storage and retrieval process in OSD system
- Unified storage architecture

MODULE 8: SOFTWARE-DEFINED STORAGE

- Attributes of software-defined storage
- Architecture of software-defined storage
- Functions of the control plane
- Software-defined storage extensibility

MODULE 9: FIBRE CHANNEL SAN

- Software-defined networking
- FC SAN components and architecture
- FC SAN topologies, link aggregation, and zoning
- Virtualization in FC SAN environment

MODULE 10: INTERNET PROTOCOL SAN

- iSCSI protocol, network components, and connectivity
- Link aggregation, switch aggregation, and VLAN
- FCIP protocol, connectivity, and configuration

MODULE 11: FIBRE CHANNEL OVER ETHERNET SAN

- Components of FCoE SAN
- FCoE SAN connectivity
- Converged Enhanced Ethernet
- FCoE architecture

MODULE 12: INTRODUCTION TO BUSINESS CONTINUITY

- Impact of information unavailability
- Business continuity planning lifecycle
- Eliminating single points of failure
- Application resiliency

MODULE 13: BACKUP AND ARCHIVE

- Backup architecture
- Backup targets and methods
- Data deduplication
- Cloud-based and mobile device backup
- Data archive

MODULE 14: REPLICATION

- Uses of replication and its characteristics
- Compute-based, storage-based, and network-based replication
- Data migration
- Disaster Recovery as a Service (DRaaS)

MODULE 15: SECURING THE STORAGE INFRASTRUCTURE

- Information security goals
- Storage security domains
- Threats to a storage infrastructure
- Security controls to protect a storage infrastructure
- Governance, risk, and compliance

MODULE 16: MANAGING THE STORAGE INFRASTRUCTURE

- Storage infrastructure management functions
- Storage infrastructure management processes