

Module Title : Data Protection and Management

Duration : 4 days

Overview

Data Protection and Management (DPM) is a unique course that provides a comprehensive understanding of various data protection and availability solutions for modern data protection wherever data lives including Cloud, data center or edge devices. It enables participants to make informed decisions on data protection architecture and technologies in an increasingly complex IT environment, which is fast changing with the adoption of software-defined data center (SDDC) and Cloud, Big Data, Social, and Edge. This course provides a strong understanding of fault-tolerant IT infrastructure, data backup, data deduplication, data replication, data archiving, and data migration and prepares participants for advanced data protection concepts, technologies, and processes. Participants will learn cloud-based data protection techniques, SDDC-specific data protection, and solutions for protecting Big Data, cloud and mobile device data. Moreover, the course covers the highly critical areas of data security including ransomware protection, cyber recovery as well as the emerging need for data management and data governance. This course takes an open approach to describe all the concepts and technologies, which are further illustrated and reinforced with Dell EMC related product examples.

Audience

This course is intended for all audiences.

Prerequisite Knowledge/Skills

- To understand the content and successfully complete this course, a participant must have a basic knowledge of computer architecture, operating systems, networking, and databases.
- Participants with experience in data protection management would also be able to assimilate the course material.

Course Objectives

Upon successful completion of this course, participants should be able to:

- Explain data protection architecture and its building blocks
- Evaluate fault-tolerance techniques in a data center
- Describe data backup methods and data deduplication
- Describe data replication, data archiving and data migration methods
- Describe the data protection process in a software-defined data center

- Articulate cloud-based data protection techniques
- Describe various solutions for protecting Big Data, cloud and mobile device data
- Describe security controls and management processes in a data protection environment

Course Outline

The content of this course is designed to support the course objectives.

- Module 1: Introduction to Data Protection
 - Lesson 1: Data Protection Primer
 - Lesson 2: Data Center
 - Lesson 3: Data Protection and Availability Solutions
- Module 2: Data Protection Architecture
 - Lesson 1: Data Source – Application and Hypervisor
 - Lesson 2: Data Source – Primary Storage
 - Lesson 3: Protection Application and Storage
 - Lesson 4: Data Security and Management
- Module 3: Fault-Tolerance Techniques
 - Lesson 1: Fault-Tolerance Overview
 - Lesson 2: Fault Tolerance Techniques – Compute and Network
 - Lesson 3: Fault Tolerance Techniques – Storage
 - Lesson 4: Fault Tolerance Techniques – Application and Availability Zone
- Module 4: Data Backup
 - Lesson 1: Introduction to Backup
 - Lesson 2: Backup Topologies
 - Lesson 3: Backup Methods
- Module 5: Data Deduplication
 - Lesson 1: Data Deduplication Overview
 - Lesson 2: Deduplication Granularity and Methods
- Module 6: Replication
 - Lesson 1: Data Replication Overview
 - Lesson 2: Local Replication
 - Lesson 3: Remote Replication
- Module 7: Data Archiving
 - Lesson 1: Data Archiving Overview
 - Lesson 2: Archiving Operation and Storage

- Module 8: Data Migration
 - Lesson 1: SAN -Based Data Migration
 - Lesson 2: NAS-Based Data Migration
 - Lesson 3: Host-Based Data Migration
 - Lesson 4: Application-Based Data Migration
- Module 9: Data Protection in Software-Defined Data Center
 - Lesson 1: Software-Defined Data Center Overview
 - Lesson 2: Software-Defined Compute, Storage, and Networking
 - Lesson 3: Data Protection Process in SDDC
- Module 10: Cloud-based Data Protection
 - Lesson 1: Cloud Computing Overview
 - Lesson 2: Cloud-Based Data Protection
 - Lesson 3: Cloud-Based Data Archiving
- Module 11: Protecting Big Data and Mobile Device Data
 - Lesson 1: Big Data Overview
 - Lesson 2: Protecting Big Data
 - Lesson 3: Protecting Mobile Device
- Module 12: Securing Data Protection Environment
 - Lesson 1: Overview of Data Security
 - Lesson 2: Security Threats in Data Protection Environment
 - Lesson 3: Security Controls in Data Protection Environment – I
 - Lesson 4: Security Controls in Data Protection Environment – II
 - Cyber Recovery
- Module 13: Managing the Data Protection Environment
 - Lesson 1: Introduction to Data Protection Management
 - Lesson 2: Operations Management – I
 - Lesson 3: Operations Management – II

In addition to lecture, this course includes scenario-based labs and product examples designed to reinforce the concepts covered in the lectures.