

Storage Fundamentals & Administration (Beginner Level)

Duration: 4 Days

Audience: Freshers / Entry-Level Storage Engineers / IT Support

Day 1: Storage Fundamentals & Pure Storage Overview

Module 1: Introduction to Storage Technologies

- What is Data Storage?
- Types of Storage:
 - HDD vs SSD vs NVMe
 - All-Flash Storage Concept
- Key Performance Metrics:
 - IOPS, Latency, Throughput
- Traditional vs Modern Storage Systems

Module 2: Introduction to Pure Storage

- Overview of Pure Storage
- Product Portfolio:
 - FlashArray
 - FlashBlade (Overview)
- Benefits of All-Flash Architecture
- Data Reduction Technologies:
 - Deduplication
 - Compression
 - Thin Provisioning

Module 3: Pure Storage Architecture

- FlashArray Architecture Overview
- Key Components:
 - Controllers
 - Drives (Flash Modules)
- How I/O Works in Pure Storage
- High Availability & Redundancy Concepts
- Storage Protocols:
 - Fibre Channel (FC)
 - iSCSI Basics

Day 2: Installation, Provisioning & Data Protection

Module 4: Installation & Initial Setup

- Physical Setup Overview (Conceptual)
- Power-on & Initial Configuration
- GUI Access & Navigation
- Network Configuration:
 - IP Addressing
 - DNS & NTP Configuration
- System Initialization Best Practices

Module 5: Storage Provisioning

- Concepts:
 - Volumes, LUNs, Hosts, Host Groups
- Creating & Managing Volumes
- Host Configuration
- Volume Mapping & Connectivity
- Best Practices for Provisioning

Module 6: Data Protection & Availability

- Snapshot Technology:
 - Creating & Managing Snapshots
- Replication Concepts:
 - Local & Remote Replication
- Protection Groups
- Backup & Recovery Use Cases
- Introduction to Disaster Recovery

Day 3: Monitoring, Administration & Troubleshooting

Module 7: Monitoring & Performance Management

- Introduction to Pure1 Management Platform
- Key Metrics:
 - IOPS, Latency, Bandwidth
- Dashboard Navigation
- Analyzing Performance Graphs
- Identifying Bottlenecks

Module 8: Administration & Daily Operations

- Routine Administrative Tasks
- Managing:
 - Volumes
 - Hosts
 - Alerts & Notifications
- SAN Basics Overview
- Introduction to Automation (Basic Concepts)

Module 9: Troubleshooting & Support

- Common Storage Issues:
 - Connectivity Issues
 - Performance Degradation
- Step-by-Step Troubleshooting Approach
- Logs & Diagnostics Overview
- Escalation Process & Support Best Practices

Day 4 (Optional): Advanced Concepts & Hands-on Labs

Module 10: Advanced Features Overview

- ActiveCluster (Concept)
- VMware Integration:
 - Datastore Provisioning
 - VM-Level Integration Basics
- Introduction to High Availability & DR Strategies

Module 11: Hands-on Lab Exercises

- Login & GUI Navigation
- Create & Manage Volumes
- Host Configuration & Mapping
- Snapshot Creation & Recovery
- Replication Setup (Demo/Simulated)
- Monitoring & Performance Analysis
- Failure Scenario Simulation (Guided)

Module 12: Real-World Use Cases

- Banking & Financial Applications
- VMware Virtualization Environments
- Backup & Data Protection Systems
- Enterprise Storage Deployment Scenarios