



CompTIA Data Systems (DataSys+)

Course Duration: 5 Days
Exam Reference: DSP-001

Course Overview

The CompTIA Data Systems (DataSys+) Certification (Exam DS0-001) course is specifically designed to equip candidates with the essential knowledge and skills needed to effectively deploy, manage, and maintain databases. This comprehensive course focuses on various key aspects, including scripting and programming fundamentals within a database environment, implementing robust security measures, and adhering to industry best practices for business continuity.

Prerequisites

No prerequisites, however, 2-3 years of experience in a database administrator role is recommended.

Course Objectives

The CompTIA DataSys+ (DS0-001) certification exam is vendor neutral and covers what database administrators need to deploy, manage, and maintain data systems. In this course, you will learn:

- Database Fundamentals
- Database Deployment
- Database Management and Maintenance
- Data and Database Security
- Business Continuity



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Course Outline

Module 1: Understanding Database Types and Structures

- Identify Relational and Non-Relational Databases
- Understand Different Types of NoSQL Databases and Tools
- Understand Relational Database Design
- Identify Other Data Systems

Module 2: Recognizing Standards and Commands

- Understand Standards and Principles
- Examine Operating Systems and Command Line Scripting

Module 3: Running Scripts for Data and Data Systems

- Create and Alter Objects Using Data Definition Language
- Manipulate Data Using Data Manipulation Language
- Work with Transactions
- Perform Data Management Tasks

Module 4: Explaining the Impact of Programming on Database Operations

- Work with Views
- Understand Object Relational Mapping
- Program with SQL
- Write Functions

Module 5: Understanding Database Planning and Design

- Understand Types of Architecture
- Gather Data System Requirements
- Review Documentation Requirements

Module 6: Implementing, Testing, and Deploying Databases

- Prepare for Deployment
- Conduct Testing and Other Quality Measures
- Understand Validation Techniques and Methods

Module 7: Monitoring and Reporting on Database Performance

- Consider Database Connectivity Needs
- Monitor the Database
- Understand and Address Deadlocks

Module 8: Understanding Common Data Maintenance Processes

- Explain Patch Management
- Ensure Database Performance and Integrity



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Module 9: Understanding Governance and Regulatory Compliance

- Understand the Importance of Protecting Data and Preventing Data Loss
- Understand Data Retention Policies
- Classify Data
- Consider Global Jurisdiction and Regional Regulations
- Understand Third-Party Agreements and Release Approvals

Module 10: Securing Data

- Understand Data Encryption
- Understand Data Masking
- Describe Data Destruction Techniques
- Audit Data Access
- Audit Code and Changes

Module 11: Securing Data Access

- Understand Identity and Access Management
- Understand Access Controls
- Understand Password Policies
- Work with Service Accounts

Module 12: Securing the Database and Server

- Utilize Physical Security
- Utilize Logical Security

Module 13: Classifying Types of Attacks

- Mitigate the SQL Injection Attack
- Mitigate the Denial of Service (DoS) Attack
- Mitigate the On-Path Attack
- Mitigate the Brute Force Attack
- Mitigate Social Engineering Attacks
- Mitigate Malware

Module 14: Planning for Disaster Recovery

- Plan for Disaster Recovery
- Conduct DR Plan Testing
- Transition/Failback to Normal Operations

Module 15: Implementing Backup and Restore Best Practices

- Identify Types of Backups
- Implement a Backup Strategy
- Store and Purge Backups