CT-DataSys+: CompTIA DataSys+

Course Code: CTDataSys+
Duration: 5 days
Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

OVERVIEW

Gain skills and knowledge needed to deploy, maintain and protect data.

If you are a database professional wanting to land a database administrator role, a DBA who wants to validate their skill set or another type of IT pro seeking database management skills, you need CompTIA DataSys+. By earning this certification, you'll prove to employers that you can identify database structure types; develop, modify and run code; and gather, store and drive data assets. You'll also confirm your knowledge of:

- The various aspects of database design and planning
- The different phases of the implementation, testing and deployment of data
- The purpose of monitoring and reporting database performance
- Common database maintenance processes
- The production of essential documentation
- Best practices for backup and data restoration

CompTIA DataSys+ certified professionals demonstrate their ability to secure databases, protect against cyberattacks and control authorization. Moreover, they prove they can ensure governance and regulatory compliance.

SKILLS COVERED

CompTIA DataSys+ covers the following skills:

- Understanding database design and structure, including planning, implementation, testing and deployment
- Comparing and contrasting scripting methods and developing, modifying and running SQL code
- Explaining the impact of programming on database operations
- Monitoring and maintaining the data, reporting on and documenting any incidents
- Implementing critical data management tasks
- Securing the data by limiting access and defending against attacks
- Understanding and meeting regulation and governance requirements
- Creating and saving back-ups, and preparing for restoration/disaster recovery

WHO SHOULD ATTEND?

- Database administrators
- Database managers
- Database designers
- Data warehouse specialists
- Data warehouse developers

PREREQUISITES

CompTIA recommend sthat you have 2-3 years of hands-on experience working as a database administrator or equivalent experience.

Although CompTIA DataSys+ is designed for those with 2-3 years of experience in a database administrator role, other professionals, such as IT support specialists, software developers,

network administrators, and database developer, are well-positioned to pursue a successful career as database administrators.

MODULES

Module 1: Understanding Database Types and Structures

Topic 1A: Identify Relational and Non Relational Databases

Exam objectives covered:
1.1 Compare and contrast database structure types.

Topic 1B: Understand Different Types of NoSQL Databases and Tools

Exam objectives covered:
1.1 Compare and contrast database structure types.

Topic 1C: Understand Relational Database Design

Exam objectives covered:
2.1 Compare and contrast aspects of database planning and design.
3.4 Given a scenario, implement data management tasks.

Topic 1D: Identify Other Data Systems

Exam objectives covered:
1.1 Compare and contrast database structure types.

Module 2: Recognizing Standards and Commands

Topic 2A: Understand Standards and Principles

Exam objectives covered:
1.2 Given a scenario, develop, modify, and run SQL code

Topic 2B: Examine Operating Systems and Command Line Scripting

Exam objectives covered:
1.3 Compare and contrast scripting methods and scripting environments.

Module 3: Running Scripts for Data and Data Systems

Topic 3A: Create and Alter Objects Using Data Definition Language

Exam objectives covered:
1.2 Given a scenario, develop, modify, and run SQL code.
3.4 Given a scenario, implement data management tasks

Topic 3B: Manipulate Data using Data Manipulation Language

Exam objectives covered:
1.2 Given a scenario, develop, modify, and run SQL code.
3.4 Given a scenario, implement data management tasks.

Topic 3C: Work with Transactions

Exam objectives covered:
1.2 Given a scenario, develop, modify, and run SQL code.

Topic 3D: Perform Data Management Tasks

Exam objectives covered:
3.4 Given a scenario, implement data management tasks.

Module 4: Explaining the Impact of Programming on Database Operations

Topic 4A: Work with Views

Exam objectives covered:
1.2 Given a scenario, develop, modify, and run SQL code.
3.4 Given a scenario, implement data management tasks.

Topic 4B: Understand Object Relational Mapping

Exam objectives covered:
1.4 Explain the impact of programming on database operations.

Topic 4C: Program with SQL

Exam objectives covered:
1.2 Given a scenario, develop, modify, and run SQL code.
2.2 Explain database implementation, testing, and deployment phases.

Topic 4D: Write Functions

Exam objectives covered:
1.2 Given a scenario, develop, modify, and run SQL code.

Module 5: Understanding Database Planning and Design

Topic 5A: Understand Types of Architecture

Exam objectives covered:
2.1 Compare and contrast aspects of database planning and design.

Topic 5B: Gather Data System Requirements

Exam objectives covered:
2.1 Compare and contrast aspects of database planning and design.

Topic 5C: Review Documentation Requirements

Exam objectives covered:
2.1 Compare and contrast aspects of database planning and design.
3.3 Given a scenario, produce documentation and use relevant tools.

Module 6: Implementing, Testing, and Deploying Databases

Topic 6A: Prepare for Deployment

Exam objectives covered:
2.2 Explain database implementation, testing, and deployment phases.
3.1 Explain the purpose of monitoring and reporting for database management and performance.

Topic 6B: Conduct Testing and Other Quality Measures

Exam objectives covered:
2.2 Explain database implementation, testing, and deployment phases.

Topic 6C: Understand Validation Techniques and Methods

Exam objectives covered:
2.2 Explain database implementation, testing, and deployment phases

Module 7: Monitoring and Reporting on Database Performance

Topic 7A: Consider Database Connectivity Needs

Exam objectives covered:
1.3 Compare and contrast scripting methods and scripting environments.

2.2 Explain database implementation, testing, and deployment phases.

Topic 7B: Monitor the Database

Exam objectives covered:
3.1 Explain the purpose of monitoring and reporting for database management and performance.

Topic 7C: Understand and Address Deadlocks

Exam objectives covered:
3.1 Explain the purpose of monitoring and reporting for database management and performance.

Module 8: Understanding Common Data Maintenance Processes

Topic 8A: Explain Patch Management

Exam objectives covered:
3.2 Explain common database maintenance processes

Topic 8B: Ensure Database Performance

Exam objectives covered:
2.2 Explain database implementation, testing, and deployment phases.
3.2 Explain common database maintenance processes

Topic 8C: Ensure Database Integrity

Exam objectives covered:
3.2 Explain common database maintenance processes

Module 9: Understanding Governance and Regulatory Compliance

Topic 9A: Understand the Importance of Protecting Data and Preventing Data Loss

Exam objectives covered:
4.2 Explain the purpose of governance and regulatory compliance.

Topic 9B: Understand Data Retention Policies

Exam objectives covered:
4.2 Explain the purpose of governance and regulatory compliance.

Topic 9C: Classify Data

Exam objectives covered:
4.2 Explain the purpose of governance and regulatory compliance.

Topic 9D: Consider Global Jurisdiction and Regional Regulations

Exam objectives covered:
4.2 Explain the purpose of governance and regulatory compliance.

Topic 9E: Understand Third-Party Agreements and Release Approvals

Exam objectives covered:
3.4 Given a scenario, implement data management tasks

Module 10: Securing Data

Topic 10A: Understand Data Encryption

Exam objectives covered:
4.1 Explain data security concepts.

Topic 10B: Understand Data Masking

Exam objectives covered:
4.1 Explain data security concepts

Topic 10C : Describe Data Destruction Techniques

Exam objectives covered:
4.1 Explain data security concepts.

Topic 10D: Audit Data Access

Exam objectives covered:
3.2 Explain common database maintenance processes.
4.1 Explain data security concepts.

Topic 10E: Audit Code and Changes

Exam objectives covered:
3.2 Explain common database maintenance processes.
4.1 Explain data security concepts.

Module 11: Securing Data Access

Topic 11A: Understand Identity and Access Management

Exam objectives covered:
4.3 Given a scenario, implement policies and best practices related to authentication and authorization.

Topic 11B: Understand Access Controls

Exam objectives covered:
4.3 Given a scenario, implement policies and best practices related to authentication and authorization.

Topic 11C: Understand Password Policies

Exam objectives covered:
4.3 Given a scenario, implement policies and best practices related to authentication and authorization.

Topic 11D: Work with Service Accounts

Exam objectives covered:
4.3 Given a scenario, implement policies and best practices related to authentication and authorization.

Module 12: Securing the Database and Server

Topic 12A: Utilize Physical Security

Exam objectives covered:
4.4 Explain the purpose of database infrastructure security

Topic 12B: Utilize Logical Security

Exam objectives covered:
2.2 Explain database implementation, testing, and deployment phases.
4.4 Explain the purpose of database infrastructure security

Module 13: : Classifying Types of Attacks
Topic 13A: Mitigate the SQL Injection Attack

Exam objectives covered:
4.5 Describe types of attacks and their effects on data systems.

Topic 13B: Mitigate the Denial of Service (DoS) Attack

Exam objectives covered:
4.5 Describe types of attacks and their effects on data systems.

Topic 13C: Mitigate the On-Path Attack

Exam objectives covered:
4.5 Describe types of attacks and their effects on data systems.

Topic 13D: Mitigate the Brute Force Attack

Exam objectives covered:
4.5 Describe types of attacks and their effects on data systems.

Topic 13E: Mitigate Social Engineering Attacks

Exam objectives covered:
4.5 Describe types of attacks and their effects on data systems.

Topic 13F: Mitigate Malware

Exam objectives covered:
4.5 Describe types of attacks and their effects on data systems

Module 14: Planning for Disaster Recovery

Topic 14A: Plan for Disaster Recovery

Exam objectives covered:
3.1 Explain the purpose of monitoring and reporting for database management and performance.
5.1 Explain the importance of disaster recovery and relevant techniques.

Topic 14B: Conduct DR Plan Testing

Exam objectives covered:
5.1 Explain the importance of disaster recovery and relevant techniques.

Topic 14C: Transition/Failback to Normal Operations

Exam objectives covered:
5.1 Explain the importance of disaster recovery and relevant techniques.

Module 15: Implementing Backup and Restore Best Practices

Topic 15A: Identify Types of Backups

Exam objectives covered:
5.2 Explain backup and restore best practices and processes

Topic 15B: Implement a Backup Strategy

Exam objectives covered:
5.2 Explain backup and restore best practices and processes

Topic 15C: Store and Purge Backups

Exam objectives covered:
5.2 Explain backup and restore best practices and processes.

END OF PAGE