

CompTIA IT Fundamentals Study Guide (FC0-U61)

Chapter 7: Database Fundamentals

Chapter 7: Database Fundamentals

- Explain database concepts and the purpose of a database
 - Usage of database
 - Create
 - Import/input
 - Query
 - Reports
 - Flat file vs. database
 - Multiple concurrent users
 - Scalability
 - Speed
 - Variety of data
 - Records
 - Storage
 - Data persistence
- Compare and contrast various database structures
 - Structured vs. semi-structured vs. non-structured
 - Relational databases
 - Schema
 - Tables
 - Rows/records
 - Fields/columns
 - Primary key
 - Foreign key
 - Constraints
 - Non-relational databases
 - Key/value databases
 - Document databases
- Summarize methods used to interface with databases
 - Relational methods
 - Data manipulation
 - Select
 - Insert
 - Delete
 - Update
 - Data definition
 - Create
 - Alter
 - Drop
 - Permissions
 - Database access methods
 - Direct/manual access
 - Programmatic access
 - User interface/utility access
 - Query/report builders
 - Export/import
 - Database dump
 - Backup

When to Use Databases

- Multiple concurrent users
- Scalability
- Speed
- Variety of data
- Number of records
- Data persistence
- Security

Relational Databases

- Managed by a relational database management system (RDBMS)
- Schema
 - Logical schema
 - Physical schema

Relational Database Components

- Tables
- Fields
- Records
- Forms
- Queries
- Reports
- Macros and modules

Non-Relational Databases

- Managed by a database management system (DBMS)
- Hold non-structured (or unstructured) or semi-structured data
- Document databases
- Key/value databases

Working with Databases

- Manual access
- Direct access
- Programmatic access
- User interface and utility access
- Database permissions

Creating and Managing a Relational Database

- Commands
 - Create
 - Alter
- Importing data
 - Load command
- Removing databases and tables
 - Drop command

Manipulating Data

- Commands
 - Insert
 - Update
 - Delete
 - Select

Backing Up Databases

- Database dump
- Backup