Exam 98-364: Database Administration Fundamentals

Candidates for this exam are seeking to prove introductory knowledge of and skills with databases, including relational databases such as Microsoft SQL Server or Windows Azure SQL Database. It is recommended that candidates be familiar with the concepts of and have hands-on experience with the technologies described here either by taking relevant training courses or by working with tutorials and samples available on MSDN and in Microsoft Visual Studio. Although minimal hands-on experience with the technologies is recommended, job experience is not assumed for these exams.

Candidates for this exam are in the process of expanding their knowledge and skills in the following areas:

• core database concepts • relational database concepts • security requirements for databases and the data stored in them • database objects, such as tables and views • graphical tools and T-SQL scripts • database queries • stored procedures

Microsoft
Technology Associate

Objective Domain

Understanding Core Database Concepts

- **Understand how data is stored in tables.**
  - understanding what a table is and how it relates to the data that will be stored in the database; columns/ fields, rows/records
- **Understand relational database concepts.**
  - understanding what a relational database is, the need for relational database management systems (RDBMS), and how relations are established
- **Configure Native Applications and Tools.**
  - Configure Microsoft Edge; configure Cortana; configure Hyper-V; configure settings using MSCONFIG; configure processes and applications using Task Manager; configure computer management
- **Understand data manipulation language (DML).**
  - understanding what DML is and its role in databases
- **Understand data definition language (DDL).**
  - understanding how T-SQL can be used to create database objects such as tables and views

Creating Database Objects

- **Choose Data Types.**
  - understanding what data types are, why they are important, and how they affect storage requirements
- **Understand Tables and How to Create Them.**
  - purpose of tables; creating tables in a database by using proper ANSI SQL syntax
- **Create Views.**
  - understanding when to use views and how to create a view by using T-SQL or a graphical designer
- **Create Stored Procedures and Functions.**
  - selecting, inserting, updating, or deleting data

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Manipulating Data

- **Select Data.**
  - utilizing SELECT queries to extract data from one table; extracting data by using joins; combining result sets by using UNION and INTERSECT
- **Insert Data.**
  - understanding how data is inserted into a database; how to use INSERT statements
- **Update Data.**
  - understanding how data is updated in a database and how to write the update data to the database by using the appropriate UPDATE statements; update by using a table
- **Delete Data.**
  - deleting data from single or multiple tables; ensuring data and referential integrity by using transactions

Understanding Data Storage

- **Understand Normalization.**
  - understanding the reasons for normalization, the five most common levels of normalization, how to normalize a database to third normal form
- **Understand primary, foreign, and composite keys.**
  - understanding the reason for keys in a database, choosing appropriate primary keys, selecting appropriate data type for keys, selecting appropriate fields for composite keys, understanding the relationship between foreign and primary keys
- **Understand Indexes.**
  - understanding clustered and non---clustered indexes and their purpose in a database

Administering a Database

- **Understand Database Security Concepts.**
  - understanding the need to secure a database, what objects can be secured, what objects should be secured, user accounts, and roles
- **Understand Database Backups and Restore.**
  - understanding various backup types, such as full and incremental, importance of backups, how to restore a database