Introduction to SQL Databases

Duration: 3 Days  Course Code: M10985  Version: C

Overview:
This three-day instructor-led course is aimed at people looking to move into a database professional role or whose job role is expanding to encompass database elements. The course describes fundamental database concepts including database types, database languages, and database designs.

Target Audience:
The primary audience for this course is people who are moving into a database role, or whose role has expanded to include database technologies.

Objectives:
- After completing this course, students will be able to:
  - Describe normalization and denormalization techniques
  - Describe key database concepts in the context of SQL Server 2016
  - Describe database languages used in SQL Server 2016
  - Describe data modelling techniques
  - Describe the effects of database design on performance
  - Describe commonly used database objects

Prerequisites:
This is a foundation level course and therefore only requires general computer literacy.

Follow-on-Courses:
M20761 Querying Data with Transact-SQL
Content:

Module 1: Introduction to databases

This module introduces key database concepts in the context of SQL Server 2016.
- Introduction to relational databases
- Other types of database
- Data analysis
- Database languages
  Lab : Querying SQL Server

After completing this module, you will be able to:
- Describe what a database is
- Understand basic relational aspects
- Describe database languages used in SQL Server 2016
- Describe data analytics
- Describe database languages used in SQL Server 2016
- Describe normalization benefits and notation
- Describe important normalization terms
- Describe the normalization levels
- Describe the role of denormalization
- Describe relationship types
- Describe the use, types, and effects of referential integrity
- Discuss the performance effects of indexing
- Describe the performance effects of join and search types
- Describe the performance effects of concurrency
- Describe the use of tables in SQL Server 2016
- Describe the use of views in SQL Server 2016
- Describe the use of stored procedures in SQL Server 2016
- Describe other database objects commonly used in SQL Server 2016

Module 2: Data Modelling

This module describes data modelling techniques.
- Data modelling
- ANSI/SPARC database model
- Entity relationship modelling

Lab : Entity relationship modelling
After completing this module, you will be able to:
- Understand the common data modelling techniques
- Describe the ANSI/SPARC database model
- Describe entity relationship modelling

Module 3: Normalization

This module describes normalization and denormalization techniques.
- Why normalize data?
- Normalization terms
- Levels of normalization
- Denormalization
  Lab : Normalizing raw data

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Module 4: Relationships

This module describes relationship types and effects in database design.
- Schema mapping
- Referential integrity
  Lab : Designing relationships

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- Describe database languages used in SQL Server 2016
- Describe data analytics
- Describe database languages used in SQL Server 2016

Module 5: Performance

This module introduces the effects of database design on performance.
- Indexing
- Query performance
- Concurrency
  Lab : Query performance

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- Describe database languages used in SQL Server 2016
- Describe data analytics
- Describe database languages used in SQL Server 2016

Module 6: Database Objects

This module introduces commonly used database objects.
- Tables
- Views
- Stored procedures
- Other database objects
  Lab : Using SQL Server in a hybrid cloud

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Additional Information:

To help you prepare for this exam, Microsoft recommends that you have hands-on experience with the product and that you use the specified training resources. These training resources do not necessarily cover all topics listed in the "Skills measured" section.

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931
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