10985 Introduction to SQL Databases

Course ID #: 1401-800-ZZ-W
Hours: 21

Course Content

Course Description:

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.

At Course Completion:

After completing this course, students will be able to:

- Describe key database concepts in the context of SQL Server 2016
- Describe database languages used in SQL Server 2016
- Describe data modelling techniques
- Describe normalization and denormalization techniques
- Describe relationship types and effects in database design
- Describe the effects of database design on performance
- Describe commonly used database objects

Target Student:

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

Delivery Method:

This course is delivered through a mix of instructor-led training (ILT) and hands-on labs.

Topics:

Module 1: Introduction to databases

This module introduces key database concepts in the context of SQL Server 2016.

Lessons

- Introduction to relational databases
- Other types of database
- Data analysis
- Database languages

Completing this module, allows you 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

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Module 2: Data Modelling

Learning data modelling techniques.

Lessons

- Data modelling
- ANSI/SPARC database model
- Entity relationship modelling

Completing this module, allows you 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.

Lessons

- Why normalize data?
- Normalization terms
- Levels of normalization
- Denormalization

Completing this module, allows you to:

- Describe normalization benefits and notation
- Describe important normalization terms
- Describe the normalization levels
- Describe the role of denormalization

Module 4: Relationships

This module describes relationship types and effects in database design.

Lessons

- Schema mapping
- Referential integrity

Completing this module, allows you to:

- Describe relationship types
- Describe the use, types, and effects of referential integrity

Module 5: Performance

This module introduces the effects of database design on performance.

Lessons

- Indexing
- Query performance
- Concurrency

Completing this module, allows you to:

- Discuss the performance effects of indexing
- Describe the performance effects of join and search types
- Describe the performance effects of concurrency

Module 6: Database Objects

This module introduces commonly used database objects.

Lessons

- Tables
- Views
- Stored procedures
- Other database objects

Completing this module, allows you to:

- 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