

M55352A : Introduction to SQL Databases

Course Outline

Module 1: Introduction to Databases

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

Lessons:

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

Lab:

- Querying SQL Server

Module 2: Data Modelling

This module describes data modelling techniques.

Lessons:

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

Lab:

- Entity relationship modelling

Module 3: Normalization

This module describes normalization and denormalization techniques.

Lessons:

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

Lab:

- Normalizing raw data

Module 4: Relationships

This module describes relationship types and effects in database design.

Lessons:

- Schema mapping
- Referential integrity

Lab:

- Designing relationships

Module 5: Performance

This module introduces the effects of database design on performance.

Lessons:

- Indexing
- Query performance
- Concurrency

Lab:

- Query performance

Module 6: Database Objects

This module introduces commonly used database objects.

Lessons:

- Tables
- Views
- Stored procedures
- Other database objects

Lab:

- Using SQL Server in a hybrid cloud

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