Module 1

Introduction to Microsoft SQL Server

Module Overview

- The Basic Architecture of SQL Server
- SQL Server Editions and Versions
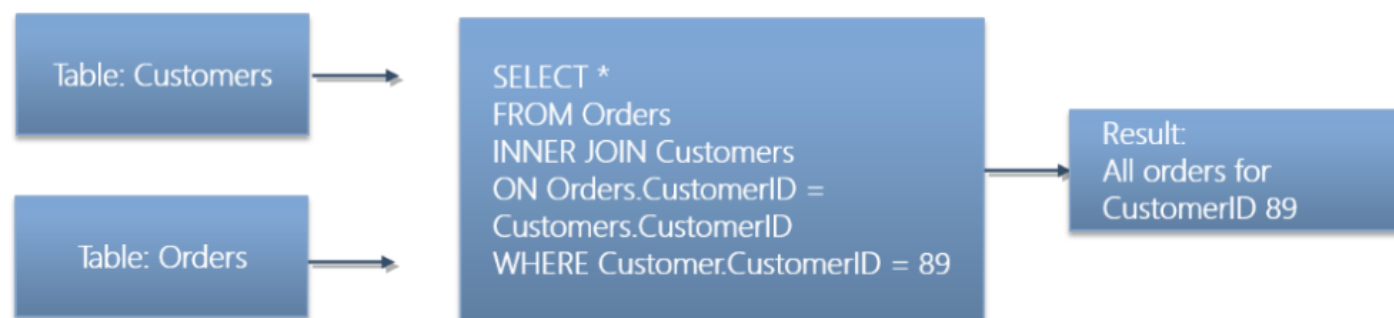- Getting Started with SQL Server Management Studio

- Relational Databases
- About the Course Sample Database
- Client Server Databases
- Queries

Relational Databases

- SQL Server is a relational database management system
- Databases contain <u>objects</u> and data   **Objeto é uma referência a um elemento**
- Each database has multiple tables
- Tables are joined together to extract meaningful information

Table: Customers	SELECT * FROM Orders INNER JOIN Customers ON Orders.CustomerID = Customers.CustomerID WHERE Customer.CustomerID = 89	Result: All orders for CustomerID 89
Table: Orders		

About the Course Sample Database

- TSQL Database

Suppliers (Production)		Customers (Sales)				Employees (HR)	

Products (Production)		Orders (Sales)				Shippers (Sales)	

Categories (Production)		OrderDetails (Sales)	

Client Server Databases

- The client software is separate from the server database engine
- Client/Server refers to the separation of functionality—not where the software is actually located
- Client software and server database engine can be on the same machine
- Databases can access data in other databases over a network

Protocolo TCP/IP

Database Engine:
2 Componentes:
- Relacional;
- Armazenamento;

Queries

- T-SQL is a set-based language
- T-SQL is written in scripts with **.sql** extension
- **GO** keyword separates batches

Linguagem Transact SQL

Schema padrão - dbo

```
CREATE TABLE dbo.Employees
(
        EmployeeID int PRIMARY KEY,
        LastName nvarchar(25),
        FirstName nvarchar(25)
);
GO

INSERT INTO dbo.Employees
        (EmployeeID, LastName, FirstName)
VALUES
        (121, N'O''Neil', N'Carlene');
GO
```

NVARCHAR - Indica que o formato é UNICODE, porém, ocupa o dobro do espaço.

Lesson 2: SQL Server Editions and Versions

- SQL Server Versions
- SQL Server Editions

SQL Server Versions

SQL Server Versions

Version	Release Year
2017	2017
2016	2016
2014	2014
2008 R2	2010
2008	2008
2005	2005
2000	2000
7.0	1998
6.5	1996
6.0	1995
4.2.1	1994
4.2	1992
1.1	1991
1.0	1989

SQL Server Editions

SQL Server Editions

Main Editions	Other Editions
Enterprise	Developer
Standard	Express
Business Intelligence	Compact
Azure SQL Database	

Diferença entre versões:

- Somente Enterprise pode rodar em Produção;
    Produção = tudo aquilo que cliente acessa.

- Business Inteligence e Compact - não existe mais.

Starting SSMS

- Launch SSMS from the Windows Start screen
  - Or type **SSMS** into the Search Programs and Files box
- Connect to a SQL Server instance
  - Or work disconnected
- Settings available in Tools, Options include:
  - Fonts and colors, line numbering, and word wrap
  - Which windows open when SSMS is launched
- Useful windows include:
  - Query Editor
  - Object Explorer
  - Solution Explorer

Demonstration: Introducing Microsoft SQL Server

In this demonstration you will see how to:

- Use SSMS to connect to an on-premises instance of SQL Server
- Explore databases and other objects
- Work with T-SQL scripts

Lab: Working with SQL Server Tools

- Exercise 1: Working with SQL Server Management Studio
- Exercise 2: Creating and Organizing T-SQL Scripts

Logon Information
Virtual machine: **20761C-MIA-SQL**
User name: **ADVENTUREWORKS\Student**
Password: **Pa55w.rd**

Estimated Time: 30 minutes