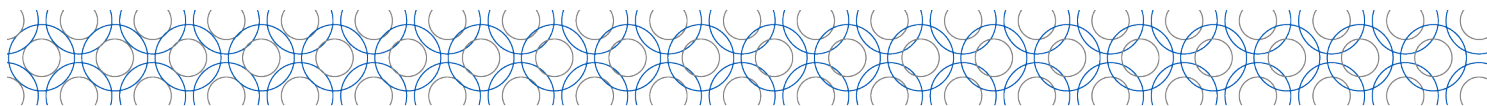




Desarrollo de Bases de Datos



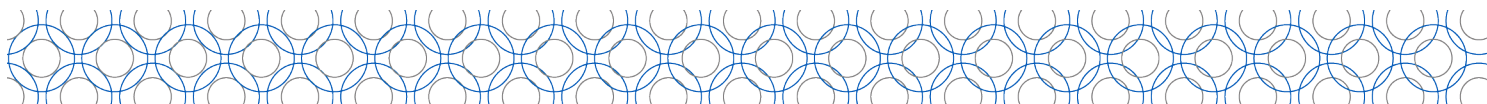


Pre-requisitos: Inglés técnico, conocimientos básicos de servidores y conocimientos de bases de datos relacionales

Duración: 35 Horas

Objetivo: El objetivo principal de este curso es dar a los alumnos una buena comprensión del lenguaje Transact-SQL que se utiliza por todas las disciplinas relacionadas con SQL Server; es decir, administración de bases de datos, desarrollo de base de datos y Business Intelligence. Como tal, la audiencia principal para este curso son: Profesionales de los administradores de base de datos, desarrolladores de base de datos y BI.

El curso es muy probable que también asistan usuarios SQL que no son necesariamente centrados en la base de datos; es decir, escritores, analistas de negocios y desarrolladores de aplicaciones de cliente.



TEMARIO

1.- INTRODUCTION TO DATABASE DEVELOPMENT

- Introduction to the SQL Server Platform
- SQL Server Database Development Tasks

2.- DESIGNING & IMPLEMENTING TABLES

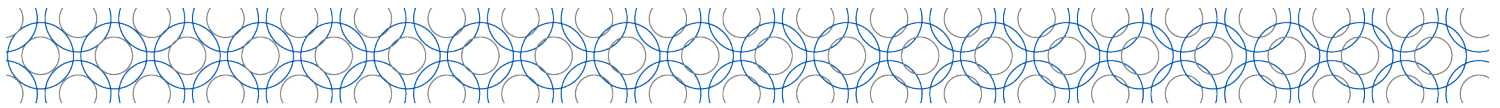
- Designing Tables
- Data Types
- Working with Schemas
- Creating and Altering Tables
- Lab: Designing and Implementing Tables

3.- ADVANCED TABLE DESIGNS

- Enforcing data Integrity
- Implementing Domain Integrity
- Implementing Entity and Referential Integrity
- Lab: Using Data Integrity Through Constraints

4.- ENSURING DATA INTEGRITY THROUGH CONSTRAINTS

- Enforcing data Integrity
- Implementing Domain Integrity
- Implementing Entity and Referential Integrity
- Lab: Using Data Integrity Through Constraints



5.- INTRODUCTION TO INDEXES

- Core Indexing Concepts
- Data Types and Indexes
- Heaps, Clustered, and Nonclustered Indexes
- Single Column and Composite Index
- Lab: Implementing Indexes

6.- DESIGNING OPTIMIZED INDEX STRATEGIES

- Index Strategies
- Managing Indexes
- Execution Plans
- The database Engine Tuning Advisor
- Query Store
- Lab: Optimizing Indexes

7.- COLUMNSTORE INDEXES

- Introduction to Columnstore Indexes
- Creating Columnstore Indexes
- Working with Columnstore Indexes
- Lab: Using Columnstore Indexes

8.- DESIGNING AND IMPLEMENTING VIEWS

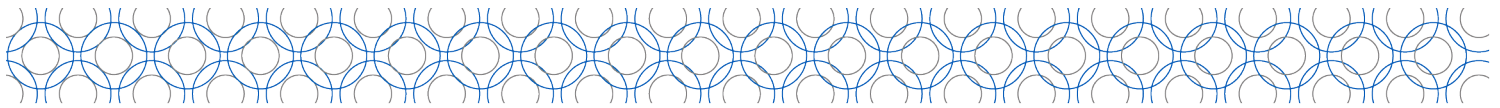
- Introduction to Views
- Creating and Managing Views
- Performance Considerations for Views
- Lab: Designing and Implementing Views

9.- DESIGNING AND IMPLEMENTING STORED PROCEDURES

- Introduction to Stored Procedures
- Working with Stored Procedures
- Implementing Parametized Stored Procedures
- Controlling Execution Context
- Lab: Designing and Implementing Stored Procedures

10.- DESIGNING AND IMPLEMENTING USER-DEFINED FUNCTIONS

- Overview of Functions
- Designing and Implementing Scalar Functions
- Designing and Implementing Table-Valued Functions
- Considerations for Implementing Functions
- Alternatives to Functions
- Lab: Designing and Implementing User-Defined Functions



11.- RESPONDING TO DATA MANIPULATION VIA TRIGGERS

- Designing DML Triggers
- Implementing DML Triggers
- Advanced Trigger Concepts
- Lab: Responding to Data Manipulation by Using Triggers

12.- USING IN-MEMORY TABLES

- Memory-Optimized Tables
- Natively Compiled Stored Procedures
- Lab: Using In-Memory Database Capabilities

13.- IMPLEMENTING MANAGED CODE IN SQL SERVER

- Introduction to CLR Integration in SQL Server
- Implementing and Publishing CLR Assemblies
- Lab: Implementing Managed Code in SQL Server

14.- STORING AND QUERYING XML DATA IN SQL SERVER

- Introduction XML and XML Schemas
- Storing XML Data and Schemas in SQL Server
- Implementing the XML Data Type
- Using the Transact-SQL FOR XML Statement
- Getting Started with XQuery
- Shredding XML
- Lab: Storing and Querying XML Data in SQL Server

15.- STORING AND QUERYING SPATIAL DATA IN SQL SERVER

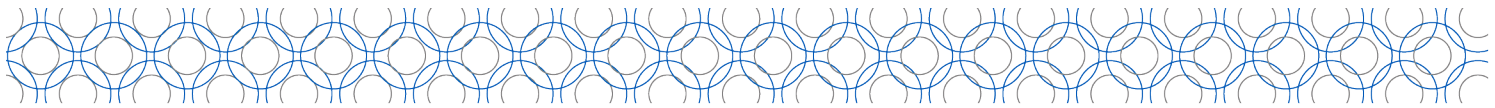
- Introduction to Spatial Data
- Working with SQL Server Spatial Data Types
- Using Spatial Data in Applications
- Lab: Working With SQL Server spatial Data

16.- STORING AND QUERYING BLOBS AND TEXT DOCUMENTS IN SQL

- Consideration for BLOB Data
- Working with FILESTREAM
- Using Full-Text Search
- Lab: Storing and Querying BLOBs and Text Documents in SQL Server

17.- SQL SERVER CONCURRENCY

- Concurrency and Transactions
- Locking Internals
- Lab: SQL Server Concurrency



18.- PERFORMANCE AND MONITORING

- Extended Events
- Working with Extended Events
- Live Query Statistics
- Optimize Database File Configuration

