



Program Name: SQL Server 2014 Database, BI and Data Analytics Developer

This program is designed to produce mid-level SQL Server Database, BI and Data Analytics Developers and Architects. It is composed of six courses, course based projects and one senior project

Total Duration: 100+ Hours Courses + project

Entry Criteria: At least Associate Degree (Diploma) in any field; or two years of College/University (higher education) study; At least of one-year professional experience in any field

Must have taken Introduction to IT course and familiar with, Microsoft Office Word, Excel, Access; must have understanding of basics of Software, Application Architecture – Client Server Architecture (multi-tier architecture); basics of database and software design.

Course 0

Introduction to IT (Computers) (10hrs)

- Hardware components of a Computer
 - RAM, CPU, Hard Disk Drive, Communication Bus, Computer Ports and how they work together
- Computer data representation
 - How RAM is organized – ON/OFF -> to bits
 - Counting in Decimal and Binary and Binary Arithmetic
 - ASCII-7/8
 - Let's put our names on the RAM
- Software
 - From Instruction Set to Software
 - Operating System Vs Applications
 - Components of the OS and how the OS manages our computer
- Computer Networking
 - Network defined, Networking devices
 - LAN/WAN and Internet
 - IP Addressing – IPV4
 - Construct IP Address Classes using 32 bit IP addresses
 - Private and Public IP addresses
 - Some commands
 - Some Network related commands
 - RDP and VPN

Course 1

Developing and Querying Databases with SQL Server 2014 (40+ hrs)

At the end of the course trainees will be able to create and manipulate relational database objects using SQL Server 2014

Course Content

- System Development Lifecycle (SDLC) Traditional Vs Agile
- From Requirements to Data Model to Databases
- Overview of RDBMS, standard SQL Vs T-SQL, DDL, DML, DQL and DCL
- SQL Server Instances Vs Databases; other DBMSs
- SQL Server 2014 Quick Install
- Creating databases, with default parameters and specifics
- Creating and Altering tables, relationships and constraints
- DML Statements – INSERT, UPDATE and DELETE
- Data Retrieval – with SELECT statements
- Advanced query – Sub-Queries, JOINS, Set Operations, Self JOINS
- Working with Stored Procedures, Views, Functions and Triggers
- Database Administration for Developers
 - SQL Server Feature Installation and database files
 - SQL Server Security – logins and users
 - SQL Server Performance Related issues – Index
 - SQL Server Database Backup and Restore

Course 2

SSIS (SQL Server Integration Services) (12 hrs)

- Import and Export data in SSMS and SSIS
- Introduction to SSIS
- Connection managers in SSIS
- Use of Control flow task
- Use of Data Flow task
- Using variables in the package
- Event handlers
- Package explorer
- Precedent constraints
- Use of Containers
- Introduction to data flow task
- Setting different data flow sources
- Data Transformation
- Setting Data flow destinations
- Control flow task
- Executing the package and Deploying packages
- Moving the package from one server to another, deployment methods and security
- Different ways and places a package can be executed
- Configuring a schedule for package execution

Course 3

SQL Server Analysis Service Training (8 hrs)

- Data warehouse
- Creating OLAP Cube
- Creating Cube Dimensions
- Cube Dimension Vs Database Dimension
- How to create Named Calculations
- Creating Measure and Groups

Course 4

SSRS (SQL Server Reporting Services) (12 hrs)

- Introduction to BI concepts and creating basic report using SSRS
- Creating report using Report server wizard and report server template
- Creating Tabular and matrix report
- Adding filters and parameters to a report
- Adding cascading parameters to a report
- Difference between tabular and matrix report
- Explanation of Textbox properties
- List report, Sub report, Drill through report
- Use of Image, Rectangle and Charts in creating reports
- Using Expressions to dynamically design your reports
- Deploying reports
- Managing reports using report Manager

Course 5

Microsoft Power BI Training (12 hrs)

- Introduction to Power BI
- Connect to Data Source
- Basic transformation
- Introduction to modeling data
- Introduction to data visualization in Power BI
- Introduction to the Power BI service

Course 6

Tableau Desktop Fundamental Training (8 hrs)

- Connecting to Data
- Visual Analytics
- Mapping
- Calculations
- Dashboards and stories