SQL Server 2014 Business Intelligence Application Development (SSRS, SSIS, SSAS)

Duration: 5 Days *(Face-to-Face & Remote-Live)*, or 35 Hours *(On-Demand)*

Price: $2495 *(Face-to-Face & Remote-Live)*, or $1495 *(On-Demand)*

Discounts: We offer multiple discount options. Click here for more information.

Delivery Options: Attend face-to-face in the classroom, remote-live or via on-demand training.

Description

This hands-on course introduces the SQL Server 2014 Business Intelligence Suite, including Reporting Services (SSRS), Integration Services (SSIS) and Analysis Services (SSAS). Students start by installing and configuring SQL Server 2014 servers that support SSRS, SSIS and SSAS. Hands-on exercises will be performed where they create various types of reports, including basic table-based reports, parameterized reports, drilldown reports, linked reports, sub-reports, matrix reports (pivot tables), free-form reports and reports with charts and gauges.

Students learn how to group data and add subtotals and totals to reports, as well as how to add custom calculations using the built-in functions or using custom functions written in .NET. Also demonstrated are all of the data sources for reports that Reporting Services supports including: SQL Server databases, Access databases, XML files, Oracle databases, data warehouses and Analysis Services data cubes. Report Models, and how they can support end users creating ad-hoc reports, are covered and students practice with them in comprehensive hands on exercises. This includes a demonstration of Report Builder, which is a free report authoring tool from Microsoft. The course includes a complete overview of Report Server administration, including how to deploy and secure reports, how to schedule automatic report generation and delivery, how to backup reports, how to store previous copies of reports in history folders, and how to maintain and troubleshoot Report Servers.

Students also spend a full day completing hand-on exercises demonstrating Integration Services (SSIS) features, including understanding the architecture of Integration Services projects and packages, as well as how to design and implement data integration routines using SSIS. Exercises will move data between XML, Excel, flat file and database formats,

and they will also demonstrate how to modify data between source and destination. Adding error handing to SSIS routines is also reviewed as well as deployment and scheduling.

The final day covers how to create data cubes using Analysis Services (SSAS), which includes an overview of data warehouse design concepts and why data cubes typically pull their data from data warehouses. Hand-on exercises are performed that create, deploy, process and connect to data cubes.

Students only interested in SSRS coverage should sign up for the 3-day SQL Server 2014 Reporting Services course.

Students interested in SSRS coverage and extended coverage of SSIS and SSAS should instead sign up for the SQL Server 2014 Reporting Services course followed by the SQL Server 2014 Business Intelligence: Integration Services and Analysis Services course, which provides 5-days of coverage for SSIS and SSAS capabilities. An 8-day training pass is available for $3,690.

Prerequisites

Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at SST's SQL Programming course or Microsoft Transact-SQL Programming course is highly recommended although not required.

Course Overview

Reporting Services Architecture

- All Report Server Components Defined
- Review of the Report Server Databases
- Using the Report Manager Web Interface
- Report Lifecycle Step by Step

Creating Basic Reports

- Creating Table Reports
- Layout and Formatting
- Adding Headers and Footers
- Using Subtotals and Formulas
- Adding Charts and Gauges
- Using Lists for Free-Form Reports
- Paging and Sorting Data
- Managing Data Sources

Advanced Report Features

- Setting Up Input Parameters
- Adding Custom Report Navigation
- Adding Drill-Down for Master-Detail Reports
- Linking Reports
- Using Sub-reports
- Adding Conditional Formatting

Matrix Reports

- Pivoting Data with Matrix Controls
- Adding Multiple Data Regions
- Grouping and Sorting
- Adding Subtotals and Totals
- Adding Custom Aggregate Formulas
- Using the Tablix Control

Implementing Report Models

Report Builder Utility

- Understanding Report Models
- Defining and Deploying Report Models
- Setting Friendly Names for Source Data
- Managing and Securing Report Models

- Creating Reports with Report Builder
- Connecting to Report Models
- Adding Charts and Gauges in Report Builder
- Differences Between SQL Server Data Tools and Report Builder

Reporting Services Security

- Organizing Reports in Folders
- Setting Permissions on Reports and Folders
- Managing Security Roles
- Securing Data Sources and Report Models
- Logging Activity on the Report Server

Automating Report Creation and Delivery

- Creating Snapshot Reports
- Storing Previous Versions of Reports
- Caching Reports to Improve Performance
- Automating Report Delivery
- Rending Reports in Excel, MS Word or as a PDF
- Hiding Reports from Users

Adding Custom Code

- Querying the Report Server
- Creating Custom Data Extensions
- Creating Command Objects
- Creating Data Reader Objects
- Accessing Report Definition Language (.rdl) Files

.NET Integration with Reporting Services

- Writing User-Defined Functions in .NET
- Using Custom Functions
- Referencing .NET Libraries
- Managing Report Servers from .NET Applications
    - Accessing SSRS from .NET Applications
    - Retrieving Report Items
    - Listing Report Metadata
- Using the ReportViewer Control in ASP.NET Applications

SSIS Architecture and Fundamentals

- Integration Services Architecture
- Key SSIS Features and New Features in 2014
- Creating Basic SSIS Routines
- Understanding SSIS Advanced Features

Designing Data Integration with SSIS

- Using Control Flow Tasks
- Defining Data Flows to Import, Export and/or Migrate Data
- Integrating Data from Multiple Sources
- Creating and Using Staging Areas
- Sending Administrators Success/Failure Messages

SSIS Data Transformation

- Data Type Conversions
- Using Lookups for Missing Data
- Merging and Data
- Splitting Data to Multiple Destinations
- Using Fuzzy Logic to Locate Matching

Deploying and Managing SSIS Projects

- Deploying SSIS Routines
- Scheduling Automatic Execution of SSIS Routines
- Securing SSIS Packages
- Manually Executing SSIS Routines

Records
- Sorting and Sampling Data
- Isolating and Counting Keywords

OLAP and Data Warehouse Fundamentals Creating Analysis Services Cubes

- OLTP vs. OLAP Databases
- Data Warehouse Design
- Identifying Measures
- Creating Fact Tables
- Defining Dimensions Tables and Attributes

- Connecting to Data Warehouses
- Defining Data Source Views
- Creating and Customizing Data Cubes
- Editing Dimensions and Attributes
- Assigning Aggregation Formulas to Measures
- Browsing and Testing Cubes

Cube Customization

- Defining Key Performance Indicators (KPIs)
- Adding Custom Calculations to Cubes
- Defining Perspectives
- Supporting Multiple Languages with Translations

Cube Deployment and Security

- Deploying Cubes
- Automating Cube Processing
- Defining Cube Pre-Aggregation Levels
- Securing Cubes
- Accessing Cubes from Excel and Other Clients