Course Outline | MS SQL Server 2016/17 Reporting Services

4 day(s)

This 4 day course is intended for students who need to learn and understand the full reporting lifecycle of designing, managing, and accessing reports in a Microsoft SQL Server 2016 or 2017 environment. Days 1 and 2 will familiarise attendees with the Reporting Services development tools used to create and author reports, and will enable students to design initially basic, then more complex, reports. All of the data regions utilised in report design are covered here including tables, matrices, lists, and charts. Interactive features such as drilldown and drill-through reports are also covered in this section, as are the implementation and use of report parameters.

Day 3 builds upon the knowledge gained over the previous two days by covering advanced report design concepts, such as making reports more dynamic (for example, allowing users to interactively select groups for a matrix using parameters), alternating background colours for table rows, and other handy tips to enable developers to design truly professional reports. We round off the development phase of the reporting lifecycle by considering the implementation of mobile reports and KPIs. Day 4 of the course deals more specifically with the role of the Report Server itself. Here, students will learn how to deploy reports to a Report Server, manage Report Server content, handle subscriptions, and control access to reports.

Concise coverage of the subject matter is augmented with plenty of hands-on exercises to facilitate the learning process and to enable students to quickly gain confidence in using Reporting Services. Additionally, with the course structure being fully modularised, customised versions of this course can also be devised and delivered.

Prerequisites

No prior knowledge of the subject matter is assumed. However, students should ideally be familiar with basic programming concepts, and understand the fundamental design of relational databases and data normalization. Some prior working knowledge of SQL Server 2017 (or previous version), and the use of SQL Server Management Studio, is assumed. Attendees should additionally be familiar with the SQL query language, in particular the SELECT statement used for retrieving data. The course, "Microsoft SQL Server 2016 and 2017 Querying Data for Report Developers", would be an ideal primer for anyone considering taking this course.

Course Objectives

Upon successful completion of this course, students will be able to:

- Understand the Reporting Services Architecture and Report Lifecycle
- Create and Edit Reports using Tables, Matrices, and Lists
- Use Expressions to Enhance Report Capabilities
- Enhance Reports by Implementing Interactive Features
- Incorporate Charts, Indicators, and other Graphical Features into Reports
- Work with Data Sources and Datasets
- Understand Advanced Report Design Concepts
- Implement Mobile Reports and KPIs
- Set up Report Publishing and Execution Settings
- Manage Report Server Content with the Reporting Services Web Portal
- Distribute Reports with Subscriptions
- Secure Report Server Resources

Course Outline

Introduction to SQL Server Reporting Services

- Overview of Reporting Services
- The Reporting Life Cycle
- Reporting Services Architecture
- Reporting Services Tools

Authoring Reports – Getting Started

- Introduction to SQL Server Data Tools (SSDT)
- Creating a Report Project
- The Report Designer Environment
- Table Reports
- Grouping and Aggregating Data
- Sorting Data
- Using a Matrix
- Using a List
- Using Text Boxes, Lines, and Images
- Formatting Reports
- Page Breaks
- Report Headers and Footers
- Implementing Expressions
- Using Variables

Enhancing Reports

- Controlling Layout with Rectangles
- Interactive Sorting
- Drill-Down Reports
- Document Maps
- Bookmarks

Working with Parameters

- Using Parameters to Restrict Query Results
- Using Parameters to Filter Report Data
- Creating Dynamic Parameter Lists
- Cascading Parameters
- Displaying User Selected Parameters in a Report
- Subreports
- Drill-Through Reports

Visualizing Data

- Working with Charts
- Gauges
- Indicators and KPIs
- Data Bars
- Spark Lines

Using Report Builder

- Overview of Report Builder
- Designing a Report in Report Builder
- Implementing Report Parts

Advanced Report Design

- Implementing Maps with Spatial Data
- Embedding Code in Reports
- Creating Templates
- Using Parameters with a Stored Procedure
- Dynamic Data Sources and Datasets
- Dynamic Grouping
- Hiding/Showing Columns
- Adjacent Groups
- Recursive Hierarchy Grouping
- Alternating Background Colours
- Compact Grouping Layout
- Handling the Absence of Data in a Report

Implementing Mobile Reports

- Overview of Mobile Reports
- Creating a Mobile Report
- Publishing a Mobile Report
- Creating a KPI
- Creating a Drill-Through Mobile Report

Deploying Reports

- Configuring Reporting Services
- Deploying Reports
- Introduction to the Reporting Services Web Portal
- Executing Reports on Demand

Managing the Report Server

- Managing Report Server Content
- Linked Reports
- Managing Data Source Properties
- Caching Reports
- Report Snapshots
- Report History
- The My Reports Folder
- Rendering Reports to Different Formats

Distributing Reports with Subscriptions

- Introduction to Report Subscriptions
- Creating a Standard Subscription
- Creating a Data-Driven Subscription
- Managing Report Subscriptions

Controlling Access to Report Server Content

- Securing Report Server Content
- Implementing Data Security
- Using URL Access to Display a Report