

SQL Server Reporting Services

Duration: 3 Days

OBJECTIVES

Delegates attending the SQL Server Reporting Services course will learn how to use (SSRS) to design, create, deploy, secure and manage reports. The course provides a fundamental understanding of the components of a Reporting Services deployment exploring its basic architecture and terminology. You will learn how to create tabular, matrix, chart and list reports that employ datasets based on ad-hoc queries and stored procedures. As you progress you'll learn to add custom expressions, custom functions and format your reports, implement shared data sources, interactive sorting, drill-down capabilities, and create parameter based reports using the Report Designer. Reports including gauges, indicators, spark lines and maps will also be introduced. The course will introduce both the Visual Studio (SQL Server 2008 Business Intelligence Development Studio (BIDS) for SSRS 2008R2 and SQL Server Data Tools (SSDT) for SSRS 2012 through to 2016) project environment and ReportBuilder 3.0 application for creating, saving and deploying reports. The latter part of the course covers the deployment, management and customisation of Reporting Services projects components and saving of reports, data sets and data sources to the SSRS repository. In this section you will learn how to manage security and access to reports through user roles and accounts. You will also learn how to schedule the execution and caching of reports, and automate the delivery of reports in selected render formats. An introduction to the concepts of accessing reports using URL access and the Reporting Services Web Service API, and the application integration options provided by SSRS will be provided to serve as a taster of how your reports might be integrated into your own applications. This course is suitable for delegates working with all versions of SQL Server from SQL Server 2008 through to SQL Server 2016.

PRE-REQUISITES

This course assumes no prior knowledge of SQL Server Reporting Services. This course does assume prior knowledge of the SQL language to the level of the SQL Server Database Querying course.

COURSE OUTLINE

Introducing SQL Reporting Services (SSRS)

- Who Uses SSRS?
- Dashboards, Reports and Applications
- Enterprise Reporting
- Solution Types
- Business Intelligence Reporting Solutions

Reporting Services Installation & Architecture

- The Basic Installation
- The Enterprise Deployment
- The Reporting Lifecycle
- SSRS Tools: Report Designer, Power View, Report Builder, Report manager, SharePoint Libraries, Reporting Services Configuration Manager, SQL Server Management Applications
- SSRS Windows Service

- SSRS Processors & Extensions: Processing and Rendering Extensions (HTML, CSV, XML, Image, PDF, Excel, Word)
- SSRS Delivery Extensions
- SSRS Databases: ReportServer, ReportServerTempDB

Overview of Configuring SharePoint Integration

- SharePoint Technologies
- Installation and Configuration
- Architecture

Basic Report Design

- Creating Reports with Wizards
- Manual Report Design
- Report Components: Data Source, Data Set, Report Layout, Regions
- Shared Data Sources and Data Sets
- Report Builder 30
- SQL Server Data Tools (SSDT - 2012 to 2016)
- Business Intelligence Development Studio (BIDS - 2008)
- Properties Window
- TextBox Properties
- Selected Text Properties
- Toolbars

Report Layout and Formatting

- Report Layout Types: Table, Matrix, List, Chart, Gauge and Dashboard, Maps
- Tablix Regions
- Tablix Properties
- Table Groups
- Group Expressions
- Interactive Sort
- Page Breaks
- Drill Down and Dynamic Visibility
- Formatting Report Data
- Dynamic Formatting
- Multicolumn Reports
- Gauge Reports

Designing Data Access

- Reporting for Relational Data
- Data Sources
- Data Sets
- Filtering Techniques: Filtered Data Sets, Filtered Regions
- Report Parameters: Single Value, Multi-value, Drop-Down Lists
- Cascading Parameters
- Using Stored Procedures
- Filtering with Parameters
- Non-SQL Server Database Data Sources: Access, Oracle, Excel, Sybase
- Building Queries in Strings

Advanced Report Design

- Headers and Footers: First Page, Every Page, Last Page, Group Headers and Footers
- Table Groups and Matrix Groups
- Adding Totals to Table and Matrix Reports

- Creating Report Templates
- Creating Composite Reports
- Text boxes, Padding and Embedded Formatting
- Expression Builder
- Fields!, Globals!, Parameters! And ReportItems! Collections
- SSRS Operators: string concatenation, arithmetic, comparison
- SSRS Functions: Maths, String, Date, If, Switch, and many more
- Conditional Formatting
- Using List Regions to Combine Report Items
- Designing Master/Detail Reports
- Drill down Reports
- Sub Reports
- Drill Through and Link Action Reports
- Nested Table and Chart Regions
- Navigating Reports: Bookmarks, URLs, Document Maps
- Reporting on Recursive Relationships: Recursive Parent

Chart Reports

- Chart Types: Column, Stacked, Area and Line, Pie and Doughnut, Bubble and Stock
- Anatomy of a Chart: Configuring Charts
- Creating a Multi-series Chart
- Secondary Axis
- Multiple Chart Areas
- Label Rotation
- Useful Properties and Settings

Content Management

- Navigating Around Report Manager
- Organising Reports, Data Sources and Datasets
- Adding Data Cells
- Displaying or Hiding Report manager Details
- Running Reports
- Managing Folders and Files
- Managing Reports and Data Sources
- Managing Generic Site Settings
- Other Things You Can Do with Report Manager
- Creating Linked Reports
- Managing Folders and Files
- Managing Reports and Data Sources
- Managing Generic Site Settings
- Report Caching
- Report Snapshots
- Report History
- Creating Subscriptions
- Parts of a Subscription
- Creating a Standard Subscription
- Creating Data-Driven Subscriptions
- Creating the Data-Driven Query

Native Mode Server Administration

- Reporting Services Security Architecture
- Web Server Authentication

- Reporting Services Authentication
- Data Source Security
- Managing Data Source Security from Visual Studio
- Four Choices for Managing Credentials
- Which SQL Server Permissions are Needed for a Report?
- Managing Data Source Security from Report Manager
- Backup and Recovery
- Encryption Keys
- Monitoring
- Configuration

Integrating Reports Into Custom Applications

- URL Access
- Accessing Reporting Services Objects
- Reporting Services URL Parameters
- Passing Report Information Through the URL
- Programmatic Rendering
- Using The ReportViewer Control

Using Embedded and Referenced Code

- Using Expression Builder
- Calculated Fields
- Conditional Expressions
- Using Custom Code