

## Course 2797: Designing a Reporting Solution Architecture Using Microsoft SQL Server 2005 Reporting Services

### Introduction

Elements of this syllabus are subject to change.

The purpose of this 2 day course is to teach Business Intelligence (BI) professionals working in enterprise environments to design a reporting solution architecture that supports their BI solution. Students will go through the entire process-from identifying report data to promoting the reporting solution to production. Students will scale a reporting solution. Students will also be taught best practices for collaborating with application developers to integrate applications and reporting services.

The course focuses on the planning and design aspects of a reporting solution and does not teach you how to create reports or how to use the development tools provided with SQL Server 2005.

### Audience

This course is intended for experienced BI professionals. The target students for this course already have an understanding of how to use the SQL Server 2005 tools to implement reporting functionality, but need to develop their understanding of design principles and best practices when planning, implementing, and deploying a Reporting Services solution.

### At Course Completion

After completing this course, students will be able to:

- Design a reporting solution.
- Develop a reporting solution.
- Collaborate with application developers to complete reporting and analytical interfaces.
- Deploy and manage a Reporting Services solution.
- Design security for a Reporting Services solution.
- Optimize report execution performance.

### Prerequisites

Before attending this course, students must:

- Have hands-on experience with database development tasks. For example:
  - Creating Transact-SQL queries
  - Writing and optimizing advanced queries (for example, queries that contain complex joins or subqueries)
  - Creating database objects such as tables, views, and indexes
- Have foundational conceptual understanding of Business Intelligence presentation architecture. For example, data source management, the function of pivot tables versus grids versus charts, what drill down and linked reports are, and what schema abstraction (Report Builder) is.
- Have built Reporting Services reports with Visual Studio or SQL Server Business Intelligence Development Studio.
- Have foundational understanding of Web-based architecture. For example, SSL, SOAP, IIS, and WSS/SPS-Web parts-what they are and what their role is.
- Have foundational understanding of Web-based architecture. For example, SSL, SOAP, and IIS-what they are and what their role is.

- Have foundational understanding of Microsoft Windows security. For example, how groups, delegation of credentials, and impersonation function in a security context.

Already know how to use the following tools:

- SQL Server Business Intelligence Development Studio
- SQL Server Management Studio
- Performance Monitor
- SQL Server Profiler
- Report Builder and Report Manager

## Course Outline

### Module 1: Designing a Reporting Solution

In this module, students will learn how to identify user requirements and business requirements for a reporting solution. They will then learn how to match the requirements of the user to Reporting Services technologies.

Lessons

- Evaluating Business Requirements for a Reporting Solution
- Designing for Reporting Services

Lab 1: Designing a Reporting Solution

- Identifying Reporting Solution Users
- Creating a Reporting Solution Specification

After completing this module, students will be able to:

- Evaluate the business requirements for a reporting solution.
- Design a Reporting Services implementation.

### Module 2: Developing a Reporting Solution

In this module, students will first identify how best to develop reports using the powerful Business Intelligence Development Studio Report Designer tool. This will include a review of best practice for report layout, and how this is affected by the various rendering formats available. Secondly, they will identify the considerations for effective development of a report model to enable more experienced users to create their own reports.

Lessons

- Developing Reports
- Developing Report Models

Lab 2: Developing a Reporting Solution

- Creating Reports from a Report Specification
- Working With Report Models

After completing this module, students will be able to:

- Create a Reporting Services solution.
- Create a report model and use it to create a report with Report Builder.

### Module 3: Integrating Reporting Services with Applications

In this module, students will review the options for integrating Reporting Services reports into a custom application. They will look at using direct URL access, the report viewer controls provided by Microsoft Visual Studio 2005, the Reporting Services SharePoint Web Parts, and the Reporting Services Web services. Lastly, they will discuss which approach, or combination of approaches, might suit different BI applications and their different kinds of users.

Lessons

- Integrating with Custom Applications
- Controlling Reporting Services by Using Web Services

Lab 3: Integrating Reporting Services with Applications

Integrating Reports into an ASP.NET Application.

- Integrating a Report into a SharePoint Services Solution
  - Implementing a Reporting Services Web Service Client
- After completing this module, students will be able to:

- Integrate Reporting Services with custom applications.
- Design Web service clients for Reporting Services.

#### **Module 4: Deploying and Managing a Reporting Solution**

In this module, students will learn how to deploy a Reporting Services solution into a production environment, and how to manage report distribution.

Lessons

- Deploying a Reporting Services Solution
- Managing Report Distribution

Lab 4: Managing Report Deployment and Distribution

- Deploying Reports
- Managing Report Distribution

After completing this module, students will be able to:

- Deploy a Reporting Services solution.
- Manage Report Distribution.

#### **Module 5: Designing Security for a Reporting Solution**

In this module, students will learn how to secure a Reporting Services solution.

Lessons

- Designing an Authentication Strategy
- Designing an Authorization Strategy
- Designing a Secure Communication Strategy

Lab 5: Securing Reporting Services

- Configuring Authentication
- Configuring Authorization
- Configuring Secure Communications

After completing this module, students will be able to:

- Design an authentication strategy for Reporting Services.
- Design an authorization strategy for Reporting Services.
- Design a secure communication strategy for Reporting Services.

#### **Module 6: Optimizing Report Performance**

In this module, students will learn how to optimize a Reporting Services solution.

Lessons

- Monitoring Report Execution
- Designing a Report Execution Strategy
- Scaling Reporting Services

Lab 6: Optimizing Performance

- Monitoring Reporting Services
- Optimizing Report Execution
- Scaling Reporting Services

After completing this module, students will be able to:

- Monitor report execution.
- Design a report execution strategy to optimize performance.
- Design a scalability strategy for Reporting Services.