



## Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

### Course Description:

This five-day instructor-led course provides students with the knowledge and skills to begin a Business Intelligence solution, by providing the information to implement and maintain Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services within their organization.

### Target Student:

The primary audience for this course is individuals who design and maintain business intelligence solutions for their organization. These individuals work in environments where databases play a key role in their primary job and may perform database administration and maintenance as part of their primary job responsibilities.

The secondary audience for this course is individuals who develop applications that deliver content from SQL Server Analysis Services to the organization, implement data transfer or extract, transform, and load (ETL) solutions by using Microsoft SQL Server 2008 Integration Services, and implement reporting solutions by using Microsoft SQL Server 2008 Reporting Services.

**Days:** 5  
**Format:** Instructor-Led  
**Class Code:** 18795  
**Certification Exams:**  
**Certification Track:**

### Recommended Course Sequence

Knowledge of prerequisites noted below.

*Course content is subject to change without notice.*

### Prerequisites:

Before attending this course, the student must have conceptual understanding of OLAP solutions, experience navigating the Microsoft Windows Server environment, experience with Windows services (starting and stopping), and experience creating service accounts and permissions, experience with Microsoft SQL Server, including SQL Server System tables.

The student must have exposure to enterprise data import and export scenarios, experience navigating the Microsoft Windows Server environment, experience with Microsoft SQL Server, including: SQL Server Agent, SQL Server query language (SELECT, UPDATE, INSERT, and DELETE), SQL Server System tables, SQL Server accounts (users and permissions).

The student must also have exposure to creating reports in Microsoft Access or other third-party reporting products, such as Crystal Reports, conceptual understanding of the push and pull distribution/subscription paradigm, experience navigating the Microsoft Windows Server environment, experience with Windows services (starting and stopping), and experience creating service accounts and permissions.

### Delivery Method:

Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

### At Course Completion:

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

- Describe how SQL Server Analysis Services can be used to implement analytical solutions.
- Create multidimensional analysis solutions with SQL Server Analysis Services.
- Implement dimensions and cubes in an Analysis Services solution.

# Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

- Implement measures and measure groups in an Analysis Services solution.
- Query a multidimensional Analysis Services solution.
- Customize an Analysis Services cube.
- Deploy and secure an Analysis Services database.
- Maintain a multidimensional Analysis Services solution.
- Describe SQL Server Integration Services and its tools.
- Create an Integration Services package.
- Implement control flow in an Integration Services package.
- Implement data flow in an Integration Services package.
- Implement checkpoints and transactions in an Integration Services package.
- Deploy an Integration Services package.
- Describe SQL Server Reporting Services and its components.
- Create a Reporting Services report.
- Enhance a Reporting Services report.
- Create and manipulate data sets.
- Configure report publishing and execution settings.
- Implement subscriptions for reports.
- Administer Reporting Services.

## Course Outline

### Module 1: Introduction to Microsoft SQL Server Analysis Services

This module introduces common analysis scenarios and describes how Analysis Services provides a powerful platform for multidimensional OLAP solutions and data mining solutions. The module then describes the main considerations for installing Analysis Services.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Overview of Data Analysis Solutions.</li><li>■ Lesson 2: Overview of SQL Server Analysis Services.</li><li>■ Lesson 3: Installing SQL Server Analysis Services.</li></ul>
Labs: Using SQL Server Analysis Services
<ul style="list-style-type: none"><li>■ Exercise 1: Installing SQL Server Analysis Services.</li><li>■ Exercise 2: Verifying Installation.</li></ul>

### Module 2: Creating Multidimensional Analysis Solutions

This module introduces the development tools you can use to create an Analysis Services multidimensional analysis solution, and describes how to create data sources, data source views, and cubes.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Developing Analysis Services Solutions.</li><li>■ Lesson 2: Creating Data Sources and Data Source Views.</li><li>■ Lesson 3: Creating a Cube.</li></ul>
Lab: Creating Multidimensional Analysis Solutions
<ul style="list-style-type: none"><li>■ Exercise 1: Creating a Data Source.</li><li>■ Exercise 2: Creating and Modifying a Data Source View.</li><li>■ Exercise 3: Creating and Modifying a Cube.</li></ul>

# Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

---

## Module 3: Working with Cubes and Dimensions

This module describes how to edit dimensions and to configure dimensions, attributes, and hierarchies.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Configuring Dimensions.</li><li>■ Lesson 2: Defining Attribute Hierarchies.</li><li>■ Lesson 3: Sorting and Grouping Attributes.</li></ul>
Lab: Working with Cubes and Dimensions
<ul style="list-style-type: none"><li>■ Exercise 1: Configuring Dimensions.</li><li>■ Exercise 2: Defining Relationships and Hierarchies.</li><li>■ Exercise 3: Sorting and Grouping Dimension Attributes.</li></ul>

## Module 4: Working with Measures and Measure Groups

This module explains how to edit and configure measures and measure groups.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Working With Measures.</li><li>■ Lesson 2: Working with Measure Groups.</li></ul>
Lab: Working with Measures and Measure Groups
<ul style="list-style-type: none"><li>■ Exercise 1: Configuring Measures.</li><li>■ Exercise 2: Defining Dimension Usage and Relationships.</li><li>■ Exercise 3: Configuring Measure Group Storage.</li></ul>

## Module 5: Querying Multidimensional Analysis Solutions

This module introduces multidimensional expressions (MDX) and describes how to implement calculated members and named sets in an Analysis Services cube.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: MDX Fundamentals.</li><li>■ Lesson 2: Adding Calculations to a Cube.</li></ul>
Lab: Querying Multidimensional Analysis Solutions
<ul style="list-style-type: none"><li>■ Exercise 1: Querying a Cube by Using MDX.</li><li>■ Exercise 2: Creating a Calculated Member.</li><li>■ Exercise 3: Defining a Named Set.</li></ul>

## Module 6: Customizing Cube Functionality

This module explains how to customize a cube by implementing key performance indicators (KPIs), actions, perspectives, and translations.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Implementing Key Performance Indicators.</li><li>■ Lesson 2: Implementing Actions.</li><li>■ Lesson 3: Implementing Perspectives.</li><li>■ Lesson 4: Implementing Translations.</li></ul>
Lab: Customizing Cube Functionality
<ul style="list-style-type: none"><li>■ Exercise 1: Implementing a KPI.</li><li>■ Exercise 2: Implementing an Action.</li><li>■ Exercise 3: Implementing a Perspective.</li><li>■ Exercise 4: Implementing a Translation.</li></ul>

# Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

---

## Module 7: Deploying and Securing an Analysis Services Database

This module describes how to deploy an Analysis Services database to a production server, and how to implement security in an Analysis Services multidimensional solution.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Deploying an Analysis Services Database.</li><li>■ Lesson 2: Securing an Analysis Services Database.</li></ul>
Lab: Deploying and Securing an Analysis Services Database
<ul style="list-style-type: none"><li>■ Exercise 1: Deploying an Analysis Services Database.</li><li>■ Exercise 2: Securing an Analysis Services Database.</li></ul>

## Module 8: Maintaining a Multidimensional Solution

This module discusses the maintenance tasks associated with an Analysis Services solution, and describes how administrators can use the Analysis Services management tools to perform them.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Configuring Processing.</li><li>■ Lesson 2: Logging, Monitoring, and Optimizing an Analysis Services Solution.</li><li>■ Lesson 3: Backing Up and Restoring an Analysis Services Database.</li><li>■ Lesson 4: Implementing Translations.</li></ul>
Lab: Maintaining a Multidimensional Solution
<ul style="list-style-type: none"><li>■ Exercise 1: Configuring Processing.</li><li>■ Exercise 2: Implementing Logging and Monitoring.</li><li>■ Exercise 3: Backing Up and Restoring an Analysis Services Database.</li></ul>

## Module 9: Introduction to SQL Server 2008 Integration Services

The students will be introduced to the role that Integration Services plays in extracting, transforming, and loading data. The students will also be introduced to the tools that are used to build and manage Integration Services solutions.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Overview of SQL Server Integration Services.</li><li>■ Lesson 2: Using Integration Services Tools.</li></ul>
Lab: Introduction to SQL Server Integration Services
<ul style="list-style-type: none"><li>■ Exercise 1: Using the Import and Export Wizard.</li><li>■ Exercise 2: Running an Integration Services Package.</li></ul>

## Module 10: Developing Integration Services Solutions

The students will be introduced to the development tasks that are involved in creating an Integration Services package.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Creating an Integration Services Solution.</li><li>■ Lesson 2: Using Variables.</li><li>■ Lesson 3: Building and Running a Solution.</li></ul>
Lab: Developing Integration Services Solutions

# Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

---

- |   |
|---|
| <ul style="list-style-type: none"><li>■ Exercise 1: Creating an Integration Services Project.</li><li>■ Exercise 2: Implementing a Package.</li><li>■ Exercise 3: Building and Running an Integration Services package.</li></ul> |
|---|

## Module 11: Implementing Control Flow

The students will be introduced to the tasks and precedence constraints that can be used to implement control flow in an Integration Services package.

<b>Lessons</b>
<ul style="list-style-type: none"><li>■ Lesson 1: Control Flow Tasks.</li><li>■ Lesson 2: Control Flow Precedent Constraints.</li><li>■ Lesson 3: Control Flow Containers.</li></ul>
<b>Lab: Implementing Control Flow</b>
<ul style="list-style-type: none"><li>■ Exercise 1: Creating a Simple Control Flow.</li><li>■ Exercise 2: Configuring Precedence Constraints.</li><li>■ Exercise 3: Using Containers.</li></ul>

## Module 12: Implementing Data Flow

The students will be introduced to the data flow sources, transformations, and destinations that can be used to implement a data flow task in an Integration Services control flow. It also explains how to use data flow paths to direct valid and invalid rows through the data flow.

<b>Lessons</b>
<ul style="list-style-type: none"><li>■ Lesson 1: Data Flow Sources and Destinations.</li><li>■ Lesson 2: Basic Data Flow Transformations.</li><li>■ Lesson 3: Advanced Data Flow Transformations.</li><li>■ Lesson 4: Data Flow Paths.</li></ul>
<b>Lab: Implementing Data Flow</b>
<ul style="list-style-type: none"><li>■ Exercise 1: Transferring Data.</li><li>■ Exercise 2: Implementing Transformations.</li><li>■ Exercise 3: Using Data Viewers.</li><li>■ Exercise 4: Configuring Error Output.</li></ul>

## Module 13: Implementing Checkpoints and Transactions

The students will be introduced to what checkpoints are and how to implement them. It then discusses transactions, and describes how to implement transactional data access logic in an Integration Services package.

<b>Lessons</b>
<ul style="list-style-type: none"><li>■ Lesson 1: Implementing Checkpoints.</li><li>■ Lesson 2: Implementing Transactions.</li></ul>
<b>Lab: Implementing Checkpoints and Transactions</b>
<ul style="list-style-type: none"><li>■ Exercise 1: Implementing Checkpoints in a Package.</li><li>■ Exercise 2: Implementing Transactions in a Package.</li><li>■ Exercise 3: Implementing a Native Transaction.</li></ul>

# Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

---

## Module 14: Configuring and Deploying Packages

The students will be introduced to the role that Reporting Services plays in an organization's reporting life cycle, the key features offered by Reporting Services, and the components that make up the Reporting Services architecture.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Overview of SQL Server Reporting Services.</li><li>■ Lesson 2: Installing Reporting Services.</li><li>■ Lesson 3: Reporting Services Tools.</li></ul>
Lab: Introduction to Microsoft SQL Server Reporting Services
<ul style="list-style-type: none"><li>■ Exercise 1: Exploring Report Designer.</li><li>■ Exercise 2: Exploring Report Manager.</li></ul>

## Module 15: Authoring Basic Reports

The students will learn the fundamentals of report authoring, including configuring data sources and data sets, creating tabular reports, summarizing data, and applying basic formatting.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Creating a Basic Table Report.</li><li>■ Lesson 2: Formatting Report Pages.</li><li>■ Lesson 3: Calculating Values.</li></ul>
Lab: Authoring Basic Reports
<ul style="list-style-type: none"><li>■ Exercise 1: Creating a Basic Table Report.</li><li>■ Exercise 2: Formatting Report Pages.</li><li>■ Exercise 3: Adding Calculated Values.</li></ul>

## Module 16: Introduction to Microsoft SQL Server Reporting Services

The students will be introduced to the role that Reporting Services plays in an organization's reporting life cycle, the key features offered by Reporting Services, and the components that make up the Reporting Services architecture.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Overview of SQL Server Reporting Services.</li><li>■ Lesson 2: Installing Reporting Services.</li><li>■ Lesson 3: Reporting Services Tools.</li></ul>
Lab: Introduction to Microsoft SQL Server Reporting Services
<ul style="list-style-type: none"><li>■ Exercise 1: Exploring Report Designer.</li><li>■ Exercise 2: Exploring Report Manager.</li></ul>

## Module 17: Enhancing Basic Reports

The students will learn about navigational controls and some additional types of data regions, and how to use them to enhance a basic report.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Interactive Navigation.</li><li>■ Lesson 2: Displaying Data.</li></ul>
Lab: Enhancing Basic Reports

# Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

- Exercise 1: Using Dynamic Visibility.
- Exercise 2: Using Document Maps.
- Exercise 3: Initiating Actions.
- Exercise 4: Using a List Data Region.
- Exercise 5: Creating a Tablix Report.
- Exercise 6: Adding Chart Sub-report to Parent Report.

## Module 18: Manipulating Data Sets

The students will explore data sets to a greater depth, including the use of alternative data sources and interacting with a data set through the use of parameters. Students will learn how to dynamically modify the data set underlying a data region by allowing parameters to be sent to the underlying query, as well as will learn to use best practices to implement static and dynamic parameter lists when interacting with queries and stored procedures.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Defining Report Data.</li><li>■ Lesson 2: Using Parameters and Filters.</li><li>■ Lesson 3: Using Parameter Lists.</li></ul>
Lab: Manipulating Data Sets
<ul style="list-style-type: none"><li>■ Exercise 1: Using Parameters to Restrict Query Results.</li><li>■ Exercise 2: Using Parameters to Filter Report Data.</li><li>■ Exercise 3: Creating Dynamic Parameter Lists.</li><li>■ Exercise 4: Using Parameters with a Stored Procedure.</li><li>■ Exercise 5: Displaying All Categories in a Parameter List.</li></ul>

## Module 19: Publishing and Executing Reports

The students will learn the various options you can use to publish reports to the report server and execute them.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Publishing Reports.</li><li>■ Lesson 1: Publishing Reports.</li><li>■ Lesson 3: Creating Cached Instances.</li><li>■ Lesson 4: Creating Snapshots and Report History.</li></ul>
Lab: Publishing and Executing Reports
<ul style="list-style-type: none"><li>■ Exercise 1: Publishing Reports.</li><li>■ Exercise 2: Executing Reports.</li><li>■ Exercise 3: Configuring and Viewing a Cached Report.</li><li>■ Exercise 4: Configuring and Viewing a Snapshot Report.</li></ul>

## Module 20: Using Subscriptions to Distribute Reports

The students will learn how to implement subscriptions so that you can distribute reports either automatically by e-mail or by publishing reports to a shared folder.

Lessons
<ul style="list-style-type: none"><li>■ Lesson 1: Introduction to Report Subscriptions.</li><li>■ Lesson 2: Creating Report Subscriptions.</li><li>■ Lesson 3: Managing Report Subscriptions.</li></ul>

# Accelerated: Implementing and Maintaining Microsoft SQL Server 2008 Analysis, Integration, and Reporting Services

---

## Lab: Using Subscriptions to Distribute Reports

- Exercise 1: Creating a Standard Subscription.
- Exercise 2: Creating a Data-Driven Subscription.

### Module 21: Administering Reporting Services

The students will learn how to administer the Reporting Services server, how to monitor and optimize the performance of the report server, how to maintain the Reporting Services databases, and how to keep the system secure.

#### Lessons

- Lesson 1: Reporting Server Administration.
- Lesson 2: Performance and Reliability Monitoring.
- Lesson 3: Administering Report Server Databases.
- Lesson 4: Security Administration.
- Lesson 5: Upgrading to Reporting Services 2008.

#### Lab: Administering Reporting Services

- Exercise 1: Using Reporting Services Configuration Manager.
- Exercise 2: Securing a Reporting Services Site.
- Exercise 3: Securing Items.