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Microsoft BI Bootcamp: SQL Server 2008 R2 and Office 2010

5 Days (BI-BTCMP10-301-EN)

Description

Written and presented by industry experts, this intensive five-day workshop gives professional developers the information and hands-on experience they need to deliver state-of-the-art, integrated reporting and analytics solutions using Microsoft Business Intelligence.

Delivering the right information in the right format at the right time to all users in the organization—that is Microsoft's Business Intelligence (BI) strategy and vision for enterprise information management. Microsoft's integrated BI tools enable developers to create effective solutions that information workers use every day to find meaningful patterns in the vast sea of data they collect and to use that insight to quickly respond to changing business conditions.

On completion of this workshop attendees will be able to position different types of Business Intelligence solutions, from enterprise data warehousing to data marts to real-time operational reporting and analytics. Attendees will learn how to design and build powerful integrated solutions that provide users with rich reporting, analysis, visualization and performance management capabilities by targeting operational data from an existing line-of-business application using the Microsoft Business Intelligence platform.

Attendees will have the opportunity to work through 30 practical hands-on labs to build a complete BI solution.

Target Audience

The presentations and labs have been designed specifically to give professional developers—those who work for an ISV, SI, or enterprise customer—the information they need to deliver integrated solutions on the Microsoft BI platform.

This course is also relevant and useful for those interested to understand and evaluate Microsoft's Business Intelligence offerings.

Prerequisites

The following skills and knowledge will help attendees have a positive experience in the workshop:

- Active development experience with C# and/or VB.NET
- Basic understanding of Excel, SQL and relational database concepts

Please Note

This workshop is designed for professional developers with little or no experience building BI solutions. If you already have extensive experience building solutions on the Microsoft BI

platform, you may find portions of this workshop to be a review of material that you are already familiar with.

The workshop focuses on a specific scenario: supplementing an existing line-of-business application with integrated reporting and analytics functionality using SQL Server, Excel, PowerPivot, ProClarity, and SharePoint (Excel Services and PerformancePoint Services). Other scenarios, such as developing custom reporting and analytic tools, or implementing enterprise data warehouses, are not covered in great detail.

Additionally, note that the virtual machine used to host the labs in this course has been developed as a Hyper-V virtual machine, which must be hosted on Windows Server 2008 R2. In custom classroom environments, or when the student's own machine will be used to host the virtual machine, there is the option to install a Virtual PC version of the virtual machine. An advantage of this approach is that the machine does not require Windows Server 2008 R2; it can use Windows XP SP2, Windows Vista or Windows 7 32- or 64-bit. However, a distinct limitation of this approach is that the Virtual PC virtual machine is 32-bit and therefore cannot host SharePoint Server 2010 installed. To this end, if the Virtual PC virtual machine is used, the labs for SharePoint Server 2010 cannot be offered. In this situation the instructor will demonstrate the material as it relates to SharePoint Server 2010.

Course Objectives

Through interactive presentations and concrete hands-on labs, attendees will learn:

- How to use Microsoft SQL Server 2008 R2 to build and manage data marts which provide a consolidated view of organizational data.
- How to use dimensional modeling techniques and Visio 2010 database modeling tools to create data models in SQL Server 2008 R2 for hosting consolidated BI information.
- How to build consolidated data marts using SQL Server 2008 R2 Integration Services to extract, transform, and load business-critical information into SQL Server 2008 R2 databases from disparate sources such as business applications and corporate databases.
- How to use SQL Server 2008 R2 Analysis Services to create a Unified Dimensional Model (cube) that simplifies analytical access to business-critical data, and how to publish and collaborate on findings using SQL Server 2008 R2 Reporting Services and SharePoint 2010 Excel Services.
- How to use SQL Server 2008 R2 Reporting Services to develop predefined and ad hoc relational reports that simplify access to business-critical information.
- How to use SQL Server 2008 R2 Analysis Services to create data mining models that explore, discover and predict patterns in a data.
- How to use PowerPivot to load and prepare disparate data sources, and produce rich and responsive reports.
- How to share PowerPivot reports in SharePoint 2010.
- How to use SharePoint 2010 PerformancePoint Services to provide integrated performance management solutions with scorecard and analysis functionality.

- How to build custom dashboards in SharePoint 2010 that expose business-critical information in compelling ways.
- How to use ProClarity Desktop Professional for advanced data analysis and visualization.

Technologies

The workshop will empower developers to exploit the BI functionality in the following technologies:

- SQL Server 2008 R2 Database Services
- SQL Server 2008 R2 Integration Services
- SQL Server 2008 R2 Reporting Services
- SQL Server 2008 R2 Analysis Services (OLAP and Data Mining)
- Office Visio 2010
- Office Excel 2010
- SharePoint 2010
- SharePoint 2010 Excel Services
- SharePoint 2010 PerformancePoint Services
- PowerPivot for Excel 2010
- PowerPivot for SharePoint 2010
- ProClarity Professional Desktop 6.3

Course Summary Outline

Day 1

A. Introduction to Microsoft Business Intelligence

Module A01: Introduction to Microsoft Business Intelligence

- Defining Business Intelligence (BI); Introducing the Microsoft BI Platform; Introducing the BI Developer's Toolset; Introducing Adventure Works

B. Data Warehouse Design and ETL with Integration Services

Module B01: Introducing Dimensional Modeling Techniques

- Designing the Dimensional Model; Introducing Additional Design Concepts

  Lab B01A – Exploring the Data Warehouse Schema with Visio

Module B02: Designing ETL Solutions with Integration Services

- Reviewing ETL Fundamentals; Introducing Integration Services Components; Designing ETL Packages

  Lab B02A – Developing Package Control Flow

  Lab B02B – Developing Data Flow

Day 2

Module B03: Introducing Advanced Integration Services Features

- Advanced Data Flow; Manageability Features; Programmability

  Lab B03A – Using the Slowly Changing Dimension Component

C. Cubes and Data Mining with Analysis Services

Module C01: Developing Analysis Services Cubes and Dimensions

- Reviewing OLAP Fundamentals; Understanding Database Components

  Lab C01A – Creating a Basic Cube

  Lab C01B – Configuring the Dimensions and Dimension Usage

  Lab C01C – Enriching the Cube with Calculations and Actions

Module C02: Processing and Deploying Analysis Services Solutions

- Performance Tuning; Programming Analysis Services

  Lab C02A – Managing Dimension and Cube Processing

  Lab C02B – Developing a Database Installer Package

Day 3

Module C03: Cube Analysis with ProClarity Desktop Professional

- Accessing the UDM from ProClarity Desktop

  Lab C03A – Analyzing Cube Data with ProClarity Desktop Professional

Module C04: Developing Analysis Services Data Mining Models

- Introducing Data Mining; Integration with SQL Server 2008; Data Mining Programmability

  Lab C04A – Developing and Querying Data Mining Models

  Lab C04B – Integrating Data Mining with Integration Services

D. Reporting Solutions with Reporting Services

Module D01: Introducing Reporting Services

- Reporting Fundamentals; Introducing Reporting Services

Module D02: Authoring Reporting Services Reports

- Introducing Basic Report Design; Managing Report Deployment; Working with Report Parts; Introducing Report Interactivity; Extending Reports with Custom Logic; Reporting from Analysis Services

  Lab D02A – Authoring Reports Based on Relational Data, Part 1

  Lab D02B – Authoring Reports Based on Relational Data, Part 2

  Lab D02C – Authoring Reports Based on Cubes

  Lab D02D – Authoring Reports Based on Data Mining Models

Day 4

Module D03: Delivering Ad Hoc Reporting With Report Builder 1.0

- Introducing Report Builder 1.0; Reviewing Report Models; Creating Reports with Report Builder 1.0

  Lab D03A – Developing a Report Model

  Lab D03B – Authoring Reports Based on Report Models

Module D04: Managing and Delivering Reporting Services Reports

- Optimizing Report Execution; Securing Report Server Items and Data; Delivering Reports with Subscriptions

  Lab D04A – Managing and Delivering Reports

Module D05: Programming Reporting Services

- Defining URL Access; Scripting with the RS Utility; Accessing Reports Programmatically; Embedding Reports into .NET Applications

  Lab D05A – Managing Report Content with Script

  Lab D05B – Embedding Reports with the ReportViewer Control

E. Self-Service Business Intelligence with Office

Module E01: Creating and Sharing Reports with Excel

- Creating Reports with Excel; Publishing to Excel Services

  Lab E01A – Analyzing and Reporting with Excel

  Lab E01B – Working with Excel Services

Day 5

Module E02: Working with PowerPivot

- Introducing PowerPivot; Loading Data into PowerPivot; Creating PowerPivot Reports; Introducing DAX; Working with PowerPivot in SharePoint

  Lab E02A – Creating a PowerPivot Model

  Lab E02B – Creating a Report Based on a PowerPivot Model

  Lab E02C – Enriching the PowerPivot Model with Calculations

  Lab E02D – Working with PowerPivot in SharePoint

Module E03: Creating SharePoint Dashboards

- Reviewing Dashboard Fundamentals; Introducing the SharePoint BI Features

  Lab E04A – Creating a SharePoint Dashboard

Module E04: Creating Dashboards with PerformancePoint Services

- Introducing PerformancePoint Services (PPS); Building Scorecards; Defining PPS Elements

  Lab E04A – Creating PerformancePoint KPIs and a Scorecard

  Lab E04B – Creating PerformancePoint Reports and Dashboards