

# MS 20467D: Designing Self-Service Business Intelligence and Big Data Solutions



**Days:** 5

**Prerequisites:** In addition to their professional experience, students who attend this training should already have the following technical knowledge:

- Knowledge of data warehousing and data modeling principles.
- Familiarity with Microsoft Excel and Microsoft SharePoint Server 2013.

**Audience:** This course is ideal for Business Intelligence Analysts.

**Description:** This five-day instructor-led course teaches students how to implement self-service Business Intelligence (BI) and Big Data analysis solutions using the Microsoft data platform. The course discusses the rationale for self-service BI, and describes how to use Microsoft SQL Server Reporting Services, Microsoft Excel, Microsoft SharePoint Server, and Microsoft Office 365 Power BI to create self-service data models and reports. The course then goes on to describe how to use Windows Azure HDInsight to perform Big Data analysis.

## OUTLINE:

### MODULE 1: INTRODUCTION TO SELF-SERVICE BUSINESS INTELLIGENCE

This module introduces self-service BI.

#### LESSONS

- Extending Enterprise BI
- Microsoft Self-Service BI and Big Data Technologies

#### LAB: EXPLORING AN ENTERPRISE BI SOLUTION

- Viewing Reports
- Analyzing Data in a Data Model
- Analyzing Data from Multiple Sources

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Describe ways in which an enterprise BI solution can be extended.
- Identify Microsoft technologies for self-service BI and Big Data analysis.

### MODULE 2: SELF-SERVICE REPORTING

This module describes how to use Report Builder as a tool for self-service Microsoft SQL Server Reporting Services report authoring.

#### LESSONS

- Introduction to Self-Service Reporting
- Shared Data Sources and Datasets
- Report Parts

#### LAB: IMPLEMENTING SELF-SERVICE REPORTING

- Using Report Builder
- Simplifying Data Access for Business Users
- Using Report Parts

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## Business Intelligence and Big

### Data Solutions

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Support self-service reporting with Report Builder.
- Create shared data sources and datasets for self-service reporting scenarios.
- Use report parts as reusable report elements.

#### **MODULE 3: SELF-SERVICE DATA MODELING WITH POWERPIVOT**

This module describes how to use PowerPivot in Microsoft Excel to create self-service data models for analysis.

##### *LESSONS*

- Creating Data Models in Excel with PowerPivot
- Using DAX in a PowerPivot Data Model

##### *LAB: SELF-SERVICE DATA MODELING WITH POWERPIVOT*

- Creating a Data Model with PowerPivot
- Enhancing a Data Model
- Extending a Data Model

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Use PowerPivot to create tabular data models in Excel.
- Enhance data models with custom DAX expressions.

#### **MODULE 4: IMPORTING DATA WITH POWER QUERY**

This lesson describes how to use Power Query in Microsoft Excel to find and import data.

##### *LESSONS*

- Introduction to Power Query
- Using Power Query to Import Data

##### *LAB: USING POWER QUERY*

- Importing data with Power Query
- Merging Queries
- Adding a Query to a Data Model

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Enable Power Query and use it to search for data online
- Use Power Query to import data from multiple data sources into an Excel data model

#### **MODULE 5: VISUALIZING DATA WITH POWER VIEW IN MICROSOFT EXCEL**

This module describes how to use Power View in Microsoft Excel to create interactive data visualizations.

##### *LESSONS*

- Introduction to Power View
- Creating Dynamic Data Visualizations

##### *LAB: VISUALIZING DATA WITH POWER VIEW*

- Using Power View

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Describe the features of Power View
- Use Power View to create interactive data visualizations in Excel

#### **MODULE 6: VISUALIZING GEOGRAPHIC DATA WITH POWER MAP**

This module describes how to use Power Map in Microsoft Excel to create geographic data visualizations.

##### *LESSONS*

- Introduction to Power Map
- Using Power Map

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#### LAB: VISUALIZING GEOGRAPHIC DATA WITH POWER MAP

- Creating a Power Map Tour
- Visualizing Data Over Time

#### AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:

- Describe the features and usage scenarios of Power Map
- Use Power Map to create visualizations of geographic data

#### MODULE 7: COLLABORATIVE BI WITH MICROSOFT SHAREPOINT SERVER

This module describes how to use Microsoft SharePoint Server in an enterprise environment to enable users to share PowerPivot workbooks and Power View reports.

#### LESSONS

- Sharing PowerPivot Workbooks
- Managing PowerPivot Services in SharePoint Server
- Using Power View in SharePoint Server

#### LAB: USING SHAREPOINT SERVER FOR BI COLLABORATION

- Sharing a PowerPivot Workbook
- Managing PowerPivot Data Refresh
- Using Power View in SharePoint Server

#### AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:

- Share a PowerPivot workbooks in SharePoint Server
- Manage PowerPivot services in SharePoint Server
- Use Power View to create interactive data visualizations in SharePoint Server

#### MODULE 8: THE WINDOWS AZURE MARKETPLACE DATA MARKET

This module describes how to find and use datasets in the Windows Azure Marketplace.

#### LESSONS

- Introduction to the Windows Azure Marketplace
- Using Windows Azure Marketplace Data in Microsoft Excel

#### LAB: USING THE WINDOWS AZURE MARKETPLACE

- Finding Data in the Windows Azure Marketplace
- Using Windows Azure Marketplace Data in Excel

#### AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:

- Find data in the Windows Azure Marketplace
- Import Windows Azure Marketplace data into Microsoft Excel

#### MODULE 9: CLOUD COLLABORATION WITH POWER BI FOR MICROSOFT OFFICE 365

This module introduces Power BI for Microsoft Office 365, and describes how to use it for cloud-based, collaborative self-service BI.

#### LESSONS

- Introduction to Power BI
- Natural Language Queries with Q&A
- Sharing Queries
- The Data Management Gateway

#### LAB: USING POWER BI

- Provisioning Power BI
- Viewing Reports and Querying Data in Power BI
- Sharing Queries
- Cloud-Enabling a Data Source

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*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Browse reports in a Power BI site
- Use Q&A to query data in a Power BI site
- Share Power Query queries with other organizational users
- Publish on-premises data sources to the cloud

#### **MODULE 10: INTRODUCTION TO BIG DATA AND WINDOWS AZURE HDINSIGHT**

This module introduces Big Data concepts and describes the key features of Windows Azure HDInsight.

*LESSONS*

- Introduction to Big Data
- Windows Azure HDInsight

*LAB : USING WINDOWS AZURE HDINSIGHT*

- Provisioning a Windows Azure HDInsight Cluster
- Processing Data with HDInsight
- Analyzing Big Data in Microsoft Excel

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Describe key features of Big Data.
- Use Windows Azure HDInsight to process Map/Reduce jobs

#### **MODULE 11: PROCESSING BIG DATA WITH PIG AND HIVE**

This module introduces Pig and Hive, and describes how you can use them to process Big Data in Windows Azure HDInsight.

*LESSONS*

- Processing Big Data with Pig
- Processing Big Data with Hive

*LAB: PROCESSING BIG DATA WITH PIG AND HIVE*

- Processing Big Data with Pig
- Processing Big Data with Hive

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Use Pig to process Big Data
- Use Hive to process Big Data

#### **MODULE 12: IMPLEMENTING BIG DATA PROCESSING SOLUTIONS WITH WINDOWS AZURE HDINSIGHT**

This module introduces key Windows Azure HDInsight technologies that enable you to design and implement automated, repeatable Big Data processing solutions that support self-service BI.

*LESSONS*

- Automating Big Data Processing Tasks
- Integrating Windows Azure HDInsight with Enterprise Data

*LAB: CREATING A BIG DATA SOLUTION*

- Using HCatalog to Abstract Storage Locations
- Using Oozie to Coordinate a Workflow
- Using Sqoop to Export Data

*AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO:*

- Design and implement an automated Big Data processing solution
- Integrate Windows Azure HDInsight with Self-Service BI Solutions