

Microsoft SQL 2016 Business Intelligence Development

**Bootcamp Title – MCSA: SQL 2016 Business Intelligence Development (1 Cert)**   
Number of Days – 6  
Number of Exams – 2  
Number of Certifications – 1  
Cost - $4,995.00

Certifications:

MCSA: SQL 2016 Business Intelligence Development

Exams:

**70-767:**Implementing a SQL Data Warehouse

**70-768:**Developing SQL Data Models

Course Description:

The MCSA SQL 2016 Business Intelligence Development certification boot camp is a 6-day comprehensive deep dive into the SQL Server covering topics such as planning, monitoring, and configuring. This instructor led face to face training camp will teach you the skills needed to support a SQL Server environment.

**Course Outline**

**Module 1: Introduction to Data Warehousing**

Describe data warehouse concepts and architecture considerations.

**Lessons**

* Overview of Data Warehousing
* Considerations for a Data Warehouse Solution

**Lab : Exploring a Data Warehouse Solution**

After completing this module, you will be able to:

* Describe the key elements of a data warehousing solution
* Describe the key considerations for a data warehousing solution

**Module 2: Planning Data Warehouse Infrastructure**

This module describes the main hardware considerations for building a data warehouse.

**Lessons**

* Considerations for Building a Data Warehouse
* Data Warehouse Reference Architectures and Appliances

**Lab : Planning Data Warehouse Infrastructure**

After completing this module, you will be able to:

* Describe the main hardware considerations for building a data warehouse
* Explain how to use reference architectures and data warehouse appliances to create a data warehouse

**Module 3: Designing and Implementing a Data Warehouse**

This module describes how you go about designing and implementing a schema for a data warehouse.

**Lessons**

* Logical Design for a Data Warehouse
* Physical Design for a Data Warehouse

**Lab : Implementing a Data Warehouse Schema**

After completing this module, you will be able to:

* Implement a logical design for a data warehouse
* Implement a physical design for a data warehouse

**Module 4: Columnstore Indexes**

This module introduces Columnstore Indexes.

**Lessons**

* Introduction to Columnstore Indexes
* Creating Columnstore Indexes
* Working with Columnstore Indexes

**Lab : Using Columnstore Indexes**

After completing this module, you will be able to:

* Create Columnstore indexes
* Work with Columnstore Indexes

**Module 5: Implementing an Azure SQL Data Warehouse**

This module describes Azure SQL Data Warehouses and how to implement them.

**Lessons**

* Advantages of Azure SQL Data Warehouse
* Implementing an Azure SQL Data Warehouse
* Developing an Azure SQL Data Warehouse
* Migrating to an Azure SQ Data Warehouse

**Lab : Implementing an Azure SQL Data Warehouse**

After completing this module, you will be able to:

* Describe the advantages of Azure SQL Data Warehouse
* Implement an Azure SQL Data Warehouse
* Describe the considerations for developing an Azure SQL Data Warehouse
* Plan for migrating to Azure SQL Data Warehouse

**Module 6: Creating an ETL Solution**

At the end of this module you will be able to implement data flow in a SSIS package.

**Lessons**

* Introduction to ETL with SSIS
* Exploring Source Data
* Implementing Data Flow

**Lab : Implementing Data Flow in an SSIS Package**

After completing this module, you will be able to:

* Describe ETL with SSIS
* Explore Source Data
* Implement a Data Flow

**Module 7: Implementing Control Flow in an SSIS Package**

This module describes implementing control flow in an SSIS package.

**Lessons**

* Introduction to Control Flow
* Creating Dynamic Packages
* Using Containers

**Lab : Implementing Control Flow in an SSIS Package**

**Lab : Using Transactions and Checkpoints**

After completing this module, you will be able to:

* Describe control flow
* Create dynamic packages
* Use containers

**Module 8: Debugging and Troubleshooting SSIS Packages**

This module describes how to debug and troubleshoot SSIS packages.

**Lessons**

* Debugging an SSIS Package
* Logging SSIS Package Events
* Handling Errors in an SSIS Package

**Lab : Debugging and Troubleshooting an SSIS Package**

After completing this module, you will be able to:

* Debug an SSIS package
* Log SSIS package events
* Handle errors in an SSIS package

**Module 9: Implementing an Incremental ETL Process**

This module describes how to implement an SSIS solution that supports incremental DW loads and changing data.

**Lessons**

* Introduction to Incremental ETL
* Extracting Modified Data
* Temporal Tables

**Lab : Extracting Modified Data**

**Lab : Loading Incremental Changes**

After completing this module, you will be able to:

* Describe incremental ETL
* Extract modified data
* Describe temporal tables

**Module 10: Enforcing Data Quality**

This module describes how to implement data cleansing by using Microsoft Data Quality services.

**Lessons**

* Introduction to Data Quality
* Using Data Quality Services to Cleanse Data
* Using Data Quality Services to Match Data

**Lab : Cleansing DataLab : De-duplicating Data**

After completing this module, you will be able to:

* Describe data quality services
* Cleanse data using data quality services
* Match data using data quality services
* De-duplicate data using data quality services

**Module 11: Using Master Data Services**

This module describes how to implement master data services to enforce data integrity at source.

**Lessons**

* Master Data Services Concepts
* Implementing a Master Data Services Model
* Managing Master Data
* Creating a Master Data Hub

**Lab : Implementing Master Data Services**

After completing this module, you will be able to:

* Describe the key concepts of master data services
* Implement a master data service model
* Manage master data
* Create a master data hub

**Module 12: Extending SQL Server Integration Services (SSIS)**

This module describes how to extend SSIS with custom scripts and components.

**Lessons**

* Using Custom Components in SSIS
* Using Scripting in SSIS

**Lab : Using Scripts and Custom Components**

After completing this module, you will be able to:

* Use custom components in SSIS
* Use scripting in SSIS

**Module 13: Deploying and Configuring SSIS Packages**

This module describes how to deploy and configure SSIS packages.

**Lessons**

* Overview of SSIS Deployment
* Deploying SSIS Projects
* Planning SSIS Package Execution

**Lab : Deploying and Configuring SSIS Packages**

After completing this module, you will be able to:

* Describe an SSIS deployment
* Deploy an SSIS package
* Plan SSIS package execution

**Module 14: Consuming Data in a Data Warehouse**

This module describes how to debug and troubleshoot SSIS packages.

**Lessons**

* Introduction to Business Intelligence
* Introduction to Reporting
* An Introduction to Data Analysis
* Analyzing Data with Azure SQL Data Warehouse

**Lab : Using Business Intelligence Tools**

After completing this module, you will be able to:

* Describe at a high level business intelligence
* Show an understanding of reporting
* Show an understanding of data analysis
* Analyze data with Azure SQL data warehouse

|  |
| --- |
| **Course Outline**  **Module 1: Introduction to Business Intelligence and Data Modeling**  This module introduces key BI concepts and the Microsoft BI product suite.  **Lessons**   * Introduction to Business Intelligence * The Microsoft business intelligence platform   **Lab : Exploring a Data Warehouse**  After completing this module, you will be able to:   * Describe the concept of business intelligence * Describe the Microsoft business intelligence platform   **Module 2: Creating Multidimensional Databases**  This module describes the steps required to create a multidimensional database with analysis services.  **Lessons**   * Introduction to multidimensional analysis * Creating data sources and data source views * Creating a cube * Overview of cube security   **Lab : Creating a multidimensional database**  After completing this module, you will be able to:   * Use multidimensional analysis * Create data sources and data source views * Create a cube * Describe cube security   **Module 3: Working with Cubes and Dimensions**  This module describes how to implement dimensions in a cube.  **Lessons**   * Configuring dimensions * Define attribute hierarchies * Sorting and grouping attributes   **Lab : Working with Cubes and Dimensions**  After completing this module, you will be able to:   * Configure dimensions * Define attribute hierarchies. * Sort and group attributes   **Module 4: Working with Measures and Measure Groups**  This module describes how to implement measures and measure groups in a cube.  **Lessons**   * Working with measures * Working with measure groups   **Lab : Configuring Measures and Measure Groups**  After completing this module, you will be able to:   * Work with measures * Work with measure groups   **Module 5: Introduction to MDX**  This module describes the MDX syntax and how to use MDX.  **Lessons**   * MDX fundamentals * Adding calculations to a cube * Using MDX to query a cube   **Lab : Using MDX**  After completing this module, you will be able to:   * Describe the fundamentals of MDX * Add calculations to a cube * Query a cube using MDX   **Module 6: Customizing Cube Functionality**  This module describes how to customize a cube.  **Lessons**   * Implementing key performance indicators * Implementing actions * Implementing perspectives * Implementing translations   **Lab : Customizing a Cube**  After completing this module, you will be able to:   * Implement key performance indicators * Implement actions * Implement perspectives * Implement translations   **Module 7: Implementing a Tabular Data Model by Using Analysis Services**  This module describes how to implement a tabular data model in PowerPivot.  **Lessons**   * Introduction to tabular data models * Creating a tabular data model * Using an analysis services tabular model in an enterprise BI solution   **Lab : Working with an Analysis services tabular data model**  After completing this module, you will be able to:   * Describe tabular data models * Create a tabular data model * Be able to use an analysis services tabular data model in an enterprise BI solution   **Module 8: Introduction to Data Analysis Expression (DAX)**  This module describes how to use DAX to create measures and calculated columns in a tabular data model.  **Lessons**   * DAX fundamentals * Using DAX to create calculated columns and measures in a tabular data model   **Lab : Creating Calculated Columns and Measures by using DAX**  After completing this module, you will be able to:   * Describe the fundamentals of DAX * Use DAX to create calculated columns and measures in a tabular data model   **Module 9: Performing Predictive Analysis with Data Mining**  This module describes how to use data mining for predictive analysis.  **Lessons**   * Overview of data mining * Using the data mining add-in for Excel * Creating a custom data mining solution * Validating a data mining model * Connecting to and consuming a data mining model   **Lab : Perform Predictive Analysis with Data Mining**  After completing this module, you will be able to:   * Describe data mining * Use the data mining add-in for Excel * Create a custom data mining solution * Validate a data mining solution * Connect to and consume a data mining solution |