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ORACLE WORKFORCE DEVELOPMENT PROGRAM

MCSA:SQL 2016 Business Intelligence Development

Implementing an SQL Data Warehouse

(40 Hours)   **Exam 70-767**

Prerequisites

- At least 2 years' experience of working with relational databases, including:
- Designing a normalized database.
- Creating tables and relationships.
- Querying with Transact-SQL.
- Some exposure to basic programming constructs (such as looping and branching).
- An awareness of key business priorities such as revenue, profitability, and financial accounting is desirable.

Course contents :

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 PackageLab : 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 DataLab : 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

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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

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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

Developing SQL Data Models
(24 Hours)   Exam 70-768

Prerequisites

- This course requires that you meet the following prerequisites:
- Basic knowledge of the Microsoft Windows operating system and its core functionality.
- Working knowledge of Transact-SQL.
- Working knowledge of relational databases.

Course contents :

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

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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

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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

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