DP-200T01: Implementing an Azure Data Solution Associate

1. Azure for the Data Engineer

   a. Explain the evolving world of data

   b. Survey the services in the Azure Data Platform

   c. Identify the tasks that are performed by a Data Engineer

   d. Describe the use cases for the cloud in a Case Study

   e. Lab : Azure for the Data Engineer

      1. Identify the evolving world of data

      2. Determine the Azure Data Platform Services

      3. Identify tasks to be performed by a Data Engineer

2. Working with Data Storage

   . Choose a data storage approach in Azure

   a. Create an Azure Storage Account

   b. Explain Azure Data Lake storage

   c. Upload data into Azure Data Lake

   d. Lab : Working with Data Storage

      1. Choose a data storage approach in Azure

      2. Create a Storage Account

      3. Explain Data Lake Storage

      4. Upload data into Data Lake Store

3. Enabling Team Based Data Science with Azure Databricks

   . Explain Azure Databricks and Machine Learning Platforms

   a. Describe the Team Data Science Process

   b. Provision Azure Databricks and workspaces

   c. Perform data preparation tasks

   d. Lab : Enabling Team Based Data Science with Azure Databricks

      1. Explain Azure Databricks and Machine Learning Platforms

      2. Describe the Team Data Science Process

      3. Provision Azure Databricks and Workspaces

      4. Perform Data Preparation Tasks

4. Building Globally Distributed Databases with Cosmos DB

   . Create an Azure Cosmos DB database built to scale

   a. Insert and query data in your Azure Cosmos DB database

     b.   Provision a .NET Core app for Cosmos DB in Visual Studio Code

     c.   Distribute your data globally with Azure Cosmos DB

     d.   Lab : Building Globally Distributed Databases with Cosmos DB

          1.   Create an Azure Cosmos DB

          2.   Insert and query data in Azure Cosmos DB

          3.   Build a .Net Core App for Azure Cosmos DB using VS Code

          4.   Distribute data globally with Azure Cosmos DB

5.   Working with Relational Data Stores in the Cloud

  .   SQL Database and SQL Data Warehouse

     a.   Provision an Azure SQL database to store data

     b.   Provision and load data into Azure SQL Data Warehouse

     c.   Lab : Working with Relational Data Stores in the Cloud

          1.   Explain SQL Database and SQL Data Warehouse

          2.   Create an Azure SQL Database to store data

          3.   Provision and load data into Azure SQL Data Warehouse

6.   Performing Real-Time Analytics with Stream Analytics

  .   Explain data streams and event processing

     a.   Querying streaming data using Stream Analytics

     b.   How to process data with Azure Blob and Stream Analytics

     c.   How to process data with Event Hubs and Stream Analytics

     d.   Lab : Performing Real-Time Analytics with Stream Analytics

          1.   Explain data streams and event processing

          2.   Querying streaming data using Stream Analytics

          3.   Process data with Azure Blob and Stream Analytics

          4.   Process data with Event Hubs and Stream Analytics

7.   Orchestrating Data Movement with Azure Data Factory

  .   Explain how Azure Data Factory works

     a.   Create Linked Services and datasets

     b.   Create pipelines and activities

     c.   Azure Data Factory pipeline execution and triggers

     d.   Lab : Orchestrating Data Movement with Azure Data Factory

          1.   Explain how Data Factory Works

          2.   Create Linked Services and Datasets

          3.   Create Pipelines and Activities

          4.   Azure Data Factory Pipeline Execution and Triggers

8.   Securing Azure Data Platforms

.   Configuring Network Security

     a.   Configuring Authentication

     b.   Configuring Authorization

     c.   Auditing Security

     d.   Lab : Securing Azure Data Platforms

         1.   Configure network security

         2.   Configure Authentication

         3.   Configure Authorization

         4.   Explore SQL Server Books Online

9.   Monitoring and Troubleshooting Data Storage and Processing

.   Data Engineering troubleshooting approach

     a.   Azure Monitoring Capabilities

     b.   Troubleshoot common data issues

     c.   Troubleshoot common data processing issues

     d.   Lab : Monitoring and Troubleshooting Data Storage and Processing

         1.   Explain the Data Engineering troubleshooting approach

         2.   Explain the monitoring capabilities that are available

         3.   Troubleshoot common data storage issues

         4.   Troubleshoot common data processing issues

10.   Integrating and Optimizing Data Platforms

.   Integrating data platforms

     a.   Optimizing data stores

     b.   Optimize streaming data

     c.   Manage disaster recovery

     d.   Lab : Integrating and Optimizing Data Platforms

         1.   Integrate Data Platforms

         2.   Optimize Data Stores

         3.   Optimize Streaming Data

         4.   Manage Disaster recovery