Azure Data Engineer Certification: Implementing an Azure Data Solution (DP-200)

Modality: Virtual Classroom

Duration: 3 Days

SATV Value:

CLC:

NATU:

SUBSCRIPTION: Master

If you enroll in this course without the Master Subscription plan, you receive a Free Official Exam Voucher (excluding purchases using Training Vouchers / SATV) for the DP-201 Exam. This course does not include Exam Voucher if enrolled within the Master Subscription, however, you can request to purchase the Official Exam Voucher separately.

About this Course:

In the world of today, data is considered to be everything. Every industry relies heavily on efficient and effective data management solutions. An Azure Data engineer certification is a great way of improving your resume and ensuring that your skills are in demand by every industry. The salary for an Azure data engineer is $122,883 per annum.

This course is designed to help participants learn how to implement solutions in the context of current business and tech needs. This will be done via the use of multiple designed data platform technologies. This may include on-premises, cloud and hybrid data scenarios with integrated relational, No-SQL or Data Warehouse data.

This course will also include training on using a wide variety of technologies for designing process architectures. The technologies will cover both streaming and batch data.

This course will challenge students to learn ways to implement data security which will involve data access, data policies and data standards. The participants will also be tasked with learning the effective management and trouble shooting of Azure data solutions which includes but is not limited to optimization of data, availability and disaster recovery of Big Data, batch processing and streaming data solutions.

Course Objective:

Upon completion of this course, the participant should have an advanced skill set and a sound working knowledge of the following principals while also be able to;

- Learn how to utilize Azure as a data engineer
- Gain the skills needed for effective storage of data
- Learn how to enable team based data science using Azure data bricks

- Gain the skills required to build globally distributed databases using Cosmos DB
- Learn how to work with relational data stores based on Cloud
- Be trained at performing real time analytics with stream analytics
- Demonstrate data movement using Azure data factory
- Learn how to secure data platforms

Audience:

This particular course is aimed at the following audience;

- All those data scientists, data architects, and business intelligence professionals who have an interest in and wish to discover the data platform technologies that are provided by Microsoft Azure.
- Application developers and designers who deliver content using the data platform technologies that are provided by Microsoft Azure.

Prerequisites:

The following prerequisites are absolutely necessary to be eligible to take this Microsoft Word 2019 course;

- Have cleared the course on Azure fundamentals or have technical knowledge equivalent to the certification

Course Outline:

Module 1: Azure for the Data Engineer

This module explores how the world of data has evolved and how cloud data platform technologies are providing new opportunities for business to explore their data in different ways. The student will gain an overview of the various data platform technologies that are available, and how a Data Engineers role and responsibilities has evolved to work in this new world to an organization benefit

Lessons

- Explain the evolving world of data
- Survey the services in the Azure Data Platform
- Identify the tasks that are performed by a Data Engineer
- Describe the use cases for the cloud in a Case Study

Lab : Azure for the Data Engineer

- Identify the evolving world of data
- Determine the Azure Data Platform Services
- Identify tasks to be performed by a Data Engineer
- Finalize the data engineering deliverables

After completing this module, students will be able to:

- Explain the evolving world of data
- Survey the services in the Azure Data Platform
- Identify the tasks that are performed by a Data Engineer
- Describe the use cases for the cloud in a Case Study

Module 2: Working with Data Storage

This module teaches the variety of ways to store data in Azure. The Student will learn the basics of storage management in Azure, how to create a Storage Account, and how to choose the right model for the data you want to store in the cloud. They will also understand how data lake storage can be created to support a wide variety of big data analytics solutions with minimal effort.

Lessons

- Choose a data storage approach in Azure
- Create an Azure Storage Account
- Explain Azure Data Lake storage
- Upload data into Azure Data Lake

Lab : Working with Data Storage

- Choose a data storage approach in Azure
- Create a Storage Account
- Explain Data Lake Storage
- Upload data into Data Lake Store

After completing this module, students will be able to:

- Choose a data storage approach in Azure
- Create an Azure Storage Account
- Explain Azure Data Lake Storage
- Upload data into Azure Data Lake

Module 3: Enabling Team Based Data Science with Azure Databricks

This module introduces students to Azure Databricks and how a Data Engineer works with it to enable an organization to perform Team Data Science projects. They will learn the fundamentals of Azure Databricks and Apache Spark notebooks; how to provision the service and workspaces and learn how to perform data preparation task that can contribute to the data science project.

Lessons

- Explain Azure Databricks
- Work with Azure Databricks
- Read data with Azure Databricks
- Perform transformations with Azure Databricks

Lab : Enabling Team Based Data Science with Azure Databricks

- Explain Azure Databricks
- Work with Azure Databricks
- Read data with Azure Databricks
- Perform transformations with Azure Databricks

After completing this module, students will be able to:

- Explain Azure Databricks
- Work with Azure Databricks
- Read data with Azure Databricks
- Perform transformations with Azure Databricks

Module 4: Building Globally Distributed Databases with Cosmos DB

In this module, students will learn how to work with NoSQL data using Azure Cosmos DB. They will learn how to provision the service, and how they can load and interrogate data in the service using Visual Studio Code extensions, and the Azure Cosmos DB .NET Core SDK. They will also learn how to configure the availability options so that users are able to access the data from anywhere in the world.

Lessons

- Create an Azure Cosmos DB database built to scale
- Insert and query data in your Azure Cosmos DB database
- Build a .NET Core app for Cosmos DB in Visual Studio Code
- Distribute your data globally with Azure Cosmos DB

Lab : Building Globally Distributed Databases with Cosmos DB

- Create an Azure Cosmos DB
- Insert and query data in Azure Cosmos DB
- Build a .Net Core App for Azure Cosmos DB using VS Code
- Distribute data globally with Azure Cosmos DB

After completing this module, students will be able to:

- Create an Azure Cosmos DB database built to scale
- Insert and query data in your Azure Cosmos DB database
- Build a .NET Core app for Azure Cosmos DB in Visual Studio Code
- Distribute your data globally with Azure Cosmos DB

Module 5: Working with Relational Data Stores in the Cloud

In this module, students will explore the Azure relational data platform options including SQL Database and SQL Data Warehouse. The student will be able explain why they would choose one service over another, and how to provision, connect and manage each of the services.

Lessons

- Use Azure SQL Database
- Describe Azure SQL Data Warehouse
- Creating and Querying an Azure SQL Data Warehouse
- Use PolyBase to Load Data into Azure SQL Data Warehouse

Lab : Working with Relational Data Stores in the Cloud

- Use Azure SQL Database
- Describe Azure SQL Data Warehouse
- Creating and Querying an Azure SQL Data Warehouse
- Use PolyBase to Load Data into Azure SQL Data Warehouse

After completing this module, students will be able to:

- Use Azure SQL Database
- Describe Azure Data Warehouse
- Creating and Querying an Azure SQL Data Warehouse
- Using PolyBase to Load Data into Azure SQL Data Warehouse

Module 6: Performing Real-Time Analytics with Stream Analytics

In this module, students will learn the concepts of event processing and streaming data and how this applies to Events Hubs and Azure Stream Analytics. The students will then set up a stream analytics job to stream data and learn how to query the incoming data to perform analysis of the data. Finally, you will learn how to manage and monitor running jobs.

Lessons

- Explain data streams and event processing
- Data Ingestion with Event Hubs
- Processing Data with Stream Analytics Jobs

Lab : Performing Real-Time Analytics with Stream Analytics

- Explain data streams and event processing
- Data Ingestion with Event Hubs
- Processing Data with Stream Analytics Jobs

After completing this module, students will be able to:

- Explain data streams and event processing
- Data Ingestion with Event Hubs
- Processing Data with Stream Analytics Jobs

Module 7: Orchestrating Data Movement with Azure Data Factory

In this module, students will learn how Azure Data factory can be used to orchestrate the data

movement and transformation from a wide range of data platform technologies. They will be able to explain the capabilities of the technology and be able to set up an end to end data pipeline that ingests and transforms data.

Lessons

- Explain how Azure Data Factory works
- Azure Data Factory Components
- Azure Data Factory and Databricks

Lab : Orchestrating Data Movement with Azure Data Factory

- Explain how Data Factory Works
- Azure Data Factory Components
- Azure Data Factory and Databricks

After completing this module, students will be able to:

- Azure Data Factory and Databricks
- Azure Data Factory Components
- Explain how Azure Data Factory works

Module 8: Securing Azure Data Platforms

In this module, students will learn how Azure provides a multi-layered security model to protect your data. The students will explore how security can range from setting up secure networks and access keys, to defining permission through to monitoring across a range of data stores.

Lessons

- An introduction to security
- Key security components
- Securing Storage Accounts and Data Lake Storage
- Securing Data Stores
- Securing Streaming Data

Lab : Securing Azure Data Platforms

- An introduction to security
- Key security components
- Securing Storage Accounts and Data Lake Storage
- Securing Data Stores
- Securing Streaming Data

After completing this module, students will be able to:

- An introduction to security
- Key security components

- Securing Storage Accounts and Data Lake Storage
- Securing Data Stores
- Securing Streaming Data

Module 9: Monitoring and Troubleshooting Data Storage and Processing

In this module, the student will get an overview of the range of monitoring capabilities that are available to provide operational support should there be issue with a data platform architecture. They will explore the common data storage and data processing issues. Finally, disaster recovery options are revealed to ensure business continuity.

Lessons

- Explain the monitoring capabilities that are available
- Troubleshoot common data storage issues
- Troubleshoot common data processing issues
- Manage disaster recovery

Lab : Monitoring and Troubleshooting Data Storage and Processing

- Explain the monitoring capabilities that are available
- Troubleshoot common data storage issues
- Troubleshoot common data processing issues
- Manage disaster recovery

After completing this module, students will be able to:

- Explain the monitoring capabilities that are available
- Troubleshoot common data storage issues
- Troubleshoot common data processing issues
- Manage disaster recovery