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Learning Style: Virtual Classroom

Technology: Microsoft

Difficulty: Intermediate

Course Duration: 2 Days

Azure Data Engineer Certification: Designing an Azure Data Solution (DP-201)

If you haven't any Master Subscription plan and, you try out this course, you get an Official Exam Voucher Free (not including purchases utilizing the Vouchers of Training /SATV) for the exam of DP-201. This course does exclude Voucher of the Exam if registered inside the Master Subscription, but you can apply a request separately to buy the Official Exam Voucher.

About this Course:

In this course, the learners will structure different information technologies platforms into arrangements that are in accordance with technical and business necessities. This can comprise cloud, on-premises, and the scenarios of hybrid data which includes No-SQL, relational, or Data Warehouse information. They will also figure out how to configure process the designs utilizing a scope of advancements for both batch and streaming data.

The learners will likewise investigate how to plan information security including data policies, data access, and standards. And also, they will configure Azure data solutions that incorporate the availability, optimization, and disaster recovery of batch processing, big data, and streaming data solutions.

The normal pay of Azure Data Architect is **$118,500** annually.

Course Objectives:

- Data Platform Structural Design Considerations
- Designing for Scale and Resiliency
- Architectures for Azure Batch Processing Reference
- Security Design Considerations for Data Platform
- Design for Operations and Efficiency
- Architectures for Azure Real-Time Reference

Audiences:

- The audience of this course are data professionals, data architects, and business intelligence professionals who wish to gain knowledge of the technologies for the data platform that exist on MS Azure.
- This course secondary audience are individuals who create applications that provide content from the technologies of a data platform that exists on Microsoft Azure.

Prerequisites:

Should have a technical understanding equal to the below courses:

- Implementing an Azure Data Solution (DP-200)
- Azure fundamentals

Course Outline:

Module 1: Data Platform Architecture Considerations

In this module, the students will learn how to design and build secure, scalable and performant solutions in Azure by examining the core principles found in every good architecture. They will learn how using key principles throughout your architecture

regardless of technology choice, can help you design, build, and continuously improve your architecture for an organizations benefit.

Lessons

- Core Principles of Creating Architectures
- Design with Security in Mind
- Performance and Scalability
- Design for availability and recoverability
- Design for efficiency and operations
- Case Study

Lab : Case Study

- Design with security in mind
- Consider performance and scalability
- Design for availability and recoverability
- Design for efficiency and operations

After completing this module, students will be able to:

- Design with Security in mind
- Consider performance and scalability
- Design for availability and recoverability
- Design for efficiency and operations

Module 2: Azure Batch Processing Reference Architectures

In this module, the student will learn the reference design and architecture patterns for dealing with the batch processing of data. The student will be exposed to dealing with the movement of data from on-premises systems into a cloud data warehouse and how it can be automated. The student will also be exposed to an AI architecture and how the data platform can integrate with an AI solution.

Lessons

- Lambda architectures from a Batch Mode Perspective
- Design an Enterprise BI solution in Azure
- Automate enterprise BI solutions in Azure
- Architect an Enterprise-grade Conversational Bot in Azure

Lab : Architect an Enterprise-grade Conversational Bot in Azure

- Designing an Enterprise BI solution in Azure
- Automate an Enterprise BI solution in Azure
- Automate an Enterprise BI solution in Azure

After completing this module, students will be able to:

- Core Principles of Creating Architectures
- Describe Lambda architectures from a Batch Mode Perspective
- Design an Enterprise BI solution in Azure
- Automate enterprise BI solutions in Azure
- Architect an Enterprise-grade conversational bot in Azure
- Case study

Module 3: Azure Real-Time Reference Architectures

In this module, the student will learn the reference design and architecture patterns for dealing with streaming data. They will learn how streaming data can be ingested by Event Hubs and Stream Analytics to deliver real-time analysis of data. They will also explore a data science architecture the streams data into Azure Databricks to perform trend analysis. They will finally learn how an Internet of Things (IoT) architecture will require data platform technologies to store data.

Lessons

- Lambda architectures for a Real-Time Perspective
- Architect a stream processing pipeline with Azure Stream Analytics
- Design a stream processing pipeline with Azure Databricks
- Create an Azure IoT reference architecture

Lab : Azure Real-Time Reference Architectures

- Architect a stream processing pipeline with Azure Stream Analytics
- Design a stream processing pipeline with Azure Databricks
- Create an Azure IoT reference architecture

After completing this module, students will be able to:

- Lambda architectures for a Real-Time Mode Perspective
- Architect a stream processing pipeline with Azure Stream Analytics
- Design a stream processing pipeline with Azure Databricks
- Create an Azure IoT reference architecture

Module 4: Data Platform Security Design Considerations

In this module, the student will learn how to incorporate security into an architecture design and learn the key decision points in Azure provides to help you create a secure environment through all the layers of your architecture.

Lessons

- Defense in Depth Security Approach
- Identity Management
- Infrastructure Protection
- Encryption Usage
- Network Level Protection
- Application Security

Lab : Data Platform Security Design Considerations

- Defense in Depth Security Approach
- Identity Protection

After completing this module, students will be able to:

- Defense in Depth Security Approach
- Identity Management
- Infrastructure Protection
- Encryption Usage
- Network Level Protection
- Application Security

Module 5: Designing for Resiliency and Scale

In this module, student will learn scaling services to handle load. They will learn how identifying network bottlenecks and optimizing your storage performance are important to ensure your users have the best experience. They will also learn how to handle infrastructure and service failure, recover from the loss of data, and recover from a disaster by designing availability and recoverability into your architecture.

Lessons

- Adjust Workload Capacity by Scaling
- Optimize Network Performance
- Design for Optimized Storage and Database Performance
- Identifying Performance Bottlenecks
- Design a Highly Available Solution
- Incorporate Disaster Recovery into Architectures
- Design Backup and Restore strategies

Lab : Designing for Resiliency and Scale

- Adjust Workload Capacity by Scaling
- Design for Optimized Storage and Database Performance
- Design a Highly Available Solution
- Incorporate Disaster Recovery into Architectures

After completing this module, students will be able to:

- Adjust Workload Capacity by Scaling
- Optimize Network Performance
- Design for Optimized Storage and Database Performance
- Identifying Performance Bottlenecks
- Design a Highly Available Solution
- Incorporate Disaster Recovery into Architectures
- Design Backup and Restore strategies

Module 6: Design for Efficiency and Operations

In this module, students will learn how to design an Azure architecture that is operationally-efficient and minimizes costs by reducing spend, they will understand how to design architectures that eliminates waste and gives them full visibility into what is being utilized in your organizations Azure environment.

Lessons

- Maximizing the Efficiency of your Cloud Environment
- Use Monitoring and Analytics to Gain Operational Insights
- Use Automation to Reduce Effort and Error

Lab : Design for Efficiency and Operations

- Maximize the Efficiency of your Cloud Environment
- Use Monitoring and Analytics to Gain Operational Insights
- Use Automation to Reduce Effort and Error

After completing this module, students will be able to:

- Maximize the Efficiency of your Cloud Environment
- Use Monitoring and Analytics to Gain Operational Insights
- Use Automation to Reduce Effort and Error