Microsoft - Designing an Azure Data Solution

Code:	DP-201T01
Length:	2 days
URL:	View Online

In this course, the students will design various data platform technologies into solutions that are in line with business and technical requirements. This can include on-premises, cloud, and hybrid data scenarios which incorporate relational, No-SQL or Data Warehouse data. They will also learn how to design process architectures using a range of technologies for both streaming and batch data.

The students will also explore how to design data security including data access, data policies and standards. They will also design Azure data solutions which includes the optimization, availability and disaster recovery of big data, batch processing and streaming data solutions.

Who Can Benefit

The audience for this course is data professionals, data architects, and business intelligence professionals who want to learn about the data platform technologies that exist on Microsoft Azure.
The secondary audience for this course is individuals who develop applications that deliver content from the data platform technologies that exist on Microsoft Azure.

Prerequisites

In addition to their professional experience, students who take this training should have technical knowledge equivalent to the following courses:

- Azure fundamentals
- DP-200: Implementing an Azure Data Solution

Course Details

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

Schedule (as of 3)

Date	Location	
Oct 17, 2019 – Oct 18, 2019	Sacramento	Enroll
Oct 17, 2019 – Oct 18, 2019	iMVP	Enroll
Oct 17, 2019 – Oct 18, 2019	MVP San Francisco	Enroll
Oct 17, 2019 – Oct 18, 2019	MVP San Jose	Enroll
Nov 7, 2019 – Nov 8, 2019	McLean	Enroll
Nov 7, 2019 – Nov 8, 2019	MVP Edison	Enroll
Nov 7, 2019 – Nov 8, 2019	MVP King of Prussia	Enroll
Nov 7, 2019 – Nov 8, 2019	MVP Ottawa	Enroll
Nov 7, 2019 – Nov 8, 2019	MVP Toronto	Enroll
Dec 19, 2019 – Dec 20, 2019	McLean	Enroll
Dec 19, 2019 – Dec 20, 2019	MVP Edison	Enroll
Dec 19, 2019 – Dec 20, 2019	iMVP	Enroll
Dec 19, 2019 – Dec 20, 2019	MVP McLean	Enroll
Dec 19, 2019 – Dec 20, 2019	MVP Ottawa	Enroll
Dec 19, 2019 – Dec 20, 2019	MVP Toronto	Enroll