

Azure Data Factory

Azure SQL Databases -	
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- Introduction to Azure SQL Database
- Why chose SQL Server in Azure
- IAAS Vs PAAS Databases offerings
- IAAS vs managed instances for databases
- Deploying SQL Database in Azure
- Best practices for Azure SQL performance optimization
- Securing data at rest in SQL databases.
- Encryption with keys in key vault
- Disaster recovery options in Azure SQL database
- Authentication and Integrating with Azure Active Directory
- Data discovery, masking, classification and Vulnerability assessment in Azure SQL Databases.
- Available database Migrations options and tools

Azure Data lake	
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- Azure Data lake vs Hadoop
- Evolution of Azure data lake Gen2
- Azure Blob storage vs Data lake differences
- Hierarchical namespaces
- Data ingestion tools
- Migrate data using Azcopy , Azure storage explorer and Data Factory.
- Migrating data from Azure SQL to Data lake Gen2 using Data factory
- Data flow around Data lake
- Data lake and transient clusters
- Data Processing using HD insights.
- Explore, analyze, clean and transform.
- Security layers in Data lake.
- Usage of Security keys and Shared access signatures
- Integrating with Azure Active Directory and RBAC
- Filtering traffic using Azure Firewalls and virtual networks.
- Encryption of data at transit and at rest
- Threat protection and Vulnerability assessment
- Monitoring data lake (Activity log, Metrics, Insights, alerts and diagnostic settings) and optimization

Azure Data bricks	
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- Spark Basics
- Evolution of data bricks and difficulty level of Spark
- Azure Data bricks provisioning, clusters and workbooks
- Mount Data lake to DBFS (Data Bricks)
- Explore, Analyze, Clean, transform and load to Azure Data bricks
- Azure Databricks clusters and its important components.
- Monitoring Azure Data bricks
- Best Practices for Using Azure data bricks in production.

Azure Data factory	

- Understand Azure Data Factory
- Describe data integration patterns
- Explain the data factory process
- Understand Azure Data Factory components
- Azure Data Factory security
- Set up Azure Data Factory
- Create linked services
- Create datasets
- Create data factory activities and pipelines
- Manage integration runtime
- List the data factory ingestion methods
- Describe data factory connectors
- Use the data factory copy activity
- Deploy a release pipeline
- Visually monitor pipeline runs
- Integrate with Azure Monitor
- Set up alerts
- Rerun pipeline runs
- Learn about Azure Data Factory security
- Azure Data Share and transforming with Azure Data Factory
- Receive data using Azure Data Share
- Ingest data into Azure Data Lake Gen 2 using Azure Data Factory
- Join and transform data with Mapping Flow in Azure Data Factory
- Publish a pipeline run in Azure Data Factory

Azure Monitoring services	
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- Configure and view metrics in Azure Monitor.
- Visualize and save data in dashboards.
- Set alerts / Notifications and Action groups
- Use log queries to interact with data.

Azure HD Insights	
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- The need for distributed computing
- Hadoop vs RDBMS
- Hadoop and HD insights comparison
- How HDInsight's makes Hadoop easy
- Important aspects of HD Insight / Cluster types
- HDinsight Cluster Architecture
- Create interactive query cluster.
- Ambari overview and overview of UI
- Ingest dataset into Data Lake storage.
- Data Extraction with hive
- Data transformation with hive
- Data export using Snoop.
- Secure operations in HD insights
- Integrating HD Insights with on premise Active Directory
- Integrating HD Insights with Azure Active Directory
- Securing Connections with LDAPS / Communications over port 636
- Best practices for optimizing performance on HDInsight's.