

Azure Data Engineer Course Catalog – 90 Days

Day	Module	Topics Covered
1-3	Introduction to Azure	Overview of Cloud Computing, Introduction to Microsoft Azure, Azure Architecture, Azure Services Overview, Azure Portal Navigation
4-6	Azure Storage Fundamentals	Introduction to Azure Storage, Blob Storage, Azure Files, Azure Data Lake, Storage Account Types, Managing Azure Storage with PowerShell and CLI
7-9	Azure Storage Security	Azure Storage Security Models, Shared Access Signatures (SAS), Encryption in Azure Storage, Azure Active Directory Authentication, Managing Storage Permissions
10-12	Azure SQL Database	Introduction to Azure SQL Database, Creating and Configuring Databases, SQL Server Management Studio (SSMS) for Azure, Backup and Restore Operations, Data Migration to Azure SQL
13-15	Azure Data Factory	Introduction to Data Integration, Data Factory Overview, Building Data Pipelines, Data Flow, Monitoring Data Pipelines, Triggering and Scheduling Pipelines
16-18	Data Ingestion and Data Lakes	Ingesting Data into Azure Data Lake, Managing Files in Azure Data Lake, Azure Data Factory and Data Lake Integration, Data Transformation in Data Lake
19-21	Azure Databricks	Introduction to Azure Databricks, Setting up Databricks Workspace, Spark Architecture, Data Processing with Spark, DataFrame Operations, MLlib Overview
22-24	Data Transformation and ETL	ETL Concepts, Azure Data Factory for ETL, Data Transformation with Databricks, Data Wrangling, Data Cleansing Techniques
25-27	Azure Synapse Analytics	Introduction to Azure Synapse Analytics, Data Warehousing Concepts, SQL Pools, Dedicated vs. Serverless Pools, Integrating Synapse with Power BI, Apache Spark in Synapse
28-30	Azure HDInsight	Introduction to HDInsight, HDInsight Overview, Setting Up Hadoop Cluster, Managing Hadoop on Azure, Using Apache Spark in HDInsight, Data Processing with HDInsight
31-33	Azure Cosmos DB	Introduction to NoSQL Databases, Overview of Cosmos DB, Configuring Cosmos DB, Querying Cosmos DB, Integration with Azure Functions, Data Security and Backup in Cosmos DB
34-36	Azure Stream Analytics	Introduction to Real-Time Data Streaming, Stream Analytics Overview, Stream Analytics Jobs, Input and Output Streams, Real-Time Analytics on Azure

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37-39	Power BI for Data Engineers	Power BI Overview, Power BI Service vs. Desktop, Data Modeling in Power BI, Data Import and Transformation, Creating Dashboards and Reports
40-42	Data Security and Compliance	Data Security in Azure, Role-Based Access Control (RBAC), Encryption Techniques, Data Governance, Security Policies in Azure Data Services
43-45	Azure Data Migration	Introduction to Data Migration, Tools for Data Migration to Azure, Using Azure Database Migration Service, Data Migration Strategies, Migrating to Azure SQL Database
46-48	Azure Logic Apps	Introduction to Logic Apps, Workflow Automation, Integrating Azure Logic Apps with Services (SQL, Blob Storage, Office 365), Triggers and Actions in Logic Apps
49-51	Azure Automation	Introduction to Azure Automation, Automating Resource Management, PowerShell Automation, Runbooks, Managing Configurations with Azure Automation
52-54	Azure Machine Learning	Overview of Azure Machine Learning, Setting up Machine Learning Workspace, Building and Training Models, Hyperparameter Tuning, Deploying Models in Azure
55-57	Advanced Azure Data Factory	Advanced Data Factory Concepts, Managing Large Datasets, Data Factory Security, Linked Services and Datasets, Complex Data Pipelines
58-60	Azure Data Bricks Advanced	Advanced Data Processing with Azure Databricks, Apache Spark Advanced Topics, Streaming Data with Databricks, ML with Databricks, Performance Optimization
61-63	Real-Time Data Processing with Azure Stream Analytics	Advanced Stream Analytics, Working with Multiple Streams, Azure Functions for Stream Analytics, Data Monitoring and Alerts, Handling Streaming Data Errors
64-66	Data Governance and Compliance on Azure	Implementing Data Governance in Azure, Data Retention Policies, Azure Data Catalog, Managing Data Compliance in Azure, Azure Purview Overview
67-69	Data Orchestration with Azure Data Factory	Orchestrating Complex Workflows, Azure Data Factory Pipelines for Big Data, Custom Activities in Pipelines, Monitoring and Logging in Data Factory
70-72	Data Visualizations and Reporting	Visualizing Data with Power BI, DAX for Data Modeling, Power BI Advanced Features, Integrating Azure Synapse with Power BI, Real-time Dashboards in Power BI
73-75	Designing and Implementing Data Solutions in Azure	Best Practices for Data Solutions on Azure, Designing Scalable Data Architecture, Choosing the Right Storage Option, Cost Management in Azure Data Solutions
76-78	Advanced Analytics with Azure Synapse	Data Analytics using Synapse Studio, Integrating Synapse with Power BI, Advanced Querying in Synapse, Data Lake Analytics, Performance Tuning in Synapse

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79-81	Data Engineering with Azure Machine Learning	Implementing Data Pipelines in Azure ML, Preprocessing Data for Machine Learning, Data Exploration in Azure ML, Training ML Models, Model Deployment
82-84	Azure Data Services Integration	Integrating Azure Data Services with Azure SQL, Azure Databricks, Cosmos DB, Synapse Analytics, Data Lakes, Power BI, and Stream Analytics
85-87	End-to-End Data Engineering Solutions	Designing End-to-End Data Solutions, Data Integration from Multiple Sources, Optimizing Data Pipelines, Azure Data Solutions for Big Data and Real-Time Analytics
88-90	Capstone Project & Final Exam	Final Project (Building an End-to-End Data Engineering Solution on Azure), Review of Key Concepts, Final Exam, Certification of Completion