

# **Azure Data Factory Training – Syllabus**

## **Module 1: Introduction to Azure Data Factory**

- What is Azure Data Factory (ADF)?
- ADF Architecture and Components
- Understanding ETL vs ELT
- Real-world Use Cases and Scenarios

## **Module 2: Azure Environment Setup**

- Creating and Managing Azure Accounts
- Overview of Azure Portal
- Creating Azure Resources
- Introduction to Azure Storage and Linked Services

## **Module 3: ADF Core Components**

- Pipelines and Activities
- Datasets and Linked Services
- Integration Runtime (Self-hosted vs Azure IR)
- Triggers: Schedule, Tumbling, Event-based

## **Module 4: Data Movement and Transformation**

- Copy Activity: Source to Sink Configuration
- Mapping Data Flows for Transformation
- Data Filtering, Aggregation, and Joins

- Parameterization in Pipelines

## **Module 5: Control Flow & Dynamic Pipelines**

- Using Variables and Parameters
- If Conditions, ForEach Loops, and Switch Activities
- Dynamic Content and Expressions
- Error Handling and Retry Policies

## **Module 6: Real-Time Data Sources Integration**

- Azure SQL Database
- Azure Data Lake Storage Gen2
- Blob Storage
- Integration with On-Prem SQL using Self-hosted IR

## **Module 7: Monitoring and Debugging Pipelines**

- Pipeline Monitoring Interface
- Debugging Data Flows
- Alerts and Logging
- Troubleshooting Common Issues

## **Module 8: CI/CD in ADF**

- Source Control Integration with GitHub/Azure Repos
- Publishing ADF from Git
- ARM Templates and Deployment Best Practices

- CI/CD with Azure DevOps

## **Module 9: ADF with Other Azure Services**

- Integration with Azure Databricks and Synapse
- Invoking Azure Functions and Logic Apps
- Data Flow into Power BI for Reporting

## **Module 10: Real-Time Project**

- Designing an End-to-End ETL Pipeline
- Ingesting Data from Multiple Sources
- Performing Transformations and Loading into Destination
- Building Monitoring and Logging Mechanisms
- Final Project Review and Q&A



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