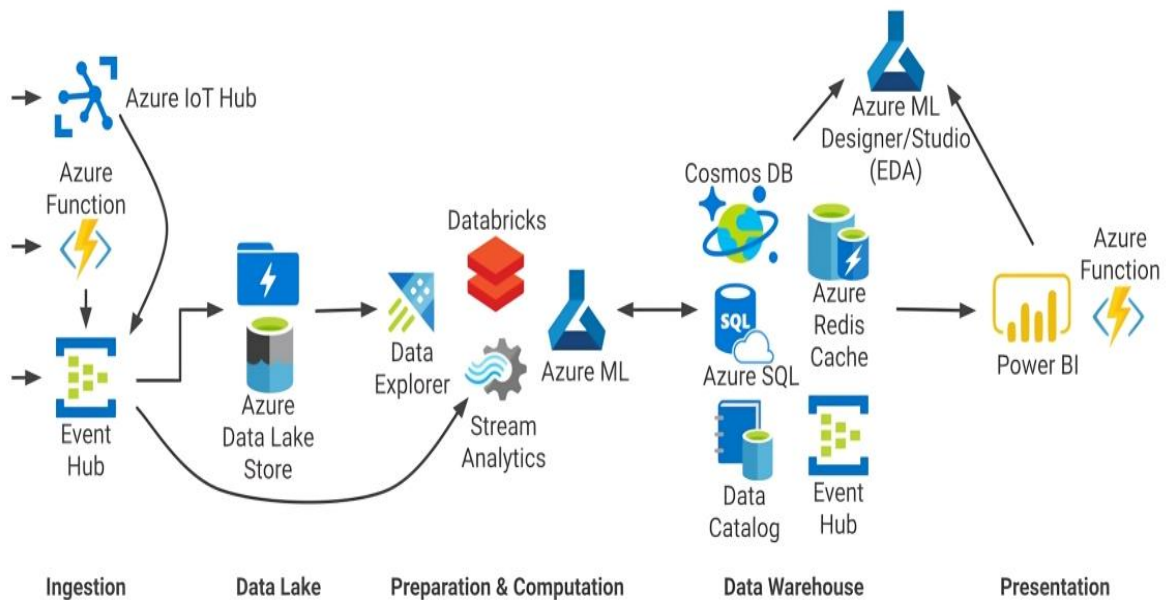




LEARN, THINK, INNOVATE



## Overview

The **Azure Data Engineer Course** at **eMexo Technologies** in **Electronic City, Bangalore** is designed for aspiring data professionals who want to master the skills required to design, build, and manage scalable and secure data solutions. This program covers all key domains of **Azure Data Engineering**, including resilient pipelines, high-performing data models, secure storage solutions, and cost-optimized strategies. With a focus on real-world scenarios, you'll gain practical knowledge of core **Azure services** such as **Data Factory, Synapse, Data Lake, SQL Database, Cosmos DB, Databricks, Power BI, and Event Hubs**, preparing you not just for certification but also for enterprise-level data projects.

As a leading **Azure Data Engineer Training Institute in Electronic City**, **eMexo Technologies** ensures a hands-on learning approach with real-time projects that simulate industry requirements. You'll learn how to design data pipelines, implement automation with **Azure Data Factory**, manage data security with role-based access, and optimize costs effectively. The course also emphasizes best practices in **data management**, high availability, and disaster recovery strategies, giving you the confidence to take on **Azure Data Engineer roles** immediately after training.

With expert trainers, structured exam preparation, and **100% placement assistance**, this program provides both **certification readiness** and **career advancement**. By the end of the course, you'll be fully equipped to clear the **Azure Data Engineer Certification Exam** and step into the industry as a job-ready **data engineer**. This makes it one of the best **Azure Data Engineer Courses in Electronic City**, **Azure Training in Electronic City**, and **Azure Training Institute in Electronic City**, designed to launch your career in **cloud data engineering**.

## Training Features

### Real-life Case Studies

Do a real-life case study to understand the usage in real-world scenarios.

### Assignments

Each class will be followed by a practical assignment which that can be completed before the next class.

### Preparation for interview

Our trainers are professionals working in multinational corporations. They are experts in their field and know exactly what the interviewer will look for in the candidate. Experienced trainers not only share interview questions but also conduct mock interviews to help prepare for the actual interview.

### Key Features

eMexo Technologies offers the Best **Azure Data Engineer Training Institute in Electronic City Bangalore** with the **TOP industry expert trainers**.

Here are the key features.

- ★ Free Demo Class Available
- ★ Practical Approach
- ★ Expert & Certified Trainers
- ★ 100% Job Oriented Training
- ★ Real World use cases and Scenarios
- ★ Completed 500+ Batches
- ★ Certification Guidance

# Azure Data Engineer Course Syllabus

## Module 1: Introduction to Azure Data Engineering

Gain an overview of Microsoft Azure's ecosystem and understand the role of a Data Engineer in building modern data solutions.

- Fundamentals of Data Engineering
- Azure Data Services Overview
- Role of Azure Data Engineer in Real-world Projects

## Module 2: Azure Storage & Data Ingestion

Learn how to collect and store structured, semi-structured, and unstructured data using Azure storage services.

- Azure Blob Storage, Azure Data Lake Gen2
- Structured & Unstructured Data Handling
- Batch vs Real-time Data Ingestion
- Integration with Azure Event Hub & IoT Hub
- **Hands-on:** Create a Data Lake & upload raw datasets for further processing

## Module 3: Data Transformation with Azure Data Factory (ADF)

Master the use of pipelines and data flows for large-scale data transformation and movement.

- Data Factory Overview
- Linked Services, Datasets & Pipelines
- Mapping Data Flows & Control Flows
- Integration Runtime & Triggers
- Orchestration of ETL/ELT Workflows
- **Hands-on:** Build an ETL pipeline to move data from on-premises SQL Server to Azure Data Lake

## Module 4: Real-time Data Processing with Azure Stream Analytics

Process streaming data in real time for analytics and decision-making.

- Introduction to Stream Analytics
- Streaming Data Sources (IoT Hub, Event Hub, Kafka)
- Real-time Data Transformation & Windowing Functions
- Output to Power BI, SQL DB, and Storage
- **Hands-on:** Stream IoT data into Azure SQL Database and visualize it in Power BI

## Module 5: Data Integration & Orchestration

Automate and orchestrate data workflows for seamless integration.

- Azure Logic Apps
- Event-driven Workflows
- Hybrid Data Integration with ADF
- Monitoring & Troubleshooting Pipelines

## Module 6: Data Modeling & Warehousing with Azure Synapse Analytics

Learn to build scalable and performant enterprise data warehouses using Azure Synapse.

- Synapse SQL Pools & Dedicated SQL Pools
- Data Partitioning, Indexing & Performance Tuning
- PolyBase & Data Virtualization
- Star & Snowflake Schema Modeling
- **Hands-on:** Create a star schema warehouse in Synapse and run analytical queries

## Module 7: Big Data Processing with Azure Databricks

Explore Apache Spark on Azure for big data analytics and machine learning.

- Azure Databricks Overview
- Spark SQL, DataFrames & Delta Lake
- Machine Learning with Databricks MLlib

- Integration with Synapse & Power BI
- **Hands-on:** Perform ETL on large datasets with Databricks and write results to Azure Data Lake

## Module 8: Data Security & Compliance

Implement security, governance, and compliance for enterprise data solutions.

- Role-Based Access Control (RBAC)
- Managed Identities & Key Vault Integration
- Data Encryption (At-Rest & In-Transit)
- GDPR, HIPAA & Compliance in Azure
- **Hands-on:** Secure Azure SQL Database with Transparent Data Encryption (TDE)

## Module 9: Data Visualization & Reporting

Connect processed data to visualization tools for insights and business intelligence.

- Introduction to Power BI
- Connecting Power BI with Synapse & Databricks
- Building Interactive Dashboards & Reports
- Real-time Analytics Integration
- **Hands-on:** Build an interactive dashboard with Power BI using Synapse data

## Module 10: Monitoring & Optimization

Optimize pipelines, workloads, and costs while monitoring data infrastructure.

- Azure Monitor & Log Analytics
- Cost Optimization Best Practices
- Performance Tuning in Synapse & Databricks
- Scalability & Reliability Enhancements

## Module 11: Capstone Project

Apply all skills in a real-world project to design an end-to-end data engineering solution.

- Design & Implement a Data Lakehouse with Azure Data Factory + Synapse + Power BI
- Real-time Analytics Pipeline with Event Hub, Stream Analytics, and Databricks
- Automate Monitoring & Alerts for Data Pipelines