

# Advanced Analytics Architecture

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## In this article

[Architecture](#)

[Data Flow](#)

[Components](#)

[Next steps](#)

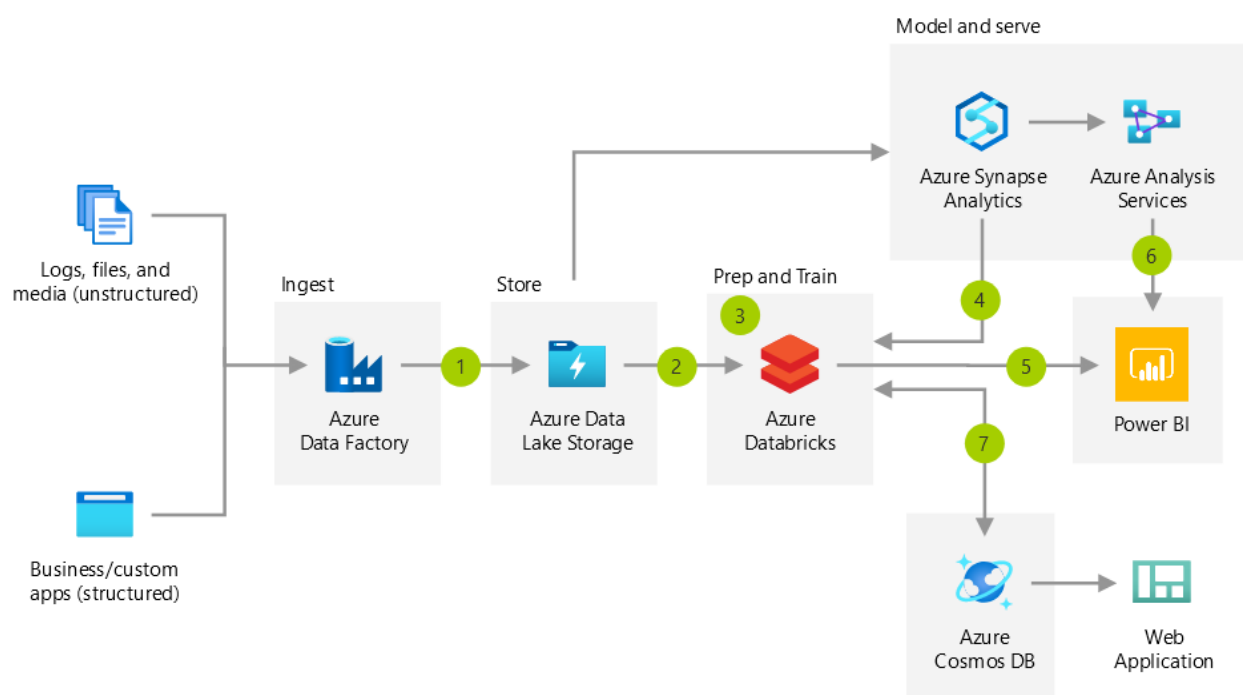
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## Solution Idea

If you'd like to see us expand this article with more information (implementation details, pricing guidance, code examples, etc), let us know with **GitHub Feedback**!

Transform your data into actionable insights using the best-in-class machine learning tools. This architecture allows you to combine any data at any scale, and to build and deploy custom machine learning models at scale.

## Architecture



Download an [SVG](#) of this architecture.

# Data Flow

1. Bring together all your structured, unstructured and semi-structured data (logs, files, and media) using Azure Data Factory to Azure Data Lake Storage.
2. Use Azure Databricks to clean and transform the structureless datasets and combine them with structured data from operational databases or data warehouses.
3. Use scalable machine learning/deep learning techniques, to derive deeper insights from this data using Python, R or Scala, with inbuilt notebook experiences in Azure Databricks.
4. Leverage native connectors between Azure Databricks and Azure Synapse Analytics to access and move data at scale.
5. Power users take advantage of the inbuilt capabilities of Azure Databricks to perform root cause determination and raw data analysis.
6. Query and report on data in [Power BI](#).
7. Take the insights from Azure Databricks to Cosmos DB to make them accessible through web and mobile apps.

## Components

- [Azure Synapse Analytics](#) is the fast, flexible and trusted cloud data warehouse that lets you scale, compute and store elastically and independently, with a massively parallel processing architecture.
- Azure [Data Factory](#) is a hybrid data integration service that allows you to create, schedule and orchestrate your ETL/ELT workflows.
- [Azure Blob storage](#) is a Massively scalable object storage for any type of unstructured data-images, videos, audio, documents, and more-easily and cost-effectively.
- [Azure Databricks](#) is a fast, easy, and collaborative Apache Spark-based analytics platform.
- [Azure Cosmos DB](#) is a globally distributed, multi-model database service. Learn how to replicate your data across any number of Azure regions and scale your throughput independent from your storage.
- [Azure Analysis Services](#) is an enterprise grade analytics as a service that lets you govern, deploy, test, and deliver your BI solution with confidence.
- [Power BI](#) is a suite of business analytics tools that deliver insights throughout your organization. Connect to hundreds of data sources, simplify data prep, and drive ad hoc analysis. Produce beautiful reports, then publish them for your organization to consume on the web and across mobile devices.

# Next steps

- [Synapse Analytics Documentation](#)
- [Azure Data Factory V2 Preview Documentation](#)
- [Introduction to object storage in Azure](#)
- [Azure Databricks Documentation](#)
- [Azure Cosmos DB Documentation](#)
- [Analysis Services Documentation](#)
- [Power BI Documentation](#)

# Pricing Calculator

- [Customize and get pricing estimates](#)

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 Yes  No

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