

Project Design Phase-II Technology Stack (Architecture & Stack)

Date	06 March 2025
Team ID	PNT2025TMID01163
Project Name	Predicting Plant Growth Stages with Environmental and Management Data Using Power BI
Maximum Marks	4 Marks

Technical Architecture:

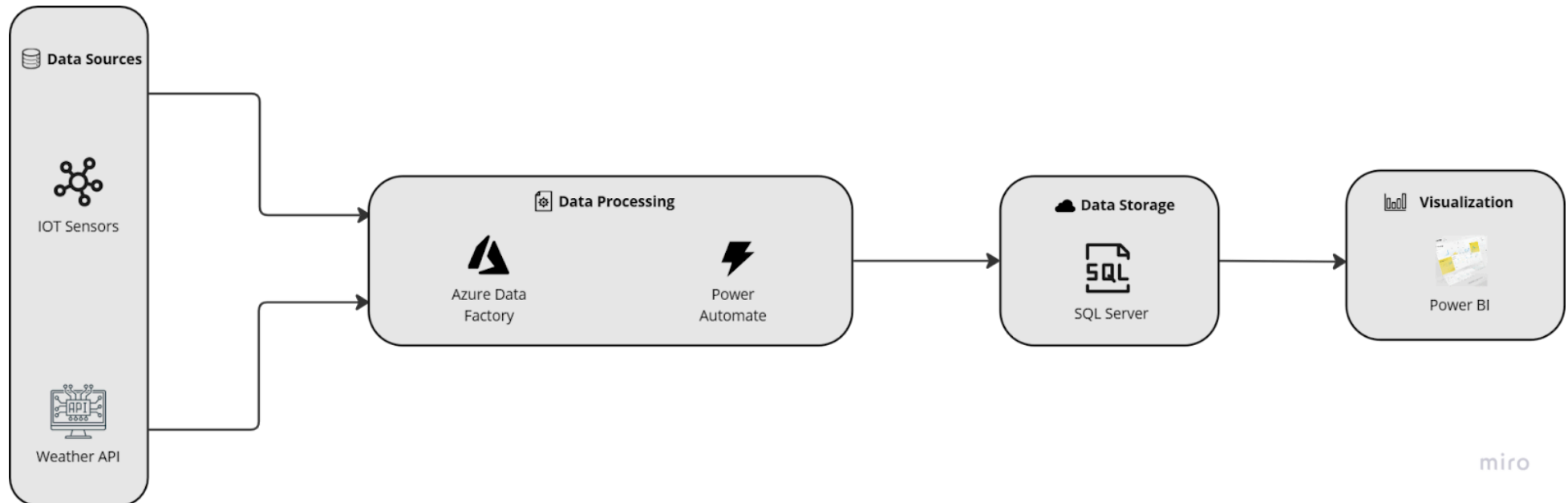


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Data Sources	Collects Environmental, Soil and Agriculture Data	Weather API, IOT Sensor
2.	Data Processing	Cleans, transforms and Integration Data	Azure Data Factory, Power Automate
3.	Data Storage	Stores Structured and Unstructured Data for Analysis	SQL Server
4.	Visualization	Visualize trends, patterns and Predictive Insights	Power BI
5.	User Interface	Enables Farmers and Analysts to interact with Data	Power BI Service

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Data Integration	Collects Real time Environmental Data like Weather and Soil Conditions.	APIs, IOT Sensors
2.	Security	Ensure Data Privacy and Access Control	Power BI permission
3.	Scalability	Handles Large Dataset Efficiently for real Time Updates.	Cloud Storage Azure
4.	Availability	Ensure System uptime for Continous Monitoring	Auto Refreshing in Power BI
5.	Performance	Fast Data Processing and Visualizations	Power BI, DAX