## Project Design Phase
## Solution Architecture

| Date | 04 March 2025 |
|---|---|
| Team ID | PNT2025TMID02631 |
| Project Name | Power BI Inflation Analysis: Journeying Through Global Economic Terrain |
| Maximum Marks | 4 Marks |

## Solution Architecture:

## Architecture Overview:
The **Power BI Inflation Analysis** solution is designed to analyze global economic trends by integrating data from trusted sources like the **World Bank**, **IMF**, and **Trading Economics**. It enables users to visualize inflation trends, GDP growth, and other key economic indicators through interactive dashboards.

**Key Components of the Architecture:**

1. **Data Sources:**

   o **Data imported from Excel, SQL Databases, and Web Data Connectors linked to real-time economic data.**

2. **Data Transformation & Cleaning:**

   o **Cleaned data using Power Query to manage null values, remove outliers, and normalize inflation rates across regions.**

3. **Data Modeling:**

   o **Built comprehensive data models utilizing DAX to calculate metrics such as YoY Inflation %, Moving Averages, and Forecasted Trends.**

4. **Dashboard Design:**

   o **Developed visualizations such as Line Graphs, Heatmaps, and KPI Cards for quick insights.**

5. **User Interaction:**

   o **Integrated interactive filters for Year, Country, and Economic Indicators to provide customized insights.**

6. **Deployment & Sharing:**

   o **Deployed using Power BI Service for seamless access to stakeholders, ensuring insights are available across devices.**

# Example - Solution Architecture Diagram:

```
                            ┌──────────┐
                            │  Start   │
                            └────┬─────┘
                                 │
                            ┌────▼─────┐
                            │Gather data│
                            └────┬─────┘
                 ┌───Inflation rates───┴──Economic indicators──┐
                 │                                              │
            ┌────▼────────┐                            ┌────────▼────┐
            │Select countries│                         │ Analyze data │
            └────┬────────┘                            └───────▲─────┘
                 │                                             │
            Focus on trends                                    │
                 │                                             │
            ┌────▼────────┐                                    │
            │Visualize data│                                   │
            └────┬────────┘                                    │
                 │                                      Adjust parameters
            Create charts                                      │
                 │                                             │
              ◇ Insights                                       │
                gained? ◇                                      │
           ┌──Yes──┴──No──┐                                    │
           │              │                                    │
      ┌────▼──────┐  ┌────▼────────┐                           │
      │Prepare report│ │Refine analysis│───────────────────────┘
      └────┬──────┘  └─────────────┘
           │
      Present findings
           │
      ┌────▼────┐
      │   End   │
      └─────────┘
```