

Technical Architecture:

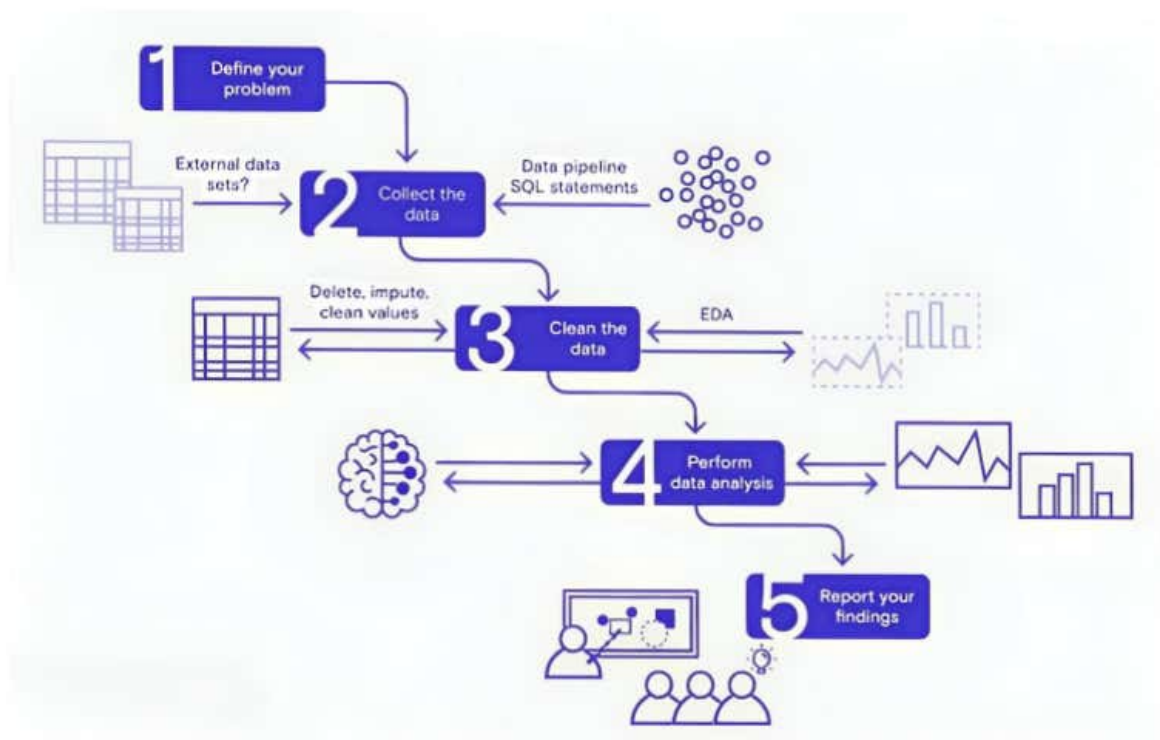


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|-----------------------------------|---|---|
| 1. | User Interface | Web interface for viewing dashboards and insights | HTML, CSS, JavaScript, Tableau Public Embedding |
| 2. | Data Processing Logic | Data cleaning & preprocessing scripts | Python (Pandas, NumPy) |
| 3. | Data Storage | Stores raw data and cleaned datasets | CSV files, Google Sheets, or simple SQL/NoSQL DB (e.g., MySQL, MongoDB) |
| 4. | Visualization Layer | Creates interactive visual dashboards and charts | Tableau Public / Tableau Desktop |
| 5. | Infrastructure (Server / Hosting) | Hosts any scripts and serves embedded dashboards | Local Machine or Cloud VM (Render, Railway, or simple shared hosting) |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|------------------------|--|-------------------------------------|
| 1. | Open-Source Frameworks | Uses open-source Python libraries for data processing | Python (Pandas, NumPy) |
| 2. | Security | Secure storage and access to Tableau dashboards with controlled sharing | Tableau permissions, secure hosting |
| 3. | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | Technology used |
| 4. | Availability | Dashboards accessible anytime via Tableau Public or Cloud link | Tableau Public, Render, Railway |
| 5. | Performance | Dashboards use Tableau Extracts for faster load; small datasets for demo | Tableau Data Extracts, Python ETL |