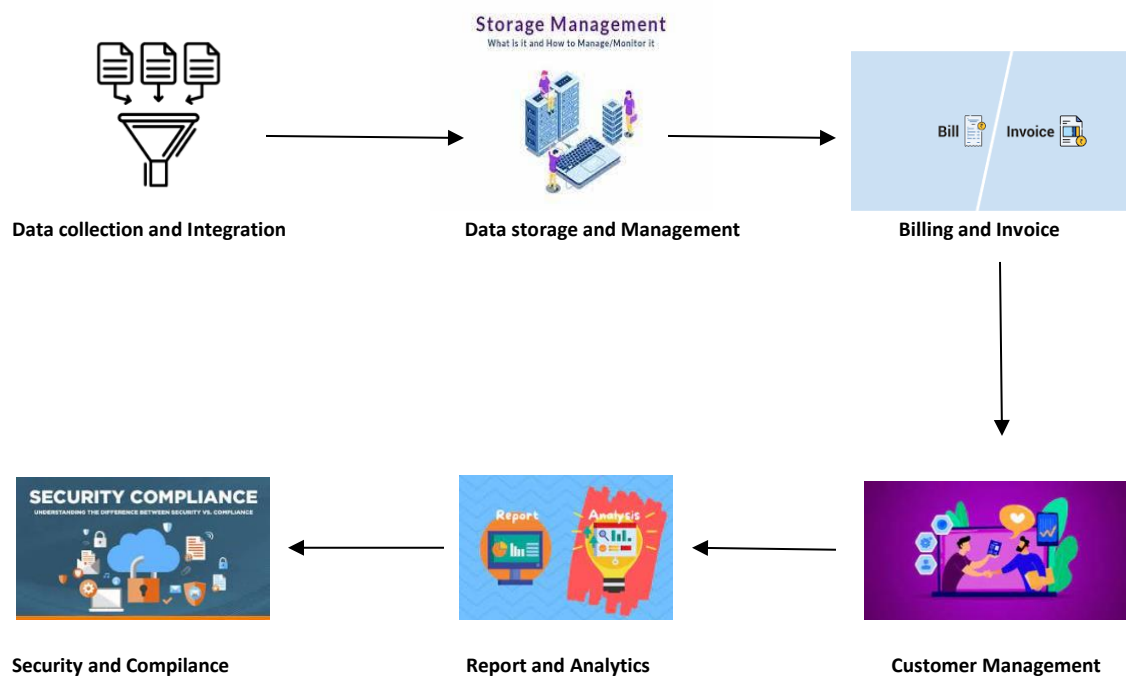


Project Design Phase-I

Solution architecture

Date	18 may 2023
Team ID	NM2023TMID10960
Project Name	Smart Billing System For Water Suppliers

Solution Architecture:



Project Description:

Data Collection and Integration:

Deploy smart water meters that can collect consumption data in real-time and transmit it to the Establish interfaces to integrate data from various sources, including smart meters, sensors, customer information systems, and geographic information systems (GIS).

Data Storage and Management:

Set up a scalable and secure data storage infrastructure to store the collected data. Implement data processing pipelines to clean, validate, and transform the raw data into usable formats for billing calculations and analytics.

Billing and Invoicing:

Develop algorithms and rules to calculate accurate bills based on consumption data, pricing structures, and any additional factors such as peak hour charges or tiered pricing.

Customer Management:

Develop a user-friendly web portal or mobile application where customers can access their consumption data, view bills, make payments, and manage their accounts.

Report and Analytics:

Perform data analysis to identify consumption patterns, leakage detection, and generate reports for both customers and water suppliers.

Security Compliance:

Implement robust security measures, including data encryption, access controls, authentication mechanisms, and regular security audits, to protect customer data and the system as a whole.