

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

Date	12 May 2023
Team ID	NM2023TMID21221
Project Name	Smart Billing System for Water Suppliers

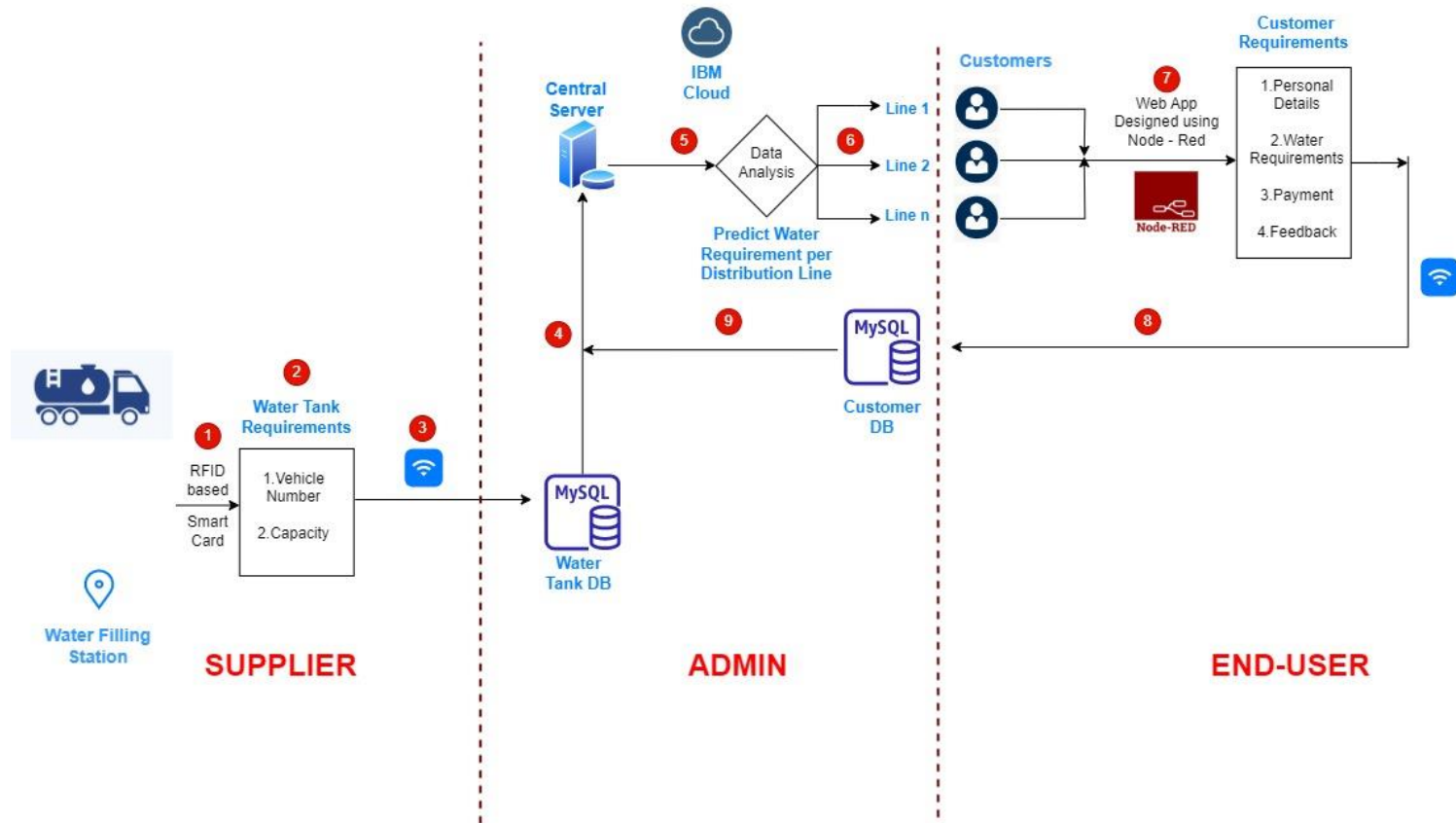


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	Node-red
2.	Application Logic-1	Logic for a process in the application	Embedded C
3.	Devices	Devices used for calculating bill	ESP32
4.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration:None	IBM Watson Iot Platform

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Wokwi
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Secure API key to connect from IBM cloud platform to Node-red and Devices
3.	Scalable Architecture	Using a cloud computing architecture by creating instance for storing data	IBM Cloud
4.	Availability	Use IBM cloud service to make service resistant to server down issues.	IBM Cloud
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	IBM Cloud