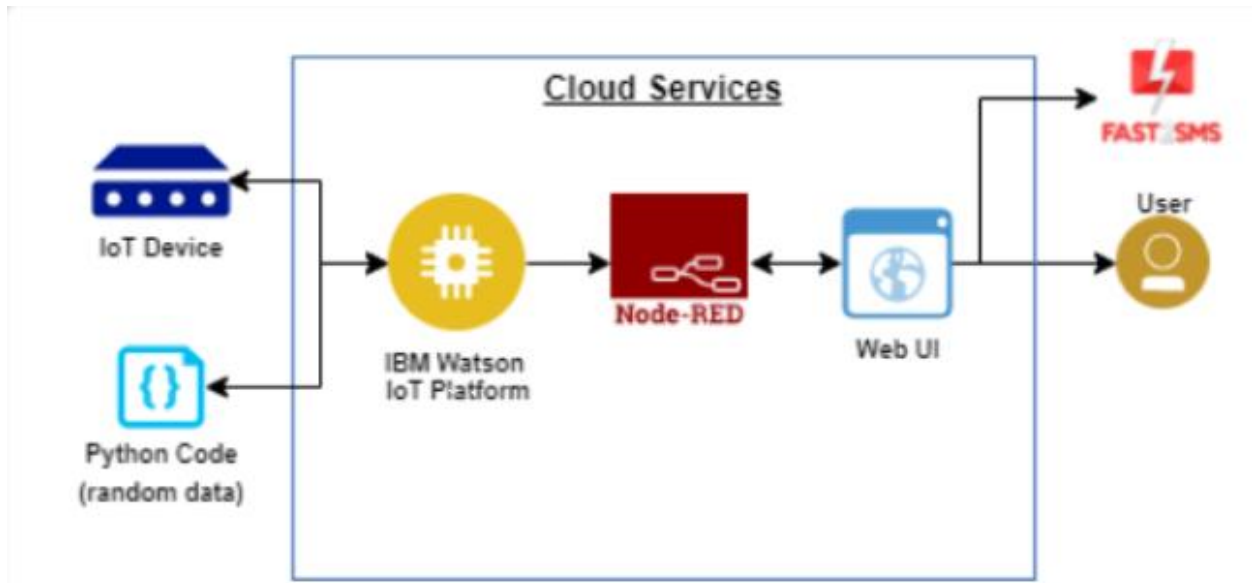


# Real-Time River Water Quality Monitoring and Control System

## Technical Architecture:



## Guidelines:

1. Include all the processes (As an Application logic/ Technology Block)
2. Provide infrastructural demarcation (Local/Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate DATA STORAGE components / Services.
5. Indicate interface to machine learning modules (if applicable)

**Table 1- Components and Technologies:**

Sl.No	Component	Description	Technology
1.	User interface	How user interacts with application.	IBM IoT Platforms, IBM Node red, IBM Cloud etc
2.	Application Logic-1	Creates IBM Watson IoT platform and collect connected device data and perform analytics on real-time data.	IBM Watson, IBM Cloud ant service, IBM node red
3.	Application Logic-2	To develop a python script to publish and subscribe to IoT Platform	Python
4.	Application Logic-3	To build a web application using node-red service.	IBM Node-red

5.	Database	An organized collection of data, stored in a computer system.	MySQL
6.	Cloud Database	Database Service on cloud	IBM DB2, IBM Cloud ant etc.
7.	File Storage	For developing mobile application to store and receive the sensors information and to react accordingly.	Web UI, python
8.	External API-1	We can use this to manage the control system.	IBM Water control management API
9.	External API-2	It detects the quality (turbidity, PH, Temperature, TDS) of water.	IBM Sensors
10.	Infrastructure(server/Cloud)	Application Deployment on Cloud Server Configuration	IBM Cloud ant, IBM IoT Platform

**Table 2: Application Characteristics:**

SL.NO	Characteristics	Description	Technology
1.	Open-source Frameworks	Open source is a source code that is available for modification and redistribution.	MIT License
2.	Security Implementations	Monitors and filters the incoming and outgoing traffic.	Encryptions, IBM Controls
3.	Scalable Architecture	Sensors-IOT Cloud Based architecture	Cloud computing/AI
4.	Availability	The sensors are widely used to detect the temperature, turbidity, TDS	Sensors
5.	Performance	The idea of implementing integrated sensors detect the above characteristic and to indicate the parameters to the authority which helps in more efficient For overall monitoring and controlling.	Software