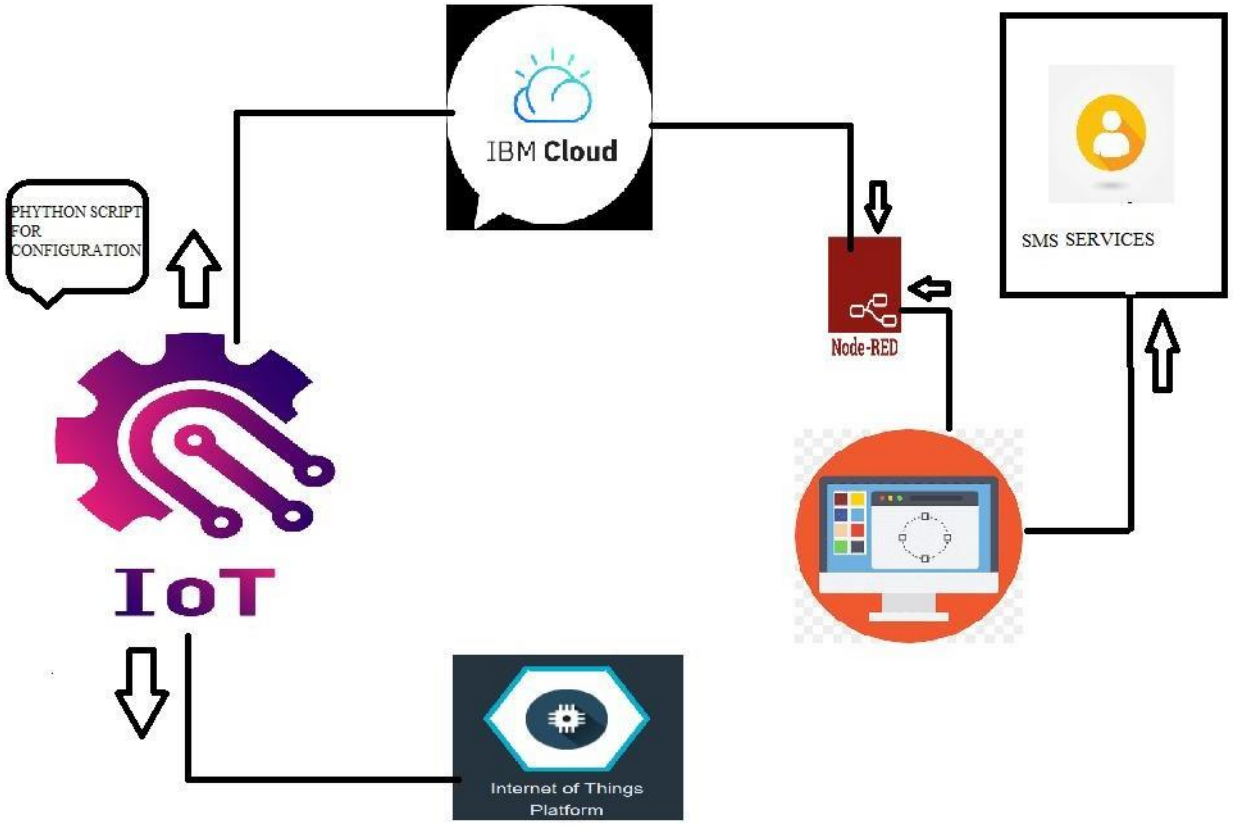
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	08 November 2022
Team ID	PNT2022TMID20521
Project Name	Real-Time River Water Quality Monitoring and Control System
Maximum Marks	4 Marks

Summary

This code pattern explains how to build an IOT based river water monitoring and controlling system with some predefined values.

Flow



Feed the data received from the Sensor unit which are placed in the riversides.

Thecollecteddatawillbedisplayedinthe Webpagetotheuser

Then the collected data is sent to the data base, where the collected dataand the predefined data are checked and monitored. If any data exceed the predefined data then the control signalwillsendtothe Admin.

The collected data will be stored in the IBM cloud storage.

Later the data will be controlled by the admin via Web UI.

Components & Technologies:

S.No	Component	Description	Technology
1.	Sensor Data	The data is collected form the various sensor placed in the river sides.	ESP32Wifi module Raspberry Pie.
2.	Database for Storage	The data/info need to be stored for accessing it in future	MySQL-Oracle
3.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
4.	Cloud Database	Database Service on Cloud	IBM cloud
5.	Data Storage	File storage requirements	IBM Block Storage

Application Characteristics:

S.No	Characteristics	Description	Technology
1.	PH level Monitoring	The PH level of river water can be monitored via placing sensors in rivers.	PH-sensor
2.	Air Quality Monitoring	Theclarity and purity of river water can be monitored	Surface Mount Sensor
3.	Temperature Monitoring	The temperature of river water can be monitored	Temperature sensor
4.	Water Treatment	can be used as both a safety device in the water purification process as carbon dioxide, methane, and carbon monoxide are some of the key gases produced during the treatment process	NDIR gas sensors
4.	Soil Condition Monitoring	Soil condition monitoring sensors allow farmers to collect data about rainfall, temperature, and other metrics over time to track trends and predict irrigation needs.	Acoustic sensor