FLOOD MONITORING SYSTEM

pythonScript.py:

```
import requests
import time

SENSOR_ID = "ULTRA01"
SENSOR_URL = "http://127.0.0.1:8000/api/Getdata"

while True:
    water_level = 39.0
    data = {
        "sensor_id": SENSOR_ID,
        "water_level": water_level,
        "timestamp": int(time.time())
    }

    response = requests.post(SENSOR_URL, json=data)
    if response.status_code == 200:
        print(f"Data sent successfully: Water level = {water_level}")
    else:
        print(f"Failed to send data: {response.status_code}")

    time.sleep(300)
```

```
//<------------------------Back end ---------------------------------->
```

Backend.js:

```
const express = require('express');
const mysql = require('mysql2');

const app = express();
const port = 8000;

app.use(express.json());

//<--------- MySQL database configuration---------------->
const dp= mysql.createConnection({
  host: 'localhost',
  user: 'admin',
  password: '****',
  database: 'FloodMonitoring',
});

db.connect(err => {
  if (err) {
    console.error('Database connection error: ' + err);
    return;
  }
  console.log('Connected to the database.....');
});
//< ----------------------get flood data---------------------------------->
app.post('/api/GetFloodData', (req, res) => {
  const { sensor_id, water_level, timestamp } = req.body;
  const data = { sensor_id, water_level, timestamp };
```

```
  db.query('INSERT INTO flood_data SET ?',[data], (error, results) => {
    if (error) {
      console.error('Error inserting data: ' + error.message);
      res.status(500).json({ error: 'Server error' });
    } else {
      res.status(200).json({ message: 'Data inserted successfully' });
    }
  });
});

app.listen(port, () => {
  console.log(`Server is running on port ${port}`);
});
```

Flood_monitoring_app:

```
import 'package:flutter/material.dart';
import 'package:http/http.dart' as http;

void main() {
runApp(const MyApp());
}

class MyApp extends StatefulWidget {
  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  String timestamp = '';
  double waterLevel = 0.0;

  void fetchData() async {
   const url = 'http://your_server_url/api/GetFloodData';
    final response = await http.get(Uri.parse(url));
    if (response.statusCode == 200) {
      final data = json.decode(response.body);
      setState(() {
        timestamp = data['timestamp'];
        waterLevel = data['water_level'];
      });
    }else{
Throw  “cannot fetch data from the Api ”;
}
```

```
  }

  @override
  void initState() {
    super.initState();
    fetchData();
    Timer.periodic(Duration(seconds: 5), (Timer t) => fetchData());
  }

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
showDebugCheckedMode : false;
      home: Scaffold(
        appBar: AppBar(
          title: Text('F l o o d  M o n i t o r i n g  S y s t e m'),
        ),
        body: Center(
          child: Column(
            mainAxisAlignment: MainAxisAlignment.center,
            children: [
              Text('Timestamp: $timestamp',style:TextStyle(font-size:25),
              Text('Water Level: $waterLevel',style:TextStyle(font-size:25)),
            ],
          ),
        ),
      ),
    );
  }
}
```