

IOT – INTERNET OF THINGS

PHASE FOUR PROJECT

In this part you will continue building your project.

Continue building the project by developing the environmental monitoring platform.

Use web development technologies (e.g., HTML, CSS, JavaScript) to create a platform that displays real-time environmental data.

Design the platform to receive and display real-time temperature and humidity data from IoT devices.

HTML STRUCTURE

```
<!DOCTYPE html>

<html>

<head>

  <title>Environmental Monitoring Platform</title>

  <link rel="stylesheet" type="text/css" href="styles.css">

</head>

<body>

  <div class="header">

    <h1>Environmental Monitoring Platform</h1>

  </div>

  <div class="data-container">

    <div class="sensor">

      <h2>Living Room Sensor</h2>

      <div class="sensor-data">

        <p>Temperature: <span id="living-room-temp">Loading...</span>°C</p>
```

```
        <p>Humidity: <span id="living-room-
humidity">Loading...</span>%</p>
```

```
    </div>
```

```
</div>
```

```
<div class="sensor">
```

```
    <h2>Bedroom Sensor</h2>
```

```
    <div class="sensor-data">
```

```
        <p>Temperature: <span id="bedroom-
temp">Loading...</span>°C</p>
```

```
        <p>Humidity: <span id="bedroom-
humidity">Loading...</span>%</p>
```

```
    </div>
```

```
</div>
```

```
</div>
```

```
<script src="script.js"></script>
```

```
</body>
```

```
</html>
```

CSS (styles.css)

```
body {
    font-family: Arial, sans-serif;
    background-color: #f2f2f2;
}
```

```
.header {
    background-color: #333;
```

```
    color: #fff;
    padding: 20px;
    text-align: center;
}
```

```
.data-container {
    display: flex;
    justify-content: space-around;
    padding: 20px;
}
```

```
.sensor {
    background-color: #fff;
    border: 1px solid #ccc;
    padding: 20px;
    margin: 10px;
    border-radius: 5px;
    box-shadow: 0 0 5px #ccc;
}
```

```
.sensor h2 {
    font-size: 18px;
}
```

```
.sensor-data {  
    font-size: 16px;  
}
```

JavaScript (script.js)

// Simulated IoT data (for testing)

```
const livingRoomSensorData = {  
    temperature: 22.5,  
    humidity: 45,  
};
```

```
const bedroomSensorData = {  
    temperature: 20.3,  
    humidity: 50,  
};
```

// Function to update sensor data

```
function updateSensorData() {  
    document.getElementById("living-room-temp").textContent =  
    livingRoomSensorData.temperature.toFixed(1);  
  
    document.getElementById("living-room-humidity").textContent =  
    livingRoomSensorData.humidity.toFixed(1);  
  
    document.getElementById("bedroom-temp").textContent =  
    bedroomSensorData.temperature.toFixed(1);  
  
    document.getElementById("bedroom-humidity").textContent =  
    bedroomSensorData.humidity.toFixed(1);  
}
```

```
}
```

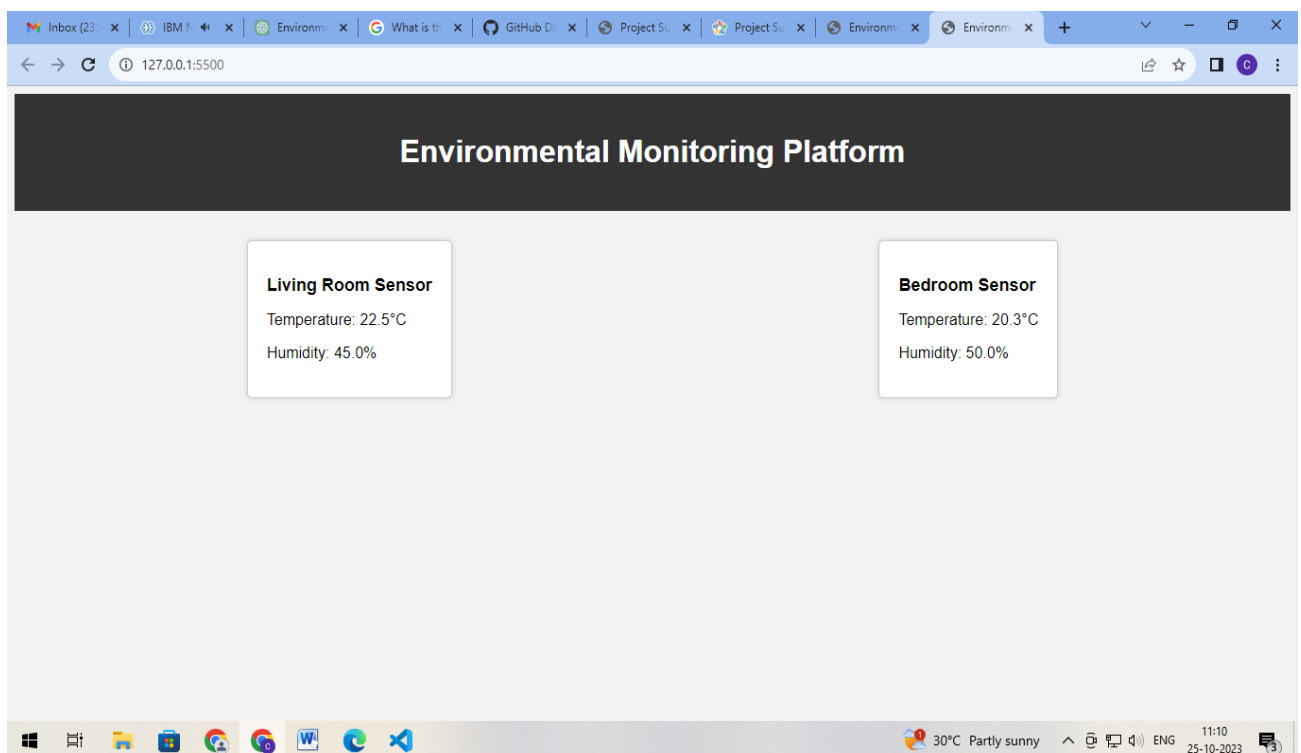
// Simulate data updates every 5 seconds (replace with real IoT data)

```
setInterval(updateSensorData, 5000);
```

```
updateSensorData();
```

```
}
```

MONITORING PLATFORM



- The HTML structure sets up the basic layout for the environmental monitoring platform
- The CSS file (styles.css) defines the styling of the platform.
- The JavaScript file (script.js) updates the sensor data every 5 seconds.
- In a real-world scenario, you would replace the simulated data with actual data received from IoT devices.