

BUILD A WEB APPLICATION USING NODE-RED

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PROJECT NAME	Name Project – Smart Farmer-IoT Enabled smart Farming Application

The screenshot displays the Node-RED web interface in a browser. The main workspace shows a flow named 'Flow 1' with two nodes: an 'IBM IoT' node (labeled 'connected') and a 'msg.payload' node. The left sidebar contains various input and output nodes. The right sidebar shows the debug console with a list of messages. The messages are JSON objects containing random numbers, temperatures, and humidities, along with timestamps and node IDs.

```
iot-2/type/IOTId/21/event/flow/ntj/son : msg.payload : Object
  {
    randomNumber: 76, temp: 106,
    humidity: 96
  }
11/18/2022, 1:21:54 AM node: I22649a.0d0d98
iot-2/type/IOTId/21/event/flow/ntj/son : msg.payload : Object
  {
    randomNumber: 42, temp: 108,
    humidity: 63
  }
11/18/2022, 1:22:55 AM node: I22649a.0d0d98
iot-2/type/IOTId/21/event/flow/ntj/son : msg.payload : Object
  {
    randomNumber: 62, temp: 102,
    humidity: 96
  }
11/18/2022, 1:23:55 AM node: I22649a.0d0d98
iot-2/type/IOTId/21/event/flow/ntj/son : msg.payload : Object
  {
    randomNumber: 45, temp: 95,
    humidity: 66
  }
11/18/2022, 1:24:55 AM node: I22649a.0d0d98
iot-2/type/IOTId/21/event/flow/ntj/son : msg.payload : Object
  {
    randomNumber: 21, temp: 94,
    humidity: 86
  }
```

The screenshot shows the Node-RED web interface in a browser. The flow consists of an 'IBM IoT' node (connected) sending data to a 'msg.payload' node. This data is then processed by three parallel function nodes labeled 'Temperature', 'Humidity', and 'Moisture'. The output of these nodes is sent to a 'debug' console. The debug console shows the following log entries:

```

11/16/2022, 1:56:58 AM node: IBM IoT
msg: string[41]

"Error: Connection refused: Not
authorized"

11/16/2022, 1:58:24 AM node: f22643a 0d0d98
iot-2/typeIoT/td21/ev/evflow/rmt/json : msg.payload :
Object
{
  randomNumber: 98, temp: 192,
  humidity: 84
}

11/16/2022, 1:58:24 AM node: f22643a 0d0d98
iot-2/typeIoT/td21/ev/evflow/rmt/json : msg.payload :
number
102

11/16/2022, 1:58:24 AM node: f22643a 0d0d98
iot-2/typeIoT/td21/ev/evflow/rmt/json : msg.payload :
number
84

11/16/2022, 1:58:24 AM node: f22643a 0d0d98
iot-2/typeIoT/td21/ev/evflow/rmt/json : msg.payload :
number
98

```

OUTPUT OF MEASURED VALUE:

The screenshot shows a web application titled 'Smart_Farm'. It displays three charts and a gauge:

- Weather Condition:**
 - Humidity:** A line chart showing humidity levels over time. The y-axis ranges from 0 to 100. The x-axis shows dates from 02/20/56 to 02/21/23. The line starts at approximately 60, rises to 80, and then levels off at 100.
 - Temperature:** A line chart showing temperature levels over time. The y-axis ranges from 0 to 120. The x-axis shows dates from 02/20/56 to 02/21/23. The line starts at approximately 100, rises to 110, and then levels off at 100.
- Soil_moisture_level:** A gauge showing moisture levels. The gauge is a semi-circle with a red needle pointing to the value 34. The scale ranges from 0 to 10.

