


TALLER IoT

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Elabore un proceso de distribución en la recepción de una entidad EC2 (Máquina virtual en la Nube)

 **Programa su sensor NodeMCU para escribir en la máquina virtual en AWS por el protocolo HTTP**

Se modificó el código realizado para el parcial y se le atribuyó el envío de datos mediante el protocolo HTTP y conexión a wifi.

```
211 void Armar_Trama ()
212 {
213     Trama = "";
214     Serial.print ("Trama creada: ");
215     Trama = String("id="+String(id)+"; temperatura="+temperatura+"; humedad="+humedad+"; latitud="+latitud+"; longitud="+longitud);
216     Serial.println(Trama);
217 }

235 void Enviar()
236 {
237     String PostData = "";
238     Serial.println("datos para enviar");
239     PostData = Trama; //String("id="+String(id)+"; temperatura="+String(temperatura,7)+"; longitud="+String(longitud,7)+"; latitud="+String(latitud,7));
240     Serial.println(PostData);
241     if ( client.connect(server,80))
242     {
243         Serial.println("conectado");
244         client.print("POST /datos HTTP/1.1\n");
245         // poner la direccion IP del servidor
246         client.print("Host: 3.84.102.33\n");
247         client.println("User-Agent: Arduino/1.0");
248         client.println("Connection: close");
249         client.println("Content-Type: application/x-www-form-urlencoded");
250         client.print("Content-Length: ");
251         client.println(PostData.length());
252         client.println();
253         client.println(PostData);
254     }
255     else
256     {
257         Serial.println("error de conexion");
258     }
259 }
260 }
```

 **Almacene cada registro en una base de datos**

GET

http://3.84.102.33/resetdb

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Query Params

KEY	VALUE
Key	Value

Body

Cookies

Headers (4)

Test Results


Pretty

Raw

Preview

Visualize

HTML



1 borrado

Almacenamiento de datos:

```
ubuntu@ip-172-31-41-232:~/ejemplo01$ sudo python3.6 programa01.py
* Serving Flask app "programa01" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on http://0.0.0.0:80/ (Press CTRL+C to quit)
* Restarting with stat
* Debugger is active!
* Debugger PIN: 278-290-458
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0729218; humedad=81.4941406; latitud=6.2446399; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:46:49] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0719147; humedad=81.5979004; latitud=6.2446365; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:46:52] "POST /datos HTTP/1.1" 201 -
201.232.195.133 - - [27/Aug/2020 01:46:52] "GET /resetdb HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0714111; humedad=81.6027832; latitud=6.2446332; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:46:55] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0729218; humedad=81.5979004; latitud=6.2446299; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:46:58] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0699005; humedad=81.4941406; latitud=6.2446284; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:01] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0714111; humedad=81.3598633; latitud=6.2446251; longitud=-75.5863953')]))])
201.232.195.133 - - [27/Aug/2020 01:47:05] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0693970; humedad=81.2988281; latitud=6.2446218; longitud=-75.5863953')]))])
201.232.195.133 - - [27/Aug/2020 01:47:07] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0688934; humedad=81.1950684; latitud=6.2446165; longitud=-75.5863953')]))])
201.232.195.133 - - [27/Aug/2020 01:47:10] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0653687; humedad=81.0974121; latitud=6.2446132; longitud=-75.5863953')]))])
201.232.195.133 - - [27/Aug/2020 01:47:13] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0683899; humedad=80.9997559; latitud=6.2446117; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:16] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0699005; humedad=80.8959961; latitud=6.2446084; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:20] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0663757; humedad=80.8862305; latitud=6.2446084; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:22] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0673828; humedad=80.7983398; latitud=6.2446065; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:26] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0673828; humedad=80.8325195; latitud=6.2446051; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:28] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0663757; humedad=80.8959961; latitud=6.2446032; longitud=-75.5863953')]))])
201.232.195.133 - - [27/Aug/2020 01:47:31] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0658722; humedad=80.8959961; latitud=6.2446017; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:34] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0688934; humedad=80.8959961; latitud=6.2446017; longitud=-75.5864029')]))])
201.232.195.133 - - [27/Aug/2020 01:47:38] "POST /datos HTTP/1.1" 201 -
CombinedMultiDict([ImmutableMultiDict([], ImmutableMultiDict([('id', '1001; temperatura=23.0683899; humedad=80.8959961; latitud=6.2446017; longitud=-75.5864029')]))])
```

 **Desarrolle una subpágina web que grafique el historial del sensor empleando la librería DASH**

```
import dash
import dash_core_components as dcc
from dash.dependencies import Input, Output
import dash_html_components as html
import sqlite3

db = "mibasededatos.db"
con = sqlite3.connect(db)
cur = con.cursor()
cur.execute("SELECT * FROM registro")
temperatura = []
humedad = []
timestamp = []
for fila in cur.execute("SELECT * FROM registro"):
    temperatura.append(fila[2])
    humedad.append(fila[3])
    timestamp.append(fila[1])

app = dash.Dash()

app.layout = html.Div(children=[
    html.H1(children='Dash Tutorials'),
    dcc.Graph(id='example',
        figure={
            'data': [
                {'x': timestamp, 'y': temperatura, 'type': 'bar', 'name': 'Temperatura sensor 1'},
                {'x': timestamp, 'y': humedad, 'type': 'bar', 'name': 'Humedad sensor 1'},
            ],
            'layout': {
                'title': 'Basic Dash Example'
            }
        })
])

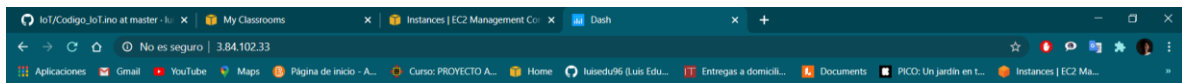
if __name__ == '__main__':
    app.run_server(debug=True, host='0.0.0.0', port=80 )
```

```
ubuntu@ip-172-31-41-232:~/ejemplo01$ sudo python3.6 programa02.py
Dash is running on http://0.0.0.0:80/

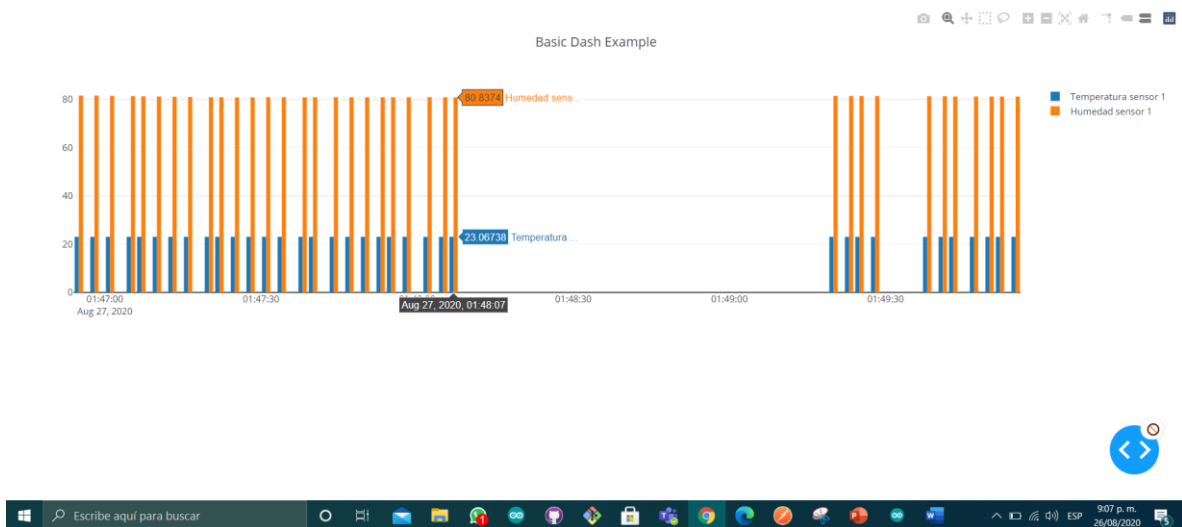
Warning: This is a development server. Do not use app.run_server
in production, use a production WSGI server like gunicorn instead.

* Serving Flask app "programa02" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
```

Muestra de la página:



Dash Tutorials



Basic Dash Example

