START2IMPACT

Django & Redis Project

ECOHOTEL

POMELIA

Project

The goal of the project is to implement a system to track the energy produced and consumed by the photovoltaic panels of the Eco Hotel Pomelia, using Django, Redis (a NoSQL database) and the Ethereum Blockchain Testnet Goerli.

Feature implemented

The features implemented in this project are:

- Registration and login form for users
- An homepage, accessible only to logged-in users, showing the table containing the values in question and the hash of the transaction
- A page, to which only administrators can access, where you can see the total energy consumed and produced
- A logging system to store the last IP that had access to the platform for a certain administrator user, so as to display a warning message when this is different from the previous one

Registration & Login

Eco Hotel Pomelia

Sign Up

Username: Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email address:

Password:

- Your password can’t be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can’t be a commonly used password.
- Your password can’t be entirely numeric.

Password confirmation: Enter the same password as before, for verification.

Register

Eco Hotel Pomelia

Login

Username:

Password:

Log In

WebApp Eco Hotel Homepage

Alle the users that are log into the WebApp can access to a panel
that shows information ordered by date about produced and consumed energy, and the id related to the transaction on the Ethereum Testnet Goerli.

Eco Hotel Pomelia

Table showing the energy consumed and produced by photovoltaic panels

Date	Produced energy	Consumed energy	Id Blockchain Transaction
March 16, 2023, 6:57 p.m.	3129	3268	0x33daa89e5e27f4fccb88febe68d2042b9c880fb3ecf263400fb0c56ded4b63fd
March 16, 2023, 6:56 p.m.	32658	24678	0x95c6cf3821e89ec8c1ac6baead482baca11833cedaceb0e7cecf72e6605ab251
March 16, 2023, 6:56 p.m.	58932	43778	0x6eccec97824e68f4e590a47d6b34f2cafdbfcd05e2007cfc81df8be60591bff2

Admin Area

This page shows the total energy produced and consumed.
Only users logged as admin can access to the data.

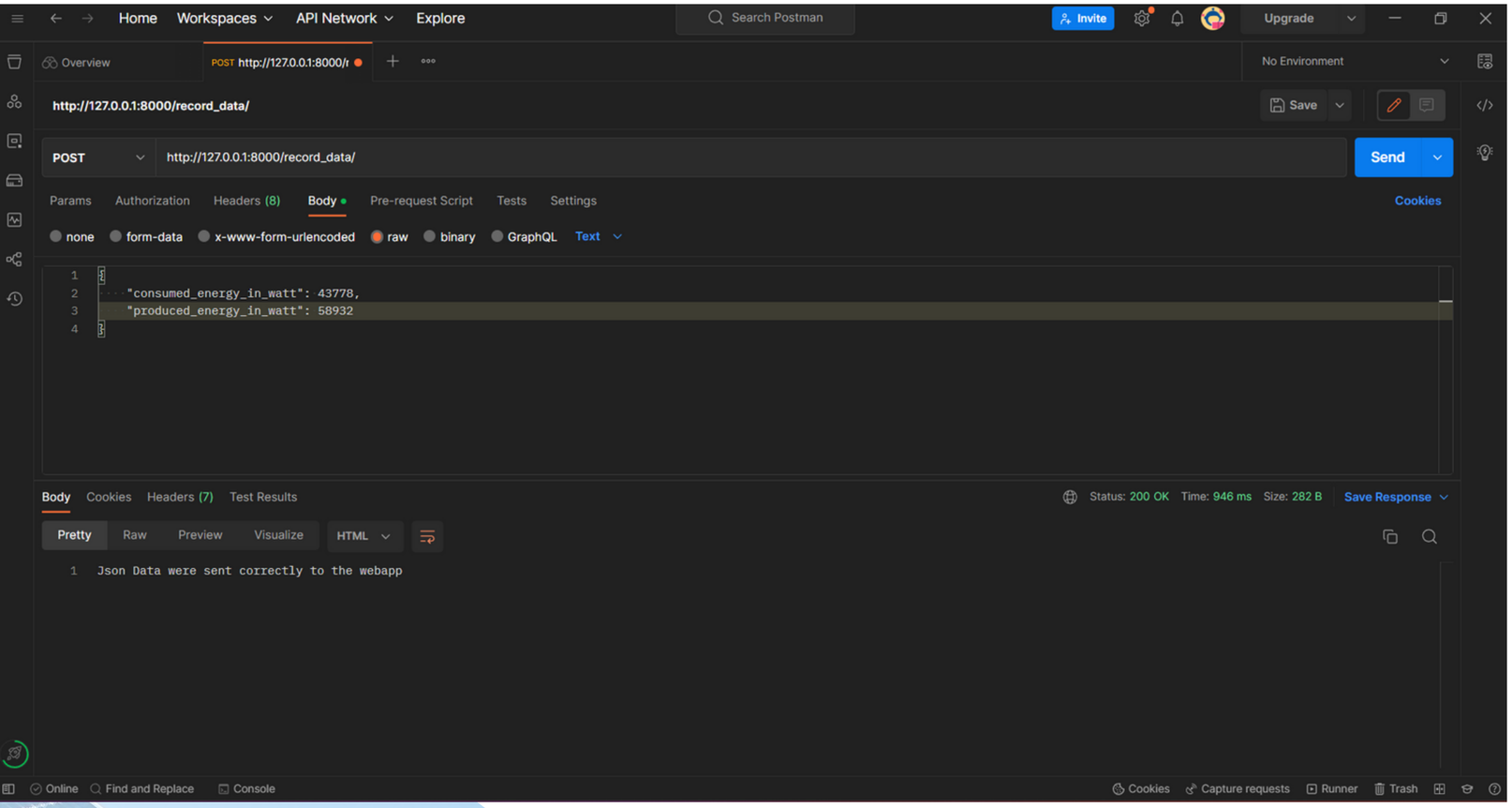
Eco Hotel Pomelia

Table showing the TOTAL energy consumed and produced by photovoltaic panels

Staff only

Produced energy	Consumed energy
94719	71724

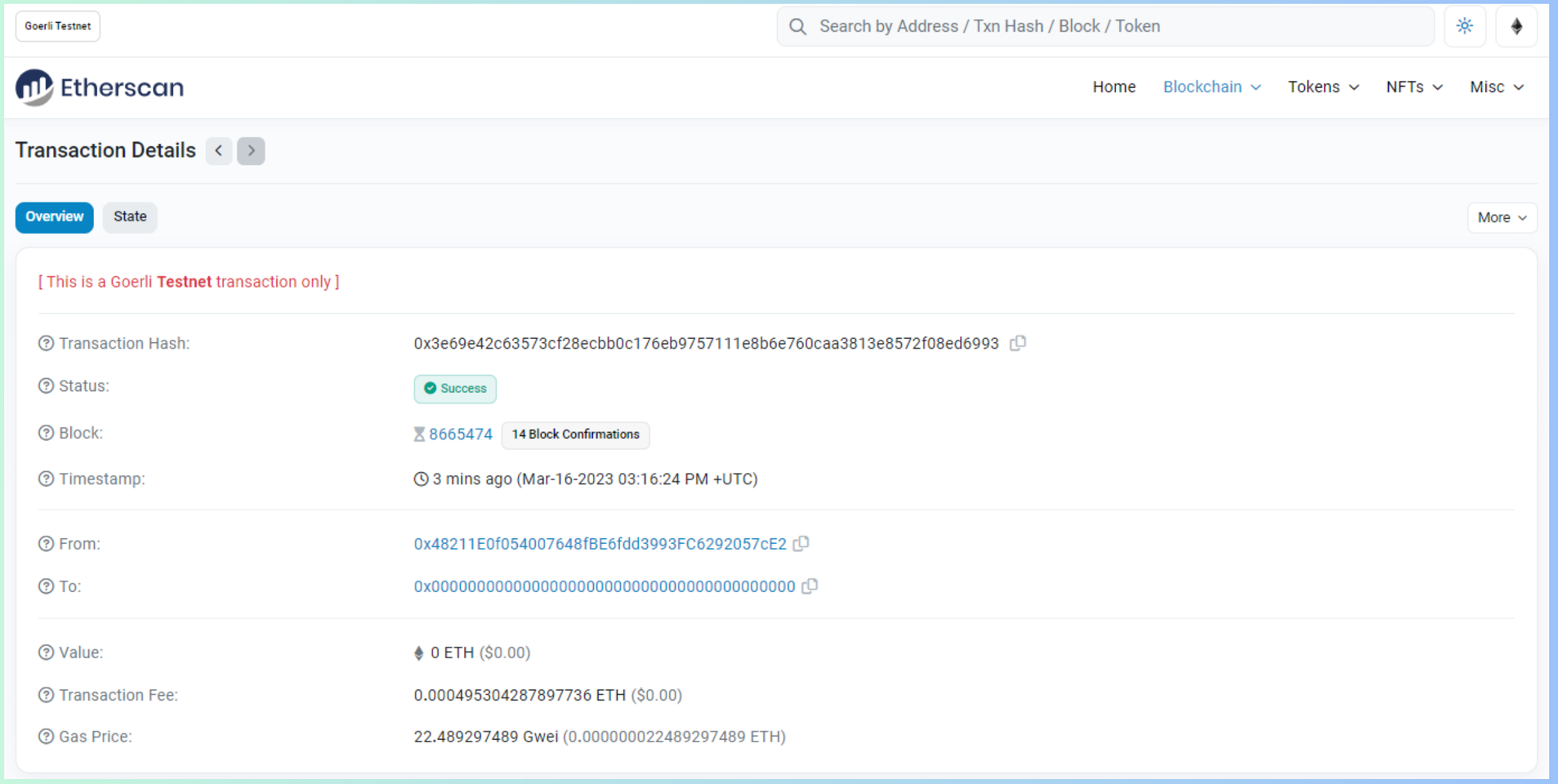
POSTMAN App



Produced and consumed energy uloded to the WebApp from POSTMAN app:

Data wil be uploaded to the database (every 24 h) with a POST request in JSON at the endpoint /record data, and will be sended to the blockchain with a transaction on the ETH Testnet Goerli

Transaction Details



Each data is recorded on the ETH blockchain and it is possible to view the ID transaction in the homepage of the WebApp.

On goerli.etherscan.io, using the ID, you can read all the details related to the transaction.

IP-Check

```
(myvenv) PS C:\Users\andre\OneDrive\Desktop\EcoHotel_project\ecohotel> python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

current: 127.0.0.1, last: None
[20/Mar/2023 12:36:29] "POST /accounts/login/ HTTP/1.1" 302 0
[20/Mar/2023 12:36:29] "GET / HTTP/1.1" 200 2054
[20/Mar/2023 12:36:36] "GET /accounts/logout/ HTTP/1.1" 302 0
[20/Mar/2023 12:36:36] "GET / HTTP/1.1" 200 967
[20/Mar/2023 12:36:38] "GET /accounts/login/ HTTP/1.1" 200 1138
ip_check: is different?: False
current: 127.0.0.1, last: 127.0.0.1
[20/Mar/2023 12:36:47] "POST /accounts/login/ HTTP/1.1" 302 0
[20/Mar/2023 12:36:47] "GET / HTTP/1.1" 200 2054
[20/Mar/2023 12:36:54] "GET /accounts/logout/ HTTP/1.1" 302 0
[20/Mar/2023 12:36:54] "GET / HTTP/1.1" 200 967
[20/Mar/2023 12:36:56] "GET /accounts/login/ HTTP/1.1" 200 1138
ip_check: is different?: False
current: 127.0.0.1, last: 127.0.0.1
```

With REDIS, a NoSQL database, was implemented a logging system to store the last IP that had access to the platform for a certain admin user, and it shows a message with the current and the previous IP.

THANK YOU
FOR YOUR ATTENTION

Link Git Hub and Pythonanywhere for the project:

https://github.com/andreagenos/ecohotel-s2i-project.git

https://genov.pythonanywhere.com/

Admin User: Username - admin / Password - 13243546

Normal User: Username - user / Password - s2impact

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