Indian Institute of Information Technology, Allahabad

Software Engineering Project

Project Mentor – Nasalwai Nikhil Chakravarthy

Group No. - 57	Project No. - 32

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SEMESTER : - FOURTH (SECOND YEAR)

USER MANUAL
OF
ENERGY VISUALIZER

INDEX

Languages and Frameworks used

- *MongoDB*
- *NodeJs*
- *Bootstrap*
- *Javascript*
- *HTML*
- *CSS*

Github Repo of Energy Visualizer

- Energy Visualizer (Click here)

Pre-Requisites

1. Install MongoDB in your system. Installers are available at (Click here) and link for MongoDB database tools.

2. Install NodeJS (Click here)

3. Install a code editor(Recommended Atom).Installers are available at (Click)

4. Download the source code from above link or check the Energy-visualizer Codebase folder in our project folder – link .

5. A terminal like GitBash,etc.

Configuring MongoDB Database

1. Make sure you have installed MongoDB and database tools.
2. Now open the Database folder in the project folder and copy the **data.csv** & **mongoimport.exe** file and paste these files into this path- **C:\Program Files\MongoDB\Server\4.4\bin**

Energy Database

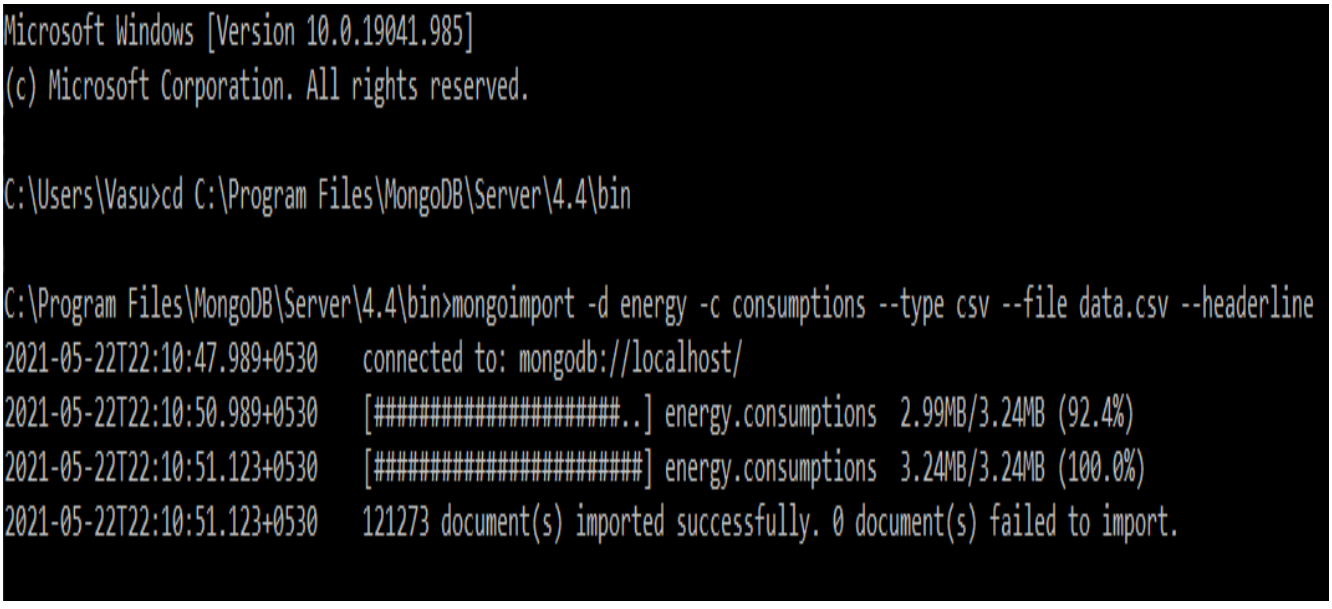
1. First make sure you have done 2nd point above.
2. Now, open Command prompt and type the command:-

cd C:\Program Files\MongoDB\Server\4.4\bin

3. Now, type this command in Command Prompt:-

mongoimport -d energy -c consumptions –type csv –file data.csv --headerline

4. The energy raw database will be imported now.
5. If there are still any confusions you can watch this video .



Login Database

1. Open the terminal in two windows.
2. In the first window type **mongod**
3. When server is connected then in the second window type **mongo**
4. Now, run the following commands

use login

db.users.insertMany(

[

{username : "iib2019016", password : "iiita123", first : "Ashish", last : "Tyagi", email : "iib2019016@iiita.ac.in", contact : "7811xxxx47", DOB : "2021-04-26", age : "20", address : "ABC", admin : 1 },

{username : "iib2019003", first : "Vasu", last : "Gupta", email : "iib2019003@iiita.ac.in", contact : "7818896xxx", address : "ABC colony, XYZ city, India", password : "iiita123", DOB : "2021-04-06", admin : 0, _v : 0 },

{username : "iib2019005", first : "Sandeep", last : "Kumar", email : "iib2019005@iiita.ac.in", contact : "7818896xxx", address : "ABC colony, XYZ city, India", password : "iiita123", DOB : "2021-04-07", admin : 0, _v : 0 }

]);

```
use login
switched to db login
db.users.insertMany(
[
{username : "iib2019016", password : "iiita123", first : "Ashish", last : "Tyagi
", email : "iib2019016@iiita.ac.in", contact : "7811xxxx47", DOB : "2021-04-26",
 age : "20", address : "ABC", admin : 1 },
{username : "iib2019003", first : "Vasu", last : "Gupta", email : "iib2019003@ii
ita.ac.in", contact : "7818896xxx", address : "ABC colony, XYZ city, India", pas
sword : "iiita123", DOB : "2021-04-06", admin : 0, _v : 0 },
{username : "iib2019005", first : "Sandeep", last : "Kumar", email : "iib2019005
@iiita.ac.in", contact : "7818896xxx", address : "ABC colony, XYZ city, India",
password : "iiita123", DOB : "2021-04-07", admin : 0, _v : 0 }
]);
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("60a93b4046612d384c25243b"),
                ObjectId("60a93b4046612d384c25243c"),
                ObjectId("60a93b4046612d384c25243d")
        ]
}
```

Setting up NodeJS Server

1. Make sure you have installed NodeJS
2. Open the terminal in the project folder
3. Run the following command in the terminal :-

```
npm i

node script.js
```

Now, the server will start on port number 3000.

```
Vasu@LAPTOP-TINP3S0E MINGW64 /f/Collegestudymaterial/SoftwareEngineering/Energy-
visualizer (main)
$ npm i
audited 122 packages in 2.599s

2 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities


Vasu@LAPTOP-TINP3S0E MINGW64 /f/Collegestudymaterial/SoftwareEngineering/Energy-
visualizer (main)
$ node script.js
(node:16292) Warning: Accessing non-existent property 'MongoError' of module exports inside circular dependency
(Use `node --trace-warnings ...` to show where the warning was created)
SErver Started
```

How to run the project?

After setting up the server, open your web browser and type **localhost:3000** . Then the login page will be displayed on the screen.

User

1. If the user is already registered, he can directly login by providing his username(you can use either of the username **iib2019003** or **iib2019005**) and password for both the usernames is **iiita123 .**
2. Otherwise, the user can register himself by providing his personal details.
3. After login/sign-up, the user will be redirected to the homepage.
4. In the homepage the user has 4 options:-
    - Home
    - Profile
    - Graph
    - Logout
5. In the Profile section the personal details of the user will be displayed.
6. The user can change his personal details by clicking on the edit profile button.
7. Then the user can change the details he wants except the username and has to provide the password to save the changes.
8. After saving the changes the user will be directed back to his profile and the changes made by the user can be noticed in his personal profile.
9. In the Graph section the user has to provide the Start Date, Start time, End Date, End Time and Cost per Mega Watt to calculate the cost of total energy consumed then click on “Show Graph” button to see the graph of the selected data.

10. Then the user will be directed to a page where he can see the graph of the selected data with analysis of Total Energy Consumed, Maximum Energy and Minimum Energy usage in the selected data and Total cost.
11. If the user right clicks on the graph he gets the following options:-
    - View as PNG
    - Download PDF
    - Download SNG
    - Download CSV
    - Download XLS
    - View Data Table
    - Print Chart
    - View Source.
12. Logout.

Admin

1. Now, we will login as a admin into the system with username = **iib2019016** and password = **iiita123**.
2. After logging in the admin will be redirected to the homepage.
3. In the homepage the user has 6 options:-
    - Home
    - Profile
    - Graph
    - Raw View
    - Raw Update
    - Logout
4. The admin has only 2 additional features Raw View and Raw Update and all other features are same as user.
5. In the Raw View section the admin can see the value of energy consumption of the selected date & time.

6. In the Raw Update section the admin can change the value of energy consumption of the selected date & time.
7. We will first discuss about Raw Update feature and afterwards Raw View feature.
8. In the Raw Update section, firstly the admin has to select the date and time at which he wants to change the value and then provide the new value and click on “Update” button. A dialog box will appear with message “Value Updated” on the screen.
9. In the Raw View section, firstly the admin has to select the date and time at which he wants to see the data and then click on “View Data” button. A dialog box will appear with message “Value is (value at selected date & time)” on the screen.
10. We can check these two first features by first changing the value at some date and time through Raw Update feature and then in Raw View section at same date and time we will see the same value in the dialog box which we had provided earlier as new value in Raw Update section.

ENERGY VISUALIZER

THANK YOU