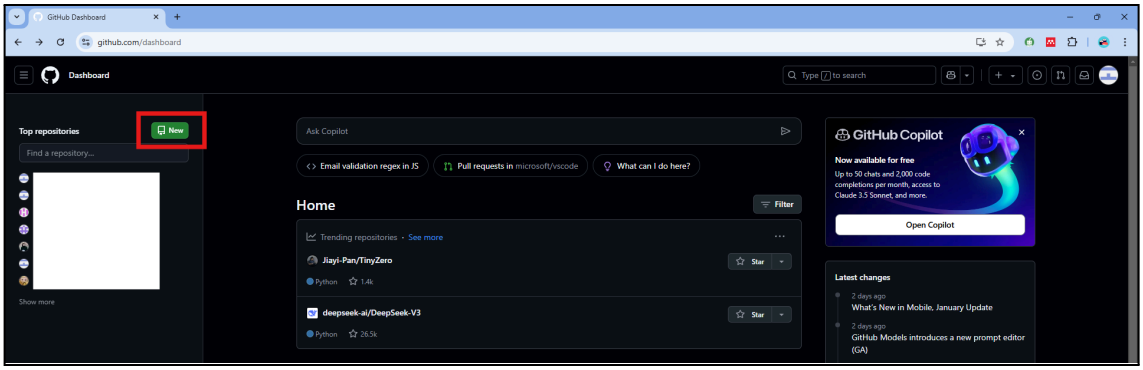
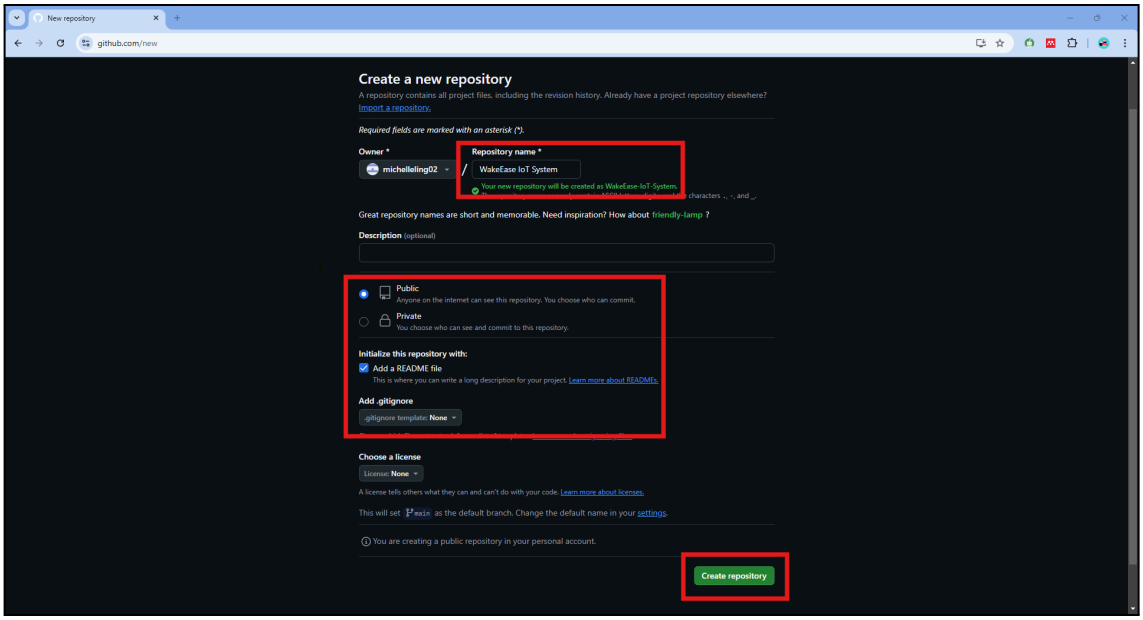
[4] Host WakeEase Dashboard using GitHub

Step 1: Create a GitHub Repository

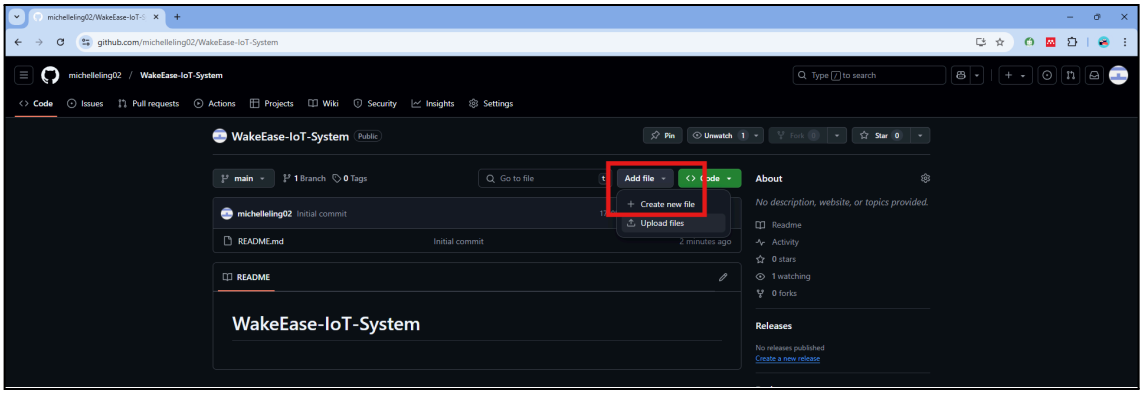
1. Log in to your GitHub account.
2. Navigate to github.com/dashboard.
3. Click the ***New*** button on your GitHub homepage.
4. Name your repository and set it to **Public**.
5. You can optionally add a README file.
6. Click the ***Create repository*** button.

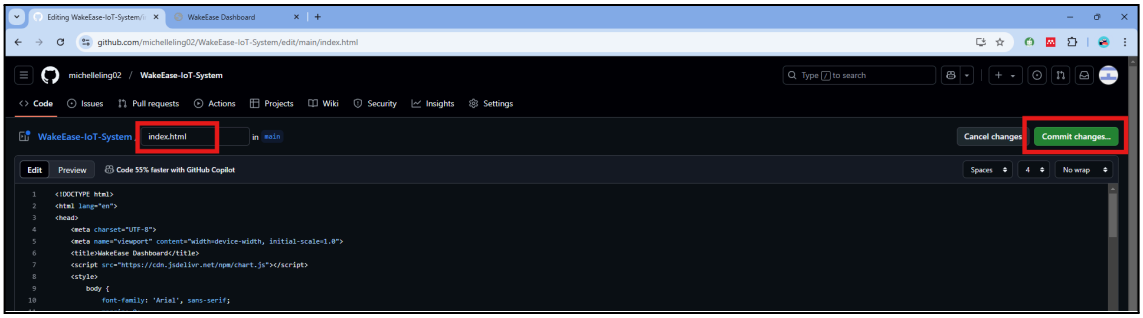




Step 2: Add index.html file

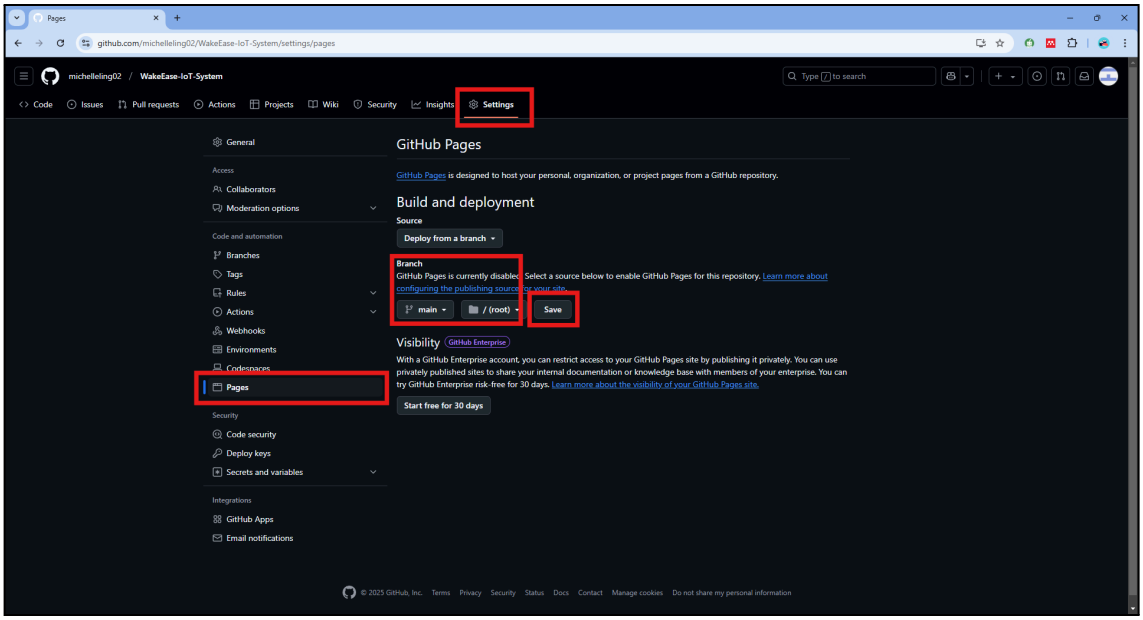
1. Click on the ***Add file*** button, then click on ***the Create new file*** button.
2. Name the file **index.html;** you can paste the content by copying the code from here.
3. Click on the ***Commit changes…*** button.



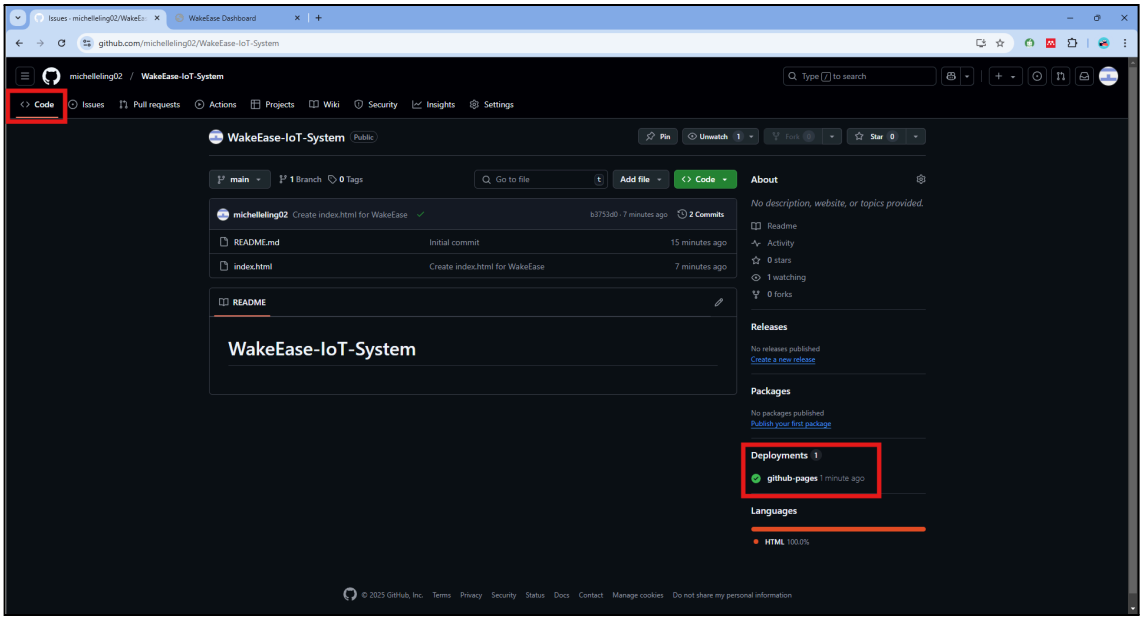


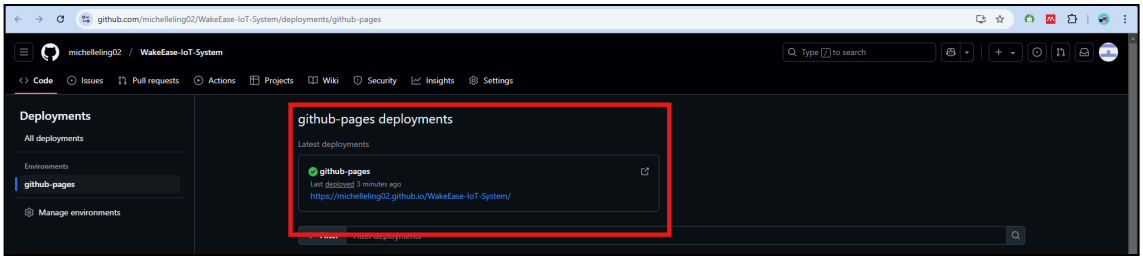
Step 3: Enable GitHub Pages

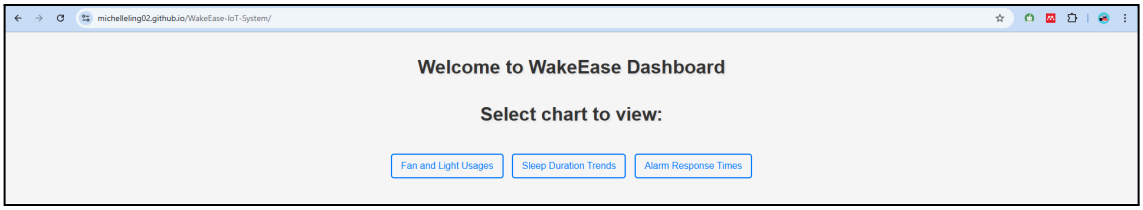
1. Navigate to the repository's **Settings** tab.
2. Scroll down to the **Pages** section.
3. Under the **Branch** section:
   - Select branch: Choose main (or any other branch you want).
   - Select folder:
     - Use / (root) if your files are directly in the root directory.
     - Use /docs if you want to organise your files in a docs/ folder.
   - Click the **Save** button.



4. Navigate back to the repository's **Code** tab.
5. Look at bottom right, and you will see **Deployments**.
6. Click on the **github-pages**.
7. Your will be redirected to **Deployments** view.
8. Click on the website URL, and you will be able to view your website.



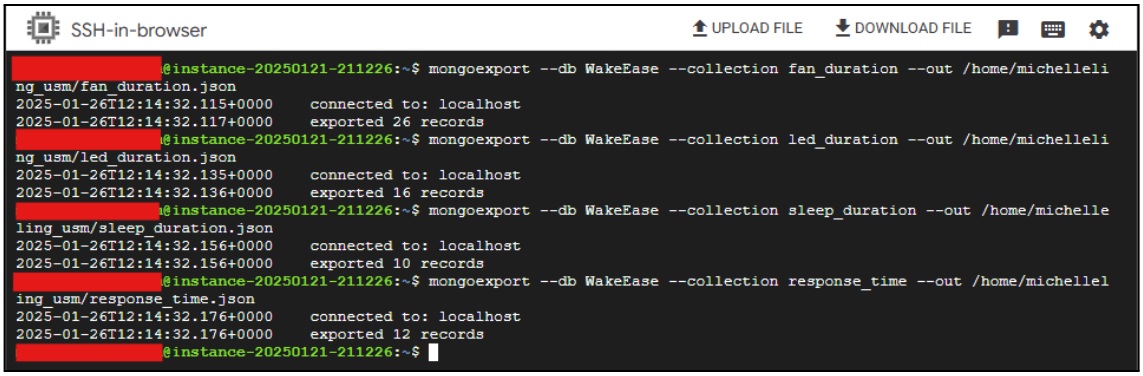




Step 4: Export JSON format from MongoDB in Google Cloud VM

1. Open Google Cloud Console and launch SSH-in-browser from VM instance
2. Run the following `mongoexport` commands to export each collection from your WakeEase database into a JSON file:
   - `mongoexport --db WakeEase --collection fan_duration --out <file-directory>/fan_duration.json`
   - `mongoexport --db WakeEase --collection led_duration --out <file-directory>/led_duration.json`
   - `mongoexport --db WakeEase --collection sleep_duration --out <file-directory>/sleep_duration.json`
   - `mongoexport --db WakeEase --collection response_time --out <file-directory>/response_time.json`

   Note: You may check your file directory by executing `pwd` at the terminal. Make sure that WakeEase database exists together with the collections.

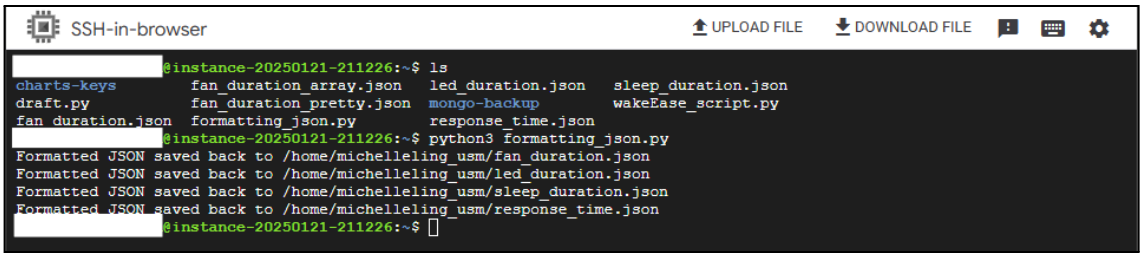


3. Create a Python script to format the JSON file.
   - `sudo nano formatting_json.py`
   - Replace the file content with:

```
import json

# Define file paths for all collections
collections = [
    "<file-directory>/fan_duration.json",
    "<file-directory>/led_duration.json",
    "<file-directory>/sleep_duration.json",
    "<file-directory>/response_time.json"
]

for file_path in collections:
    try:
        # Read the JSON lines file (line-delimited JSON)
        with open(file_path, "r") as infile:
            data = [json.loads(line) for line in infile]  #
Convert each line to a JSON object

        # Write the formatted JSON as an array back to the same
file
        with open(file_path, "w") as outfile:
            json.dump(data, outfile, indent=4)  # Add
indentation for readability

        print(f"Formatted JSON saved back to {file_path}")
    except Exception as e:
        print(f"Error processing {file_path}: {e}")
```

4. Save and close the file:
   - **CTRL + O**, then **ENTER** to save.
   - **CTRL + X** to exit.
5. Check if the file is updated:
   - `sudo nano formatting_json.py`

6. Check all json files, and `formatting_json.py` is available.
    - `ls`
7. Run the Python script to format the JSON files:
    - `python3 formatting_json.py`



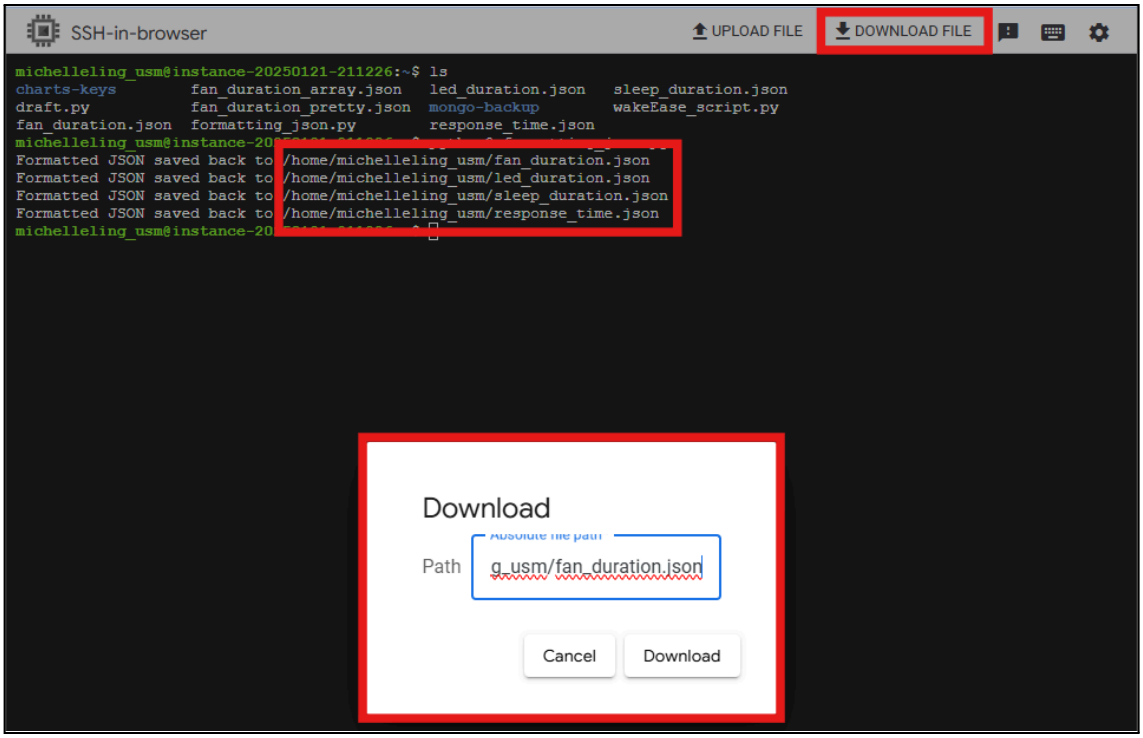
8. Check one of the JSON files to see if the file has been formatted correctly.
    - `sudo nano fan_duration.json`

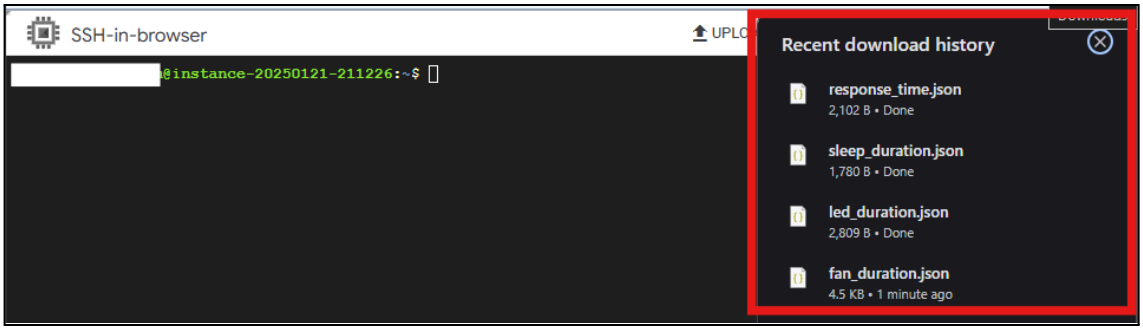
- This shows that the file is in JSON format.
- **CTRL + X** to exit.

Step 5: Download JSON Files from GCP to Local Machine

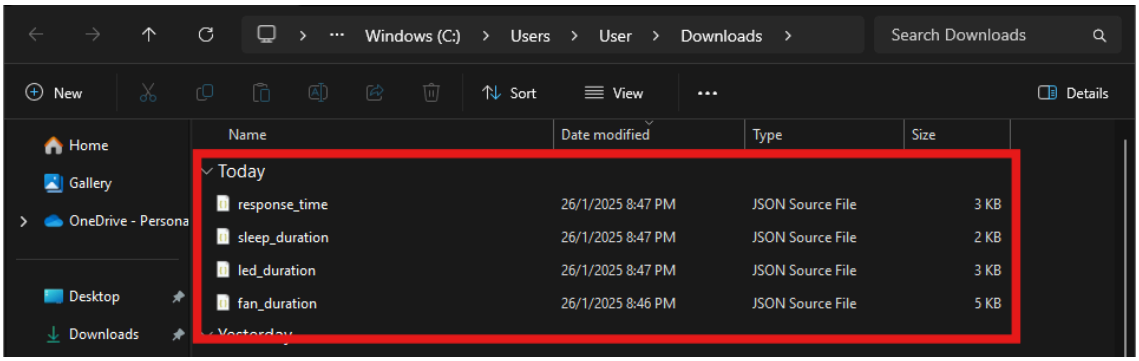
1. Click the ***DOWNLOAD FILE*** button.
2. Paste the path for all four JSON files.
3. Click ***Download*** and wait for a while. You may be prompted to retry authentication SSH when you tried to download; just follow the prompt and retry again.

4. You can click on the **Download** icon to view files that have been downloaded.



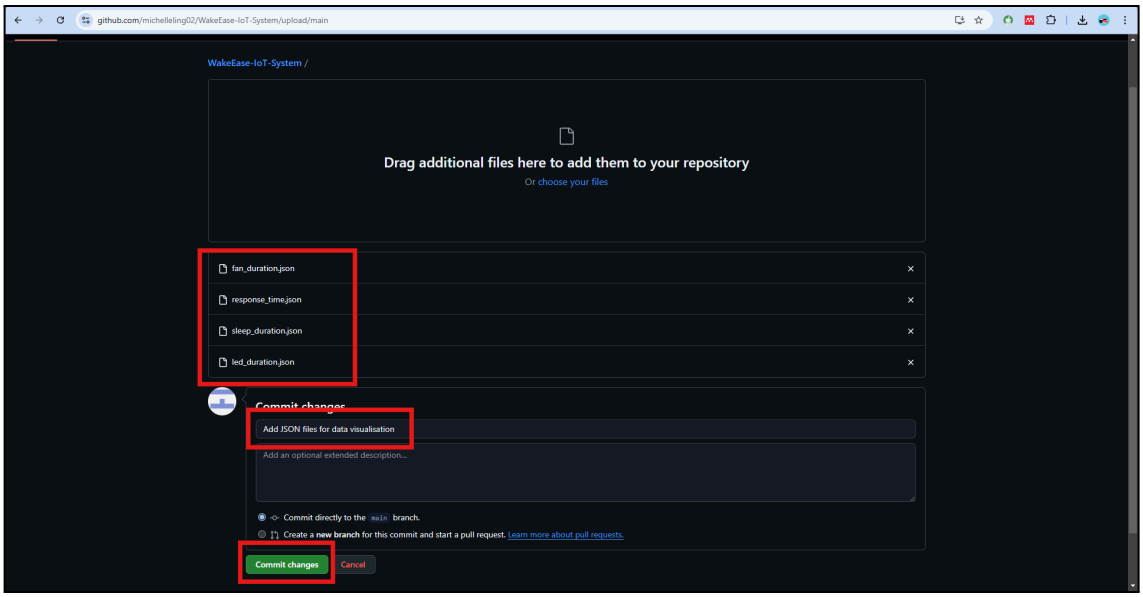


5. Click on the file to locate the file directory in your local machine.

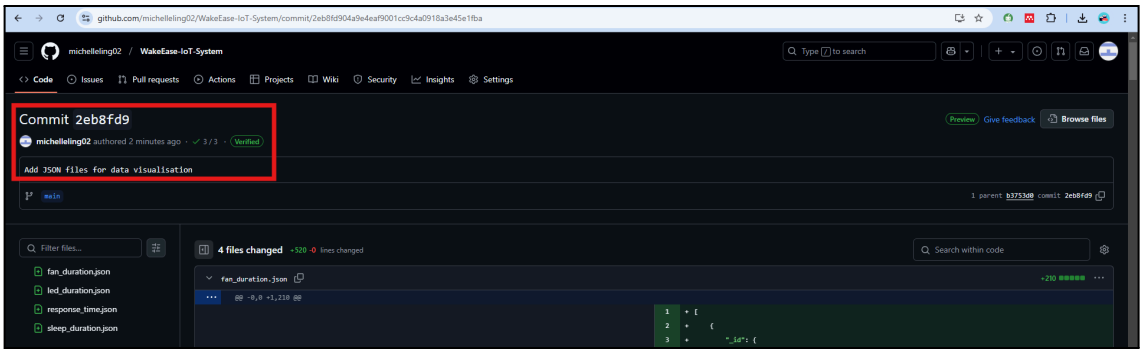


Step 6: Transfer JSON files to GitHub Repository

1. Open the GitHub repository, then add all JSON files into the development branch.
2. Click on the ***Commit changes*** button.



3. Wait for the commit to pass all checks.



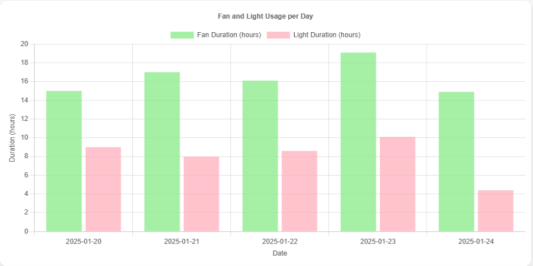
4. Access your repository website, and you will be able to view charts that display data sourced from the JSON files.

michellelling02.github.io/WakeEase-IoT-System/

Welcome to WakeEase Dashboard

Select chart to view:

Fan and Light Usages | Sleep Duration Trends | Alarm Response Times



Your longest usage was on: 2025-01-23
Your shortest usage was on: 2025-01-24
Your average fan usage: 16.42 hours
Your average light usage: 8.02 hours