

EXPERIMENT 10

Aim: To study and implement deployment of Ecommerce PWA to GitHub Pages.

Theory:

GitHub Pages

- Public web pages are freely hosted and easily published.
- Public webpages hosted directly from your GitHub repository. Just edit, push, and your changes are live.

GitHub Pages provides the following key features:

1. Blogging with Jekyll
2. Custom URL
3. Automatic Page Generator

Reasons for favoring this over Firebase:

1. Free to use
2. Right out of github
3. Quick to set up GitHub Pages is used by Lyft, CircleCI, and HubSpot.

GitHub Pages is listed in 775 company stacks and 4401 developer stacks.

Pros

1. Very familiar interface if you are already using GitHub for your projects.
2. Easy to set up. Just push your static website to the gh-pages branch and your website is ready.
3. Supports Jekyll out of the box.
4. Supports custom domains. Just add a file called CNAME to the root of your site, add an A record in the site's DNS configuration, and you are done.

Cons

1. The code of your website will be public, unless you pay for a private repository.
2. Currently, there is no support for HTTPS for custom domains. It's probably coming soon though.
3. Although Jekyll is supported, plug-in support is rather spotty.

Firebase The Realtime App Platform.

- Firebase is a cloud service designed to power real-time, collaborative applications.
- Simply add the Firebase library to your application to gain access to a shared data structure; any changes you make to that data are automatically synchronized with the Firebase cloud and with other clients within milliseconds.
- Some of the features offered by Firebase are:
 1. Add the Firebase library to your app and get access to a shared data structure. Any changes made to that data are automatically synchronized with the Firebase cloud and with other clients within milliseconds.
 2. Firebase apps can be written entirely with client-side code, update in real-time out-of-the-box, interoperate well with existing services, scale automatically, and provide strong data security.
 3. Data Accessibility- Data is stored as JSON in Firebase. Every piece of data has its own URL which can be used in Firebase's client libraries and as a REST endpoint. These URLs can also be entered into a browser to view the data and watch it update in real-time.

Reasons for favoring over GitHub Pages:

1. Realtime backend made easy
2. Fast and responsive Instacart, 9GAG, and Twitch are some of the popular companies that use Firebase. Firebase has a broader approval, being mentioned in 1215 company stacks & 4651 developers stacks

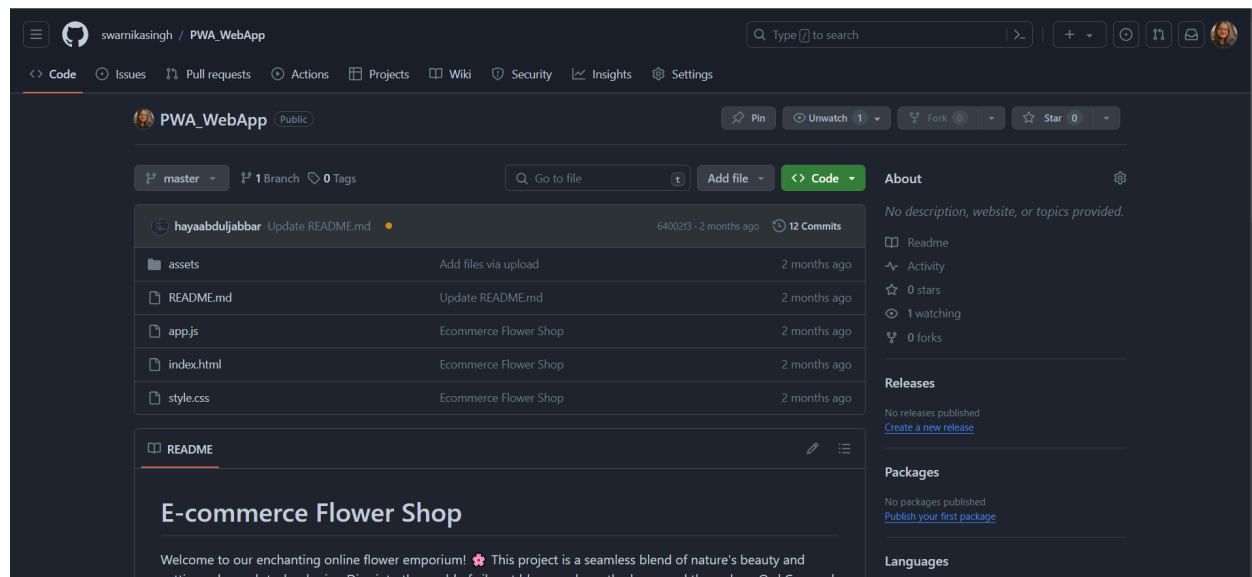
Pros

1. Hosted by Google.
2. Authentication, Cloud Messaging, and a whole lot of other handy services will be available to you.
3. A real-time database will be available to you, which can store 1 GB of data.
4. You'll also have access to a blob store, which can store another 1 GB of data.
5. Support for HTTPS. A free certificate will be provisioned for your custom domain within 24 hours.

Implementation :

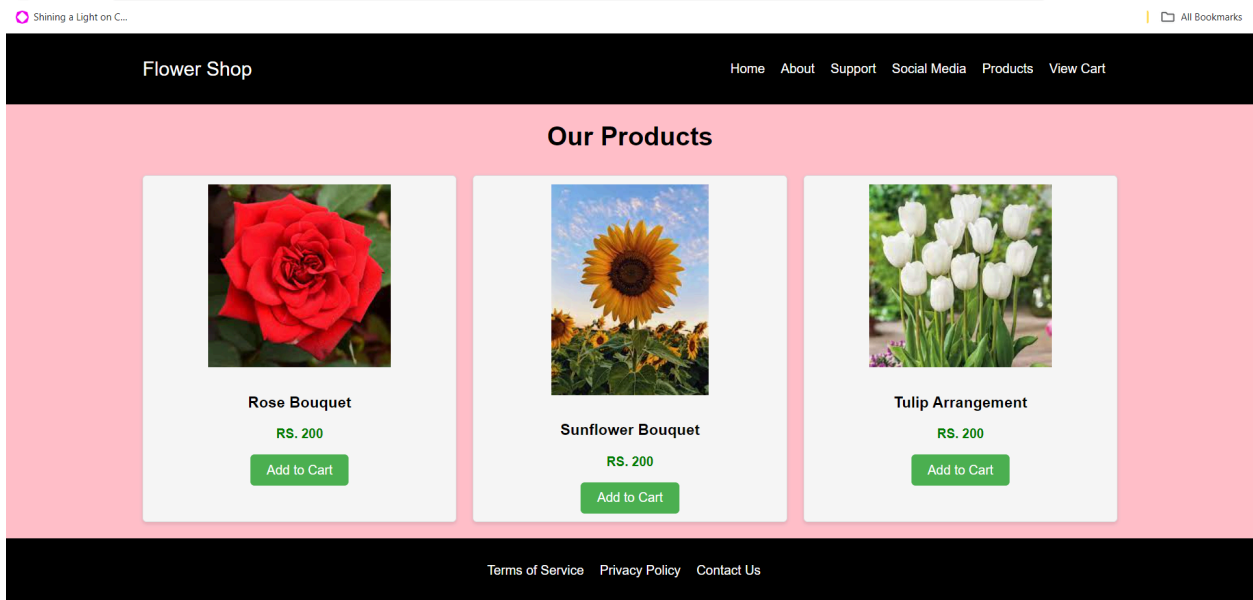
Hosted Github Repo link : [swarnikasingh.github.io/PWA_WebApp](https://github.com/swarnikasingh/PWA_WebApp)

Process to deploy on Github :



The screenshot shows the GitHub repository settings for 'swarnikasingh / PWA_WebApp'. The 'General' tab is selected. The left sidebar contains a navigation menu with categories: Access (Collaborators, Moderation options), Code and automation (Branches, Tags, Rules, Actions, Webhooks, Environments, Codespaces, Pages), and Security (Code security and analysis, Deploy keys, Security and vulnerability alerts). The main content area includes: 'Repository name' (PWA_WebApp) with a 'Rename' button; 'Template repository' (unchecked); 'Require contributors to sign off on web-based commits' (unchecked); 'Default branch' (master); and 'Social preview' (Upload an image to customize your repository's social media preview).

The screenshot shows the GitHub repository settings for 'swarnikasingh / PWA_WebApp', specifically the 'GitHub Pages' tab. The left sidebar is identical to the previous screenshot, with 'Pages' highlighted in the 'Code and automation' section. The main content area includes: a description of GitHub Pages; 'Your site is live at https://swarnikasingh.github.io/PWA_WebApp/' with a 'Visit site' button; 'Build and deployment' section with 'Source' set to 'Deploy from a branch'; 'Branch' set to 'master' and 'root' set to '/ (root)'; and a 'Save' button. It also mentions the site was last deployed to the 'github-pages' environment.



Conclusion : Thus we successfully used google Lighthouse PWA Analysis Tool for testing the PWA functioning