

MAD and PWA Lab

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Experiment - 10

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

Theory:

GitHub Page

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. Enough said.
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.

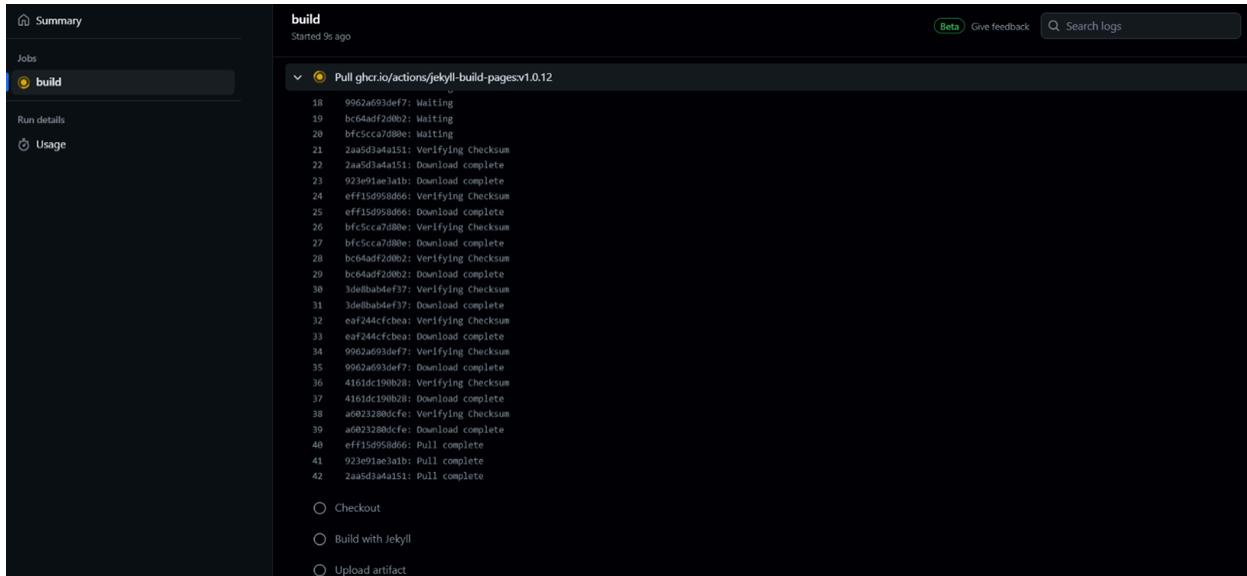
Cons

1. Only 10 GB of data transfer is allowed per month. But this is not really a big problem, if you use a CDN or AMP.
2. Command-line interface only.

Implementation:

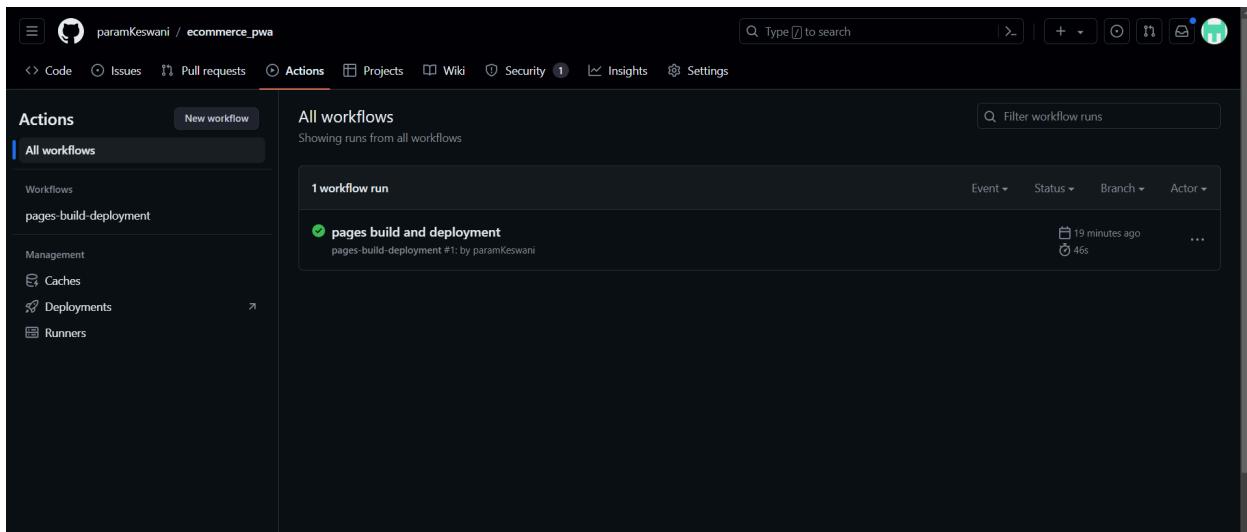
The screenshot shows a GitHub repository named 'ecommerce_pwa'. The 'Code' tab is selected, displaying the file structure of the 'master' branch. The 'Jewellery-master' folder contains subfolders 'css', 'fonts', 'img', and 'js', along with files 'README.md', 'cart.html', 'checkout.html', 'contact.html', 'customer-login.html', 'designservice.html', 'index.html', 'manifest.json', and 'product-details.html'. To the right, the commit history for the 'first commit' is shown, with 12 entries all dated 3 hours ago and labeled 'first commit'. A search bar at the top right says 'Type ⌘ to search'.

The screenshot shows the GitHub Pages settings for the 'Pages' section of the 'ecommerce_pwa' repository. The left sidebar lists various repository settings like General, Access, Collaborators, Moderation options, Code and automation, and Pages (which is selected). The main area is titled 'GitHub Pages' and describes its purpose: 'GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.' It includes sections for 'Build and deployment' (with a dropdown for 'Source' set to 'Deploy from a branch'), 'Visibility' (with a note about GitHub Enterprise), and promotional links for 'Try GitHub Enterprise risk-free for 30 days' and 'Learn more about the visibility of your GitHub Pages site'.



A screenshot of a GitHub Actions build log. The job is named "build" and was started 95 ago. The log shows a series of steps, mostly from the "Pull gher.io/actions/jekyll-build-pages@v1.0.12" action, with status messages like "Waiting", "Download complete", and "Verifying Checksum". The log ends with "Pull complete" for step 42. Below the log, there are three circular icons: "Checkout", "Build with Jekyll", and "Upload artifact".

```
18 9962a693def7: Waiting
19 bc64adff2d00b2: Waiting
20 bfc5cca080be: Waiting
21 2aa5da4da151: Verifying Checksum
22 2aa5da4da151: Download complete
23 923e91ae3a3b: Download complete
24 eff154958d66: Verifying Checksum
25 eff154958d66: Download complete
26 bfc5ca7d0be: Verifying Checksum
27 bfc5ca7d0be: Download complete
28 bc64adff2d00b2: Verifying Checksum
29 bc64adff2d00b2: Download complete
30 3de8bbadef77: Verifying Checksum
31 3de8bbadef77: Download complete
32 ea9244cfcbfa: Verifying Checksum
33 ea9244cfcbfa: Download complete
34 9962a693def7: Verifying Checksum
35 9962a693def7: Download complete
36 4161dc190b28: Verifying Checksum
37 4161dc190b28: Download complete
38 a60233806cfe: Verifying Checksum
39 a60233806cfe: Download complete
40 eff154958d66: Pull complete
41 923e91ae3a3b: Pull complete
42 2aa5da4da151: Pull complete
```



A screenshot of the GitHub Actions "All workflows" page. The sidebar shows "All workflows" selected under the "Actions" section. A single workflow run is listed: "pages-build-and-deployment" (run #1) by paramKeswani, which completed 19 minutes ago with 46s duration. The run status is green. The page includes filters for Event, Status, Branch, and Actor.

Link to our GitHub repository:

https://github.com/paramKeswani/ecommerce_pwa

Hosted Link:

https://paramkeswani.github.io/ecommerce_pwa/Jewellery-master/index.html

Github Screenshot:

Conclusion:

In this experiment, we have registered a service worker, and completed the install and activation process for a new service worker for the E-commerce PWA.

