**EXPERIMENT NO: - 10**

**AIM: -** To study and implement deployment of Ecommerce PWA to GitHub Pages. **Theory: -**

**GitHub Pages: Static Website Hosting Made Simple**

GitHub Pages is a free hosting service that allows users to publish **public webpages directly from a GitHub repository**. It is particularly useful for **static websites, project documentation, and blogs**.

**Key Features**

● **Jekyll Integration**: Built-in support for Jekyll enables easy blogging.

● **Custom Domains**: Allows users to configure their own URLs.

● **Automatic Page Deployment**: Simply push your changes to the repository, and the updates go live.

**Why Choose GitHub Pages?**

● **Completely Free**: No hosting charges.

● **Seamless GitHub Integration**: Works directly with your repositories.

● **Quick Setup**: Just create a repository, push your files, and your site is live.

**Who Uses GitHub Pages?**

Companies like **Lyft, CircleCI, and HubSpot** use GitHub Pages for their documentation and static sites. It is widely adopted, appearing in **775 company stacks and 4,401 developer stacks**.

**Pros & Cons**

**Pros**

● Familiar interface for GitHub users.

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● Simple deployment via the gh-pages branch.

● Supports custom domains with easy DNS configuration.

**Cons**

● Repositories need to be public unless you have a paid plan.

● Limited HTTPS support for custom domains (expected to improve).

● Jekyll plugins have limited support.

**Firebase: A Full-Featured Real-Time Backend**

Firebase is a cloud-based **real-time application platform** developed by Google. It enables developers to build **dynamic, collaborative applications** with ease.

**Key Features**

● **Real-Time Database**: Automatically syncs data across all connected clients. ● **Cloud-Based Storage**: JSON-based storage accessible via REST APIs. ● **Scalable Infrastructure**: Works well with existing services and scales automatically. ● **Authentication & Cloud Messaging**: Secure login and push notifications.

**Why Choose Firebase?**

● **Instant Backend Setup**: No need to build a separate backend.

● **Fast & Responsive**: Real-time data synchronization.

● **Built-in HTTPS**: Free SSL certificates for custom domains.

**Who Uses Firebase?**

Companies like **Instacart, 9GAG, and Twitch** rely on Firebase for their backend needs. Firebase is widely adopted, appearing in **1,215 company stacks and 4,651 developer stacks**.

**Pros & Cons**

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**Pros**

● **Hosted by Google**, ensuring reliability and security.

● **Comes with authentication, messaging, and real-time database services.** ● **Free HTTPS support** for all custom domains.

**Cons**

● **Limited Free Plan**: 10 GB of data transfer per month (can be mitigated with a CDN). ● **Command-Line Deployment**: No GUI for hosting.

● **No Built-in Static Site Generator Support**: Unlike GitHub Pages, Firebase doesn’t natively support static site generators like Jekyll.

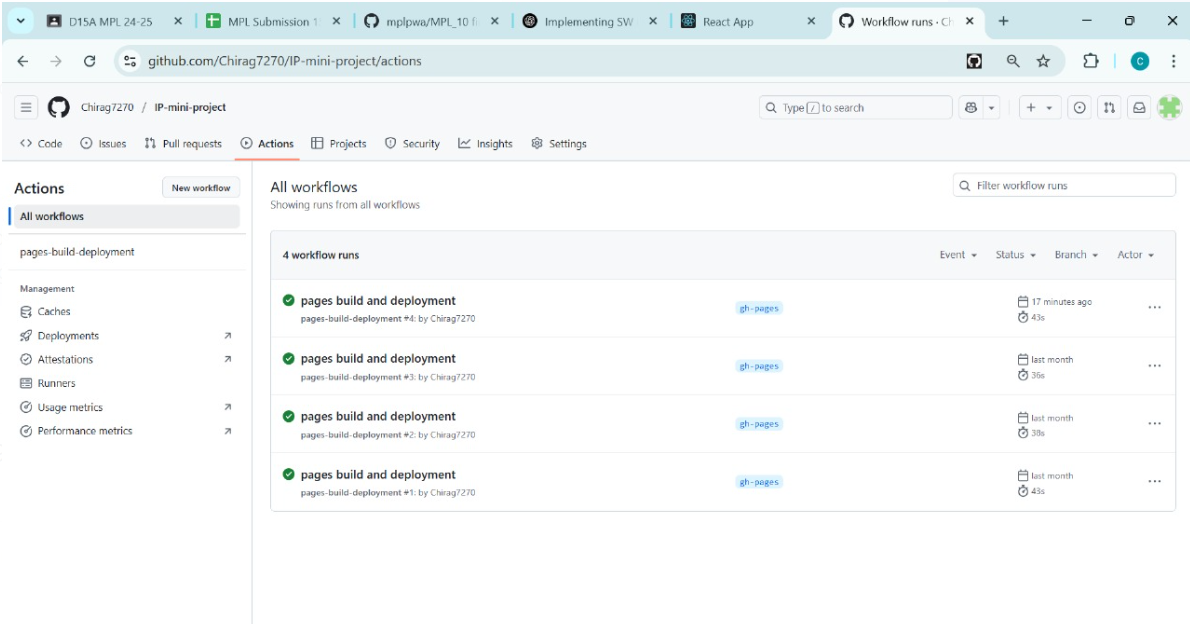
**Link to our GitHub repository:**

**https://github.com/Chirag7270/IP-mini-project**

**Hosted link:**

**https://chirag7270.github.io/IP-mini-project/**

**Github Screenshot:**

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