Experiment - 8

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DOP:	DOS:
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AIM:

To code and register a service worker, and complete the install and activation process for a new service worker for the E-commerce PWA.

Theory:

A **Service Worker** is a script that the browser runs in the background, separate from a web page, enabling features like **offline access**, **background sync**, and **push notifications**. It is essential for building Progressive Web Apps (PWAs) that work reliably regardless of network conditions. **1. What is a Service Worker?**

A service worker acts as a network proxy between the web app and the internet. It intercepts network requests, allowing developers to control caching strategies and serve content from cache when offline. **2. Service Worker Lifecycle**

The service worker follows three main phases:

- **Registration**: Linking the service worker file with the browser.
- **Installation**: Caching required static assets.
- **Activation**: Taking control of all pages and clearing old caches if needed.

3. Registration Process

The service worker is registered in the main JavaScript file. Once registered, the browser handles the lifecycle events automatically and activates the worker if all steps succeed.

4. Importance for E-commerce PWAs

- Ensures smooth browsing even during connectivity issues.
- Speeds up loading by serving cached content.
- Increases reliability and user engagement.

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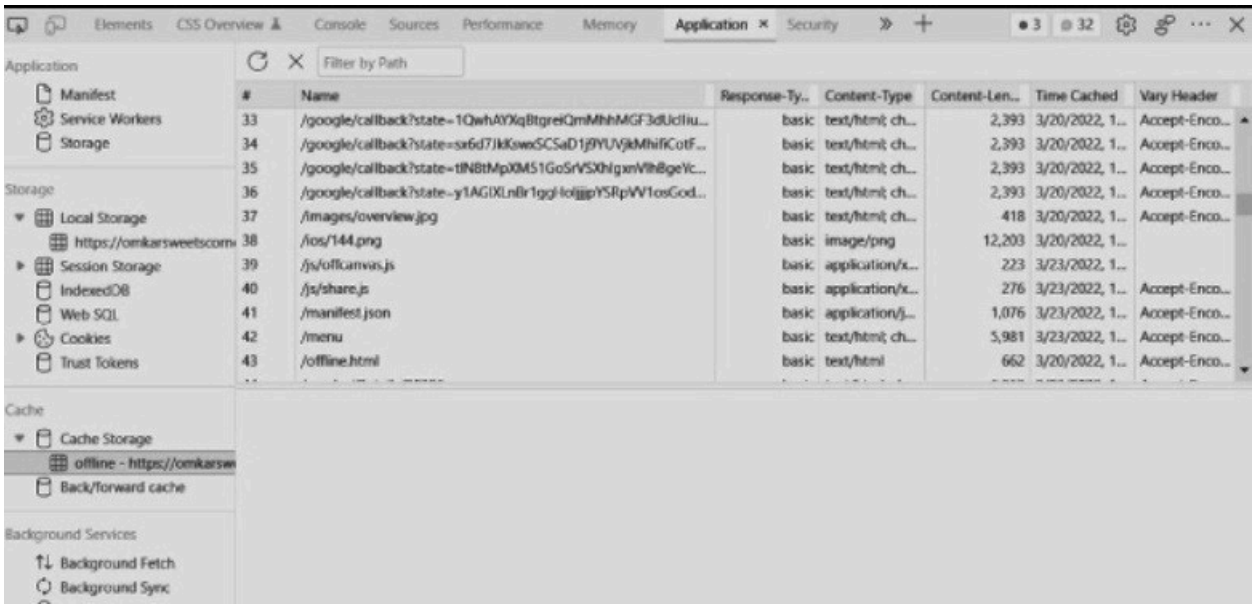
- Enables "Add to Homescreen" and background features.



Conclusion: Coding and registering a service worker is crucial in transforming a traditional web app into a fully functional PWA. It enhances user experience by providing offline capabilities, faster performance, and better engagement for E-commerce applications.