Name:Sahil Motiramani
Div: D15C
Roll no: 35

Experiment-8

1. Aim

To code and register a service worker, and complete the install and activation process for a new service worker in a Personal Profile Progressive Web App (PWA).

2. Basic Description

A **Progressive Web App (PWA)** brings the best of web and mobile apps together. By using a **Service Worker**, we can enhance a personal profile website to provide offline access, fast load times, and push notifications.

What is a Service Worker?

A Service Worker is a background script that:

- Caches important files for offline use
- Speeds up repeat visits with cached responses
- Can send push notifications
- Supports background sync

Lifecycle of a Service Worker:

1. **Install** – First time the service worker is registered; it caches profile assets.
2. **Activate** – Ready to serve cached content; old caches are cleared.
3. **Fetch** – Serves requests from cache or goes to the network if not cached.
4. **Push** – Can be used to show notifications (e.g., "Check out my new project!")
5. **Sync** – (Optional) Can be used to sync updates (like contact form submissions).

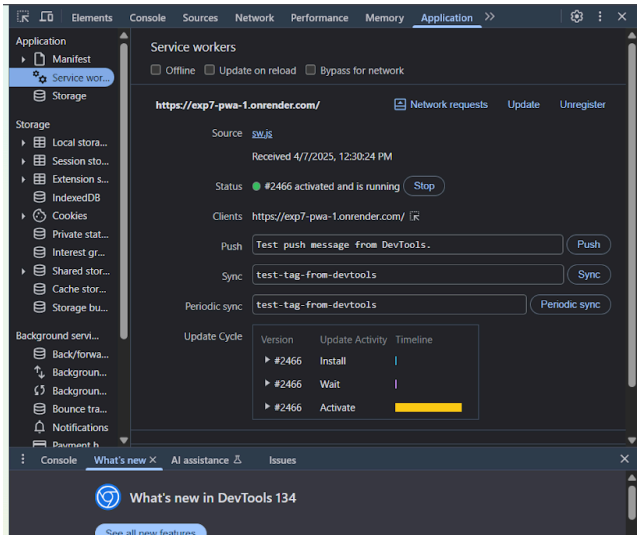
Application in My Profile Website

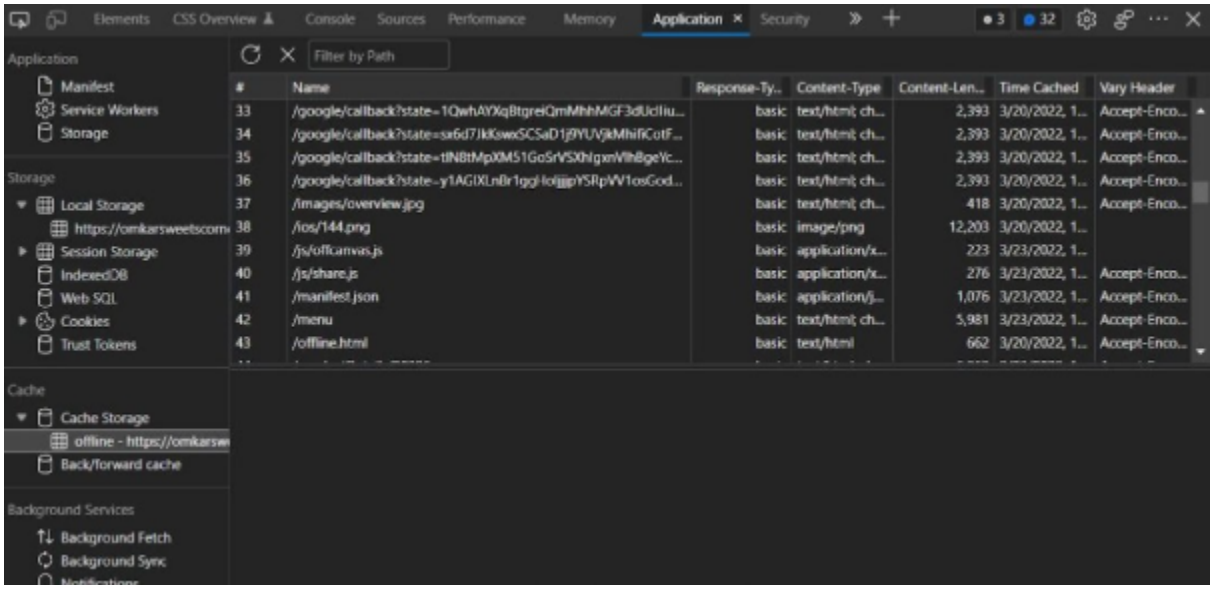
In my personal profile PWA:

- I cache files like index.html, style.css, profile.png, and resume.pdf using the service worker.
- When the site is visited again, the cached content loads instantly—even offline.
- Push notifications can be used for updates like “New blog post published!” or “Portfolio updated.”

Github: https://github.com/SahilMotiramani/MPL-profile

3. Output:





4. Conclusion

By implementing a service worker in the Profile PWA, we have added offline capabilities and enhanced loading speed, making the web application more reliable and user-friendly. This experiment demonstrates how modern web technologies improve user experience in real-world scenarios like online shopping platforms.