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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.
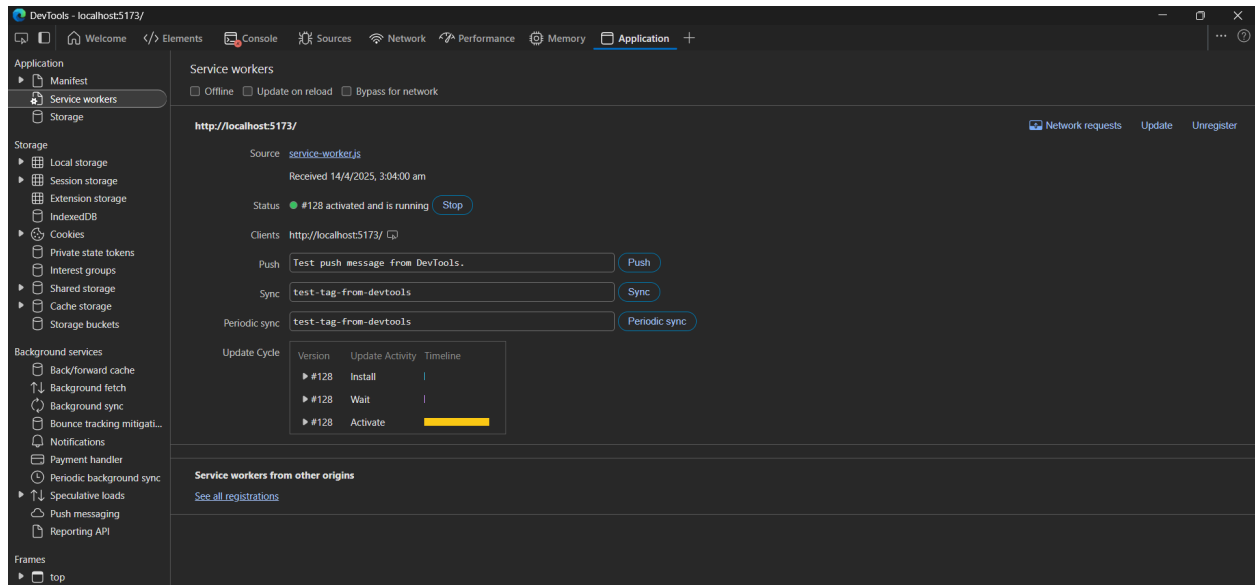
Theory :

Service Worker for E-commerce PWA :
A Service Worker is a background script that enables key features in Progressive Web Apps (PWAs) such as offline functionality, faster loading times, and push notifications. In an E-commerce PWA, it allows for offline access to product pages, fast reloading via cached resources, and real-time updates such as order status through push notifications. Service workers help enhance the user experience, even in low or no connectivity conditions.

Steps for Registering and Completing the Service Worker Process:

1. **Check Browser Support :** Ensure the browser supports service workers.

2. **Register the Service Worker :** Register a service worker to handle background tasks like caching resources and intercepting network requests.

3. **Install Event :** During installation, the service worker caches essential files for offline use.

4. **Activate Event :** After installation, activate the service worker, removing old caches and ensuring the latest resources are used.

5. **Handle Network Requests :** The service worker intercepts requests and serves cached content or fetches it from the network as needed.

6. **Update Service Worker :** Service workers can be updated automatically to reflect changes, ensuring the app remains current.

Output :

Conclusion:

A service worker is essential for enhancing the performance and user experience of an E-commerce PWA by enabling offline functionality, caching assets, and supporting background updates like push notifications. Proper registration, installation, and activation of the service worker ensure a faster, more reliable app that can function well even with limited connectivity.