

Name: Kshitij Hundre  
Div: D15C  
Roll no: 18

DOP:  
DOS:

## **Experiment-8**

### **1. Aim**

To code and register a service worker, and complete the install and activation process for a new service worker in an E-commerce Progressive Web App (PWA).

### **2. Basic Description**

A **Progressive Web App (PWA)** uses modern web capabilities to deliver an app-like experience to users. PWAs are reliable, fast, and engaging. One of the core technologies behind a PWA is the **Service Worker**.

A **Service Worker** is a JavaScript file that runs in the background, separate from the main browser thread. It acts like a network proxy that enables features like:

- **Offline support**
- **Caching assets**
- **Push notifications**
- **Background sync**

**Lifecycle of a Service Worker:**

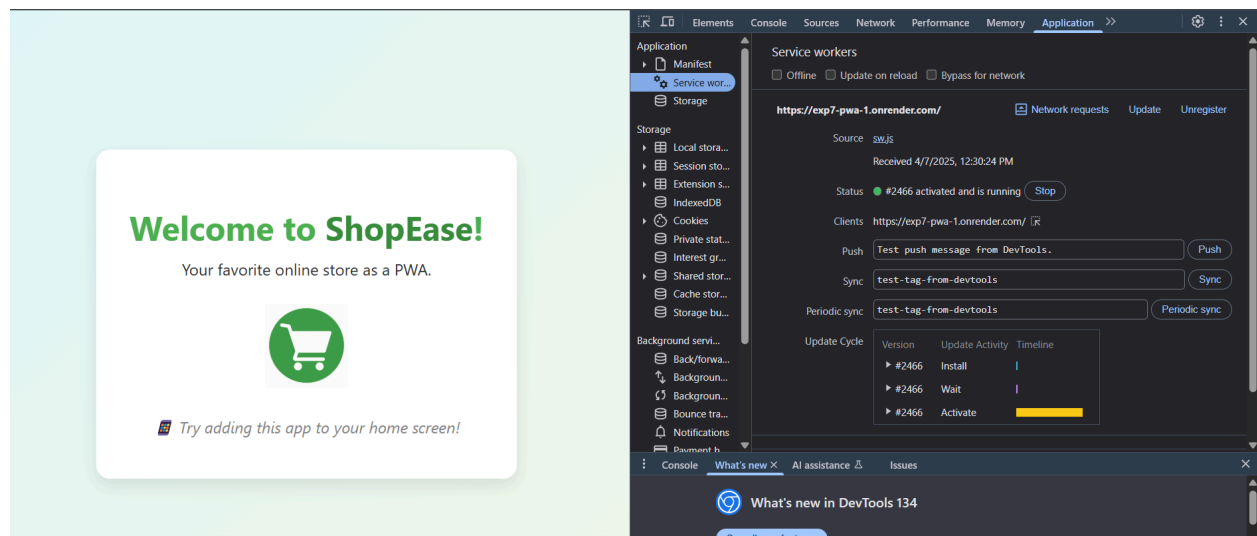
1. **Installation** – Triggered when the service worker is first registered.
2. **Activation** – Occurs after installation; prepares the worker to control pages.
3. **Fetch** – Intercepts network requests and serves them from the cache or network.

**How it works in our E-Commerce PWA:**

- When a user visits the website, the service worker is registered.
- It caches essential files like `index.html`, `style.css`, `manifest.json`, and product images.
- On subsequent visits, it loads content from the cache, ensuring faster performance and offline access.

**Github:** <https://github.com/pixelbypixels/EXP7-PWA.git>

### 3. Output:



The image shows the Chrome DevTools Application panel with the "Resources" section selected. It displays a list of resources with columns for #, Name, Response-Type, Content-Type, Content-Length, Time Cached, and Vary Header. The resources are listed in a table.

#	Name	Response-Type	Content-Type	Content-Length	Time Cached	Vary Header
33	/google/callback?state=1QwhAYXqBtgreiQmMhMGF3dUcliu...	basic	text/html; ch...	2,393	3/20/2022, 1...	Accept-Enco...
34	/google/callback?state=sr6d7IKIowSCSaD1j0YUvjkMhifCotF...	basic	text/html; ch...	2,393	3/20/2022, 1...	Accept-Enco...
35	/google/callback?state=tIN8tMpXM51GoSrVSXhlgmVihlgeYc...	basic	text/html; ch...	2,393	3/20/2022, 1...	Accept-Enco...
36	/google/callback?state=y1AGDXLnBr1ggIfoIppYSRpVV1osGod...	basic	text/html; ch...	2,393	3/20/2022, 1...	Accept-Enco...
37	/images/overview.jpg	basic	text/html; ch...	418	3/20/2022, 1...	Accept-Enco...
38	/ios/144.png	basic	image/png	12,203	3/20/2022, 1...	
39	/js/officecanvas.js	basic	application/x...	223	3/23/2022, 1...	
40	/js/share.js	basic	application/x...	276	3/23/2022, 1...	Accept-Enco...
41	/manifest.json	basic	application/js...	1,076	3/23/2022, 1...	Accept-Enco...
42	/menu	basic	text/html; ch...	3,981	3/23/2022, 1...	Accept-Enco...
43	/offline.html	basic	text/html	662	3/20/2022, 1...	Accept-Enco...

### 4. Conclusion

By implementing a service worker in the E-Commerce 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.