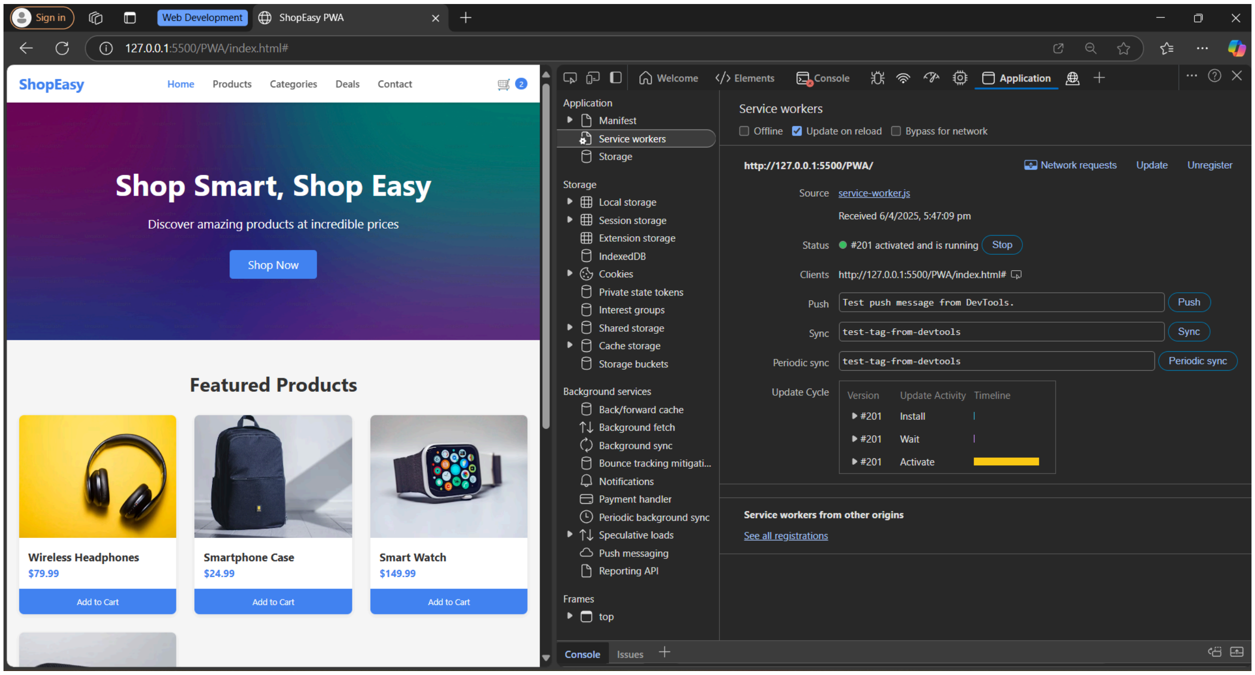
Experiment 8

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.

Code:-

```
const CACHE_NAME = "pwa-cache-v1";
const ASSETS_TO_CACHE = [
  "./",
  "./index.html",
  "./styles.css",
  "./app.js",
  "./manifest.json",
  "./images/shop_icon.png",
];

// Install event - Cache important assets
self.addEventListener("install", (event) => {
  console.log("✅ Service Worker Installed");
  event.waitUntil(
    caches.open(CACHE_NAME).then((cache) => {
      console.log("✅ Caching assets");
      return cache.addAll(ASSETS_TO_CACHE);
    })
  );
});

// Activate event - Cleanup old caches
self.addEventListener("activate", (event) => {
  console.log("✅ Service Worker Activated");
  event.waitUntil(
    caches.keys().then((cacheNames) =>
      Promise.all(
        cacheNames.map((cache) => {
          if (cache !== CACHE_NAME) {
            console.log("🗑️ Deleting old cache:", cache);
            return caches.delete(cache);
          }
        })
      )
    )
  );
});
```

```
// Fetch event - Serve cached files when offline
self.addEventListener("fetch", (event) => {
  console.log("🔄 Fetching:", event.request.url);
  event.respondWith(
    caches
      .match(event.request)
      .then((response) => response || fetch(event.request))
      .catch(() => caches.match("/PWA/index.html")) // Fallback to index.html if offline
  );
});

// Sync event - Background sync for failed requests
self.addEventListener("sync", (event) => {
  if (event.tag === "sync-cart") {
    event.waitUntil(syncCart());
  }
});
self.addEventListener("push", (event) => {
  const options = {
    body: "This is a push notification!",
    icon: "/images/shop_icon.png",
    badge: "/images/badge.png",
  };

  event.waitUntil(self.registration.showNotification("New Message!", options));
});

async function syncCart() {
  // Logic to sync cart data with the server
  console.log("🔄 Syncing cart data with the server");
  // Example: Fetch unsynced cart data from IndexedDB and send to server
}

// Push event - Handle push notifications
self.addEventListener("push", (event) => {
  const data = event.data.json();
  console.log("🔔 Push notification received:", data);

  const options = {
    body: data.body,
    icon: "/PWA/icons/icon-192x192.png",
    badge: "/PWA/icons/icon-192x192.png",
  };
  event.waitUntil(self.registration.showNotification(data.title, options));
});
```



Service workers

□ Offline ☑ Update on reload □ Bypass for network

http://127.0.0.1:5500/PWA/ Network requests Update Unregister

Source service-worker.js

Received 6/4/2025, 5:47:09 pm

Status ● #201 activated and is running Stop

Clients http://127.0.0.1:5500/PWA/index.html#

Push `Test push message from DevTools.` Push

Sync `test-tag-from-devtools` Sync

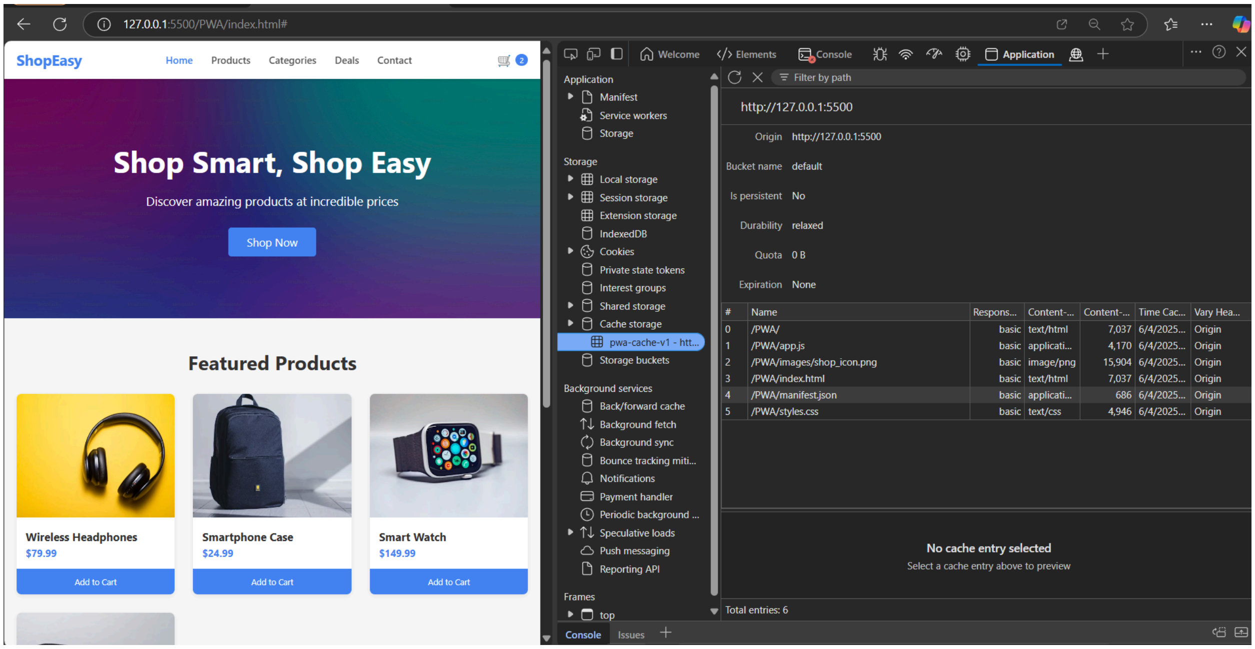
Periodic sync `test-tag-from-devtools` Periodic sync

Update Cycle

Version	Update Activity	Timeline
▸ #201	Install	
▸ #201	Wait	
▸ #201	Activate	

Service workers from other origins

See all registrations



http://127.0.0.1:5500

Origin http://127.0.0.1:5500

Bucket name default

Is persistent No

Durability relaxed

Quota 0 B

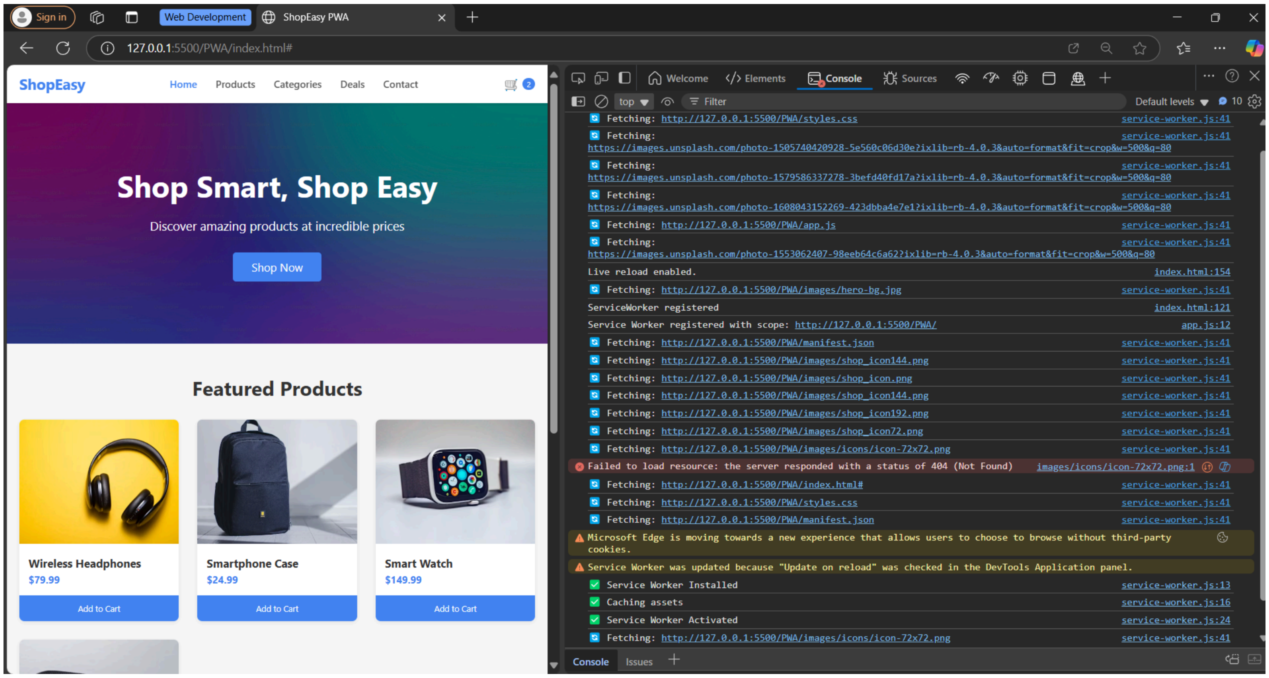
Expiration None

#	Name	Respons...	Content-...	Content-...	Time Cac...	Vary Hea...
0	/PWA/	basic	text/html	7,037	6/4/2025...	Origin
1	/PWA/app.js	basic	applicati...	4,170	6/4/2025...	Origin
2	/PWA/images/shop_icon.png	basic	image/png	15,904	6/4/2025...	Origin
3	/PWA/index.html	basic	text/html	7,037	6/4/2025...	Origin
4	/PWA/manifest.json	basic	applicati...	686	6/4/2025...	Origin
5	/PWA/styles.css	basic	text/css	4,946	6/4/2025...	Origin

No cache entry selected

Select a cache entry above to preview

Total entries: 6



ShopEasy

Home Products Categories Deals Contact 2

Shop Smart, Shop Easy

Discover amazing products at incredible prices

Shop Now

Featured Products

Wireless Headphones
$79.99
Add to Cart

Smartphone Case
$24.99
Add to Cart

Smart Watch
$149.99
Add to Cart

```
Fetching: http://127.0.0.1:5500/PWA/styles.css                                  service-worker.js:41
Fetching:                                                                       service-worker.js:41
https://images.unsplash.com/photo-1505740420928-5e560c06d30e?ixlib=rb-4.0.3&auto=format&fit=crop&w=500&q=80
Fetching:                                                                       service-worker.js:41
https://images.unsplash.com/photo-1579586337278-3befd40fd17a?ixlib=rb-4.0.3&auto=format&fit=crop&w=500&q=80
Fetching:                                                                       service-worker.js:41
https://images.unsplash.com/photo-1608043152269-423dbba4e7e1?ixlib=rb-4.0.3&auto=format&fit=crop&w=500&q=80
Fetching: http://127.0.0.1:5500/PWA/app.js                                      service-worker.js:41
Fetching:                                                                       service-worker.js:41
https://images.unsplash.com/photo-1553062407-98eeb64c6a62?ixlib=rb-4.0.3&auto=format&fit=crop&w=500&q=80
Live reload enabled.                                                                  index.html:154
Fetching: http://127.0.0.1:5500/PWA/images/hero-bg.jpg                          service-worker.js:41
ServiceWorker registered                                                              index.html:121
Service Worker registered with scope: http://127.0.0.1:5500/PWA/                          app.js:12
Fetching: http://127.0.0.1:5500/PWA/manifest.json                               service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/images/shop_icon144.png                     service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/images/shop_icon.png                        service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/images/shop_icon144.png                     service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/images/shop_icon192.png                     service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/images/shop_icon72.png                      service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/images/icons/icon-72x72.png                 service-worker.js:41
Failed to load resource: the server responded with a status of 404 (Not Found)   images/icons/icon-72x72.png:1
Fetching: http://127.0.0.1:5500/PWA/index.html#                                 service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/styles.css                                  service-worker.js:41
Fetching: http://127.0.0.1:5500/PWA/manifest.json                               service-worker.js:41
Microsoft Edge is moving towards a new experience that allows users to choose to browse without third-party
cookies.
Service Worker was updated because "Update on reload" was checked in the DevTools Application panel.
Service Worker Installed                                                        service-worker.js:13
Caching assets                                                                  service-worker.js:16
Service Worker Activated                                                        service-worker.js:24
Fetching: http://127.0.0.1:5500/PWA/images/icons/icon-72x72.png                 service-worker.js:41
```