

## 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 runs in the background of the web browser, independent of the web page. It acts as a network proxy, allowing the app to manage caching, intercept network requests, and enable offline functionality. Service workers are essential for PWAs to function offline and to provide fast loading times.

The process of implementing a service worker for an E-commerce PWA includes:

1. **Coding the Service Worker:** The service worker script typically handles tasks like caching static assets, intercepting network requests, and managing updates.
2. **Registering the Service Worker:** To enable the service worker, it must be registered in the main JavaScript file of the application.
3. **Install Event:** The install event occurs when the service worker is first installed. During this event, caching of essential assets like HTML, CSS, JS, and images happens.
4. **Activate Event:** After installation, the service worker goes through the activation phase. During activation, the previous service workers (if any) are deleted, and the new worker becomes active.
5. **Update Process:** The service worker can be updated if the script changes. When an update is available, the old service worker is terminated, and the new one is activated.

Code:

```
self.addEventListener('install', function(event) {
  event.waitUntil(
    caches.open('v1').then(function(cache) {
      return cache.addAll([
        '/',
        '/static/manifest.json',
        '/static/js/script.js',
```

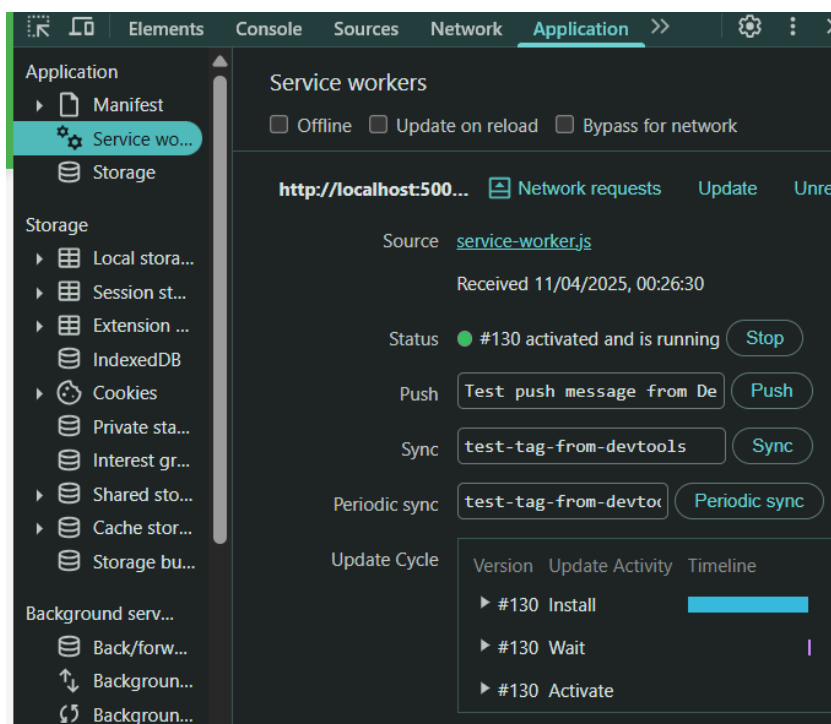
```

        '/static/images/icon-128x128.png',
        '/static/images/icon-512x512.png',
    ]);
  })
);
});

self.addEventListener('fetch', function(event) {
  event.respondWith(
    caches.match(event.request).then(function(response) {
      return response || fetch(event.request);
    })
  );
});

```

Screenshots:



## Conclusion

Implementing and registering a service worker for the E-commerce PWA is crucial for enabling offline capabilities, improving performance, and managing caching.

Through the install and activation process, the PWA can provide a seamless experience for users even without a network connection.