Experiment 09

Name	Roshan Bhagtani
Roll no.	**4**
Class	D15C
DOP	
DOS	
Grade	
Sign	

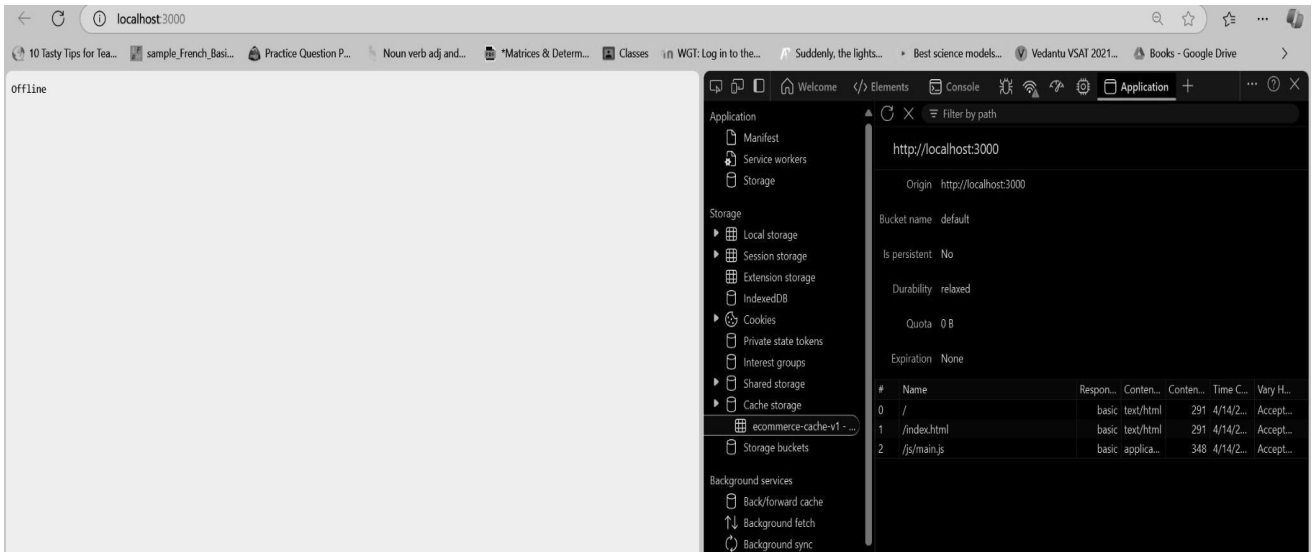
Aim: To implement **Service Worker events** like `fetch`, `sync`, and `push` in an **E-commerce Progressive Web App (PWA)**.

Theory:

A **Service Worker** is a script that runs in the background, separate from the main browser thread. It acts as a proxy between the network and the browser, allowing developers to intercept network requests, cache resources, and handle actions even when the user is offline. Service Workers are at the core of making a web application a **PWA** by enabling features like offline functionality, background sync, and push notifications.

Output:

After running the application and registering the Service Worker, we can observe console logs like `[SW] Installed`, `[SW] Activated`, `[SW] Fetching`, and `[SW] Push received`. When the app is offline, assets are still accessible because they are served from cache. When the `sync` event is triggered, the Service Worker logs that a background sync was handled. On running the curl command to trigger push, a notification pops up on the desktop confirming that push notifications are working as expected.



Conclusion:

This project demonstrates the powerful capabilities of Service Workers in enhancing user experience in modern web applications. By implementing `fetch`, `sync`, and `push` events, we successfully added offline support, background data sync, and push notification features to our E-commerce PWA. These features improve reliability, engagement, and responsiveness, making the app more robust and user-friendly, even in poor network conditions.