

Experiment No: 08

Aim: To code and register a service worker, and complete the install and activation process for a new service worker for the Testmate PWA.

- A Service Worker (SW) is a script that runs in the background, separate from your web page.
- It enables features like offline caching, push notifications, and background sync.
- It doesn't have access to the DOM directly.
- Runs only on HTTPS (except on localhost during development).

Step 1: Code in `main.js` (Service Worker Registration)

```
if ('serviceWorker' in navigator) {  
  navigator.serviceWorker.register('/sw.js')  
    .then(function(registration) {  
      console.log('Registration successful, scope is:',  
registration.scope);  
    })  
    .catch(function(error) {  
      console.log('Service worker registration failed, error:',  
error);  
    });  
}
```

- Place this script in your `main.js` and make sure it is **linked in your HTML file** using `<script src="main.js"></script>`.
-

Step 2: Code in `sw.js` (Install + Activate + Fetch Handling)

```
// Caching important files  
const filesToCache = [  
  './components/Login.js',  
  './components/Home.js',  
];
```

```

const CACHE_NAME = 'offline';

// Install event
self.addEventListener("install", function (event) {
  event.waitUntil(
    caches.open(CACHE_NAME).then(function (cache) {
      return cache.addAll(filesToCache);
    })
  );
});

// Activate event (clean up old caches if needed)
self.addEventListener("activate", function (event) {
  console.log("Service worker activated.");
});

// Fetch event
self.addEventListener("fetch", function (event) {
  event.respondWith(
    fetch(event.request).then(function (response) {
      if (response.status !== 404) {
        return response;
      } else {
        return caches.match("offline.html");
      }
    }).catch(function () {
      return caches.match(event.request).then(function (response) {
        return response || caches.match("offline.html");
      });
    })
  );
});

event.waitUntil(
  caches.open(CACHE_NAME).then(function (cache) {
    return fetch(event.request).then(function (response) {
      return cache.put(event.request, response.clone());
    });
  })
);
});

```

Step 3: Run Your Project Locally

You can use a **local server** (HTTPS not required on localhost):

If using VS Code:

Install Live Server Extension and run your project with **Right click** → **"Open with Live Server"**

Or use:

```
npx serve
```

or

```
python3 -m http.server 8080
```

Then go to `http://localhost:8080`

Step 4: Test It

1. Open DevTools → Application tab → Check if service worker is registered.
2. Go Offline (DevTools → Network → Offline).
3. Visit `/home` or `/login` → Page should load from cache.
4. Try a non-cached URL → Should show `offline.html`.

Testmate

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Get Started

ElementsConsoleSourcesNetworkPerformanceMemoryApplication

Filter

Preserve logDisable cacheOffline

DisabledNo throttlingPresetsFast 4GSlow 4G3GOfflineCustomAdd...

Name	Status	Type	Initiator	Size	Time
ws	Finished	websocket	WebSocketClient.js:13	0 B	Pending
login	200	document	Other	(disk cache)	11 ms
bundle.js	200	script	login:28	(disk cache)	215 ms
js?id=G-QE9K4M0NYR	(failed) net.E...	script	App.js:59	0 B	10 ms
manifest.json	(failed) net.E...	manifest	Other	0 B	38 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	38 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	7 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	7 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	9 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	10 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	19 ms
manifest.json	(failed) net.E...	manifest	Other	0 B	33 ms
background.881372a34ee49bb24085.jpg	(failed) net.E...	Other	Other	0 B	26 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	3 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	6 ms
manifest.json	(failed) net.E...	manifest	Other	0 B	101 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	102 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	13 ms

18 requests | 0 B transferred | 5.2 MB resources | Finish: 2.2 min

Testmate

HomeAboutServicesContactSign in

Login

Email or Username

Password

LOGIN

Don't have an account? [Register](#)

ElementsConsoleSourcesNetworkPerformanceMemoryApplication

Filter

Preserve logDisable cacheOffline

AllFetch/XHRDocCSSJSFontImgMediaManifestWSWarmOther

Name	Status	Type	Initiator	Size	Time
ws	Finished	websocket	WebSocketClient.js:13	0 B	Pending
login	200	document	Other	(disk cache)	11 ms
bundle.js	200	script	login:28	(disk cache)	215 ms
js?id=G-QE9K4M0NYR	(failed) net.E...	script	App.js:59	0 B	10 ms
manifest.json	(failed) net.E...	manifest	Other	0 B	38 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	38 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	7 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	7 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	9 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	10 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	19 ms
manifest.json	(failed) net.E...	manifest	Other	0 B	33 ms
background.881372a34ee49bb24085.jpg	(failed) net.E...	Other	Other	0 B	26 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	3 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	6 ms
manifest.json	(failed) net.E...	manifest	Other	0 B	101 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	102 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	13 ms
favicon.ico	(failed) net.E...	Other	Other	0 B	10 ms

19 requests | 0 B transferred | 5.2 MB resources | Finish: 3.3 min



Testmate

You're offline

Network							All Bookmarks	
Elements Console Sources Network Performance Memory Application >>								
Filter							Invert More filters	
All Fetch/XHR Doc CSS JS Font Img Media Manifest WS Wasm Other								
10,000 ms 20,000 ms 30,000 ms 40,000 ms 50,000 ms 60,000 ms 70,000 ms 80,000 ms 90,000 ms								
Name	Status	Type	Initiator	Size	Time			
ws	Finished	websocket	VM650632	0 B	Pending			
ws	Finished	websocket	VM650632	0 B	Pending			
ws	Finished	websocket	VM650632	0 B	Pending			
login	200	document	Other	(disk cache)	11 ms			
bundle.js	200	script	login28	(disk cache)	215 ms			
js?id=G-QE9K440NYR	(failed) net:E...	script	VM65792	0 B	10 ms			
manifest.json	(failed) net:E...	manifest	Other	0 B	38 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	38 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	7 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	7 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	9 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	10 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	19 ms			
manifest.json	(failed) net:E...	manifest	Other	0 B	33 ms			
background.881372a34ee49bb24085.jpg	(failed) net:E...	Other	Other	0 B	26 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	3 ms			
favicon.ico	(failed) net:E...	Other	Other	0 B	6 ms			
register	(failed) net:E...	document	Other	0 B	12 ms			
data:image/png;base...	200	png	chrome_error://chromeweb	(memory cac...	0 ms			
data:image/png;base...	200	png	VM91	(memory cac...	1 ms			
register	(canceled)	document	Other	0 B	33 ms			
21 requests 0 B transferred 5.2 MB resources								
Console What's new X AI assistance Issues								