

Service worker lifecycle

A service worker goes through three steps in its lifecycle:

- Registration
- Installation
- Activation

Registration and scope:

To install a service worker, you need to register it in your main JavaScript code. Registration tells the browser where your service worker is located, and to start installing it in the background.

Installation:

Once the browser registers a service worker, installation can be attempted. This occurs if the service worker is considered to be new by the browser, either because the site currently doesn't have a registered service worker, or because there is a byte difference between the new service worker and the previously installed one.

A service worker installation triggers an install event in the installing service worker. We can include an install event listener in the service worker to perform some task when the service worker installs. For instance, during the install, service workers can precache parts of a web app so that it loads instantly the next time a user opens it (see caching the application shell). So, after that first load, you're going to benefit from instant repeat loads and your time to interactivity is going to be even better in those cases.

Activation:

Once a service worker has successfully installed, it transitions into the activation stage. If there are any open pages controlled by the previous service worker, the new service worker enters a waiting state. The new service worker only activates when there are no longer any pages loaded that are still using the old service worker. This ensures that only one version of the service worker is running at any given time.

When the new service worker activates, an activate event is triggered in the activating service worker. This event listener is a good place to clean up outdated caches.

11. Installation Steps / Performance Steps and Results –

Q1	Write,register, install and activate service worker file and include it in ecommerce website.
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Source code:

```
// install event
self.addEventListener('install', evt => {
  console.log('service worker installed');
});

// activate event
self.addEventListener('activate', evt => {
  console.log('service worker activated');
});

// fetch event
self.addEventListener('fetch', evt => {
```

```
console.log('fetch event', evt);
});
```

Output:

The screenshot displays a web browser window showing a men's dress catalog page. The page features the "Scottie HAMPTON" logo in the top left corner. The main heading is "MEN'S DRESS". Below the heading, there are two product listings, each showing a purple dress shirt. The first listing is labeled "ACCESSORIES & TRADESIONAL DRESS" with a price of "\$117.00". The second listing is also labeled "ACCESSORIES & TRADESIONAL DRESS" with a price of "\$117.00". To the right of the browser window, the Chrome DevTools console is open, showing several error messages. The first error is a "jQuery.Deferred exception: \$(...).parallax is not a function" with a stack trace pointing to "ecommerce.js:21:27". The second error is an "Uncaught TypeError: \$(...).parallax is not a function" with a stack trace pointing to "ecommerce.js:21:27". The third error is a "Failed to load resource: the server responded with a status of 404 (Not Found)" for "favicon.ico". The console also shows messages for "Live reload enabled.", "service worker registered", and "service worker installed".