Service Worker in iFrame

Asked 4 years, 8 months ago Modified 3 years ago Viewed 9k times

5

I am trying to initialize a service worker inside an iframe. I understand that service workers have security restrictions when it comes to origin, but as I understand setting `base` should solve this issue.

```
<html>
   <base href="http://127.0.0.1:9090">
   <script>
     if ('serviceWorker' in navigator) {
        window.addEventListener('load', function() {
          navigator.serviceWorker.register('/sw.js').then(function(reg) {

            if(reg.installing) {
              console.log('Service worker installing');
            } else if(reg.waiting) {
              console.log('Service worker installed');
            } else if(reg.active) {
              console.log('Service worker active');
              console.log(self)
            }
          }).catch(function(error) {
            // registration failed
            console.log('Registration failed with ' + error);
          });
        });
      }
   </script>
```

Error: `Registration failed with InvalidStateError: Failed to register a ServiceWorker: The document is in an invalid state.`

If I modify the base it complains that the origins are not the same, so service worker is somewhat connected with base href. What am I missing here?

Thank you for your help

javascript html iframe service-worker

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edited Mar 13, 2021 at 10:23
T J
43k ●13 ●85 ●140

asked Jul 24, 2019 at 18:41
puppeteer701
1,275 ●3 ●18 ●33

1 From my observation, you get the error `The document is in an invalid state.` when you try to register a service worker from an anonymous (dynamic) iframe. – PotatoProgrammer Jul 16, 2020 at 20:18

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5

The `<base>` element does not change the origin of the document. You can test this by logging `self.origin`.

What `<base>` does do, however, is change the base URL for resolving relative URLs. In this case your service worker script is a relative URL. So instead of being relative to `self.location` its relative to the new base.

This means if you give `<base>` a cross-origin URL then your service worker script will also be cross-origin. This will trigger an error when you try to register it.

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answered Jul 26, 2019 at 15:00
Ben Kelly
1,324 ●7 ●9

1 Is there a way to register a worker inside a blob or iframe? I am constructing a parent iframe which is then used to serve a website which may have multiple iframes. I am trying to avoid using any backend server so what I did was, I download and store the zip into indexdb (BrowserFS) and then created blobs, which I want to replace the files needed by the website (img.png -> blob:127.0.0.1:9090/dsdasdasdasd). For this I need to have service workers inside the iframe, so they map img.png to the blob file. – puppeteer701 Jul 29, 2019 at 12:58

3 You can register a service worker in an iframe (unless there is some policy blocking the iframe from accessing storage/cookies/etc.) The iframe must have a real origin, though. So you cannot register a service worker in a sandboxed iframe. In theory you should be able to register a service worker in an iframe with a blob URL, but that blob URL will inherit the origin from its creating context. This case is not well tested, though, and I would not be surprised if its buggy. – Ben Kelly Aug 6, 2019 at 1:02

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I will post my observations about the error `Failed to register a ServiceWorker: The document is in an invalid state.` since I could not find much information about the error.

When an iframe is added to the document dynamically, registering a service worker from that iframe will result in the above error. For example:

```
var iframe = document.createElement('iframe');

var html =
`<head>
    <script src="./index.js" ></script>
</head>
<body>Foo</body>`;
document.body.appendChild(iframe);
iframe.contentWindow.document.open();
iframe.contentWindow.document.write(html);
iframe.contentWindow.document.close();
```

As opposed to having the iframe statically in the parent html, where service registration would work.

```
<html>
    <head></head>
    <body>
        <iframe>
            <html>
                <head>
                    <script src="./index.js"></script>
                </head>
                <body>
                    <h4>Foo</h4>
                </body>
            </html>
        </iframe>
    </body>
</html>
```

Service worker registration code is in index.js which looks like this:

```
if ('serviceWorker' in navigator) {
    navigator.serviceWorker.register('/sw.js')
    .then((reg) => {
        // registration worked
        console.log('Registration succeeded. Scope is ' + reg.scope);
    }).catch((error) => {
        // registration failed
        console.log('Registration failed with ' + error);
    });
}
```

The second case would work even with sandbox iframes provided the sandbox has `allow-same-origin` enabled.

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edited Jul 29, 2020 at 12:54

answered Jul 16, 2020 at 20:55

PotatoProgrammer
134 ● 1 ● 1 ● 7