

# DENO FRESH - PWA

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# TUTORIAL

Let's build a PWA in DENO FRESH



# WHAT IS A PWA?

Progressive Web Apps (PWAs) are web apps that use service workers, manifests, and other web-platform features in combination with progressive enhancement to give users an experience similarly found with native apps.

# IS THIS FOR MOBILE ONLY?

No. PWAs are built to take advantage of native mobile device features, without requiring the end user to visit an app store, make a purchase and download software locally.

# PWA FEATURES & CAPABILITIES

- Connectivity independence - low bandwidth
- App-like interface - mimic navigation of native
- Push notifications - user engagement
- Self-updates - stay fresh :)
- Safety / HTTPS only - Transport Layer Security (TLS)
- Discoverability and easy installation
- Works offline

# PREREQUISITES

- Install Deno CLI
- Create a new Deno Fresh App

# INSTALL DENO CLI

```
curl -fsSL https://deno.land/install.sh | sh
```

# CREATE NEW APP

## Deno Fresh App

```
deno run -A -r https://fresh.deno.dev deno-fresh-pwa  
cd deno-fresh-pwa  
deno task start
```



# ADD <Head />

Open VSCode or another IDE and head over to the `index.tsx` and import the `<Head />` component from Deno Fresh like so

```
import { Head } from "https://deno.land/x/fresh@1.0.1/runtime."
```

# ADD MANIFEST LINK

Inside the same file `index.tsx`, add a reference to the `manifest.webmanifest` file. (we will create this soon)

```
<link
  crossOrigin="use-credentials"
  rel="manifest"
  href="/manifest.webmanifest"
/>
```

# ADD PWA SCRIPT

Inside the same file `index.tsx`, add the following PWA script.

```
<script type="module">  
  import 'https://cdn.jsdelivr.net/npm/@pwabuilder/pwaupdate  
  const el = document.createElement('pwa-update');  
    document.body.appendChild(el);  
</script>
```

# ADD MANIFEST FILE

Inside your `/static` directory, create a new file called `manifest.manifest` or `manifest.json`.

Then add the following code snippet to it.

```
{
  "name": "",
  "short_name": "",
  "theme_color": "#000000",
  "background_color": "#000000",
  "display": "fullscreen",
  "scope": "/",
  "start_url": "/",
  "orientation": "any",
  "icons": [
    {
      "src": "/icon-512x512.png",
      "sizes": "512x512",
      "type": "image/png"
    }
  ]
}
```

# ADD SERVICE WORKER FILE

Inside your `/static` directory, create a new file called `pwa-sw.js`. Then add the following code snippet to it.

<https://gist.github.com/erictherobot/4cef30ba1edc184c>

# ADD REGISTER SERVICE WORKER FILE

Inside your `/static` directory, create a new file called `pwa-sw-register.ts`. Then add the following code snippet to it.

<https://gist.github.com/erictherobot/5778631a1fcc72d4>

# ADD ASSETS

Inside your `/static` directory, create a set of new image / icon files.

```
favicon.ico  
icon-192x192.png  
icon-256x256.png  
icon-384x384.png  
icon-512x512.png  
manifest-icon-192.maskable.png  
manifest-icon-512.maskable.png
```

You can use an online tool like <https://realfavicongenerator.net> which will give you all the assets needed from uploading a single image.

# THAT'S IT!

You've created a Progressive Web App.

Your users will thank you!



# QUESTIONS?

Contact [Eric David Smith](#) / [@erictherobot](#)