madskristensen / WebEssentials.AspNetCore.ServiceWorker

No description, website, or topics provided.

40 commits **1** branch **0** releases **5** contributors

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Wandrillety and **madskristensen** Update CacheFirstSafe.js (#18) … Latest commit `c67eaf2` on 26 Feb

art	Resized image	6 months ago
sample	Setting cache header for web manifest	6 months ago
src	Update CacheFirstSafe.js (#18)	3 months ago
.editorconfig	Add project files.	7 months ago
.gitattributes	Add project files.	7 months ago
.gitignore	Add project files.	7 months ago
LICENSE	Add project files.	7 months ago
README.md	Updated bits	5 months ago
WebEssentials.AspNetCore.Pwa.sln	Renamed solution file	6 months ago
appveyor.yml	Updated appveyor script	7 months ago

README.md

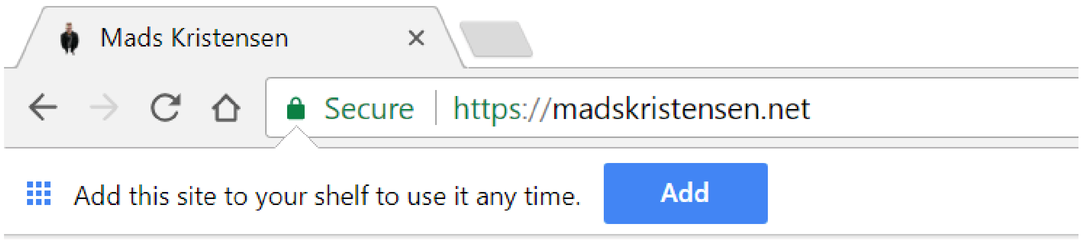
ASP.NET Core Progressive Web Apps

build passing nuget v1.0.33

A Progressive Web App (PWA) is a set of technologies that can be applied to any type of website and web application, and it consist of 3 components:

1. Any website served over HTTPS
2. A Web App Manifest (simple JSON file)
3. A Service Worker JavaScript file

This components makes Web App Manifest a natural and integrated part of any ASP.NET Core web application and it comes with pre-built service workers so you don't have to write your own.


Mads Kristensen
Secure
https://madskristensen.net
Add this site to your shelf to use it any time.
Add

Building Progressive Web Apps have never been easier!

Install

To add the PWA service to your ASP.NET Core 2.0 application, simply add the NuGet package WebEssentials.AspNetCore.PWA.

Either do that through Visual Studio's NuGet Package Manager or the command line like this:

```
dotnet add package WebEssentials.AspNetCore.PWA
```

Getting started

You need to do a few things to turn your website into a PWA:

1. Add two image icons to your project (192x192 and 512x512)
2. Add a `manifest.json` file in the root of the `wwwroot` folder
3. Register a service in `Startup.cs`
4. Make sure it works

Step 1 - Icons

Get as many icons in various sizes as you want, but you MUST have both a 192x192 and a 512x512 size icon. Use PNG or JPEG.

Place the icons somewhere in the `wwwroot` folder.

> Listing the size in the file names makes them easy to identify. Example: `wwwroot/img/icon192x192.png` Consider using Real Favicon Generator to generate images for different platforms and sizes.

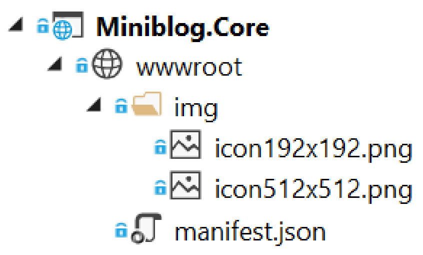
Step 2 - manifest JSON file

Add the file `wwwroot/manifest.json` to your project and fill it in. It could look like this:

```
{
  "name": "Awesome Application",
  "short_name": "Awesome",
  "description": "The most awesome application in the world",
  "icons": [
    {
      "src": "/img/icon192x192.png",
      "sizes": "192x192"
    },
    {
      "src": "/img/icon512x512.png",
      "sizes": "512x512"
    }
  ],
  "display": "standalone",
  "start_url": "/"
}
```

Read more about the various properties in the W3C specificiation.

Now your file structure will look something like this:


```
Miniblog.Core
  wwwroot
    img
      icon192x192.png
      icon512x512.png
    manifest.json
```

Step 3 - register the service

Inside the `ConfigureServices` method in `Startup.cs` , add a call to `services.AddProgressiveWebApp()` like so:

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddMvc();
    services.AddProgressiveWebApp();
}
```

> A `WebManifest` object is now available in the Dependency Injection system in ASP.NET Core that allows you to access the contents of the manifest.json file through the strongly typed object.

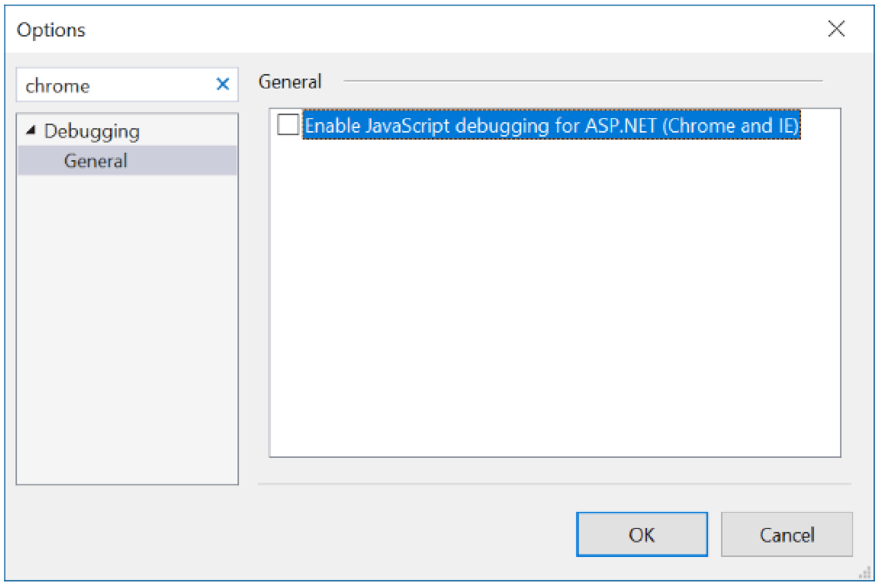
You are now done converting your website into a PWA!

Step 4 - verify it works

If you've followed steps 1-3 then it's time to run your app in the browser and test that it is in fact a PWA. Here's how to verify it works:

Turn off JavaScript debugging in Visual Studio for the service worker to successfully register or follow this workaround.

Turn of JavaScript debugging from **Tools** > **Options**:



Enable JavaScript debugging for ASP.NET (Chrome and IE) [unchecked]

Launch the app in the Chrome browser.

View source and ensure the following element is present in `<head>` :

```
<link rel="manifest" href="/manifest.webmanifest" />
```

The file name is `manifest.webmanifest` and not `manifest.json` because this component is handling the request instead of serving `manifest.json` directly as a static file.

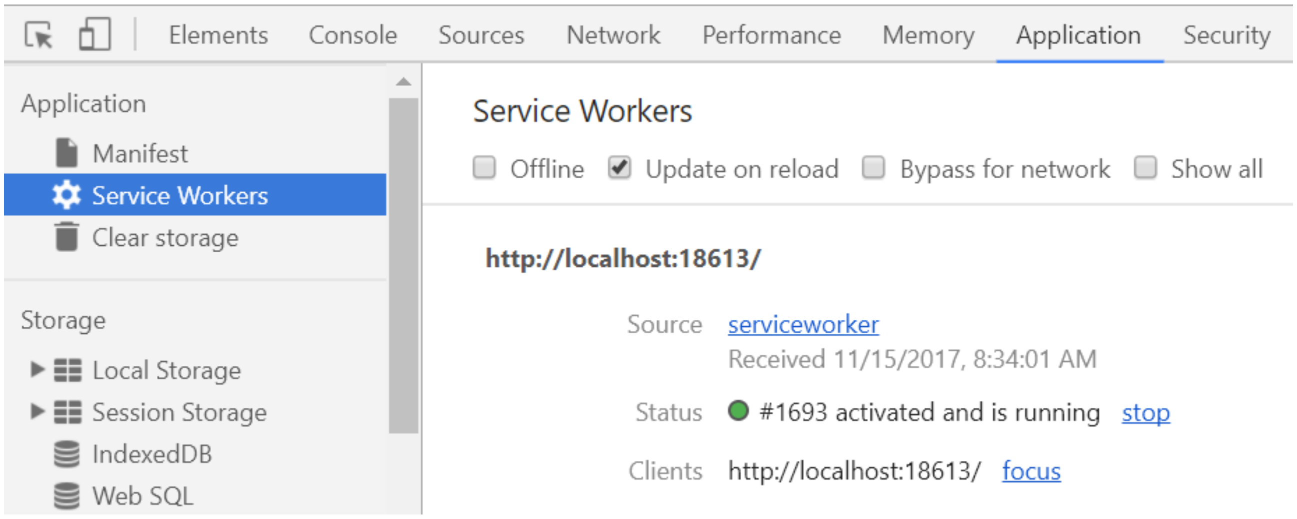
If you filled in the property `theme_color` in `manifest.json` then you'll also see this meta tag:

```
<meta name="theme-color" content="#ffffff" />
```

Just before the `</body>` end tag you'll see a script tag registering the service worker:

```
<script>'serviceWorker'in navigator&&navigator.serviceWorker.register('/serviceworker')</script>
```

Open the Chrome developer tools (F12) and navigate to the **Application** tab and select **Service Workers**. It should look somehting like this:



Service Workers

Offline [✓ Update on reload] Bypass for network Show all

http://localhost:18613/

Source serviceworker
Received 11/15/2017, 8:34:01 AM

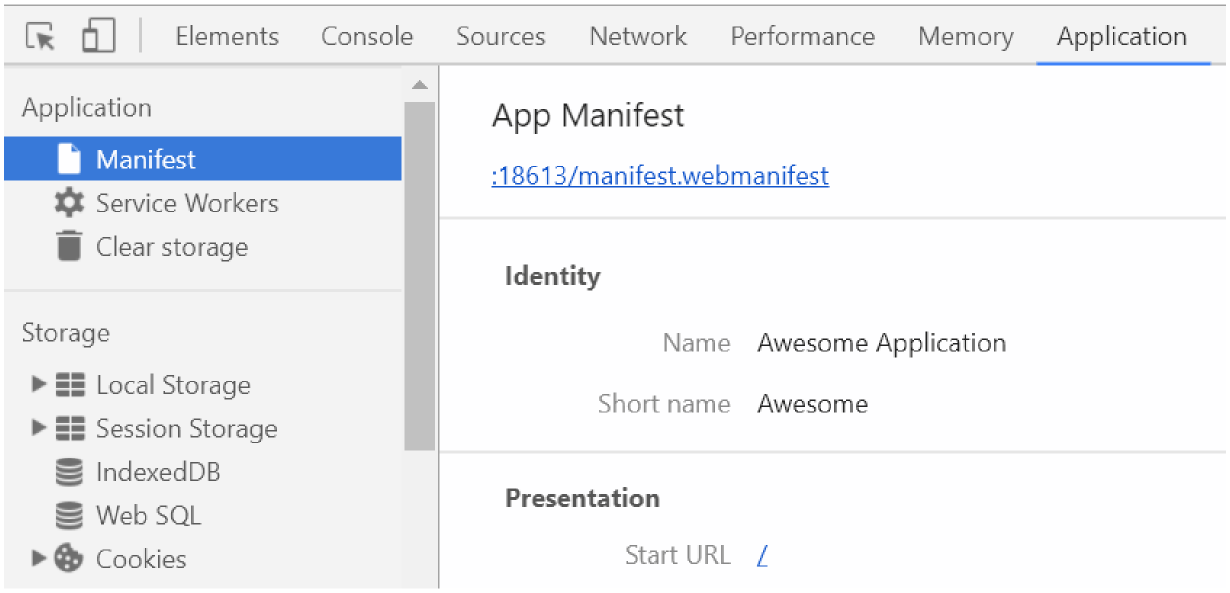
Status #1693 activated and is running stop

Clients http://localhost:18613/ focus

If you see a service worker listed, then it was registered successfully. You may have to refresh the page in the browser to see it.

> Pro tip: Make sure to check the checkbox name **Update on reload** for a better development time experience.

Clicking **Manifest** should show something like this:



App Manifest

:18613/manifest.webmanifest

Identity

Name Awesome Application

Short name Awesome

Presentation

Start URL /

If you see both the service worker and the manifest information then it's all working and you have now successfully converted your site to a PWA!

Customize

You can customize various settings related to both the service worker and the Web App Manifest by passing in a `PwaOptions` object.

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddMvc();
    services.AddProgressiveWebApp(new PwaOptions
    {
        RoutesToPreCache = "/, /contact.html, data.json",
        Strategy = ServiceWorkerStrategy.CacheFirst
        });
    }
```

The same options can be set through the ASP.NET Core configuration system in appsettings.json:

```
{
  "pwa": {
    "registerWebmanifest":  true,
    "routesToPreCache": "/, /contact.html, data.json",
    "strategy": "cacheFirst"
  }
}
```

This means you can have settings specific to each of your environments (development, staging, production, etc.) by using various `appsettings.<environment>.json` files or by using environment variables.

> If you use Visual Studio then you should get full Intellisense inside the `pwa` object in appsettings.json.

Customizing the Web App Manifest

You can use the Web App Manifest alone without the service worker by calling `services.AddWebAppManifest()` instead of `services.AddProgressiveWebApp()`.

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddMvc();
    services.AddWebAppManifest();
}
```

By default it looks for a file named `manifest.json` in the `wwwroot` folder, but you can change the file name to whatever you like - just make sure it is located in the root of the `wwwroot` folder.

If you name it `manifest.webmanifest` then you are bypassing the middleware that handles the serving of the file and instead using the Static File middleware like it was any other static file. This can be desired for certain cases, but if you're in doubt then don't name it `manifest.webmanifest`.

Customizing the service worker

You can use the service worker alone without the Web App Manifest by calling `services.AddServiceWorker()` instead of `services.AddProgressiveWebApp()`.

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddMvc();
    services.AddServiceWorker();
}
```

Configure the service worker

The options can be configured either in `Startup.cs`:

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddMvc();
    services.AddServiceWorker(new PwaOptions
    {
        CacheId = "v3",
        RoutesToPreCache = "foo.css, bar.js"
    });
}
```

...or in `appsettings.json` :

```
{
  "pwa": {
    "cacheId": "v1.0",
    "routesToPreCache": "foo.css, bar.js"
  }
}
```

Caching strategies

Specify which caching strategy you want to use if you want a different one than the default (CacheFirstSafe):

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddMvc();
    services.AddServiceWorker(new PwaOptions
    {
        Strategy = ServiceWorkerStrategy.CacheFirst
    });
}
```

...or in `appsettings.json` :

```
{
  "serviceworker": {
    "strategy": "cacheFirst"
  }
}
```

The options are:

CacheFirst

This strategy will add all requested resources to the service worker cache and serve it from the cache every time. If the cache doesn't have the requested resource it will fall back to the network and if that succeeds it will put the response in the cache.

CacheFirstSafe (default)

This strategy, like CacheFirst, will add all requested resources to the service worker cache. Unlike CacheFirst, it has special handling for HTML files and fingerprinted resources (resources with a `v` querystring parameter such as `site.css?v=8udsfsaufd09sud0809sd_ds`).

It will always attempt the network for HTML files (content type `text/html`) and fall back to the cache when the user is offline. That way the user always gets the latest from the live Internet when online.

For fingerprinted resources (the ones with a `v` querystring parameter) it will always try the cache first and fall back to the network.

CacheFingerprinted

This strategy only adds fingerprinted resources (resources with a `v` querystring parameter such as `site.css?v=8udsfsaufd09sud0809sd_ds) to the cache.

It will always try the cache for fingerprinted resources, then fall back to the network. For all other resources, it will use the network.

This strategy is useful for scenarios in which you don't wish to cache certain resources -- large video or audio files, for example -- but still wish to cache the app core assets (HTML, CSS, JS).

Minimal

The minimal strategy does nothing and is good for when you only want a service worker in order for browsers to suggest installing your Progressive Web App. For this to work, you need to add a web manifest file.

NetworkFirst

This strategy will always try the network first for all resources and then fall back to the cache when offline. When the network call succeeds, it will put the response in the cache.

This strategy is completely safe to use and is primarily useful for offline-only scenarios since it isn't giving any performance benefits.