

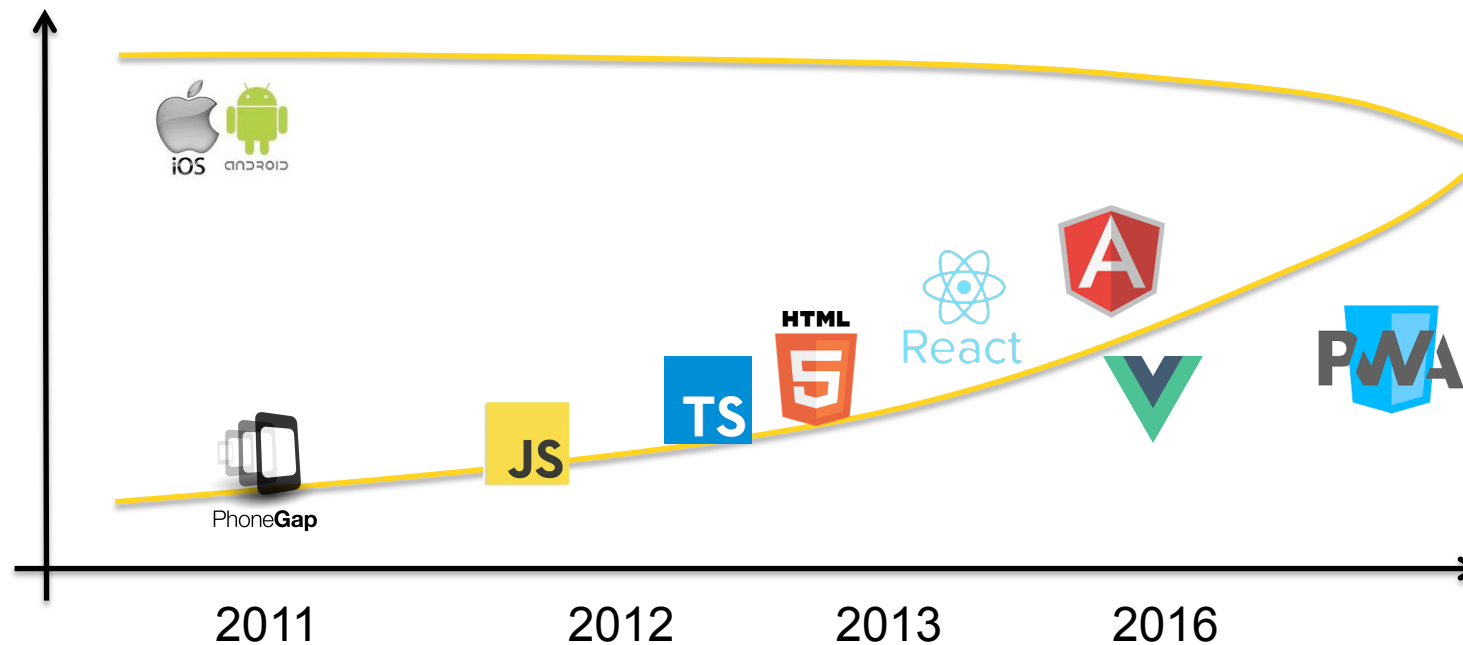


PWA: From Web to Mobile in 5 minutes

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Native vs. Web Mobile Apps

features-UX / effort



Issue: Resources required to maintain the app
(IDE/SDK/OS updates, devices heterogeneity, app versions)

Mobile Web App Features



Local storage (cache, ldb, localStorage)

Audio/Video streaming

Camera/Mic

Sensors (geolocation, motion)

Websockets

Connection status

Add to Home Screen

- Set icon on home screen, launch directly the app
- Launch the app in « standalone » vs. « browser » mode

Service Worker

- Manage **app assets caching and updates**
- Provide **API responses from cache when disconnected**

Push notification

Background sync (preliminary support)

Angular and PWA (with angular-cli)

Live demo

Assumes responsive web app design

Install/update node, angular cli

```
> npm install -g @angular/cli
```

Create app

```
> ng new mobile-app-pwa
```

```
> cd mobile-app-pwa
```

```
> ng add @angular/pwa
```

Build and serve

```
> ng build --prod
```

```
> http-server -p 8080 -c-1 dist
```

Actions

Updates project files

- angular.json and package.json
- app.module.ts
- index.html and main.ts

New files

- manifest.json (app icon)
- default SW configuration in ngsw-config.json

But PWA not just for Angular, works for any JS framework

Misc: Tips/caveats

ServiceWorker only on https or on localhost

Use `http-server` instead of `ng serve` (no ServiceWorker support)

- Cannot proxy per domains, but `-P` redirects unsupported urls

On Angular, requires `ng build --prod`

Beyond default service worker (2 approaches)

- Additional service workers can be registered for specific URL domains
- Embed default SW inside another SW and registers as main SW

Misc: Lighthouse audit (chrome)

Progressive Web App

These checks validate the aspects of a Progressive Web App, as specified by the baseline [PWA Checklist](#).

1 Page load is not fast enough on 3G Interactive at 12 s ▲ ▼
Your page loads too slowly and is not interactive within 10 seconds. Look at the opportunities and diagnostics in the "Performance" section to learn how to improve.

2 Does not redirect HTTP traffic to HTTPS ▲ ▲
If you've already set up HTTPS, make sure that you redirect all HTTP traffic to HTTPS. [Learn more.](#)

Additional items to manually check 3 audits ▼

☒ **Passed audits** 10 audits ▲

- 1 Responds with a 200 when offline ✓ ▼
- 2 User can be prompted to Install the Web App ✓ ▼
- 3 Uses HTTPS ✓ ▼
- 4 Has a <meta name="viewport"> tag with width or initial-scale ✓ ▼
- 5 Registers a service worker ✓ ▼
- 6 Contains some content when JavaScript is not available ✓ ▼
- 7 Configured for a custom splash screen ✓ ▼
- 8 Address bar matches brand colors ✓ ▼

Misc.: Links

Check browser support: <https://caniuse.com/#search=background%20sync>

Still need an app on a store, access native features?

- Embed Angular app inside Cordova – link with native code

Links:

- Generic PWA: <https://developers.google.com/web/ilt/pwa/>
- PWA/Angular 7: <https://dzone.com/articles/developing-pwa-using-angular-7>
- PWA/Vue: <https://cli.vuejs.org/guide/deployment.html#pwa>