





# Progressive Web Applications

**:: quick introduction ::**

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# What is PWA?









-  Mobile
-  Safe
-  Progressive
-  Can be installed

# Examples of PWAs

-  Starbucks
  -  Uber
  -  Spotify
  -  Pinterest
- ... 100s more








# Why PWA?

## On-line context:

- engagement  =  revenue
- engagement  =  time
- attention  =  dopamine (economy)
- attention  =  liveliness + ...

# Why PWA?

## On-line **mobile** context:

- 2016 s overtook s
-  traffic **grew by 222%** in last 7 years
- 40% of people use **only** 
- avg daily media consumption:  203min **vs**  128min
- **higher** bounce and **lower** conversion on 

# Why PWA?

On-line **mobile** context:

Load Time 🕒 and Conversion Rates 💰:




- 💻 desktop: 1.8s 🕒 = 12.8%
- 📱 tablet: 1.9s 🕒 = 7.2%
- 📱 mobile: 2.7s 🕒 = 3.3%

*State of Online Retail Performance* by **Akamai**

# Why PWA?

## On-line **mobile** context:







Impact of **1s slowdown**  on conversion rates:

-  desktop: -21.8%
-  tablet: -17.8%
-  mobile: -20.5%

*State of Online Retail Performance* by **Akamai**

# Q: Why PWAs?

A:   

-  **Starbucks:** 2x daily active users
  -  **Uber:** fast load even on **2G** (under 3s)
  -  **Twitter Lite:** +65% page views, +75% more tweets
  -  **Pinterest:** +60% , +44% ad 
- ... 100s more: [pwastats.com](https://pwastats.com)



# PWA under the bonnet

- manifest
- service worker
- HTTPS
- icons

# PWA under the bonnet

## manifest.json

```
{
  "name": "First PWA",
  "start_url": "index.html",
  "display": "standalone",
  "background_color": "#5900b3",
  "theme_color": "black",
  "icons": [
    {
      // ...
    }
  ]
}
```

# PWA under the bonnet

## index.html

```
<head>  
  <link rel="manifest" href="manifest.json">  
</head>
```

```
<script>  
  window.addEventListener('load', () => registerSW());  
</script>
```

# PWA under the bonnet

## serviceworker.js

- **web browser's** networking proxy
  - has access to all resources ⚠
  - hence need for **https://** 🔒
- adds assets to browser cache
- fetches assets from cache when no network

**demo**

# PWAs Recap

- **Mobile** : big market, challenging technical context
  - Many success stories, seems a **MUST**
- safety + performance (HTTPS + caching)

q & a

# plug

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