## Department of Information Technology

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## Experiment No.8

**Aim:** To Construct meta data for PWA in a Web app manifest file to enable "add to homescreen feature"

**Prerequisites:** HTML, JavaScript, JSON.

**Software:** VS code, Browser.

**1.Enable Flutter.**

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA
$ flutter config --enable-web
Setting "enable-web" value to "true".

You may need to restart any open editors for them to read new settings.
```

**Verify Flutter Web support:**
- ➢ **flutter devices**
- ➢ **If Chrome is listed, Flutter Web is enabled**

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA
$ flutter devices
Found 3 connected devices:
  Windows (desktop) • windows • windows-x64   • Microsoft Windows [Version 10.0.26100.3476]
  Chrome (web)      • chrome  • web-javascript • Google Chrome 134.0.6998.89
  Edge (web)        • edge    • web-javascript • Microsoft Edge 134.0.3124.72
```
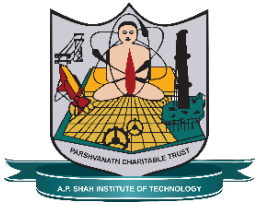
**2.** <u>**Create flutter project.**</u>

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1
$ flutter create my_pwa_app
Creating project my_pwa_app...
Resolving dependencies in `my_pwa_app`...
Downloading packages...
Got dependencies in `my_pwa_app`.
Wrote 130 files.

All done!
You can find general documentation for Flutter at: https://docs.flutter.dev
Detailed API documentation is available at: https://api.flutter.dev/
If you prefer video documentation, consider: https://www.youtube.com/c/flutterdev

In order to run your application, type:

  $ cd my_pwa_app
  $ flutter run

Your application code is in my_pwa_app\lib\main.dart.
```
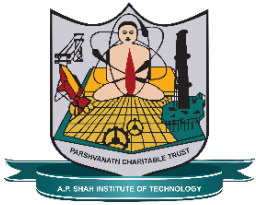
**Navigate to the project directory:**

**cd my_pwa_app**

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1
$ cd my_pwa_app/

sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1/my_pwa_app
$
```

**Run the project in Chrome:**

**flutter run -d chrome**

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1/my_pwa_app
$ flutter run -d chrome
Launching lib\main.dart on Chrome in debug mode...
Waiting for connection from debug service on Chrome...        10.3s
This app is linked to the debug service: ws://127.0.0.1:54481/Wv5SMcIVgxw=/ws
Debug service listening on ws://127.0.0.1:54481/Wv5SMcIVgxw=/ws
```

**The app will open at http://localhost:xxxxx.**
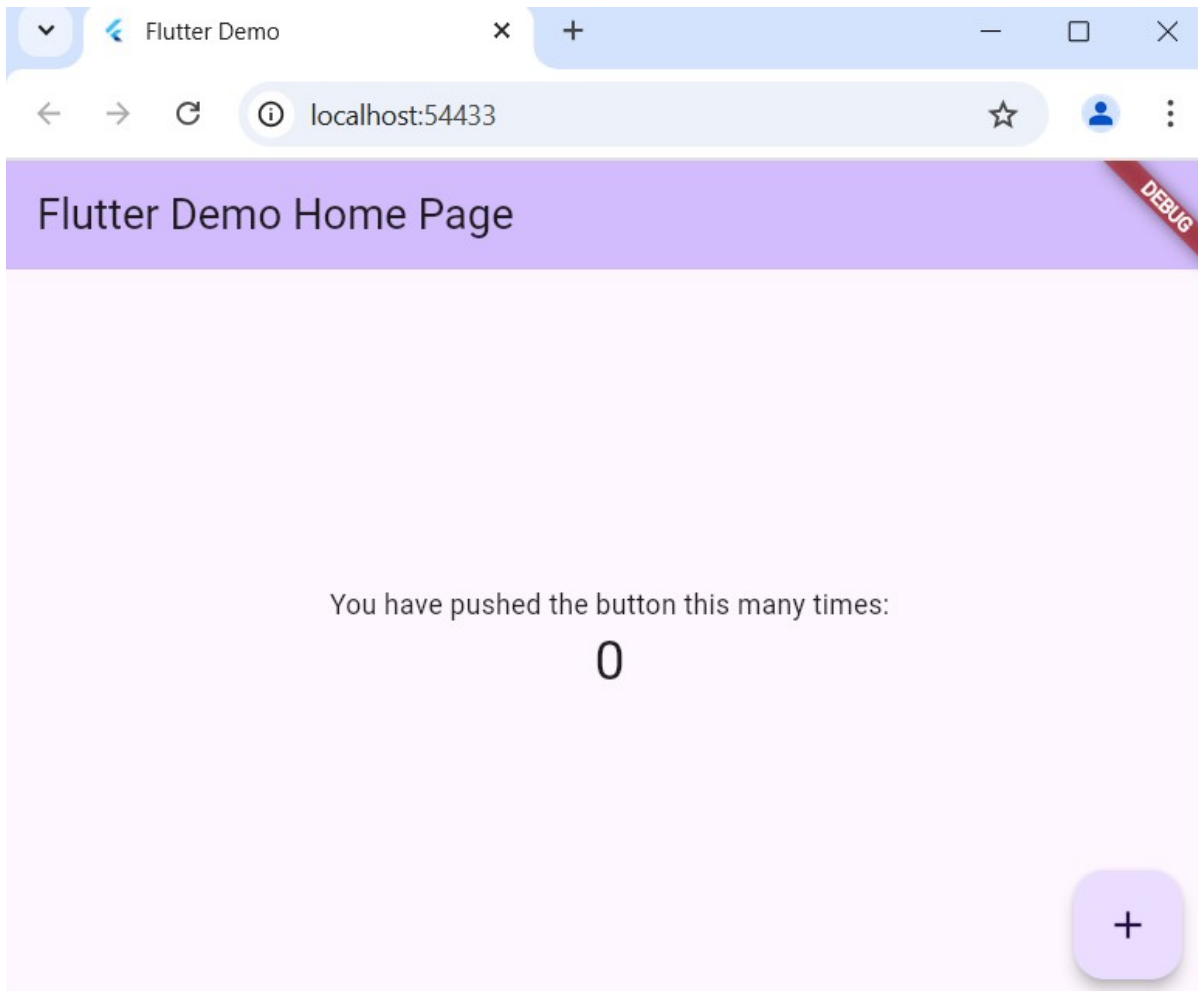
3. **Generate web build.**

# Generate a web build with PWA support:
# flutter build web
# This creates a build/web/ directory with PWA files.

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1/my_pwa_app
$ flutter build web

Font asset "CupertinoIcons.ttf" was tree-shaken, reducing it from 257628 to 1172 bytes (99.5% reduction).
Tree-shaking can be disabled by providing the --no-tree-shake-icons flag when building your app.
Font asset "MaterialIcons-Regular.otf" was tree-shaken, reducing it from 1645184 to 7760 bytes (99.5%
reduction). Tree-shaking can be disabled by providing the --no-tree-shake-icons flag when building your
app.
Compiling lib\main.dart for the Web...                              21.1s
√ Built build\web
```

4. **Open manifest.json file and modify in it.**

```json
{} manifest.json  X

web > {} manifest.json > ...
1   {
2       "name": "Flutter eCommerce PWA",
3       "short_name": "FlutterPWA",
4       "description": "A powerful eCommerce PWA built with Flutter.",
5       "start_url": "/",
6       "display": "standalone",
7       "background_color": "#ffffff",
8       "theme_color": "#ff6600",
9       "icons": [
10          {
11              "src": "icons/Icon-192.png",
12              "sizes": "192x192",
13              "type": "image/png"
14          },
15          {
16              "src": "icons/Icon-512.png",
17              "sizes": "512x512",
18              "type": "image/png"
19          }
20      ]
21  }
```

**Enable Service Worker for Offline Support**

**Ensure flutter_service_worker.js is registered in index.html:**

```
<script>
   if('serviceWorker' in navigator ){
      window.addEventListener('load',function(){
         this.navigator.serviceWorker.register('flutter_
service_worker.js')

})

}
</script>
```

1. **Navigate to the build/web/ directory:**

   ➢ **cd build/web**

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1/my_pwa_app
$ cd build/web

sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1/my_pwa_app/build/web
$ []
```

**OR**

1. **Install Live Server:**

   ➢ **npm install -g live-server**

   5.<u>using node.js live server.</u>

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1/my_pwa_app/build/web
$ npm install -g live-server
npm warn deprecated source-map-url@0.4.1: See https://github.com/lydell/source-map-url#deprecated
npm warn deprecated urix@0.1.0: Please see https://github.com/lydell/urix#deprecated
npm warn deprecated opn@6.0.0: The package has been renamed to `open`
npm warn deprecated source-map-resolve@0.5.3: See https://github.com/lydell/source-map-resolve#deprecated
npm warn deprecated resolve-url@0.2.1: https://github.com/lydell/resolve-url#deprecated
npm warn deprecated uuid@3.4.0: Please upgrade  to version 7 or higher.  Older versions may use Math.rando
m() in certain circumstances, which is known to be problematic.  See https://v8.dev/blog/math-random for d
etails.

added 189 packages in 4s

3 packages are looking for funding
  run `npm fund` for details
```

➢ **live-server**

**This will automatically open the app in your browser.**

```
sujat@Sujata-Oak MINGW64 /d/APSIT-JAN-2025/MAD-2025/PWA/flutter_app1/my_pwa_app/build/web
$ live-server --port=8091
Serving "D:\APSIT-JAN-2025\MAD-2025\PWA\flutter_app1\my_pwa_app\build\web" at http://127.0.0.1:8091
Ready for changes
```

127.0.0.1:8091

Flutter Demo Home Page

You have pushed the button this many times:

0

**6.project app installed successfully.**
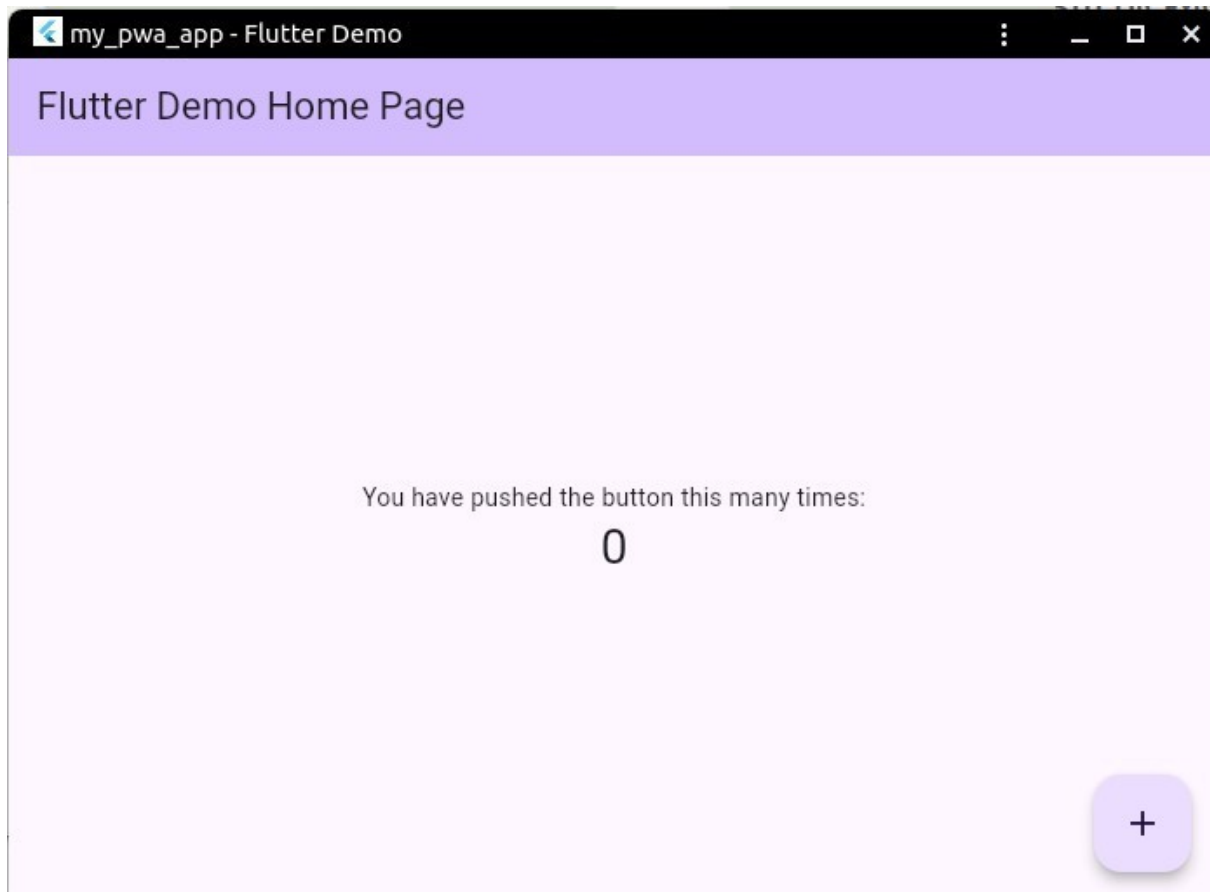


**Conclusion:** In this experiment we have designed PWA in a Web app manifest file to enable "add to homescreen feature"