

CAPACITOR – REACT JS APP – One Web codebase for all platforms

Architecture –

CapacitorJS: <https://capacitorjs.com/>

React JS: <https://react.dev/learn>

Typescript: <https://www.typescriptlang.org/>

TailwindCSS: <https://tailwindcss.com/>

Axios:

Redux toolkit: <https://redux-toolkit.js.org/>

Platforms – Web, Android and iOS

CICD –App Flow, Github and WebHooks

Github Repo: <https://github.com/hari7priya/capacitor-reach>

App Setup

//Steps to initialize a capacitor app

```
npx create-react-app capproject --template typescript
```

//Install capacitor packages

```
cd capproject && npm install @capacitor/core @capacitor/cli
```

//initialize capacitor configuration

```
npx cap init
```

/*This will prompt you to enter your app name (e.g., My Capacitor React App) and app identifier (e.g., com.example.myapp). Make sure the webDir in the capacitor.config.json is set to build because React's production build files are placed in the build directory.*/

//Install capacitor IOS and Android packages

```
npm install @capacitor/ios && npm install @capacitor/android
```

//Add iOS and Android platforms – web is provided by default

`npx cap add ios && npx cap add android`

Axios setup for API Integration

`npm install axios`

Redux setup

`npm install redux react-redux @reduxjs/toolkit`

`mkdir src/store && touch src/store/index.ts`

`src/store/index.ts`

`// src/store/index.ts`

```
import { configureStore } from '@reduxjs/toolkit'; const store = configureStore({ reducer: { // Add your
reducers here }, }); export type RootState = ReturnType<typeof store.getState>; export type AppDispatch
= typeof store.dispatch; export default store;
```

`//Update App.js to wrap with store`

```
import React from "react";
```

```
import ReactDOM from "react-dom/client";
```

```
import "./index.css";
```

```
import App from "./App";
```

```
import reportWebVitals from "./reportWebVitals";
```

```
import { Provider } from "react-redux";
```

```
import store from "./store";
```

```
const root = ReactDOM.createRoot(
```

```
  document.getElementById("root") as HTMLElement,
```

```
);  
  
root.render(  
  <Provider store={store}>  
    <App />  
  </Provider>,  
);  
  
reportWebVitals();
```

tailwindcss install – create config files too

```
npm install -D tailwindcss postcss autoprefixer
```

```
npx tailwindcss init -p
```

```
//update tailwind.config.js to consider all the reactjs files
```

```
module.exports = {  
  content: ["../src/**/*.{js,jsx,ts,tsx}"],  
  theme: {  
    extend: {},  
  },  
  plugins: [],  
};
```

```
//update postcss.config.js
```

```
module.exports = { plugins: { tailwindcss: {}, autoprefixer: {}, }, };
```

```
//import tailwind into src/index.css file
```

```
@tailwind base;
```

```
@tailwind components;
```

@tailwind utilities;

// add VS Code extensions –

Tailwind CSS IntelliSense

PostCSS Intellisense and Highlighting

Ionic

npm install eslint-plugin-tailwindcss --save-dev

//create .eslintrc

```
{  
  "extends": ["plugin:tailwindcss/recommended"]  
}
```

Create build directory for reactjs assets

Npm run build //creates deployable app with index.html

Npm start

// runs the app on browser

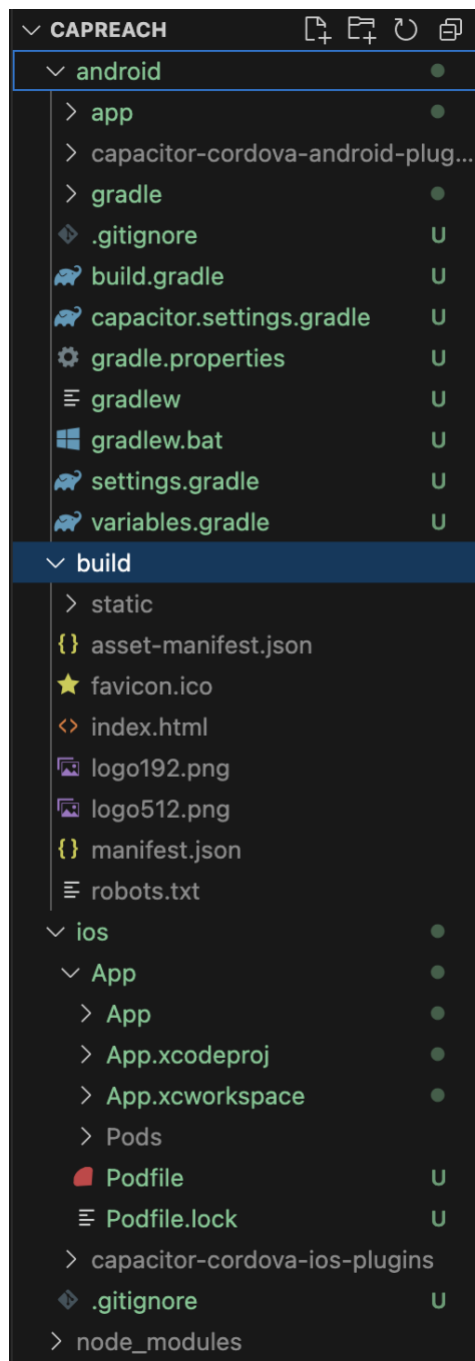
Sync Capacitor with the Web Project

npm run cap sync

//adds build files to ios and android platforms

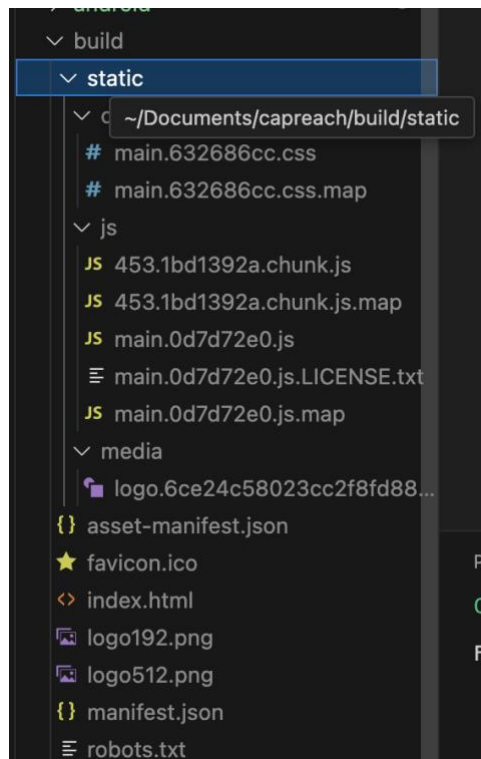
```
● haripriyachinthapally@RELMDOXADM34449 capreach % npx cap sync
✓ Copying web assets from build to android/app/src/main/assets/public in 13.68ms
✓ Creating capacitor.config.json in android/app/src/main/assets in 574.25µs
✓ copy android in 19.48ms
✓ Updating Android plugins in 1.30ms
✓ update android in 16.15ms
✓ Copying web assets from build to ios/App/App/public in 9.70ms
✓ Creating capacitor.config.json in ios/App/App in 272.42µs
✓ copy ios in 18.55ms
✓ Updating iOS plugins in 1.29ms
✓ Updating iOS native dependencies with pod install in 14.63s
✓ update ios in 14.66s
✓ copy web in 3.82ms
✓ update web in 2.98ms
[info] Sync finished in 14.944s
```

Project Folder Structure



After running `npm run build`, the build directory contains the following:

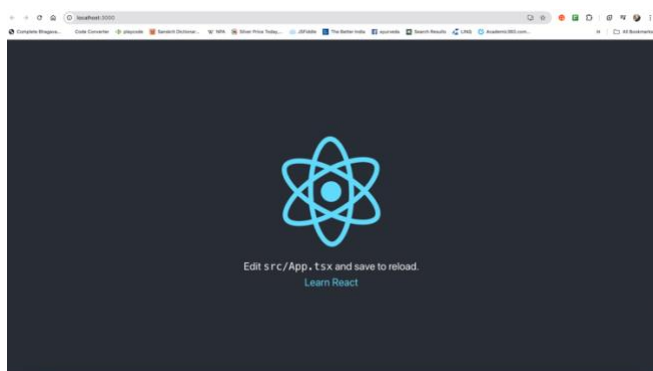
- `index.html` file: The main entry point for your React app.
- `static` directory: Contains JavaScript, CSS, and other assets required by the app.



Run the App on all platforms

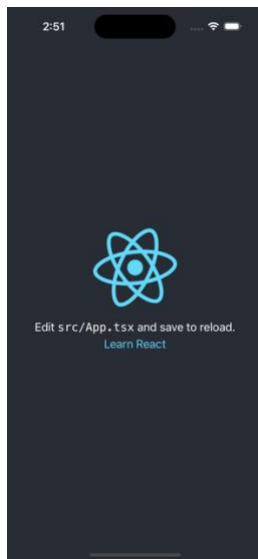
Web

Npm start // localhost 3000 port



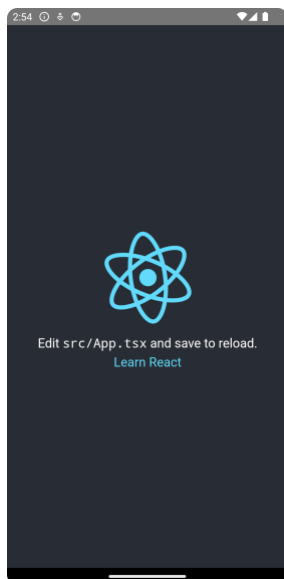
IOS (Make sure xcode and at least one simulator are installed)

npx cap open ios // Opens xcode. Run using Xcode



Android (Make sure Android Studio and at least one emulator are installed)

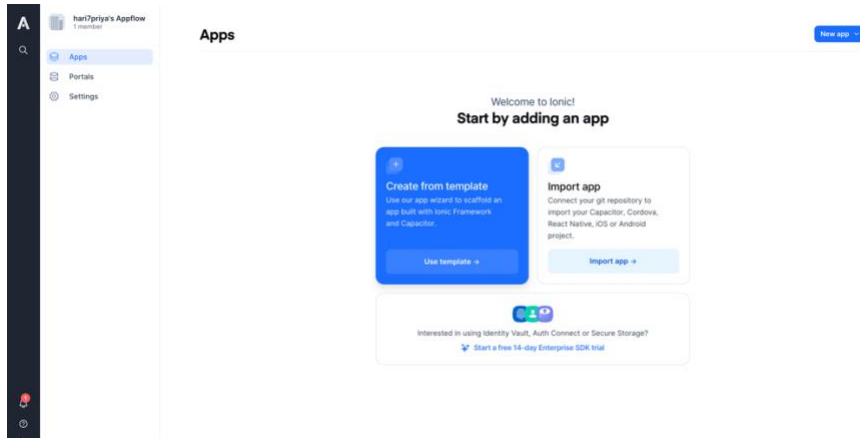
`npx cap open android` // Opens android studio. Click Run



IONIC AppFlow

Integrate Ionic Appflow for Deployments and CI/CD

Create AppFlow account using Github credentials



Import app

1. Set up app 2. Select repo

App name

capreach

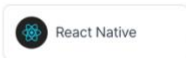
Select your native runtime



Capacitor



Cordova



React Native



iOS Native



Android Native

Select your app's git host



GitHub
✓ Connected



Continue →



Bitbucket Cloud
Not connected

Connect



GitLab
Not connected

Connect

Need a different git host?

Our Standard plan includes access to enterprise git providers.

[Contact sales →](#)

GitHub Enterprise

Bitbucket Server

GitLab Self-Managed

Azure DevOps

generate a build from the available commits

caprearch
Capacitor · 3fdcae43

Overview

Commits

Build

BUILDS

Builds

Environments

Native Configs

Signing Certificates

Deploy

Automate

Settings

EXPLORE

Cloud Services

CI/CD Integrations

Enterprise SDK

← Back

1. Select commit2. Configure build

Create a new build

Select a commit

Initial commit
hari7priya · 6 minutes ago to pmain

73f270

Initialize project using Create React App
hari7priya · about 1 hour ago to pmain

92f26d

2 commits

Previous

Next

← Back

✓ Select commit2. Configure build

Create a new build

Initial commit
hari7priya · 10 minutes ago to pmain

73f270

Change

BUILD DETAILS

Target platform

iOS

Android

JS
Web

Build stack

Configure the software required to build your project. [Compare stacks](#)

macOS - 2024.04 - Apple silicon

Latest

More Details

Build type

Simulator

Caching

Accelerate npm dependency caching for this build. [Update settings](#)

OFF

Environment (optional)

The group of environment variables exposed to your build.

+ Add environment

Ad-hoc Environment (optional)

Additional Ad-hoc environment variables that will only apply to this build. For sensitive data, please create an environment above and save the data as a secret.

IOS Build

Package Build #1

Success

Rerun build

```
[07:17:23]: Uploaded APP file successfully.
[07:17:23]: --- Step: upload_xcarchive ---
[07:17:23]: Uploaded xcarchive successfully.
[07:17:23]: --- Step: upload_logs ---
[07:17:23]: --- Step: shell command ---
[07:17:28]:

fastlane summary
|-----|
| Step | Action | Time (in s) |
|-----|-----|-----|
| 1 | add_extra_platforms | 0 |
| 2 | default_platform | 0 |
| 3 | sentry_init | 0 |
| 4 | begin_building | 0 |
| 5 | build_summary | 0 |
| 6 | set_ionic_cli | 0 |
| 7 | detect_package_manager | 0 |
| 8 | add_git_credentials | 0 |
| 9 | get_appflow_config | 0 |
| 10 | dependency_install | 0 |
| 11 | create_capacitor_config | 0 |
| 12 | get_web_dir | 0 |
| 13 | modify_cap_web_config | 0 |
| 14 | build_pro_app | 5 |
| 15 | get_xcode_project_paths | 0 |
| 16 | modify_ios_config | 1 |
| 17 | install_cocoapods | 1 |
| 18 | cap_sync | 1 |
| 19 | cap_custom_deploy | 0 |
| 20 | dyd | 28 |
| 21 | get_filename_ipa | 0 |
| 22 | upload_ipa_to_app_store | 5 |
| 23 | upload_ios_app | 1 |
| 24 | upload_xcarchive | 1 |
| 25 | upload_logs | 2 |
| 26 | shell_command | 0 |
|-----|-----|-----|

[07:17:28]: fastlane.tools finished successfully 🚀
Running after_script
Running after script...
$ clean-up
Cleaning up project directory and file based variables
Terminating VM: build_stack_2024.04_arm64-1725261358417627080 (e4c3eac9-2ae6-4786-a15b-aedaa596d888) | Controller Instance ID: 51
5861f5-b431-4bdc-86ce-1fa3442e7fc | Host: 18.2.146.286
Job succeeded
```

DURATION	CREDITS
1m 1s	2
BUILD ID	
9622566	
PLATFORM	
iOS	
TYPE	
simulator	
BUILD STACK	
macOS - 2024.04 - Apple silicon	
Latest	
More Details	
ARTIFACTS	
Download XCARCHIVE	
Download APP	
COMMIT	
73f278 Initial commit	
hari7priya - 9 minutes ago from main	
TRIGGERED BY	
hari7priya	
2 minutes ago	

Android Build

Package Build #2

Success

```
[07:25:44]: --- Step: upload_android_files ---
[07:25:44]: Uploaded APK successfully.
[07:25:48]: Uploaded AAB successfully.
[07:25:48]: --- Step: upload_source_maps ---
[07:25:48]: No .sourcemaps directory found. Skipping sourcemaps upload.
[07:25:48]: --- Step: upload_logs ---
[07:25:48]:

fastlane summary
|-----|
| Step | Action | Time (in s) |
|-----|-----|-----|
| 1 | add_extra_platforms | 0 |
| 2 | default_platform | 0 |
| 3 | sentry_init | 0 |
| 4 | begin_building | 0 |
| 5 | build_summary | 1 |
| 6 | set_ionic_cli | 1 |
| 7 | detect_package_manager | 0 |
| 8 | add_git_credentials | 0 |
| 9 | get_appflow_config | 0 |
| 10 | dependency_install | 28 |
| 11 | create_capacitor_config | 1 |
| 12 | get_web_dir | 0 |
| 13 | modify_cap_web_config | 0 |
| 14 | set_java_home | 0 |
| 15 | build_pro_app | 14 |
| 16 | cap_sync | 2 |
| 17 | cap_custom_deploy | 0 |
| 18 | modify_gradle_config | 0 |
| 19 | bundledebug | 158 |
| 20 | assembledebug | 19 |
| 21 | get_filenames_android | 0 |
| 22 | upload_binary_to_play_store | 0 |
| 23 | upload_android_files | 3 |
| 24 | upload_source_maps | 0 |
| 25 | upload_logs | 8 |
|-----|-----|-----|

[07:25:56]: fastlane.tools finished successfully 🚀
Running after_script
Running after script...
$ run "clean-up"
Cleaning up project directory and file based variables
Job succeeded
```

Web Build #3

✓ Success

Details

Versioning

```
[07:30:11]: Uploaded app static assets successfully.
[07:30:11]: -----
[07:30:11]: --- Step: upload_app_zip ---
[07:30:11]: -----
[07:30:11]: Compressing app...
[07:30:11]: Compressed app successfully
[07:30:11]: Uploading app .zip...
[07:30:13]: Uploaded app .zip successfully.
[07:30:13]: -----
[07:30:13]: --- Step: upload_app_preview ---
[07:30:13]: -----
[07:30:13]: No app preview requested
[07:30:13]: -----
[07:30:13]: --- Step: upload_source_maps ---
[07:30:13]: -----
[07:30:13]: No .sourcemaps directory found. Skipping sourcemaps upload.
[07:30:13]: -----
[07:30:13]: --- Step: upload_logs ---
[07:30:13]: -----
```

fastlane summary		
Step	Action	Time (in s)
1	add_extra_platforms	0
2	default_platform	0
3	sentry_init	0
4	begin_building	0
5	build_summary	1
6	set_ionic_cli	2
7	detect_package_manager	0
8	add_git_credentials	0
9	get_appflow_config	0
10	dependency_install	28
11	create_capacitor_config	1
12	get_web_dir	0
13	build_pro_app	18
14	upload_app	1
15	upload_app_zip	1
16	upload_app_preview	0
17	upload_source_maps	0
18	upload_logs	6

[07:30:19]: fastlane.tools finished successfully 🎉








```
Running after_script
Running after script...
$ run "clean-up"
```

All Platform Builds***

Builds

Filter

New build

BUILD	STATUS	PLATFORM	TRIGGERED BY	COMMIT	DEPLOYMENT
#3	✓	JS Web	 hari7priya 3 minutes ago	 73f270 Initial commit hari7priya · 24 minutes ago from <code>main</code>	⋮
#2	✓	Android	 hari7priya 10 minutes ago	 73f270 Initial commit hari7priya · 24 minutes ago from <code>main</code>	 ⋮
#1	✓	iOS	 hari7priya 16 minutes ago	 73f270 Initial commit hari7priya · 24 minutes ago from <code>main</code>	⋮

Deployments

Android

- Scan the QR Code or download AAP file



***Enable Web Preview before the build to enable previewing the app on various platforms –

Setup Store Destinations for CICD setup

web preview can be shared with a public URL

<https://dashboard.ionicframework.com/preview/3fdcae43/i6q0p4zjtq>

Build and Deploy iOS and Android to the app stores

<https://ionic.io/docs/appflow/package/intro>

Deploy live over-the-air updates to your app

<https://ionic.io/docs/appflow/deploy/intro>

CICD Automation


<https://ionic.io/docs/appflow/automation/intro>

Store Destination

Add Store Destination ×

Name

Type

 Apple App Store ▼

Apple ID

Your Apple ID username for your Apple Developer account

App-specific password

Generate an app-specific password on your [Apple ID account page](#)

App Apple ID

Apple ID property from the App Information section in [App Store Connect](#)

Team ID

Available in your Apple Developer account in the [Membership Details](#)

Cancel

Save

Github Repo URL - <https://github.com/hari7priya/capacitor-reach>