

Activity No. 1 Getting Started with React Native	
<b>Course Code:</b> CPE026	<b>Program:</b> Computer Engineering
<b>Course Title:</b> Emerging Technologies 3 in CpE	<b>Date Performed:</b> October 9, 2024
<b>Section:</b> CPE41S8	<b>Date Submitted:</b> October 9, 2024
<b>Name:</b> Alferos, Joshua L. Efa, Christian Ed B.	<b>Instructor:</b> Engr. Roman Richard
<b>1. Objective(s)</b>	
This activity aims to enable students to build a basic application with local state management and Create React Native App.	
<b>2. Intended Learning Outcomes (ILOs)</b>	
After this module, the student should be able to: <ul style="list-style-type: none"> <li>• Configure a React Native development using the Expo Go environment;</li> <li>• Deploy a live-demo of a mobile application on both iOS and Android.</li> </ul>	
<b>3. Discussion</b>	

There are two common ways to set up a React Native development environment: expo-cli and react-native CLI.

### **expo-cli**

*This is a command-line utility for configuring and publishing React Native projects. This is the best way to get started as a beginner. This tool generates a QR code which you can scan to launch the app on your device. As you update your code, the changes will automatically be reflected on your device. In order to preview the app on your device, you'll be prompted to download the Expo app, which is a React Native app previewing client.*

*The downside to this approach is that it only works for pure-JavaScript apps. If at any point you need to use native modules (Swift, Kotlin, etc), you'll need to eject. The expo-cli utility provides an eject command to export your app into the same format used by react-native CLI, which you can then add native modules to.*

*The company behind expo-cli, Expo, has been heavily involved in the React Native codebase and community since it's inception, so you can be confident that the tool is well-maintained and doesn't deviate too much from a "standard" React Native setup.*

*We'll walk through setting up a project in the next section, Quick Start.*

### **React Native CLI**

*If you're integrating React Native into an existing native app, or if you know you'll need custom native modules in your app, you'll want to use the react-native CLI to create your app. You can read how to do this on the Facebook docs for environment setup. Click on the "React Native CLI Quickstart" tab.*

*In terms of the JavaScript code, the main difference from expo-cli is that react-native apps require registering the root component of your app using `AppRegistry.registerComponent`, e.g:*

*This allows you to optionally have multiple React Native root components, which you might embed into different native screens.*

In this class, we will use **expo-cli** to develop native applications.

## **4. Materials and Equipment**

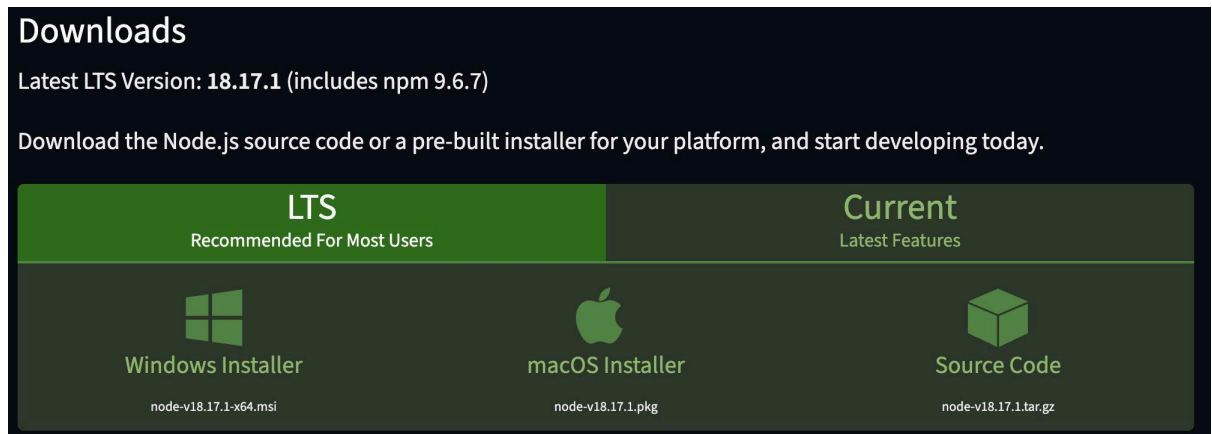
To properly perform this activity, the student must have:

- Node.js LTS

- Expo
- VS Code (or any code editor).

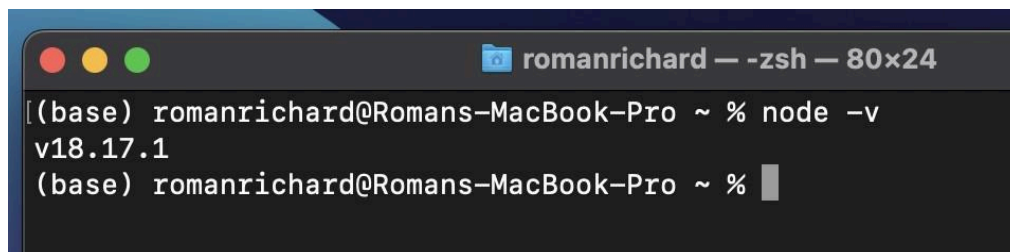
## **5. Procedure**

## 1. Download node.js LTS.



It is recommended that you install the LTS version. This is intended for most users due to stability. To confirm installation, you can open your terminal and check the version of your node.js.

It should show version 18.17.1 like the figure below.



## 2. Create a new React Native project called "awesomeProject" using expo. Run the command `npx create-expo-app awesomeProject`

```
romanrichard — zsh — 95x24
(base) romanrichard@Romans-MacBook-Pro ~ % sudo npx create-expo-app awesomeProject
Password:
✓ Downloaded and extracted project files.
> npm install
npm WARN deprecated @npmcli/move-file@1.1.2: This functionality has been moved to @npmcli/fs
npm WARN deprecated uuid@3.4.0: Please upgrade to version 7 or higher. Older versions may use
Math.random() in certain circumstances, which is known to be problematic. See https://v8.dev/
blog/math-random for details.
npm WARN deprecated uglify-es@3.3.9: support for ECMAScript is superseded by `uglify-js` as of
v3.13.0

added 1222 packages, and audited 1223 packages in 2m

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

5 moderate severity vulnerabilities

To address all issues (including breaking changes), run:
  npm audit fix --force

Run `npm audit` for details.
```

Let expo install dependencies such as shown in the figure. If you're able to achieve something similar to the screenshot below, then you can proceed to the next step.

```
✓ Your project is ready!

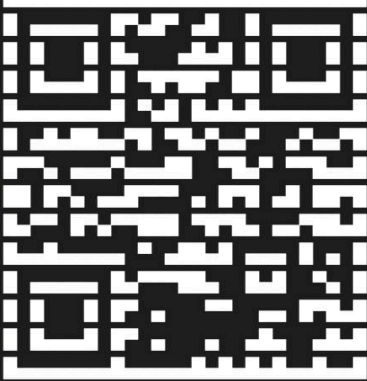
To run your project, navigate to the directory and run one of the following npm commands.

- cd awesomeProject
- npm run android
- npm run ios
- npm run web
(base) romanrichard@Romans-MacBook-Pro ~ %
```

3. Run expo using *npx expo start*.



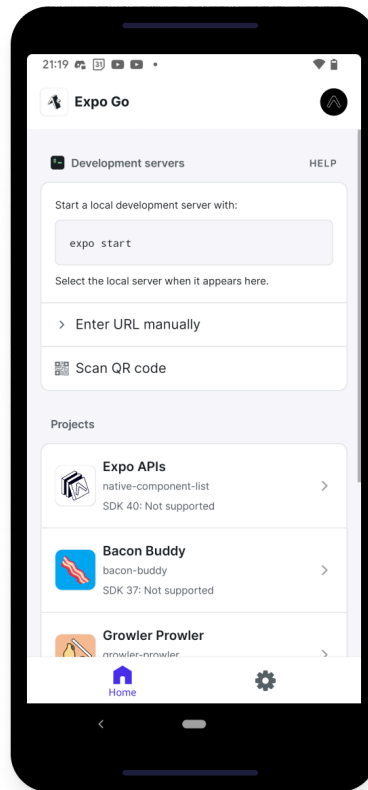
```
awesomeProject — node • sudo — 95x24
(base) romanrichard@Romans-MacBook-Pro awesomeProject % sudo npx expo start
Password:
Starting project at /Users/romanrichard/awesomeProject
Starting Metro Bundler



> Metro waiting on exp://172.30.10.89:8081
> Scan the QR code above with Expo Go (Android) or the Camera app (iOS)

> Using Expo Go
> Press s | switch to development build
```

Make sure to download Expo Go on your phone to scan the code shown to connect. Alternatively, you can also input the shown socket.



**The following sections will have no screenshots provided as a guide, you are expected to include all your answers here under section 6: output.**

4. Open VSCode (or any compatible editor) and explore the folder.
5. Provide a quick summary of the contents of the awesomeProject application.

## 6. Output

**Alferos**

Node Version

```
PS C:\Users\admin> node -v
v20.18.0
PS C:\Users\admin>
```

Create new project called awesomeProject

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell
No managed or bare projects found. Please make sure you are inside a project folder.
PS C:\Users\admin\Documents\CPE-026> npx create-expo-app
Need to install the following packages:
create-expo-app@3.0.0
Ok to proceed? (y) y

√ What is your app named? ... awesomeProject
√ Downloaded and extracted project files.
> npm install
npm warn deprecated osenv@0.1.5: This package is no longer supported.
npm warn deprecated inflight@1.0.6: This module is not supported, and leaks memory. Do not use it. Check
  out lru-cache if you want a good and tested way to coalesce async requests by a key value, which is muc
h more comprehensive and powerful.
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell
Run `npm audit` for details.

✓ Your project is ready!

To run your project, navigate to the directory and run one of the following npm commands.

- cd awesomeProject
- npm run android
- npm run ios # you need to use macOS to build the iOS project - use the Expo app if you need to do iOS
  development without a Mac
- npm run web
PS C:\Users\admin\Documents\CPE-026>
```

```
npm run web
PS C:\Users\admin\Documents\CPE-026> cd awesomeProject
PS C:\Users\admin\Documents\CPE-026\awesomeProject>
```

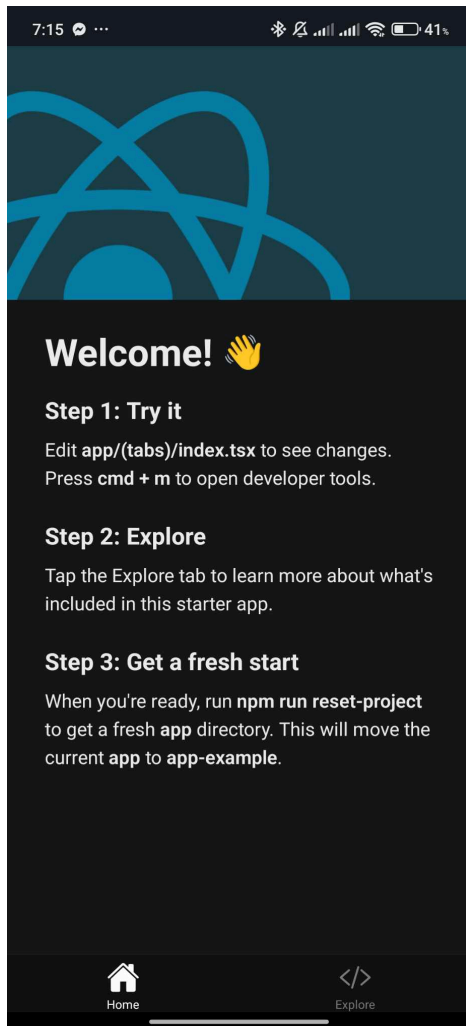
Run expo using npx expo start



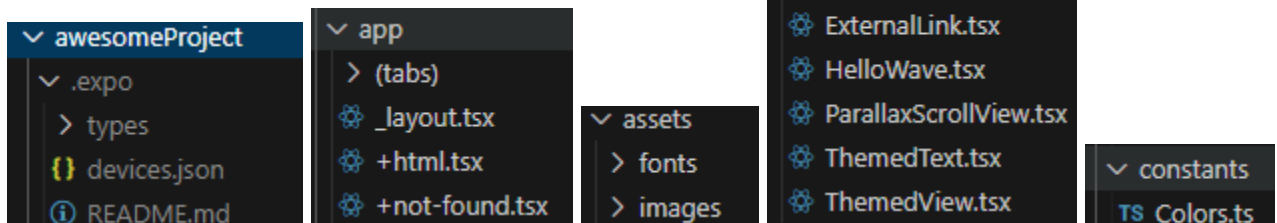
```
PS C:\Users\admin\Documents\CPE-026\awesomeProject> npx expo start
Starting project at C:\Users\admin\Documents\CPE-026\awesomeProject
Starting Metro Bundler
```



```
> Metro waiting on exp://192.168.1.8:8081
> Scan the QR code above with Expo Go (Android) or the Camera app (iOS)
```



## Contents of awesomeProject



```

  hooks
    TS useColorScheme.ts
    TS useColorScheme.web.ts
    TS useThemeColor.ts

```

```

  scripts
    JS reset-project.js

```

```

  > node_modules
  > scripts
    JS reset-project.js
    .gitignore
    {} app.json
    B babel.config.js
    TS expo-env.d.ts
    {} package-lock.json
    {} package.json
    i README.md
    TS tsconfig.json

```

## EFA

```

PS C:\Users\chris\Downloads\efa> npm i-g expo-cli
Unknown command: "i-g"

To see a list of supported npm commands, run:
  npm help
PS C:\Users\chris\Downloads\efa> npm i -g expo-cli

```

```

PS C:\Users\chris\Downloads\efa> npx create-expo-app
Need to install the following packages:
create-expo-app@3.0.0
Ok to proceed? (y)

```

```

✓ What is your app named? ... awesomeProject
✓ Downloaded and extracted project files.

```

```

> npm install

```

```

npm warn deprecated osenv@0.1.5: This package is no longer supported.

```

```

npm warn deprecated inflight@1.0.6: This module is not supported, and leaks memory. Do not use it. Check out lru-cache if you want a good and tested way to coalesce async requests by a key value, which is much more comprehensive and powerful.

```

```

npm warn deprecated @babel/plugin-proposal-nullish-coalescing-operator@7.18.6: This proposal has been merged to the ECMAScript standard and thus this plugin is no longer maintained. Please use @babel/plugin-transform-nullish-coalescing-operator instead.

```

```

npm warn deprecated @babel/plugin-proposal-optional-catch-binding@7.18.6: This proposal has been merged to the ECMAScript standard and thus this plugin is no longer maintained. Please use @babel/plugin-transform-optional-catch-binding instead.

```

```

npm warn deprecated @babel/plugin-proposal-numeric-separator@7.18.6: This proposal has been merged to the ECMAScript standard and thus this plugin is no longer maintained. Please use @babel/plugin-transform-numeric-separator instead.

```

```

npm warn deprecated @babel/plugin-proposal-class-properties@7.18.6: This proposal has been merged to the ECMAScript standard and thus this plugin is no longer maintained. Please use @babel/plugin-transform-class-properties instead.

```

```

npm warn deprecated @babel/plugin-proposal-optional-chaining@7.21.0: This proposal has been merged to the ECMAScript standard and thus this plugin is no longer maintained. Please use @babel/plugin-transform-optional-chaining instead.

```

```

npm warn deprecated @babel/plugin-proposal-object-rest-spread@7.20.7: This proposal has been merged to the ECMAScript standard and thus this plugin is no longer maintained. Please use @babel/plugin-transform-object-rest-spread instead.

```

```

npm warn deprecated rimraf@3.0.2: Rimraf versions prior to v4 are no longer supported

```

```

npm warn deprecated abab@2.0.6: Use your platform's native atob() and btoa() methods instead

```

```

npm warn deprecated @babel/plugin-proposal-async-generator-functions@7.20.7: This proposal has been merged to the ECMAScript standard and thus this plugin is no longer maintained. Please use @babel/plugin-transform-async-generator-functions instead.

```

```
npm warn deprecated rimraf@2.6.3: Rimraf versions prior to v4 are no longer supported

added 1583 packages, and audited 1584 packages in 1m

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

8 vulnerabilities (5 low, 3 moderate)

To address all issues (including breaking changes), run:
  npm audit fix --force

Run `npm audit` for details.
```

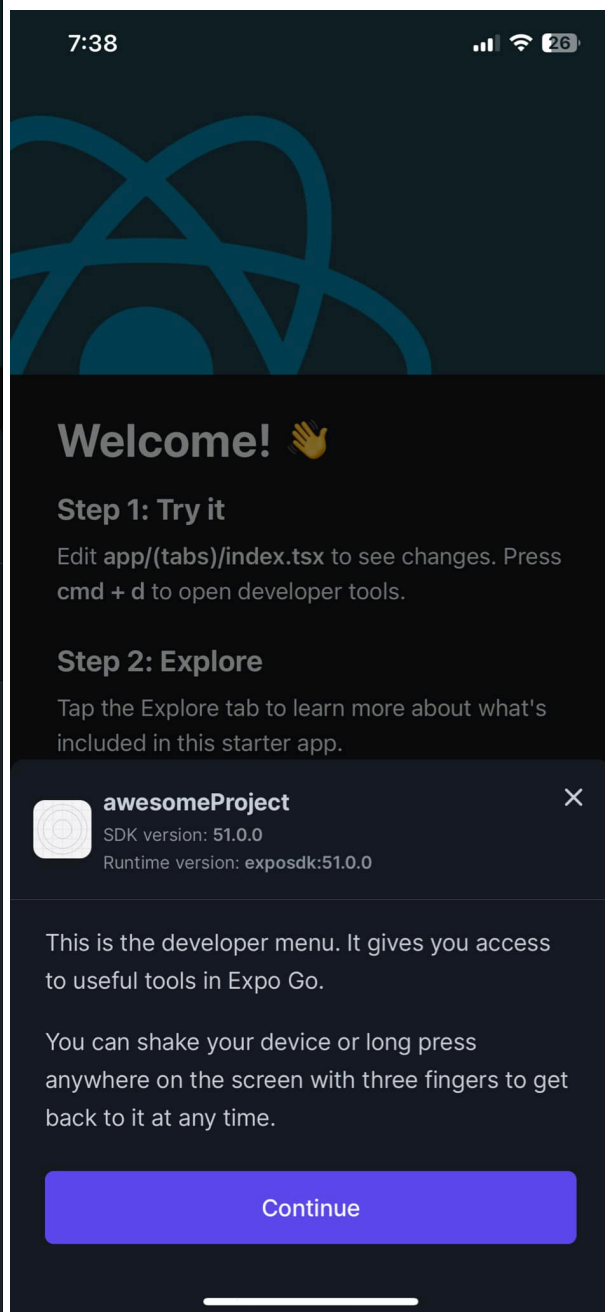
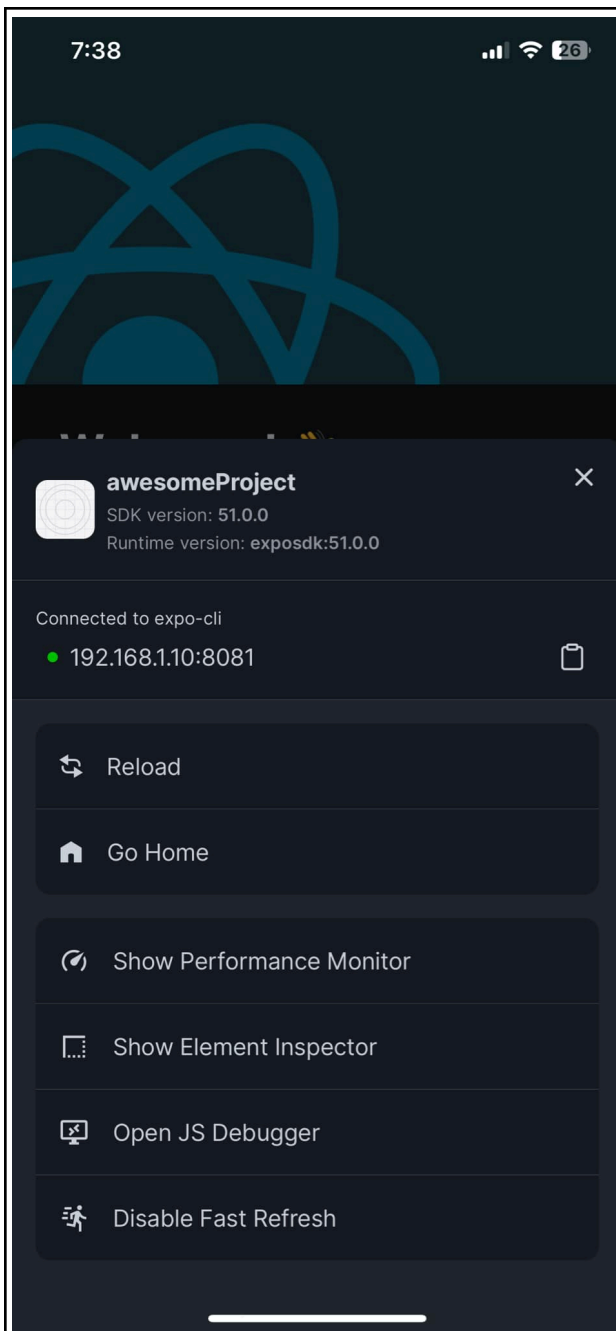
To run your project, navigate to the directory and run one of the following npm commands.

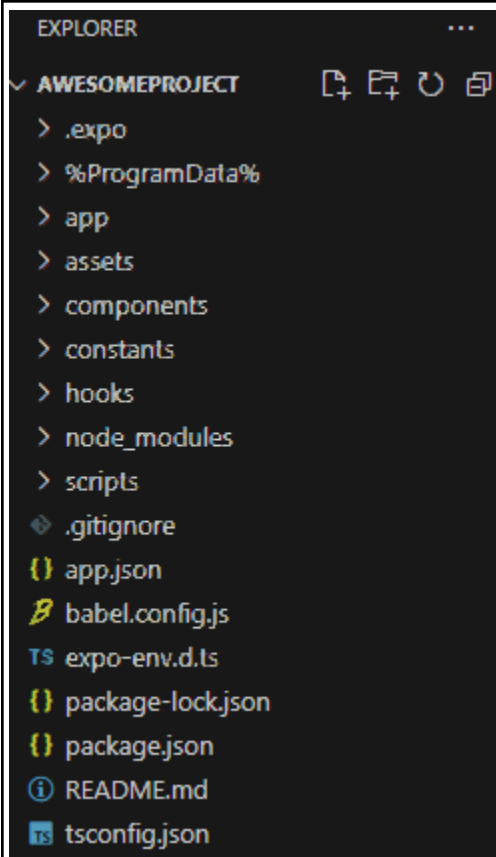
```
- cd awesomeProject
- npm run android
- npm run ios # you need to use macOS to build the iOS project - use the Expo app if you need to do iOS development without a Mac
- npm run web
PS C:\Users\chris\Downloads\efa> cd awesomeProject
PS C:\Users\chris\Downloads\efa\awesomeProject> npx expo start
Starting project at C:\Users\chris\Downloads\efa\awesomeProject
Starting Metro Bundler
```



```
> Metro waiting on exp://192.168.1.10:8081
> Scan the QR code above with Expo Go (Android) or the Camera app (iOS)

> Web is waiting on http://localhost:8081
```





## 7. Supplementary Activity

Modify **app.js** to reflect all names of the members of the team. This change must then reflect on your live demo. Provide the following:

- What did you change in app.js?

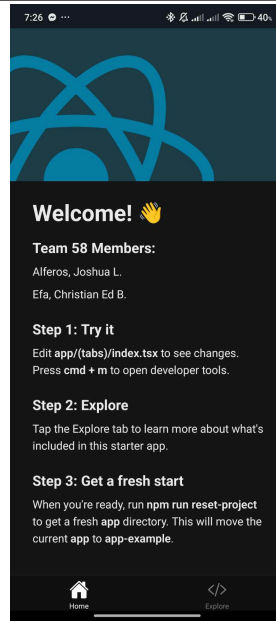
**Alferos**

- I added a new ThemedText subtitle called "Team 58 Members", and under it two new ThemedText "Alferos, Joshua L." and "Efa, Christian Ed B."

```
<ThemedText type="subtitle">Team 58 Members:</ThemedText>
<ThemedText>
  Alferos, Joshua L.
</ThemedText>
<ThemedText>
  Efa, Christian Ed B.
</ThemedText>
```

- Provide a picture of the live demo on Android and iOS device.

**Alferos**



EFA

```
export default function HomeScreen() {
  return (
    <ParallaxScrollView
      headerBackgroundColor={{ light: '#A1CEDC', dark: '#1D3D47' }}
      headerImage={
        <Image
          source={require('@assets/images/HELLMO.png')}
          style={styles.reactLogo}
        />
      />
    <ThemedView style={styles.titleContainer}>
      <ThemedText type="title">Welcome!</ThemedText>

      </ThemedView>

      <ThemedText>
        EFA,Christian Ed B.
        <HelloWave />
      </ThemedText>

      <ThemedText>
        Alferos, Joshua L.
        <HelloWave />
      </ThemedText>
    </ThemedView>
  )
}
```





## Welcome!

EFA,Christian Ed B. 🙌

Alferos, Joshua L. 🙌

### Step 1: Try it

Edit `app/(tabs)/index.tsx` to see changes. Press `⌘` to open developer tools.

### Step 2: Explore

Tap the Explore tab to learn more about what's included in this starter app.

### Step 3: Get a fresh start

When you're ready, run `npm run reset-project` to get a fresh `app` directory. This will move the current `app` to `app-examples`.

## 8. Conclusion

### Alferos, Joshua L.

In this activity, we installed and explored the contents of node.js LTS. At first, I had a problem following the commands shown in the procedure, because the commands are for Linux while my system is Windows. Using cli commands, we created a new React Native project called awesomeProject. After creating the project, we run it using the command “npx expo start”, where we are presented with a QR Code to be scanned using the Expo Go app on our smartphones. Here, we can see the live demo of the project, wherein a simple save would immediately update the contents of the live demo. Overall, this activity helped us familiarize the basics of React Native through node.js and Expo Go.

### Efa, Christian Ed B.

After completing the task, we have managed to learn to Configure a React Native development using the Expo Go environment, Deploy a live-demo of a mobile application on both iOS and Android. by using an android and ios device we manage to connect them and change its contents, while exploring the node.js

<b>9. Assessment Rubric</b>