

Activity No. 6 Getting Started with React Native	
Course Code: CPE026	Program: Computer Engineering
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1. Objective(s)	
This activity aims to enable students to build a basic application with local state management and Create React Native App.	
2. Intended Learning Outcomes (ILOs)	
After this module, the student should be able to: <ul style="list-style-type: none"> • Configure a React Native development using the Expo Go environment; • Deploy a live-demo of a mobile application on both iOS and Android. 	
3. Discussion	
<p>There are two common ways to set up a React Native development environment: expo-cli and react-native CLI</p> <p>expo-cli</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>We'll walk through setting up a project in the next section, Quick Start.</p> <p>React Native CLI</p> <p>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.</p> <p>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 <code>AppRegistry.registerComponent</code>, e.g:</p>	

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).

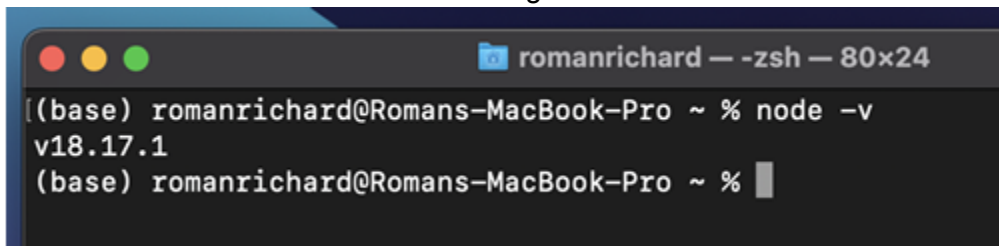
5. Procedure

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](https://nodejs.org/en/).

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 ~ %
```

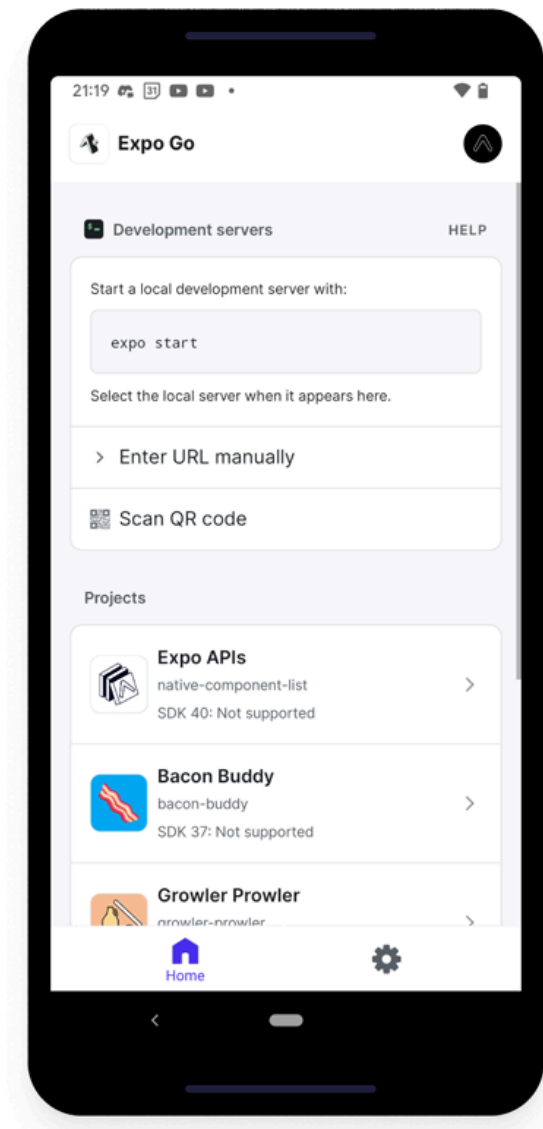
3. Run expo using npx expo start .

```
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

```
c:\Program Files>node -v  
v22.11.0
```

```
PS C:\Users\tipqc\Documents\Gura_CPE41S3> npx create-expo-app awesomeProject --template blank
Creating an Expo project using the blank template.

✓ Downloaded and extracted project files.
> npm install
npm warn deprecated inflight@1.0.6: This module is not supported, and leaks memory. Do not use it. Check
npm warn deprecated glob@7.2.3: Glob versions prior to v9 are no longer supported
npm warn deprecated glob@7.2.3: Glob versions prior to v9 are no longer supported
npm warn deprecated glob@7.2.3: Glob versions prior to v9 are no longer supported
npm warn deprecated glob@7.2.3: Glob versions prior to v9 are no longer supported

added 651 packages, and audited 652 packages in 22s

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

found 0 vulnerabilities

✓ Your project is ready!

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

- cd awesomeProject
```

```
✓ 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\tipqc\Documents\tineeeeeeeeeee> cd awesomeProject
```

```
PS C:\Users\tipqc\Documents\tineeeeeeeeeee\awesomeProject> npx expo start
Starting project at C:\Users\tipqc\Documents\tineeeeeeeeeee\awesomeProject
Starting Metro Bundler
The following packages should be updated for best compatibility with the installed expo version:
  react-native@0.79.6 - expected version: 0.79.5
Your project may not work correctly until you install the expected versions of the packages.
```



```
> Metro waiting on exp://10.6.0.99:8081
> Scan the QR code above with Expo Go (Android) or the Camera app (iOS)

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

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

> Press a | open Android
> Press w | open web

> Press j | open debugger
> Press r | reload app
> Press m | toggle menu
> shift+m | more tools
> Press o | open project code in your editor

> Press ? | show all commands
```

```
PS C:\Users\tipqc\Documents\Gura_CPE4153\awesomeProject> npx expo install react-dom react-native-web @expo/metro-runtime
> Installing 3 SDK 53.0.0 compatible native modules using npm
> npm install

added 20 packages, and audited 672 packages in 3s

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

found 0 vulnerabilities
PS C:\Users\tipqc\Documents\Gura_CPE4153\awesomeProject>
```

App.js code:

```
JavaScript
import { StatusBar } from 'expo-status-bar';
import { StyleSheet, Text, View, Image } from 'react-native';

export default function App() {
```

```

return (
  <View style={styles.container}>
    <Text style={styles.text}>Cristine Gura -TEAM 7</Text>
    <Image
      source={{ uri:
'https://pm1.aminoapps.com/6590/aa72f6bb6065b279a352a5f3ac10397dd769d699_hq.jp
g' }}
      style={styles.image}
    />
    <StatusBar style="auto" />
  </View>
);
}

const styles = StyleSheet.create({
  container: {
    flex: 1,
    backgroundColor: '#CADCAE',
    alignItems: 'center',
    justifyContent: 'center',
  },
  text: {
    fontSize: 20,
    color: '#1C352D',
    marginBottom: 20,
  },
  image: {
    width: 200,
    height: 200,
    borderRadius: 10,
  },
});

```

Section 6: The contents of the initial awesomeProject directory contains the basics such as the [App.js](#) where we will build the application and as well as the package.json for the different dependencies.

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.

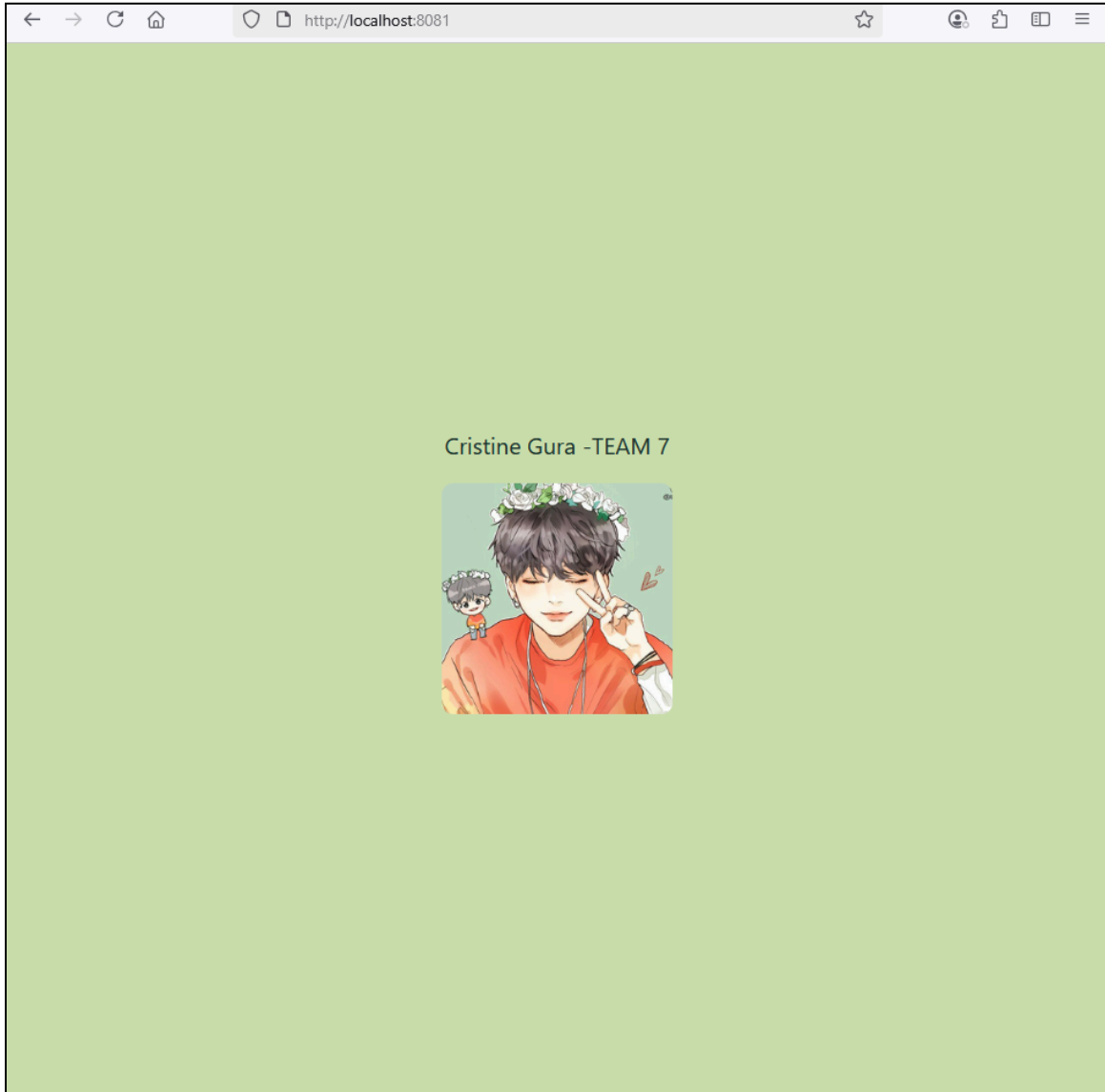
Provide the following:

What did you change in `app.js`?

- I changed the background color to sage green to match with the picture I have chosen. For the picture I added a chibi picture of BTS's Suga with width and height of 200 and rounded border of 10. I also put all content including the text of my name in center for good look and easy to see.

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

demo in web



demo in android



8. Conclusion

In this activity, I learned how to set up a React Native project using Expo and run it on a mobile device. I was able to modify the app's layout and display an image along with team member names. It helped me understand the structure of a React Native application and how to use basic components. Overall, it was a great introduction to mobile app development using JavaScript.

9. Assessment Rubric