# Getting Started with App Development

## An installation guide: Node.js, React-Native and Android Development Toolkit.

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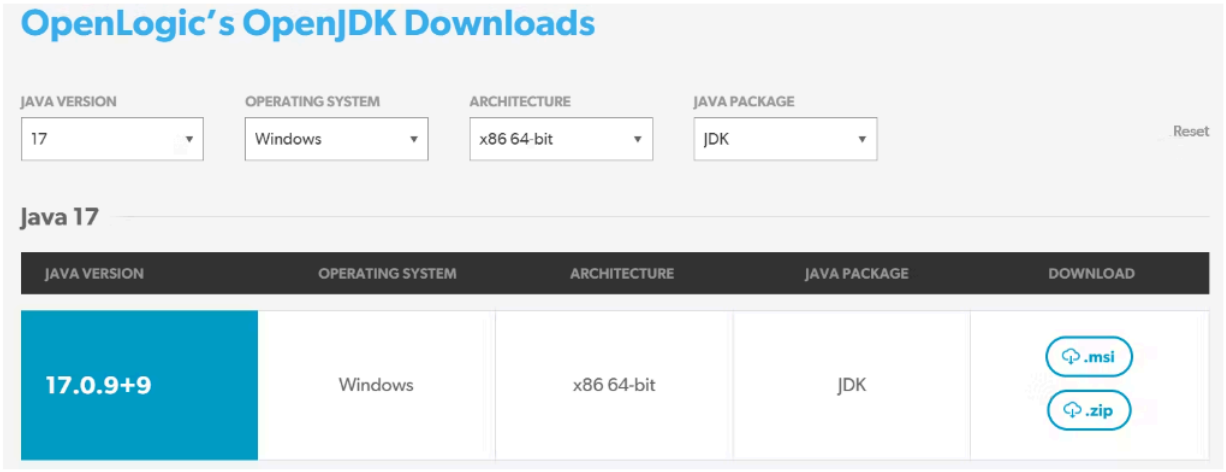
Let's start from the beginning (Assuming you have never used any of the things mentioned above).

The first thing you will need is VS-Code so make sure you have installed it.

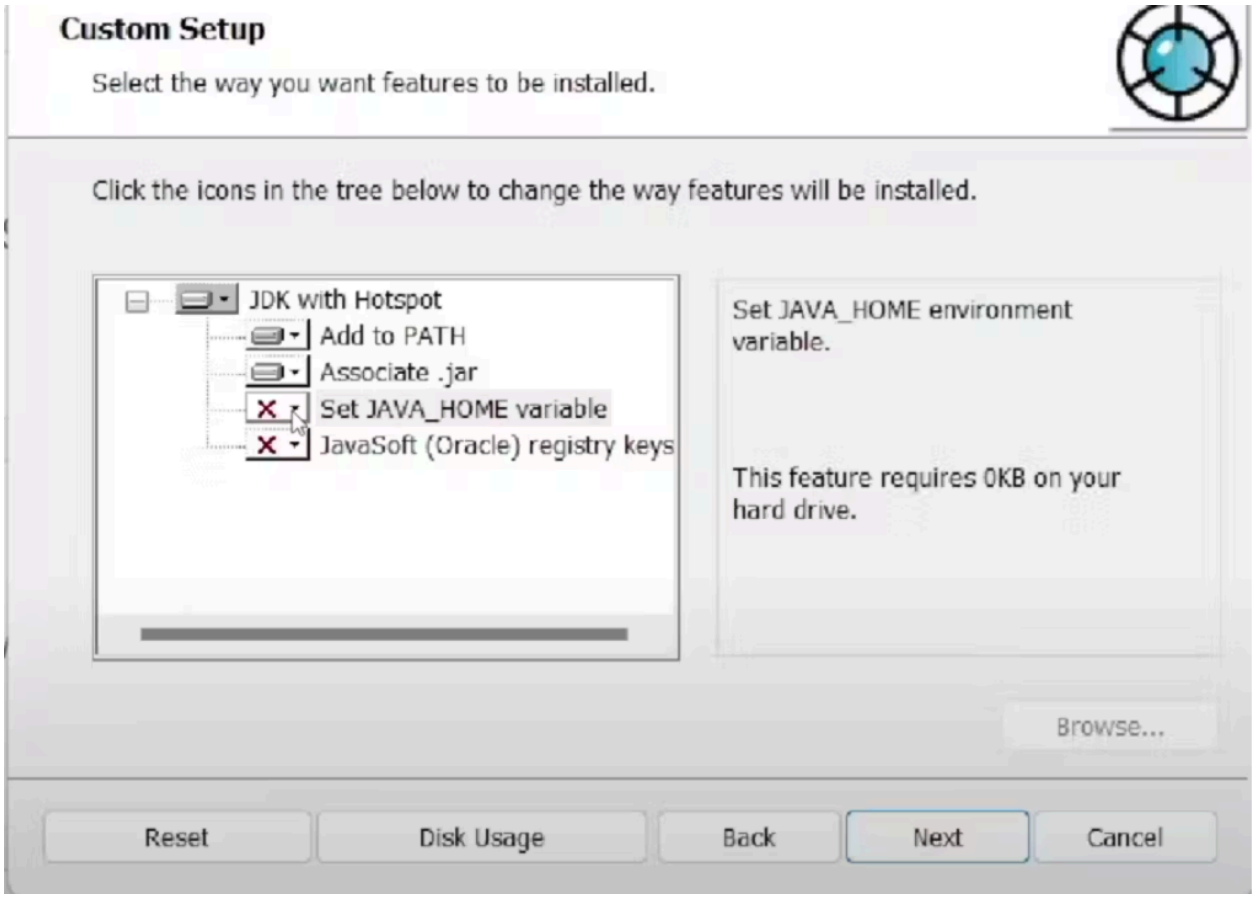
▼ **Why react-native?**

> React-native is a framework(in other words open-source front-end library) by Meta (FKA Facebook) to use Javascript to create hybrid mobile application that uses React as well in order to represent the layout.

Now we will install **node.js**. Just go on google and install the latest version of node from https://nodejs.org/en. Make sure to install node package manager(npm) as well. After that, install the latest version of Java (Jdk) from OpenLogic.




While installing **OpenLogic's Java**, make sure to set the JAVA_HOME variable and also enable the javasoft (oracle) registry keys. If this is not set, you can also define a new JAVA_HOME variable in user and system (environment) variables and set the path as "C:\Program Files\OpenLogic\jdk-17.0.9.9-hotspot\ "



After installing all, check if they are properly installed by using the command --version in command prompt.

```
C:\Users\jaysh>node --version
v20.10.0

C:\Users\jaysh>npm --version
10.3.0

C:\Users\jaysh>java --version
openjdk 17.0.9 2023-10-17
OpenJDK Runtime Environment OpenLogic-OpenJDK (build 17.0.9+9-adhoc..jdk17u)
OpenJDK 64-Bit Server VM OpenLogic-OpenJDK (build 17.0.9+9-adhoc..jdk17u, mixed mode, sharing)
```

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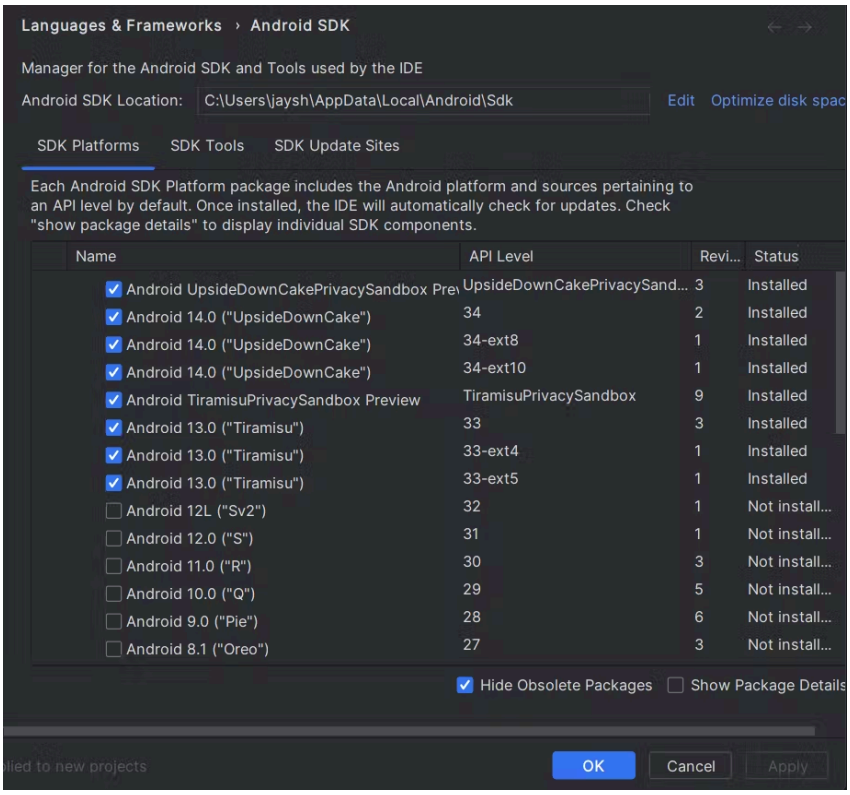
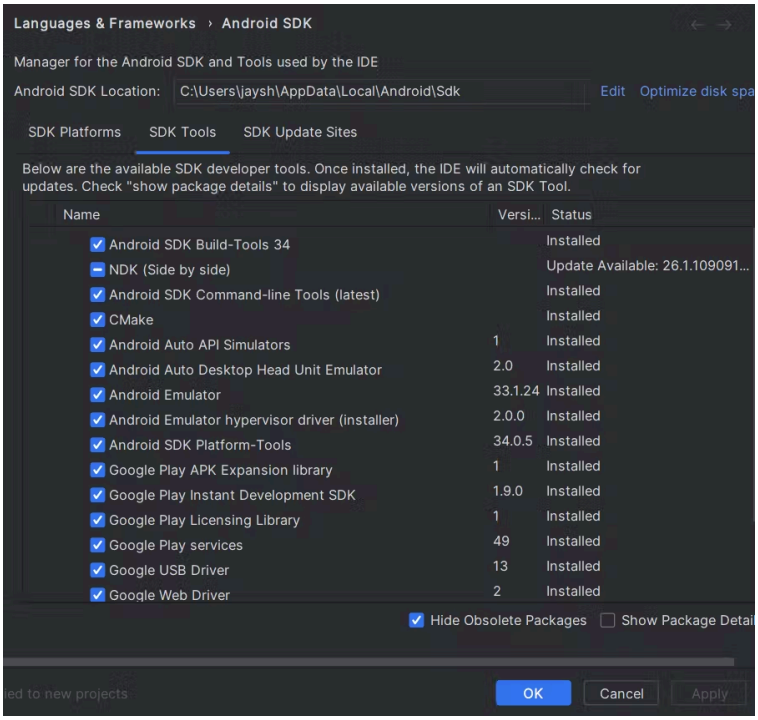
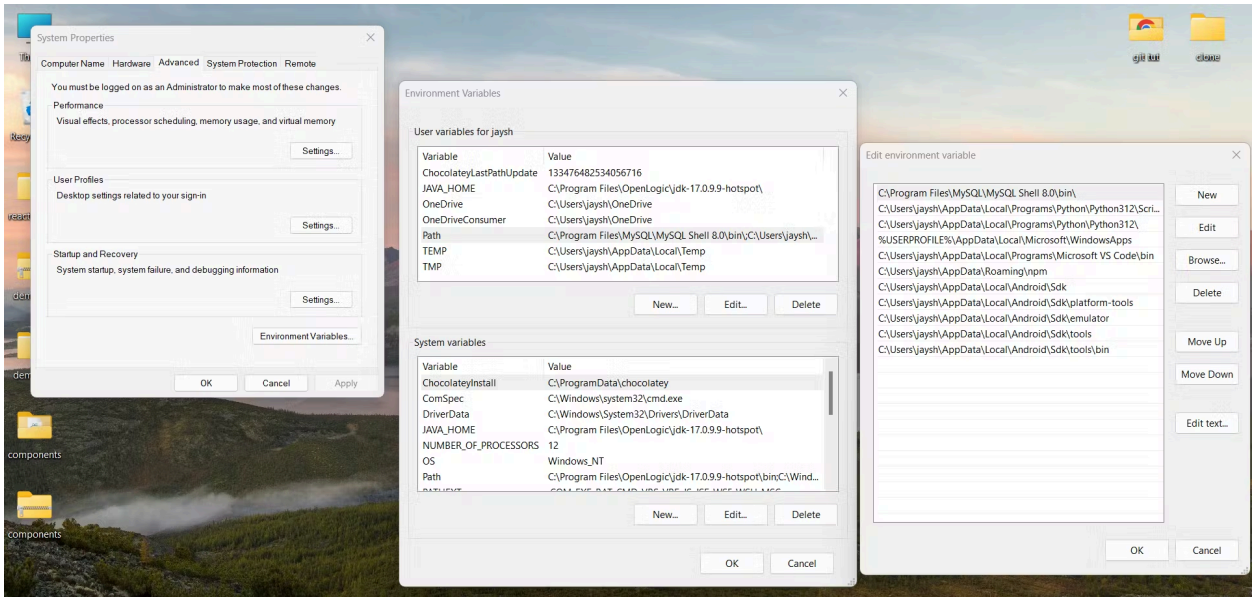
Now let us install **Android Studio**. Go to https://developer.android.com/studio and download the latest version ("Hedgehog" as of now). Make sure to install it in the C drive and make some space beforehand as it does require a lot of space. Once installed, open it, go to **More Actions** and open the **SDK Manager**. There check all the boxes from SDK platforms and from SDK tools as shown below.






Make sure your Android SDK location is set like me. Click on Apply and wait. Now you will need to set some environment variables for your android studio to run properly. Go to environment variables and set new paths as shown below.

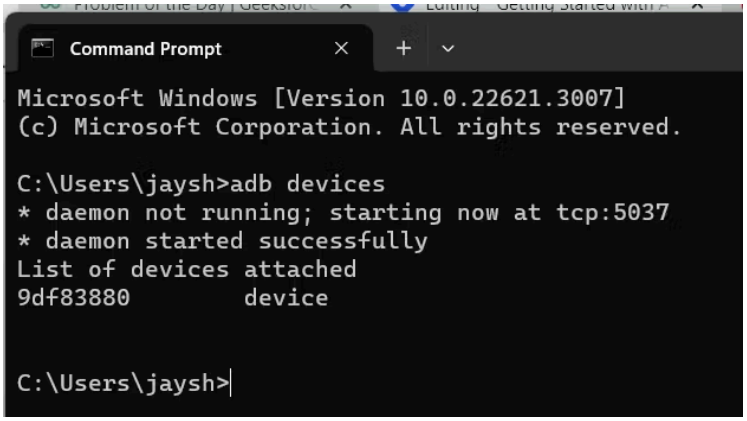



Once the environment variables are set, we can get started with creating our own project.

# Setting your Android phone up:

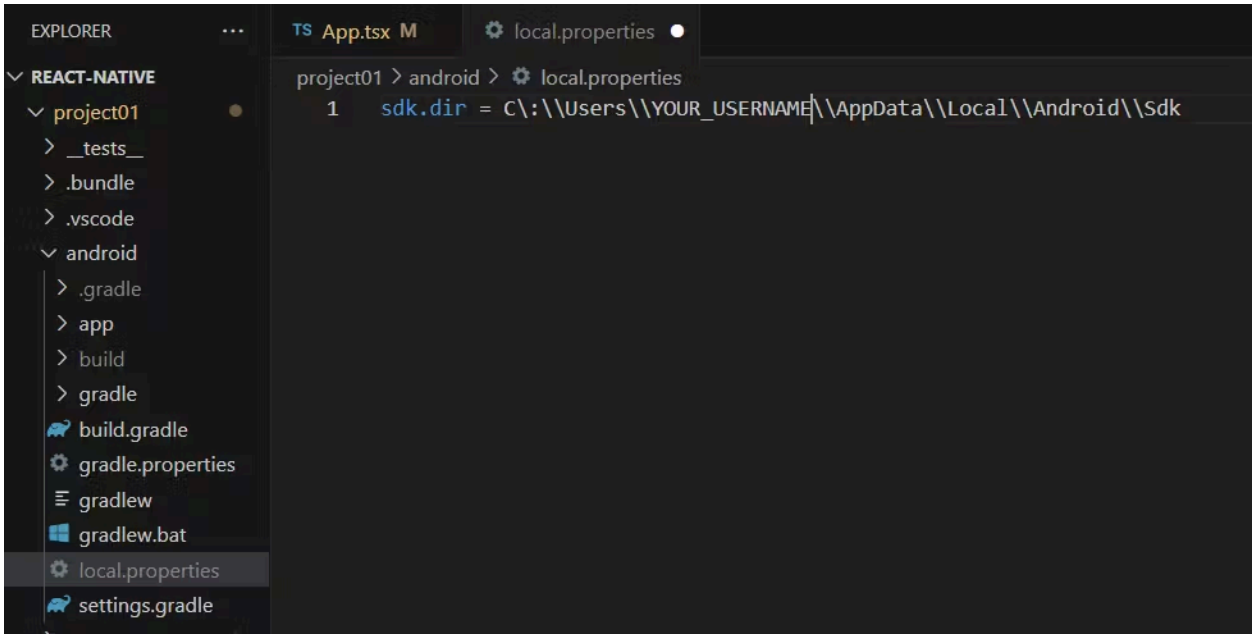
If you directly want to connect your android phone with the computer and get started building your app, you need a data transfer cable and you need to configure the developer options on your android.

First get promoted to a developer by repeatedly clicking on the "android version" option in your "About Phone" settings. Once you become a developer, go to the developer options and turn on the **USB Debugging** feature along with the "Keep display on while charging" option. Also set the **USB Configuration** to "MTP: Media Transfer Protocol". You can check whether your phone is connected or not through **adb devices** command.



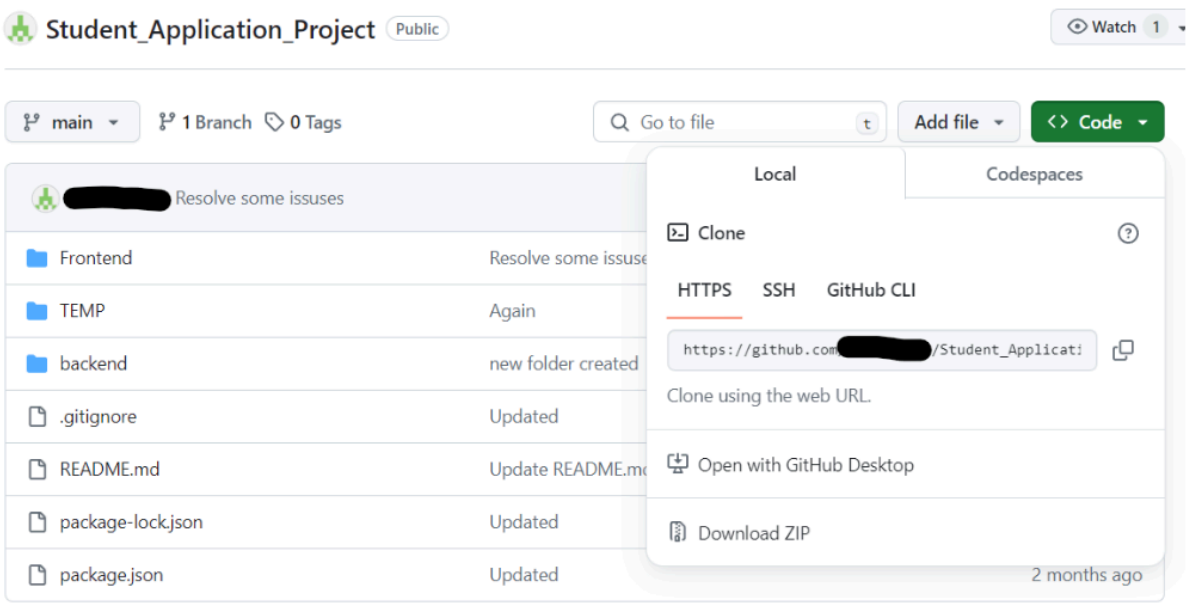

Now open command prompt in any folder that you like and create a new project using the command: **npx react-native init project_name**
This will take some time but once it is installed, go in the project_name folder and run the command: **npm run start** (if it doesn't work, try: **npx react-native run-android**)
Your app will be up and running now.

You might encounter an error of **SDK Location not found** while trying to run your project. This occurs because a local.properties file is missing in your project. To resolve this, just create a new local.properties file in the **android** folder of your project and in it provide the path as shown below

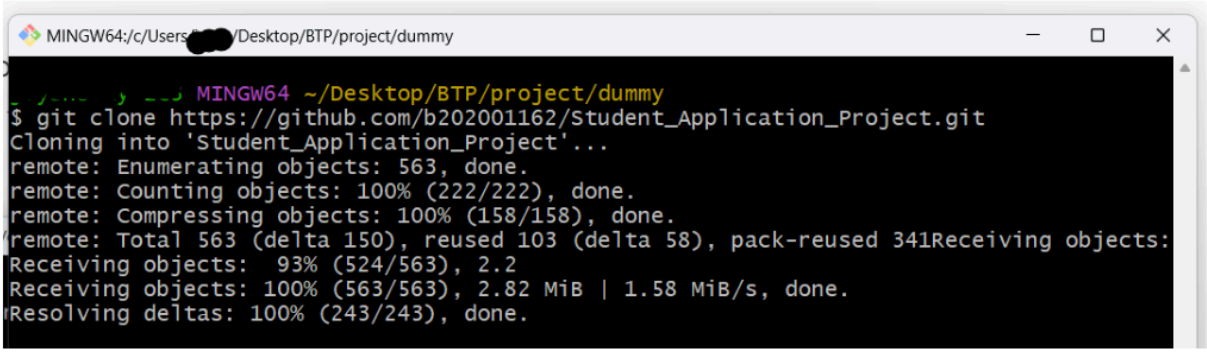



Now that the environment is set up, if you want to run a project on your local pc, you first need to clone the git repo.

For that, go to the git repo and copy the repo URL.



Now go to your local pc and open git bash in the folder where you want the git repo. and write the command : *git clone ...url...*



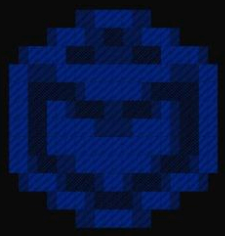

Once the repo is cloned, you can now connect your android with the PC (enable USB tethering) and run the project.

Open VS Code, go to the frontend folder where App.tsx is installed and open the terminal. Run "*npm install*" to install the necessary packages and after that run "*npm run start*".

See below given images for reference

```
C:\Users\Admin\OneDrive\Desktop\React Native\App\BTP\App\New\Working>git clone https://github.com/b202001162/Student_Application_Project.git
Cloning into 'Student_Application_Project'...
remote: Enumerating objects: 556, done.
remote: Counting objects: 100% (215/215), done.
remote: Compressing objects: 100% (157/157), done.
remote: Total 556 (delta 144), reused 96 (delta 52), pack-reused 341Receiving objects:  91% (506/556), 2.31 MiB |
Receiving objects: 100% (556/556), 2.82 MiB | 2.29 MiB/s, done.
Resolving deltas: 100% (237/237), done.

C:\Users\Admin\OneDrive\Desktop\React Native\App\BTP\App\New\Working>cd ./Student_Application_Project/

C:\Users\Admin\OneDrive\Desktop\React Native\App\BTP\App\New\Working\Student_Application_Project>cd ./Frontend

C:\Users\Admin\OneDrive\Desktop\React Native\App\BTP\App\New\Working\Student_Application_Project\Frontend>npm install
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 long
er maintained. Please use @babel/plugin-transform-class-properties 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 n
o 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 lon
ger maintained. Please use @babel/plugin-transform-numeric-separator instead.
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-chaining@7.21.0: This proposal has been merged to the ECMAScript standard and thus this plugin is no lon
ger 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 lo
nger maintained. Please use @babel/plugin-transform-object-rest-spread 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 i
s no longer maintained. Please use @babel/plugin-transform-async-generator-functions instead.

added 1169 packages, and audited 1170 packages in 23s

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

found 0 vulnerabilities
```

```
C:\Users\Admin\OneDrive\Desktop\React Native\App\BTP\App\New\Working\Student_Application_Project\Frontend>npm run start

> Frontend@0.0.1 start
> react-native start

(node:9308) [DEP0040] DeprecationWarning: The `punycode` module is deprecated. Please use a userland alternative instead.
(Use `node --trace-deprecation ...` to show where the warning was created)
info Welcome to React Native v0.73
info Starting dev server on port 8081...
```



```
              Welcome to Metro v0.80.6
            Fast - Scalable - Integrated


info React Native v0.74.0 is now available (your project is running on v0.73.6).
info Changelog: https://github.com/facebook/react-native/releases/tag/v0.74.0
info Diff: https://react-native-community.github.io/upgrade-helper/?from=0.74.0
info For more info, check out "https://reactnative.dev/docs/upgrading?os=windows".
info Dev server ready

i - run on iOS
a - run on Android
d - open Dev Menu
r - reload app
```

The project will run just fine now.

x-x-x