*How to set up a React Native Environment Andrew Reimert*

**System Requirements:**

CPU - AMD Ryzen 7 4800H with Radeon Graphics 2.90 GHz

RAM - 16 GB

OS - Windows 11 Home

**1. Configuration**

1. In your search bar, search “Windows PowerShell”, when you see the application, right click on the application so see more options for this application. You will see an option to “Run as Administrator”, select this option.
2. When PowerShell opens, run the command Get-ExecutionPolicy and press Enter, if it returns Restricted, run the command Set-ExecutionPolicy AllSigned OR Set-ExecutionPolicy Bypass -Scope Process and press Enter, then re-run the command Get-ExecutionPolicy to ensure that it returns AllSigned (If it initially returns AllSigned , then you do not need to change the ExecutionPolicy).
3. Run the command Set-ExecutionPolicy Bypass -Scope Process -Force; [System.Net.ServicePointManager]::SecurityProtocol = [System.Net.ServicePointManager]::SecurityProtocol -bor 3072; iex ((New-Object System.Net.WebClient).DownloadString('https://community.chocolatey.org/install.ps1')) , this will install a tool named “Chocolatey” a tool needed to download Node (A React Native command interface) and a JDK (A “Java Development Kit”).
4. Still in PowerShell, run the command choco install -y nodejs-lts microsoft-openjdk17 , this will install both aforementioned Node and a JDK. Wait for the processes to finish, you should see the message Chocolatey installed 2/2 packages showing you have successfully installed the tools.
5. On your browser, go to <https://developer.android.com/studio> , and select the button that says “Download Android Studio”, we are now downloading the latest Android Studio IED, this is the program that you will use to develop Android apps. After reading and agreeing to the Terms and Conditions, select the download button to download the installation wizard.

**IF YOU HAVE AN AMD PROCESSOR FOLLOW THE GUIDE BELOW BEFORE DOING NEXT STEP:**

1. In your search bar, search “Turn Windows features on and off” and select it.
2. When the window appears, look for the feature named “Windows Hypervisor Platform” and make sure it is checked and press ok.
3. Once your computer finishes making changes, you will have to restart your computer as prompted.
4. On your computer find and run the installation wizard, you should find it in your downloads folder.
5. When the installation wizard opens, click next, it will prompt you to “Choose Components”, make sure that the following are checked (it should be automatically):

* Android Studio
* Android Virtual Device

Then click next to continue the steps, you don’t have to change anything else.

1. Once installed, run the Android Studio Setup Wizard, you will be prompted to import settings, you can just select “Do not import settings”, and press ok. Then select your to not send data to google.
2. The Setup Wizard will open, press next, and make sure to select the Standard setup. Go through the steps without changing anything, and then make sure to accept both Licencing Agreements before pressing finish. Android Studio will now begin to download, once done press finish.
3. Android Studio should now be opened, for React Native, we need to download a specific Android SDK, to do this, select the option “More Actions” found in the middle under the three main options. More action options should appear, select the option “SDK Manager”.
4. A settings window should appear, automatically on the settings “Languages and Frameworks -> Android SDK” where you will see many different versions of Android. First, check the small box in the bottom right that says “Show Package Details”, Expand the entry “Android 13.0 (“Tiramisu”)” then find and check the box for the following:

* Android 13.0 (“Tiramisu”) (with an API Level of 33)
* Google APIs Intel x86\_64 Atom System Image

Then, select the Tab named “SDK Tools” and once again check the “Show Package Details” box, find and expand the entry named “Android SDK Build Tools” and check the box named “33.0.0”.

1. Select Apply, and confirm the change, a new window will open showing the components being installed. Once completed, select Finish to close this window, then select OK on the settings window to close the window.
2. Now, we will be adding a new Windows Environment Variable so that we can build apps properly, to do this, search “Control Panel” in your search bar and run the application. You will see lots of options, but the one you are looking for is “User Accounts”, select it, then select the option for “Change my environment variables”. A new window will open, and you will select the new option to create a new variable. Name this variable “ANDROID\_HOME” and have the file path be “C:\Users\**YOUR USERNAME**\AppData\Local\Android\Sdk” and select ok, keep control panel open for upcoming steps.
3. Open Windows PowerShell as administrator (as directed before), and run the command Get-ChildItem -Path Env:\ , within the output, make sure you can find the “ANDROID\_HOME” variable you just made.
4. Within Control Panel, once again click on “User Accounts” and then “Change my environment variables”. Select the variable named “Path” and click Edit, a new window will appear, and on that window select New where you will be prompted to make a new path. The path you will insert is “%LOCALAPPDATA%\Android\Sdk\platform-tools”, then select Ok on both screens to add the path.

**2. Project Creation**

1. We are now going to create a new project, to do this we first need to make a project folder. Open “File Explorer” and go to the file “OS (C:)”, then rick click on the window (not a file) and select New, and then Folder and name it whatever you want. Once created, you could see a search bar at the top, in this bar type “cmd” and press enter, this will bring you into a command prompt for this file. In the command prompt, run the command npx react-native@latest init CoolTodoApp (for this example we are naming the project “Cool Todo List”). Then run y to confirm the command, after some time once it is completed, you have created a new application project, keep this command prompt open for later steps.

**3. Running Project**

1. Now to run this project we need an Android device, which we will be using a virtual device. In Android Studio, select Open, and using the navigator find the folder you just made (eg. CoolTodoApp) then find the folder “android” and select Open. Once in the project, you will see on the right multiple options, select the one that says “Device Manager”. Here you should see 2 devices, one default one, and one that is “Tiramisu” with an API of 33 that is not yet installed. Select the download button to bring you into the installation wizard again and select next to install the device. Once finished select Finish, and then on the device manager, press the play button on the right side of the newly installed device, this will begin the Android emulator.
2. Now you are going to run your project, first navigate to the top bar and find “Build” here choose the option “Make Project”, you can see it’s progress by selecting the “Build” option in the bottom bar. Then, from the top bar find “Run” and select “Run app”
3. This will start the app but with errors, to fix this open the command prompt for your project folder used earlier, and run the command npm run start , then type r to reload the app. You have now successfully created and ran a React Native app.

**Troubleshooting:**

In the case of confusion for Android Studio, it is recommended to use the “Old UI” feature for this guide.

**Additional Resources:**

For further information on this guide, refer to the following:

* <https://reactnative.dev/docs/environment-setup?guide=native&package-manager=npm>
* <https://chocolatey.org/install>
* <https://android-developers.googleblog.com/2018/07/android-emulator-amd-processor-hyper-v.html>