# Lab Assignment 1: Spinning Up React Native App

## System requirements

* CPU:
  + Processor: 12th Gen Intel(R) Core(TM) i9-12900HK 2.50 GHz
  + System type: x64-based
* RAM: 32GB
* Window version: Window 11 Pro 22H2

## Installation instructions

1. **Install Node.js**

Navigating to [nodejs.org](https://nodejs.org/en) and downloading the new version LTS (recommended for most users). Then you run the downloaded file and follow the step-by-step instructions (keeping default settings).

1. **Android Environment Development**
2. **Install Android Studio**

* Navigating to [Download and install Android Studio](https://developer.android.com/studio) and then run the downloaded file. In the setup prompt, follow the default settings and install Android Studio.
* When the installation is finished, Android Studio Welcome page comes up.
* Select Standard as type of setup in Install Type prompt
* Select UI theme: dark mode or light mode
* In SDK Components Setup: make sure all of the following items are checked:
  + Android SDK
  + Android SDK Platform
  + Android Virtual Device

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* Then click “Next” and continue to finish the process.

1. **Install the Android SDK**

* After finishing the process, Android Studio app Welcome page is shown.
* Under “More Actions”, click on “SDK Manager”
* Under SDK Platforms, expand Android 14.0 and make sure the following items are checked:
* Android SDK Platform 34
* Intel x86 Atom\_64 System Image or Google APIs Intel x86 Atom System Image

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* Under SDK Tools, make sure the following items are checked:
* Android SDK Build
* Android Emulator
* Intel x86 Emulator Accelerator

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1. **Add ANDROID\_HOME environment variable**

* In Control Panel, click on “User Accounts” -> “User Accounts”
* On the left hand side, click on “Change my environment variables” -> click on “New” button to add environment variables.

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* Variable name: ANDROID\_HOME
* Variable value is the location path of Sdk file

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1. **Add platform-tools to Path**

* In Control Panel, click on “User Accounts” -> “User Accounts”
* On the left hand side, click on “Change my environment variables”
* Select Path variable, then click “Edit” button

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* Click “New” button and paste the location path of platform-tools (you can cope the path of ANDROID\_HOME and add “\platform-tools”)
* Then click “OK”

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## Project creation

1. Open a folder where you want to create your project in Terminal (Note: the project should be stored outside of OneDrive folder)
2. Enter this line to create your React Native project: npx react-native@latest init [project name]

For example, create a project called HazelIncredibleTodoListApp



If you receive a command Not found, the reason may be that either you have not installed Node.js or Node.js was not installed correctly.

1. Enter “y” to proceed

* If you reveice a npm notice that the npm needs to be updated, enter “npm i -g npm”

1. Open the project folder in VS Code
2. Rename App.tsx file to App.jsx and delete red lines in the code (this step is to change Typescript file to Javascript file)

## Running the project

1. **Virtual device setup**

To create virtual machine image:

1. Open Android Studio -> More Actions -> Virtual Device Manager
2. Choose a vitual device type you want to use
3. Select and download “R” image
4. Change the device name (optional) -> click on “Finish”
5. Click Play button to start the device

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1. **Run React Native application**
2. In Android Studio, click on “Open” and open android folder in the project folder (it may take time to load the project)

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1. In the top-left menu, click on Build -> Make Project
2. In the top-left menu, click on Run -> Run ‘app’

* An error will occur on the virtual device: Unable to load script

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* Open Terminal and go to the directory where the project was created, then enter “npm run start”
* Enter “r – reload the app”
* Now the app is running inside of the device emulator.

1. Test the virtual device

* Change content in App.jsx file in VS Code, and save the change.
* For example, change App.tsx to App.jsx

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