Lab Assignment 1:

Spinning Up React Native App

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## System Requirements

The following specifications of the system are being used for React Native development:

* Processor: 12th Gen Intel(R) Core(TM) i7-1255U 1.70 GHz
* RAM Size: 16GB
* Windows version: Windows 11 Home - 22H2

## Installation Instructions

1. Install Node LTS - <https://nodejs.org/en/>
   1. If already installed, make sure you have the latest version. Open your Terminal and use the following command: **node -v**
2. Download and install Android Studio - <https://developer.android.com/studio>
   1. Leave all initially selected items as it is
   2. *Note: You don't have to install JDK separately because it comes bundled with the Android Studio installation.*
   3. Under the SDK Components Setup: Make sure that the **Android API 34** is selected

## Configuration Steps

Configuration of ANDROID\_HOME environment variable:

1. Go to your Windows search > Edit the system environment variables > Environment Variables > New…
   1. Variable name: ANDROID\_HOME
   2. Variable value: *[path to your Android SDK]*
      1. To check the path, open Android Studio > More Actions > SDK Manager > Language & Frameworks > Android SDK; or
      2. Copy & paste this in your Windows Explorer: *%LOCALAPPDATA%\Android\Sdk*
2. Under the Environment Variables window, select the Variable name: Path then Edit… > New… to add the platform tools
   1. Copy and paste this in your Windows Explorer to locate the path: *%LOCALAPPDATA%\Android\Sdk\platform-tools*

## Project Creation

1. To start/create a react native project, create a new folder where you will store all react native projects. Please make sure to create a folder outside your OneDrive folder.
2. Open your Command Prompt and go to the directory where you want to save your project *(the folder you created from Step 1).*
3. Create a new project by entering the following command: npx react-native@latest init *[projectName]*
   1. Press **y** to proceed
4. Once the project is downloaded and initialized,
   1. Open the VS Code > Open folder and select the project folder you created > check the ‘Trust the Author’
   2. If you’re using JavaScript extended, rename the file App.tsx to App.jsx and remove the red lines in the content

## Running the Project

1. Before you can test your app or run it, you have to setup first the device emulator.
   1. Open the Android Studio > More Actions > Virtual Device Manager > Create Device
      1. Then select your preferred Device > \*make sure that the category selected is Phone
   2. Once the device is selected, click Next > select and download a system image > click Finish
   3. Click Next > Finish
   4. To test the device, click the Play button
      1. Select **Allow access** if the Windows Defender Firewall window has prompted
2. To run the project:
   1. Open Android Studio > Open > select **android** folder where your project was created > click Ok
   2. Once loaded, go to the burger menu > Build > Make Project
   3. Once Build is completed, click the Play button to run the app
   4. Go to VS Code > Open Terminal (Ctrl + Shift + `) > enter the following command: npm run start
      1. You should be able to see the correct output as seen in the image:  
         A screen shot of a phone

         Description automatically generated

## Troubleshooting

1. If you are getting an error in running your project like “Build Error”,
   1. First, check your environment variables: there should be only one item for JDK or Java path
      1. If there are more than 1 java path, delete all of them and replace with one java path using this: C:\Program Files\Android\Android Studio\jbr\bin
   2. If same error is encountered, restart your Terminal or your computer.

## Resources

1. <https://reactnative.dev/docs/environment-setup?guide=native>
2. Videos shared by Nick Hamnett in our channel