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# Lab 01

### System Requirements

* CPU: x86\_64 architecture. 2nd Generation Intel or newer or AMD with support for a Windows Hypervisor
* RAM: 8 GB minimum
* Windows: Windows 10 or later

### Installation Instructions

1. Using your preferred browser, click or copy and past the url (provided below) for Android Studio:
   * developer.android.com/studio/index.html
2. Click on the button that reads ‘Download Android Studio Hedgehog’. This will initiate a download.
3. Navigate to your ‘Downloads’ folder either through the download section of your browser or through the file explorer.
4. Run the file downloaded from the Android Studio Website. It should be titled "android-studio-2023.1.1.28-windows.exe"
5. Select a folder to install Android Studios.
6. For the purpose of the CPRG303 class at SAIT, the next several windows can be maintained in their default states. Click ‘Next’ and accept terms after reading as they are encountered.
7. After the installation is complete, the Android Studio Setup Wizard will open.
8. A Terms and Service page will appear with the following options on the left-hand side:
   * ‘Android SDK’
   * ‘Android SDK Platform’
   * ‘Android Virtual Device’
9. Click on the headers of each and then ‘Accept’. A brief download should occur.
10. Android Studio should then open to a fresh window.
11. In the middle of this window, click ‘More Actions’ and a drop down menu should appear.
12. Click on ‘SDK Manager’. This will open a new sub-window.
13. Ensure the tab ‘SDK Platforms’ is selected, then check the box in the lower right that reads ‘Show Package Details’. Look for and expand the ‘Android 13 (Tiramisu)’ option. This will expand this section.
14. Click on ‘Android SDK Platform 33’ and ‘Intel x86 Atom\_64 System Image’.
15. Then, click on the tab ‘SDK Tools’ and check the box for ‘Show Package Details’.
16. Look for and expand the option ‘Android SDK Build-Tools’ and check the ‘33.0.0’ option.
17. Then click the ‘Apply’ button and then the ‘OK’ button.
18. Congratulations! You Can now move onto configuration.

### Configuration Steps

1. In the windows Search located in the taskbar, type **Control Panel** and click on the result.
2. Click on the header titled ‘User Accounts’. This will navigate to a new page.
3. Click on the header titled ‘User Accounts’ again. This will navigate to another new page.
4. On the left hand side, click on the link ‘Change my environment variables’
5. Click the ‘New...’ option.
6. Name the variable **ANDROID\_HOME**
7. To indicate the ‘Variable Value’, click on the ‘Browse File’ button. This will open up a file explorer. In the the space that indicates file path, highlight the entire field and type or copy and paste: **%LOCALAPPDATA%\Android\SDK** then hit the ‘Enter’ key. This will fill in the ‘Variable Value’. Then, click the ‘OK’ button.
8. Click the ‘OK’ button in the Environment Variables window.
9. In the windows Search located in the taskbar, type **powershell** and click on the result.
10. Type or copy and paste **Get-ChildItem -Path Env:\** into the PowerShell window and hit the ‘Enter’ key.
11. Within the list that appears, you can now verify ‘ANDROID\_HOME’ has been added.
12. Repeat steps 1-4 in this section.
13. Select the option within the Environment Variables window titled ‘Path’ and click ‘Edit...’
14. Within the new Edit environment variable window, click the ‘New’ button.
15. Type or copy and paste the **%LOCALAPPDATA%\Android\Sdk\platform-tools** and then click the ‘OK’ button. Click the ‘OK’ button once again in the Environment Variables window.

### Project Creation

1. Within the Search on the taskbar, type **CMD** and click the ‘Enter’ key on the result.
2. Type the following into the Command Line Window to create a project:
   * **npx** [**react-native@latest**](mailto:react-native@latest) **init AwesomeProject**
   * NOTE: AwesomeProject is the name of the project you wish to create.
   * NOTE: If you’d like the project to be created in a different folder, please navigate to the file location desired within the Command Line Window by use of the **cd** command.
3. Congratulations, you’ve created a project.

### Running the Project

1. Once the project is created, type **cd** and then the name of your project. For this example and instructions, that would be **cd AwesomeProject** and then click the ‘Enter’ key.
2. Within this folder, type the following **npm start** and then click the ‘Enter’ key.
3. Upon a brief load, you can then type **npm run android** and then click the ‘Enter’ key.
4. Congratulations, your emulation and app should start running!

### Troubleshooting

1. Running Applications through the Command Line requires the user to be in the folder housing the app. In order to navigate the Command Line, use the **cd** command.
   * Here is a quick guide to using the Command Line
   * [https://www.wikihow.com/Change-Directories-in-Command-Prompt#:~:text=Open%20the%20Command%20Prompt%20(CMD,the%20root%20of%20the%20drive](https://www.wikihow.com/Change-Directories-in-Command-Prompt" \l ":~:text=Open the Command Prompt (CMD,the root of the drive).
2. If at any point during installation the program freezes or stalls for too long, you can initialize the setup once again by running the exe that was downloaded with your browser.