**Lab Assignment 1:**

**Spinning Up React Native App**

1. **System Requirements**

The React Native development environment requires the following system specifications:

* CPU: Intel(R) Core(TM) i5-8250U CPU @ 1.60GHz
* RAM: 16GB
* Windows Version: Windows 10 Pro

1. **Installation Instructions**
2. Install Node.js

* Visit the Node.js website and download the latest LTS version.
* Follow the installation wizard for Windows.

1. Install Android Studio

* Download and install Android Studio.
* During the Android Studio installation, ensure that the following items are checked:
* Android SDK
* Android SDK Platform
* Android Virtual Device

**Note:** Avoid directory locations with whitespace.

* Accept all license agreements and click 'Finish.'

1. Install the Android SDK

* Open Android Studio.
* Navigate to "More Actions" > "SDK Manager" under "Languages & Frameworks."
* Expand the latest Android entry, e.g., Android 14.0 ("UpsideDownCake").
* Ensure the following items are checked:
* Android SDK Platform 34
* Intel x86 Atom\_64 System Image or Google APIs Intel x86 Atom System Image
* Switch to the "SDK Tools" tab, check "Show Package Details," and select Android SDK Build-Tools 34.0.0.
* Click "Apply" to download and install the Android SDK and related build tools.

1. **Configuration Steps**
2. Configure the ANDROID\_HOME environment variable:

* Open the Windows Control Panel.
* Navigate to User Accounts > User Accounts.
* Click on "Change my environment variables."
* Create a new ANDROID\_HOME user variable pointing to the Android SDK path (found in Android Studio Settings).

1. Add platform-tools to Path:

* Open the Windows Control Panel.
* Navigate to User Accounts > User Accounts.
* Click on "Change my environment variables."
* Select the Path variable, click Edit.
* Add the path to platform-tools to the list and click "Ok."

1. **Project Creation**
2. Open the terminal, navigate to the desired directory.
3. Run npx react-native@latest init [ProjectName].
4. Press 'y' to proceed.
5. The project will be created in the specified directory.
6. **Running the Project in Android Studio**
7. Create an AVD (Android Virtual Device)

* Open Android Studio.
* Navigate to "More Actions" > "Virtual Device Manager" > "Create Device."
* Select a Mobile Phone device and proceed.
* Download a system image (e.g., Tiramisu API Level 33) and finish setting up the AVD.

1. Run the project in the Android Device Simulator

* Open Android Studio.
* Select the android folder in the React Native project.
* Click on Build > Make Project.
* After the build completes, click on Run > Run 'app'.
* The app will launch in the selected AVD.

1. **Troubleshooting**

* No errors encountered.

1. **Resources:**

* <https://reactnative.dev/docs/environment-setup?guide=native>
* <https://medium.com/@92alanc/android-basics-2-android-studio-jdk-and-sdk-a16241916b6d#:~:text=Since%20Android's%20source%20code%20is,SDK%20(software%20development%20kit).>
* <https://www.tutorialspoint.com/react_native/react_native_environment_setup.htm>