**Lab 1: Spinning Up React Native App**

1. **System requirements:**

The Intel Core i9-13900H CPU that powers my React Native development machine has sufficient power to handle development chores. With 16 GB of RAM, it can run emulators and development tools with ease and efficiently manage resources. Windows 11 (64-bit) is the operating system that satisfies the requirements to execute React Native and related applications efficiently.

1. **Installation instructions**:

**Step 1: Install Node.js**

1. Go to the [Node.js official website](https://nodejs.org/).

2. Download the version that is LTS.  
  
3. Launch the installer and adhere to the instructions. If requested, make sure you select the option to "Automatically install the necessary tools".

4. Verify the installation:

* **node -v**
* **npm -v**

**Step 2: Install React Native CLI**

1. Open Command Prompt or PowerShell.
2. Run the following command:

* **npm install -g react-native-cli**

**Step 3: Install Android Studio**

1. Download Android Studio from the [Android Developer website](https://developer.android.com/studio).
2. Launch Android Studio and make sure the following components are chosen when installing:

* **Android SDK**
* **Android SDK Platform**
* **Android Virtual Device (AVD)**

1. To install the necessary SDKs, launch Android Studio after installation and follow the setup wizard's instructions
2. Configure the path of the Android SDK:

* **Open File > Settings > Appearance & Behavior > System Settings > Android SDK.**
* Make a note of the location of the Android SDK; you'll need it for environment variables.

**Step 4: Set Environment Variables**

1. Click the Start menu and type "Environment Variables" into the search bar.
2. Choose to Edit the environment variables for the system.
3. To access the Environment Variables pane, click on it.
4. Select New under System variables:

* **Variable name: ANDROID\_HOME**
* **Variable value: The path to your Android SDK, such as C:\Users\YourUsername\AppData\Local\Android\Sdk, should be noted.**

5. In the section titled "System variables," locate the Path variable and choose Edit. Incorporate the subsequent paths:

* %ANDROID\_HOME%\platform-tools
* %ANDROID\_HOME%\tools

**Step 5: Verify Android SDK Installation**

1. Open Command Prompt.
2. Run:

**adb --version**

The Android Debug Bridge version (ADB) should be returned in this case.

1. **Configuration Steps:**
   * 1. **Configure Android SDK Path:**

* Make that the environment variables have the Android SDK path set correctly, as mentioned previously. This makes the build tools required for React Native accessible.

1. **Project creation**:

**Step 6: Create a New React Native Project:**

1. Select the Command Prompt.  
  
2. Open the directory in which you wish to start working on your project.  
  
3. Execute the below command to initiate a fresh project:

* + - **npx react-native init IncredibleTodoListApp**

1. **Running the project:**

**Step 7: Start the Metro Bundler**

1. Open the directory for your project:

* + - **cd IncredibleTodoListApp**

1. **launch the bundler Metro:**
   * + **npx react-native start**

**Step 8: Run the App on an Android Device Simulator**

1. Go to your project directory once more in a fresh Command Prompt window.  
  
2. To create and launch the program on the Android emulator, type the following command into the terminal:

* + - **npx react-native run-android**

1. Verify the operation of an Android Virtual Device (AVD). To launch it, select Tools > AVD Manager in Android Studio.
2. **Troubleshooting**:

**Common Issues:**

* **Error: Unable to resolve package**: Ascertain that every dependency is installed appropriately. Run npm install again.
* **ADB not found**: Check the Android SDK environment variables you are using.
* **Emulator not starting**: Verify that the virtualization feature of your computer is turned on in the BIOS.

**Debugging:**

* Check out the Chrome Developer Tools for React Native app debugging. To access the developer menu, shake your device or emulator, then choose "Debug JS Remotely".

1. **Resources**:

**1. React Native Official Documentation: for learning react from scratch**

**Link**: <https://www.bing.com/ck/a?!&&p=a49940d157697ec3JmltdHM9MTcyNzEzNjAwMCZpZ3VpZD0wOGI0YTk5MS00ZWQ1LTZhNzQtMzczMy1iYTE4NGY3ZjZiNzEmaW5zaWQ9NTI0NQ&ptn=3&ver=2&hsh=3&fclid=08b4a991-4ed5-6a74-3733-ba184f7f6b71&psq=React+Native+Documentation&u=a1aHR0cHM6Ly9yZWFjdG5hdGl2ZS5kZXYvZG9jcy9nZXR0aW5nLXN0YXJ0ZWQ&ntb=1>

**2. Node.js Documentation**

**Link**: <https://www.bing.com/ck/a?!&&p=4134a7be967df81eJmltdHM9MTcyNzEzNjAwMCZpZ3VpZD0wOGI0YTk5MS00ZWQ1LTZhNzQtMzczMy1iYTE4NGY3ZjZiNzEmaW5zaWQ9NTIxMg&ptn=3&ver=2&hsh=3&fclid=08b4a991-4ed5-6a74-3733-ba184f7f6b71&psq=Node.js+Documentation&u=a1aHR0cHM6Ly9ub2RlanMub3JnL2VuL2RvY3M&ntb=1>

**3. Android Studio Documentation**

**Link**: <https://www.bing.com/ck/a?!&&p=4d8778c90d89007aJmltdHM9MTcyNzEzNjAwMCZpZ3VpZD0wOGI0YTk5MS00ZWQ1LTZhNzQtMzczMy1iYTE4NGY3ZjZiNzEmaW5zaWQ9NTcwMA&ptn=3&ver=2&hsh=3&fclid=08b4a991-4ed5-6a74-3733-ba184f7f6b71&psq=Android+Studio+Documentation&u=a1aHR0cHM6Ly9kZXZlbG9wZXIuYW5kcm9pZC5jb20vZ3VpZGUv&ntb=1>

**4. Stack Overflow for Community Support**

**Link**: <https://www.bing.com/ck/a?!&&p=4730fe4d8cb1553cJmltdHM9MTcyNzEzNjAwMCZpZ3VpZD0wOGI0YTk5MS00ZWQ1LTZhNzQtMzczMy1iYTE4NGY3ZjZiNzEmaW5zaWQ9NTIxNA&ptn=3&ver=2&hsh=3&fclid=08b4a991-4ed5-6a74-3733-ba184f7f6b71&psq=stack+overflow&u=a1aHR0cHM6Ly9zdGFja292ZXJmbG93LmNvbS8&ntb=1>