Setting Up a React Native App

# Introduction

React Native is a significant framework in mobile app development that allows developers to build mobile applications for both iOS and Android using a single TypeScript or JavaScript codebase. In this lab assignment, we will document the steps for setting up a React Native App, which will be utilized for future lab assignments.

# System Requirements

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

- CPU: Intel Core i5 or equivalent

- RAM: 8 GB or more

- Storage: At least 10 GB of free space

- Operating System: Windows 10 (64-bit)

# Installation Instructions

To set up the React Native development environment, follow these steps:

## 1. Install Node.js:

Visit the Node.js website (https://nodejs.org) and download the LTS version. Follow the installation instructions to complete the setup.

## 2. Install Java Development Kit (JDK):

Download the JDK from Oracle's JDK Downloads (https://www.oracle.com/java/technologies/javase-jdk11-downloads.html). Follow the installation instructions for Windows.

## 3. Set Environment Variables:

Open Windows PowerShell and run the following commands:

[Environment]::SetEnvironmentVariable("JAVA\_HOME", "C:\jdk-11.0.24+8", "User")  
$oldPath = [Environment]::GetEnvironmentVariable("Path", "User")  
$newPath = "$oldPath;C:\jdk-11.0.24+8\bin"  
[Environment]::SetEnvironmentVariable("Path", $newPath, "User")

## 4. Install React Native CLI:

In PowerShell, run the command:

npm install -g react-native-cli

# Configuration Steps

## 1. Configure Android Studio:

Download and install Android Studio from the official website (https://developer.android.com/studio). Install the Android SDK and set up an Android Virtual Device (AVD) using the AVD Manager.

# Project Creation

To create a new React Native project, follow these steps:

## 1. Open PowerShell and navigate to the desired directory:

cd C:\Users\harsi\Desktop

## 2. Initialize the Project:

npx @react-native-community/cli init IncredibleTodoListApp

# Running the Project

To run your React Native app on an Android device:

## 1. Start the Metro Bundler:

In PowerShell, run:

cd IncredibleTodoListApp  
npx react-native start

## 2. Run the App:

Open another PowerShell window and run:

npx react-native run-android

# Troubleshooting

If you encounter issues during the setup or while running the app, consider the following troubleshooting steps:

- Check if the Android emulator is running: Ensure that the emulator is started from Android Studio or a connected physical device.

- Enable USB debugging: If using a physical device, make sure USB debugging is enabled in the device's developer options.

- Clear cache: If you face build errors, try clearing the cache with:

npx react-native start --reset-cache

# Resources

- React Native Getting Started (https://reactnative.dev/docs/getting-started)

- Node.js Documentation (https://nodejs.org/en/docs/)

- Android Studio Documentation (https://developer.android.com/studio/docs)

# Submission Guidelines

GitHub: Create a new public GitHub repository to host your code. Push all your app files (except the 'node\_modules' folder) and the setup instructions document to the repository.

D2L Submission: Compress all files and folders for your assignment (except the 'node\_modules' folder) into a single ZIP file. Upload the ZIP file to the appropriate assignment drop-box on D2L. Include the link to your GitHub repository in the comments area.