System requirements: Document specifications of the system being used for React Native development. This includes the CPU, RAM size, and Windows version.

Device name Lenovo\_X1

Processor 12th Gen Intel(R) Core(TM) i7-1260P 2.10 GHz

Installed RAM 16.0 GB (15.7 GB usable)

Device ID 60497D62-A81E-4E0A-AC8E-0E9529D19A19

Product ID 00355-60819-23441-AAOEM

System type 64-bit operating system, x64-based processor

Pen and touch No pen or touch input is available for this display

Edition Windows 11 Pro

Version 23H2

Installed on ‎15-‎12-‎2022

OS build 22635.2700

Serial number PF49XW24

Experience Windows Feature Experience Pack 1000.22678.1000.0

Guide to React Native: Setup and Development for Android

**Installation Instructions**

React Native and Android Studio Installation:

Visit React Native website and navigate to "Development" > "Guides" > "Environment setup" > "Setting up the development environment" > "React Native CLI Quickstart".

Select Windows as your Development OS and Android as your Target OS.

Install Node.js:

Download LTS version from Node.js.

Follow setup instructions, accepting license terms, and keeping default settings. Avoid selecting "Chocolatey".

Download and Install Android Studio:

Run the Android Studio installer.

Follow the setup wizard, choosing default settings for installation and UI themes.

Make sure to install components like "Android SDK", "SDK Platform", "API", and "Virtual Device".

Accept all license agreements to complete the installation.

Configuring Android Studio and Environment:

In Android Studio, go to "More Actions" > "SDK Manager".

Ensure correct SDK Platforms (e.g., Android SDK Platform 34) and SDK Tools (e.g., Android SDK Build-Tools 34, Android Emulator) are installed.

**Set up environment variables:**

In Windows settings, search for "environment variables".

Create a new user variable named ANDROID\_HOME, pointing to your Android SDK location.

Add the "platform-tools" folder from the Android SDK directory to the PATH variable.

Creating a React Native Project

Project Initialization:

Choose a directory outside OneDrive or Users Directory to store your project.

Open Command Prompt in the selected directory.

Run npx react-native@latest init ProjectName (replace "ProjectName" with your desired project name).

If prompted to update npm, run npm i -g npm.

Open the project in Visual Studio Code. If prompted about the author's trust, confirm positively.

Key project files: app.json, App.tsx, index.js, metro.config.js, package.json.

If you prefer JavaScript over TypeScript, rename App.tsx to App.jsx and adjust the code accordingly.

**Device Emulator Setup**

Creating a Virtual Device:

Open Android Studio, navigate to "More Actions" > "Virtual Device Manager".

Click on "Create Device", select a device (e.g., "Pixel 7"), and click "Next".

Download and select a system image (e.g., "R") for the emulator.

Finish the setup and start the virtual device. Allow firewall access if prompted.

Running and Testing the Project

In Android Studio:

Open the "android" folder of your project in Android Studio.

Use "Build" > "Make Project" to build the project.

Run the project using the "Run" tab. If a script load error occurs, use npm run start in your project's directory and press "r" to reload.

Modify a file (e.g., App.jsx) and check the emulator for changes to confirm live updates.

From Command Line:

Navigate to your project directory in Command Prompt.

Run npm run start and then press "a" to start the Android emulator.

Troubleshooting

Z Build Error (Multiple JDKs):

In Windows, search for "environment variables" and navigate to the Environment Variables section.

Remove any extraneous JDK paths in both user and system PATH variables.

Add the path of Android Studio's JDK to the environment variables.

Restart the command prompt or your computer for changes to take effect.

Using React Native Doctor:

In your project directory, run npx react-native doctor to identify and fix environment issues.

Additional Resources and Documentation

React Native Official Documentation <https://reactnative.dev/docs/getting-started>

React Native GitHub Repository <https://github.com/facebook/react-native>

React Native Tutorial for Beginners  
<https://programmingwithmosh.com/react-native/react-native-tutorial-for-beginners/>

React Navigation Documentation <https://reactnavigation.org/>

React Native Community <https://reactnative.dev/community>

Stack Overflow - React Native Questions  
<https://stackoverflow.com/questions/tagged/react-native>

React Native Blog <https://reactnative.dev/blog>

YouTube React Native Tutorials  
<https://www.youtube.com/results?search_query=react+native+tutorial>

Medium - React Native Articles <https://medium.com/tag/react-native>

Udemy React Native Courses <https://www.udemy.com/courses/search/?q=react%20native>