

LAPORAN PRAKTIKUM
PEMROGRAMAN WEB & MOBILE I



NAMA : ETRILIAN TONGALU
NIM : E1E118003
KELAS : C
MODUL : V

JURUSAN TEKNIK INFORMATIKA
FAKULTAS TEKNIK
UNIVERSITAS PALANGKA RAYA
2021

BAB I

TUJUAN DAN LANDASAN TEORI

1. Tujuan Praktikum

- 1.1. Mahasiswa mampu melakukan instalasi React Native

2. Landasan Teori

2.1 React Native

React Native adalah framework JavaScript untuk mengembangkan aplikasi mobile secara multi-platform. Khususnya, pada bagian *front-end* alias interface aplikasi. Dengan belajar React Native, kita bisa mengembangkan aplikasi mobile untuk berbagai platform dengan cepat. Sebab, sifatnya yang *cross-platform* memungkinkan satu codebase bisa digunakan di iOS dan Android. Selain itu, React Native juga menghasilkan aplikasi dengan UI/UX mengesankan. Aplikasi bisa berfungsi dengan *smooth* dan komponennya (seperti tombol-tombol) merespon dengan baik layaknya dibuat dengan kode Native.

Cara Kerja React Native cukup simple, yaitu:

- Developer menggunakan kode React untuk membangun interface aplikasi;
- Kode React akan diinterpretasikan menjadi JavaScript agar nantinya bisa digunakan untuk aplikasi mobile;
- React Native akan menggunakan fitur bridge untuk mengolah codebase menjadi Native Module (Android Module, iOS Module);
- Native Module siap digunakan di platform yang bersangkutan.

Penting diketahui, meski cara kerja React Native sederhana, terkadang hasil bridging kurang sempurna. Sehingga, developer perlu menyesuaikan beberapa komponen React Native yang kurang kompatibel tersebut.

2.2 Android Studio

Android Studio adalah Integrated Development Environment (IDE) resmi untuk pengembangan aplikasi Android, yang didasarkan pada IntelliJ IDEA . Selain sebagai editor kode dan fitur developer IntelliJ yang andal, Android Studio menawarkan banyak fitur yang meningkatkan produktivitas dalam membuat aplikasi Android, seperti:

- Sistem build berbasis Gradle yang fleksibel
- Emulator yang cepat dan kaya fitur
- Lingkungan terpadu tempat kita bisa mengembangkan aplikasi untuk semua perangkat Android
- Terapkan Perubahan untuk melakukan push pada perubahan kode dan resource ke aplikasi yang sedang berjalan tanpa memulai ulang aplikasi
- Template kode dan integrasi GitHub untuk membantu dalam membuat fitur aplikasi umum dan mengimpor kode sampel
- Framework dan alat pengujian yang lengkap
- Alat lint untuk merekam performa, kegunaan, kompatibilitas versi, dan masalah lainnya
- Dukungan C++ dan NDK
- Dukungan bawaan untuk Google Cloud Platform, yang memudahkan integrasi Google Cloud Messaging dan App Engine

BAB II

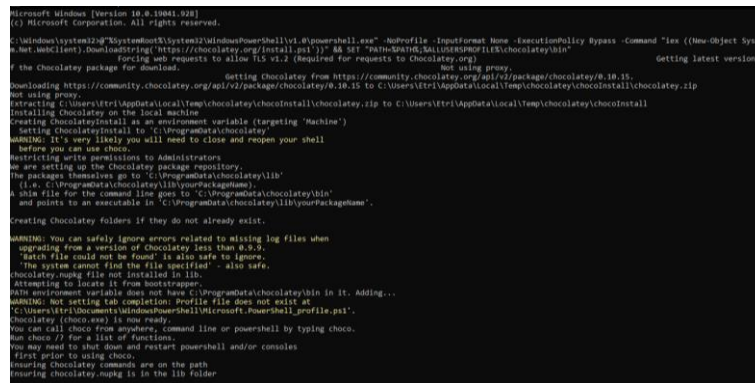
PEMBAHASAN

1. Instalasi React Native

Instalasi React Native dapat dilakukan dengan cara sebagai berikut.

1. Install Chocolatey

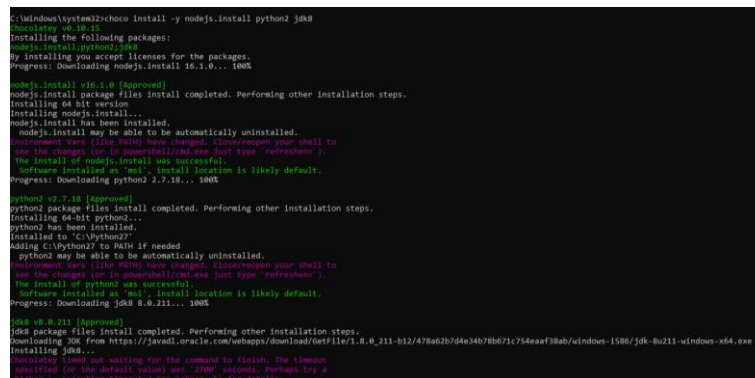
Penginstalan Chocolatey dapat dilakukan dengan menggunakan Command Prompt. Caranya yaitu cari Command Prompt terlebih dahulu, klik kanan lalu “Run as administrator”. Berikut adalah code beserta tampilan saat menginstall Chocolatey sampai selesai.



Gambar 2.1 Instalasi Chocolatey

2. Install JDK, Node.JS, dan Python

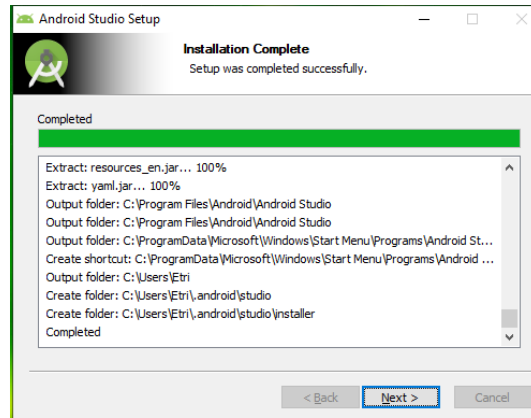
Agar dapat menginstal Node.JS, Python, dan JDK8, kita perlu menggunakan chocolatey. Berikut ini kode yang dituliskan beserta hasilnya.



Gambar 2.2 Instalasi JDK, Node.JS, dan Python

3. Install Android Studio

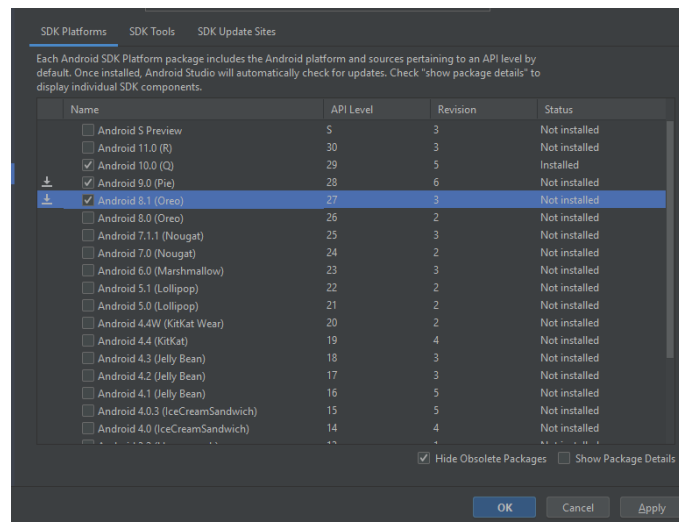
File setup Android Studio didownload terlebih dahulu melalui halaman website resminya, yaitu pada <https://developer.android.com/studio/>. Jika proses download telah selesai, maka proses instalasi Android Studio dimulai. Berikut adalah tampilan ketika selesai menginstall Android Studio.



Gambar 2.3 Instalasi JDK, Node.JS, dan Python

4. Install Android SDK

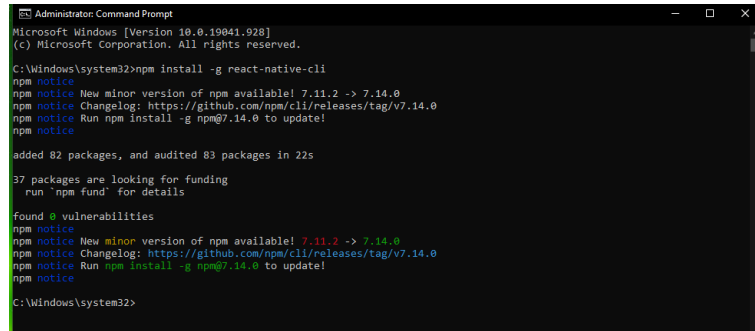
Android Studio yang telah diinstall dijalankan terlebih dahulu, lalu pada halaman awal menu Configure dipilih, kemudian SDK Manager yang berarti kita akan mulai mengonfigurasi Android SDK.



Gambar 2.4 Instalasi pada SDK Platforms

6. Install REACT NATIVE CLI

Berikut adalah syntax dan hasil dari instalasi React Native.



```
Administrator Command Prompt
Microsoft Windows [Version 10.0.19041.928]
(c) Microsoft Corporation. All rights reserved.

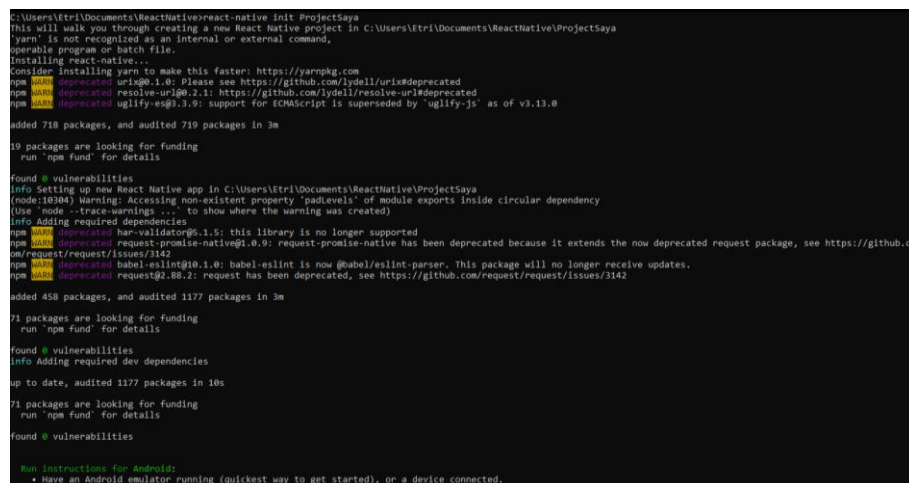
C:\Windows\system32>npm install -g react-native-cli
npm notice
npm notice New minor version of npm available! 7.11.2 -> 7.14.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v7.14.0
npm notice Run npm install -g npm@7.14.0 to update!
npm notice
added 82 packages, and audited 83 packages in 22s
37 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
npm notice
npm notice New minor version of npm available! 7.11.2 -> 7.14.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v7.14.0
npm notice Run npm install -g npm@7.14.0 to update!
npm notice
C:\Windows\system32>
```

Gambar 2.8 Instalasi React Native

7. Buat aplikasi

Syntax untuk membuat aplikasi yaitu :

```
react-native init ProjectSaya
```



```
C:\Users\Etri\Documents\ReactNative>react-native init ProjectSaya
This will walk you through creating a new React Native project in C:\Users\Etri\Documents\ReactNative\ProjectSaya
' yarn ' is not recognized as an internal or external command,
operable program or batch file.
Installing react-native...
Consider installing yarn to make this faster: https://yarnpkg.com
npm WARN deprecated urix@0.1.0: Please see https://github.com/lydell/urix#deprecated
npm WARN deprecated resolve-url@0.2.1: https://github.com/lydell/resolve-url#deprecated
npm WARN deprecated uglify-es@3.1.1: support for ECMAScript is superseded by 'uglify-js' as of v3.13.0
added 718 packages, and audited 719 packages in 3m
19 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
info Setting up new React Native app in C:\Users\Etri\Documents\ReactNative\ProjectSaya
(node:19304) Warning: Accessing non-existent property 'padLevels' of module exports inside circular dependency
(Use 'node --trace-warnings ...' to show where the warning was created)
info Adding required dependencies
npm WARN deprecated har-validator@5.1.3: this library is no longer supported
npm WARN deprecated request-promise-native@1.0.9: request-promise-native has been deprecated because it extends the now deprecated request package, see https://github.com/request/request/issues/3142
npm WARN deprecated babel-eslint@10.1.0: babel-eslint is now @babel/eslint-parser. This package will no longer receive updates.
npm WARN deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
added 458 packages, and audited 1177 packages in 3m
71 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
info Adding required dev dependencies
up to date, audited 1177 packages in 10s
71 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
Run instructions for Android:
  • Have an Android emulator running (quickest way to get started), or a device connected.
```

Gambar 2.9 Membuat Aplikasi

8. Setting device/emulator

Developer mode dan “USB Debugging” pada Hp yang akan dipakai untuk menjalankan program aplikasi android diaktifkan terlebih dahulu. Lalu PC dan Hp tersebut dihubungkan menggunakan kabel USB. Cara cek apakah sudah terdeteksi dilakukan dengan menuliskan syntax seperti berikut.

Berikut adalah hasil yang tampil pada Hp.



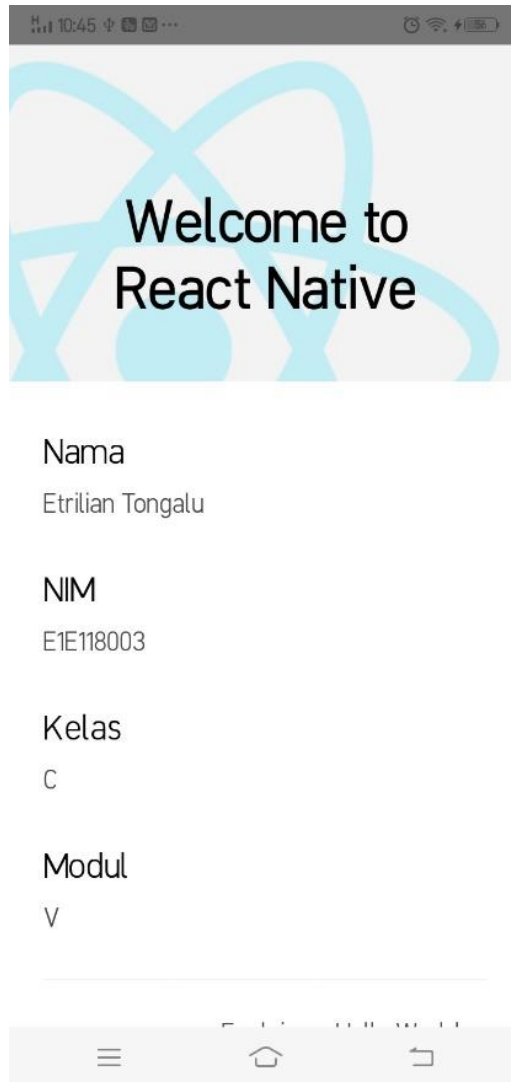
Gambar 2.12 Output Program pada Hp

10. Edit codingan app

Aplikasi yang sudah dibuat bisa diedit menggunakan berbagai macam text editor. Sedangkan file yang diedit yaitu App.js. Sebagai contoh kita menggunakan Visual Studio Code untuk mengedit programnya, berikut adalah source code beserta hasil run dari aplikasi tersebut.

```
App.js 3 X
C:\Users> Etni > Documents > ReactNative > ProjectSaya > JS App.js > [0] App
60  };
61
62  return (
63    <SafeAreaView style={backgroundStyle}>
64      <StatusBar barStyle={isDarkMode ? 'light-content' : 'dark-content'} />
65      <ScrollView
66        contentInsetAdjustmentBehavior="automatic"
67        style={backgroundStyle}>
68        <Header />
69        <View
70          style={{
71            backgroundColor: isDarkMode ? Colors.black : Colors.white,
72          }}>
73          <Section title="Nama">
74            /* <Text style={styles.highlight}>App.js</Text> */
75            Etrillian Tongalu
76          </Section>
77          <Section title="NIM">
78            Etrillian Tongalu
79          </Section>
80          <Section title="Kelas">
81            C
82          </Section>
83          <Section title="Modul">
84            V
85          </Section>
86          <LearnMoreLinks />
87        </View>
88      </ScrollView>
89    </SafeAreaView>
90  );
91  };
```

Gambar 2.13 Source Code Program yang Telah Diedit



Gambar 2.14 Output Program yang Telah Diedit

BAB III

KESIMPULAN

React Native adalah framework yang menggunakan Bahasa pemrograman JavaScript dan bisa digunakan untuk membuat aplikasi mobile baik pada platform Android maupun iOS. Dengan menggunakan React Native kita tidak perlu membuat aplikasi yang sama menggunakan bahasa yang berbeda untuk masing-masing platform. Selain itu, React Native dapat memberikan kemudahan bagi para pemula karena terdapat banyak tutorial yang membawakan gaya yang mudah dipahami bagi developer.

DAFTAR PUSTAKA

Benefita. (2021, Januari 13). Apa Itu React Native? Simak Penjelasan Lengkapnya.

https://www.niagahoster.co.id/blog/apa-itu-react-native/#Apa_Itu_React_Native

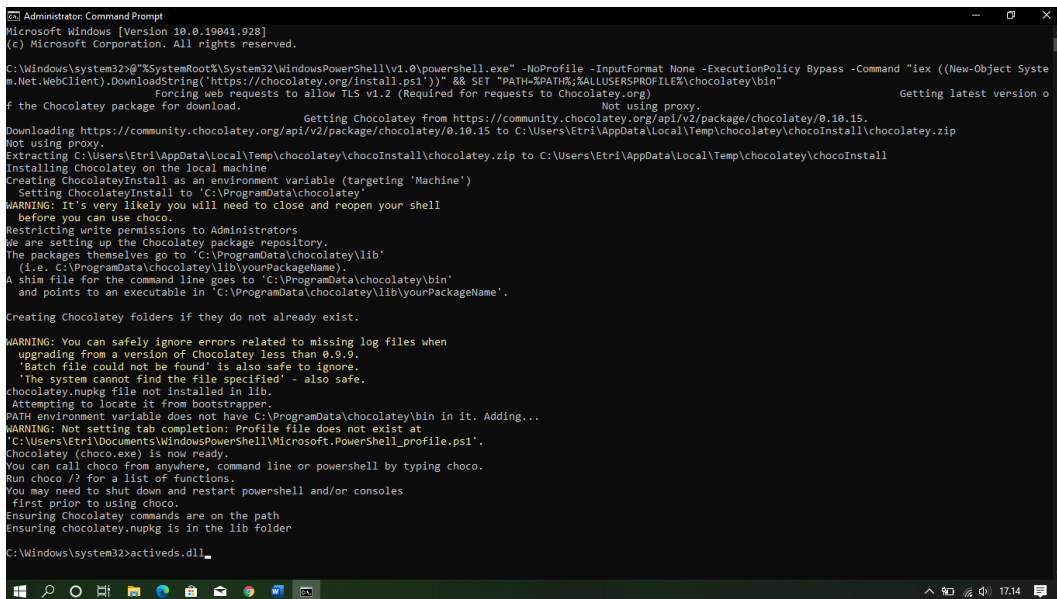
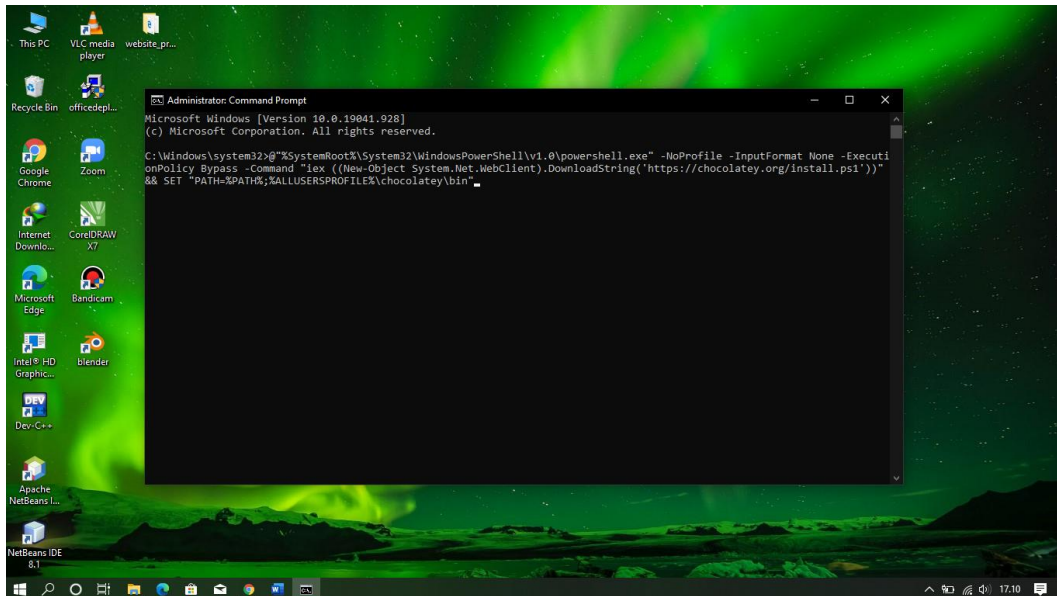
Developer Android. (n.d.). Mengenal android studio.

<https://developer.android.com/studio/intro?hl=id>

Rasupe. (2019, Maret 1). Cara install react native di windows 10.

<https://rasupe.com/cara-install-react-native-di-windows-10/>

LAMPIRAN



```
Administrator: Command Prompt
C:\Windows\system32>choco install -y nodejs.install python2 jdk8
Chocolatey v0.10.15
Installing the following packages:
nodejs.install;python2;jdk8
By installing you accept licenses for the packages.
Progress: Downloading nodejs.install 16.1.0... 100%

nodejs.install v16.1.0 [Approved]
nodejs.install package files install completed. Performing other installation steps.
Installing 64 bit version
Installing nodejs.install...
nodejs.install has been installed.
nodejs.install may be able to be automatically uninstalled.
Environment Vars (like PATH) have changed. Close/reopen your shell to
see the changes (or in powershell/cmd.exe just type 'refreshenv').
The install of nodejs.install was successful.
Software installed as 'msi', install location is likely default.
Progress: Downloading python2 2.7.18... 100%

python2 v2.7.18 [Approved]
python2 package files install completed. Performing other installation steps.
Installing 64-bit python2...
python2 has been installed.
Installed to 'C:\Python27'
Adding C:\Python27 to PATH if needed
python2 may be able to be automatically uninstalled.
Environment Vars (like PATH) have changed. Close/reopen your shell to
see the changes (or in powershell/cmd.exe just type 'refreshenv').
The install of python2 was successful.
Software installed as 'msi', install location is likely default.
Progress: Downloading jdk8 8.0.211... 100%

jdk8 v8.0.211 [Approved]
jdk8 package files install completed. Performing other installation steps.
Downloading JDK from https://javadl.oracle.com/webapps/download/GetFile/1.8.0_211-b12/478a62b7d4e34b78b671c754eaf38ab/windows-1586/jdk-8u211-windows-x64.exe
Installing jdk8...
Chocolatey timed out waiting for the command to finish. The timeout
specified (or the default value) was 2200 seconds. Perhaps try a
higher --execution-timeout? See 'choco -h' for details.
The install of jdk8 was NOT successful.
Error while running 'C:\ProgramData\chocolatey\lib\jdk8\tools\chocolateyinstall.ps1'.
See log for details.
```

```
Administrator: Command Prompt
Chocolatey installed 2/3 packages. 1 packages failed.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

Failures
- jdk8 (exit(-1)) - Error while running 'C:\ProgramData\chocolatey\lib\jdk8\tools\chocolateyinstall.ps1'.
See log for details.

Enjoy using Chocolatey? Explore more amazing features to take your
experience to the next level at
https://chocolatey.org/compare

C:\Windows\system32>choco install -y jdk8
Chocolatey v0.10.15
2 validations performed. 1 success(es), 1 warning(s), and 0 error(s).

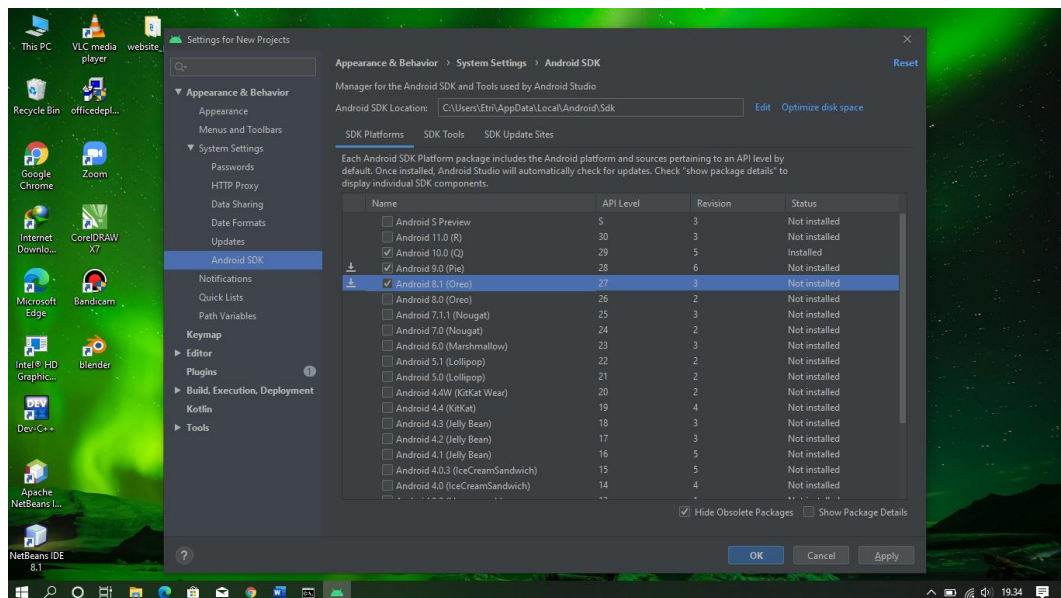
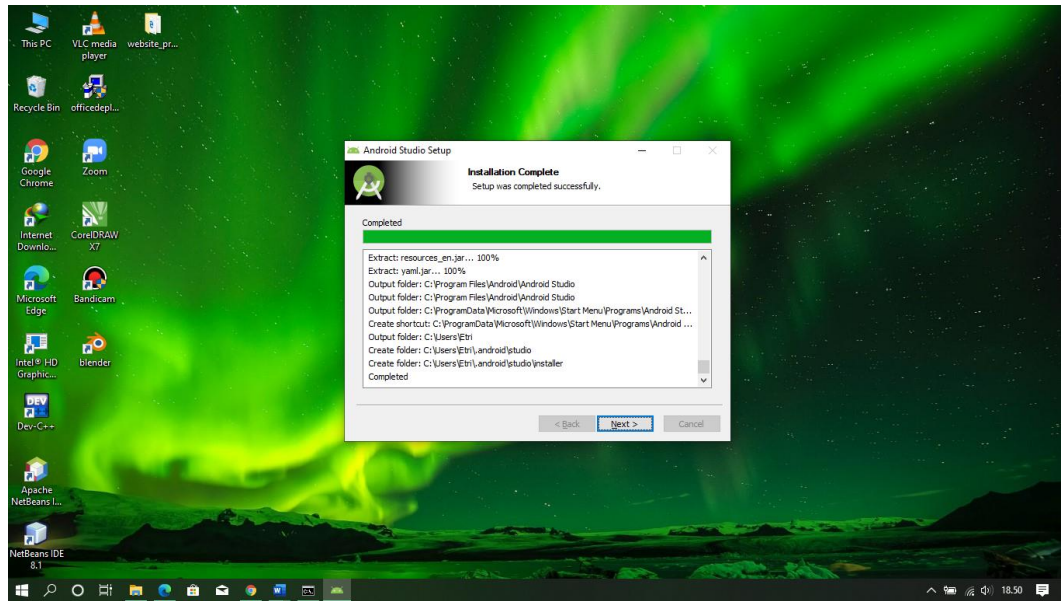
Validation Warnings:
- A pending system reboot request has been detected, however, this is
being ignored due to the current Chocolatey configuration. If you
want to halt when this occurs, then either set the global feature
using:
choco feature enable -name=exitOnRebootDetected
or pass the option --exit-when-reboot-detected.

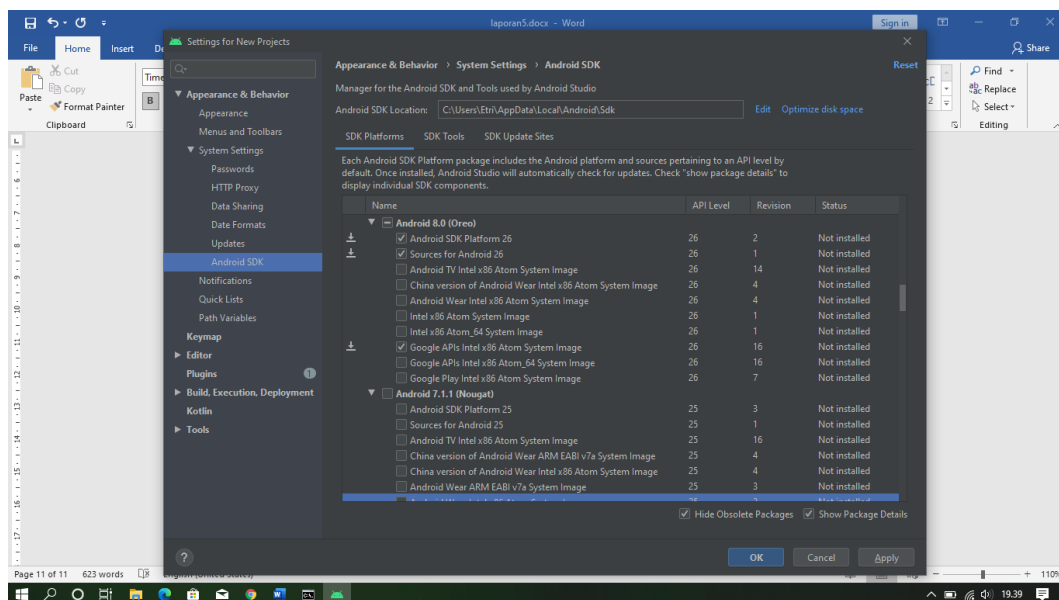
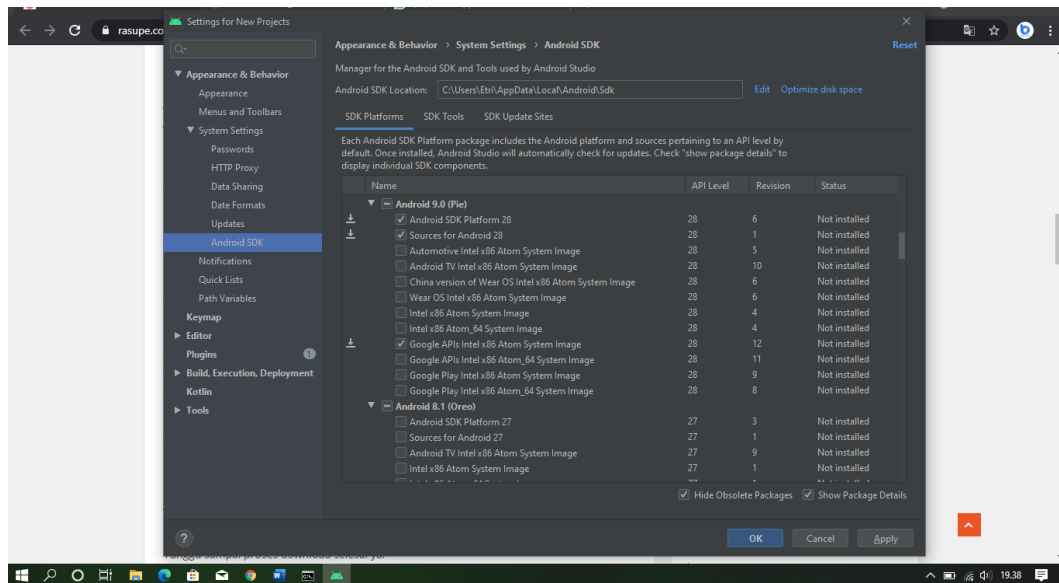
Installing the following packages:
jdk8
By installing you accept licenses for the packages.
Progress: Downloading jdk8 8.0.211... 100%

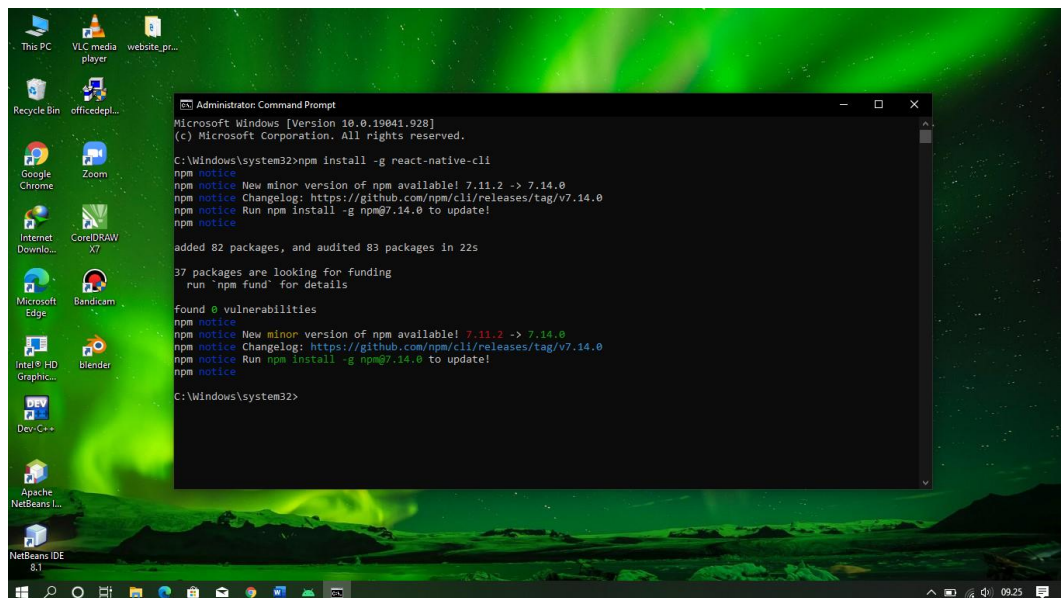
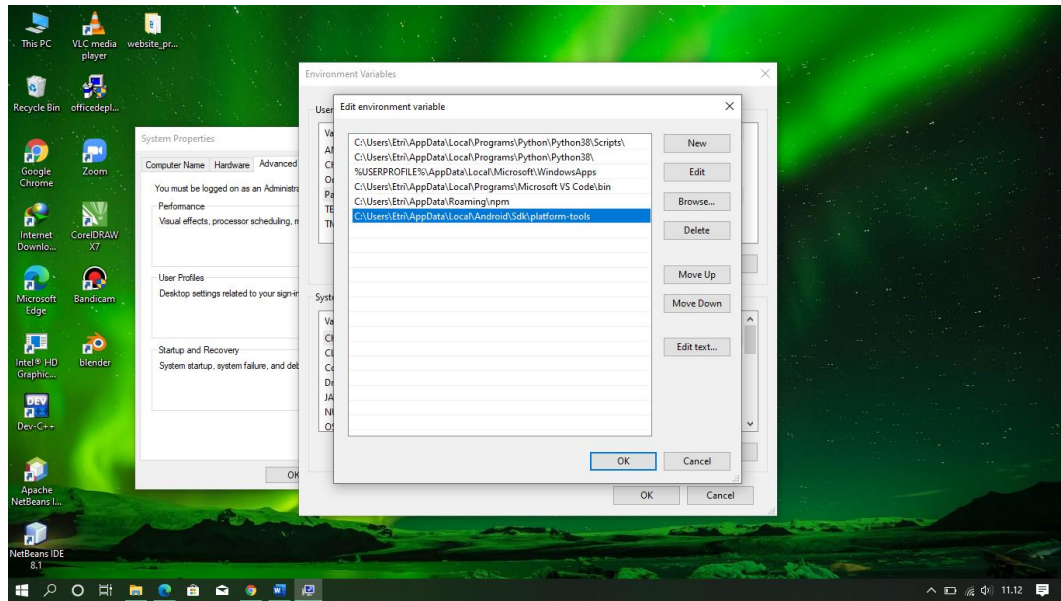
jdk8 v8.0.211 [Approved]
jdk8 package files install completed. Performing other installation steps.
Downloading JDK from https://javadl.oracle.com/webapps/download/GetFile/1.8.0_211-b12/478a62b7d4e34b78b671c754eaf38ab/windows-1586/jdk-8u211-windows-x64.exe
Installing jdk8...
jdk8 has been installed.
PATH environment variable does not have C:\Program Files\Java\jdk1.8.0_211\bin in it. Adding...
jdk8 may be able to be automatically uninstalled.
Environment Vars (like PATH) have changed. Close/reopen your shell to
see the changes (or in powershell/cmd.exe just type 'refreshenv').
The install of jdk8 was successful.
Software installed as 'exe', install location is likely default.

Chocolatey installed 1/1 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

C:\Windows\system32>
```

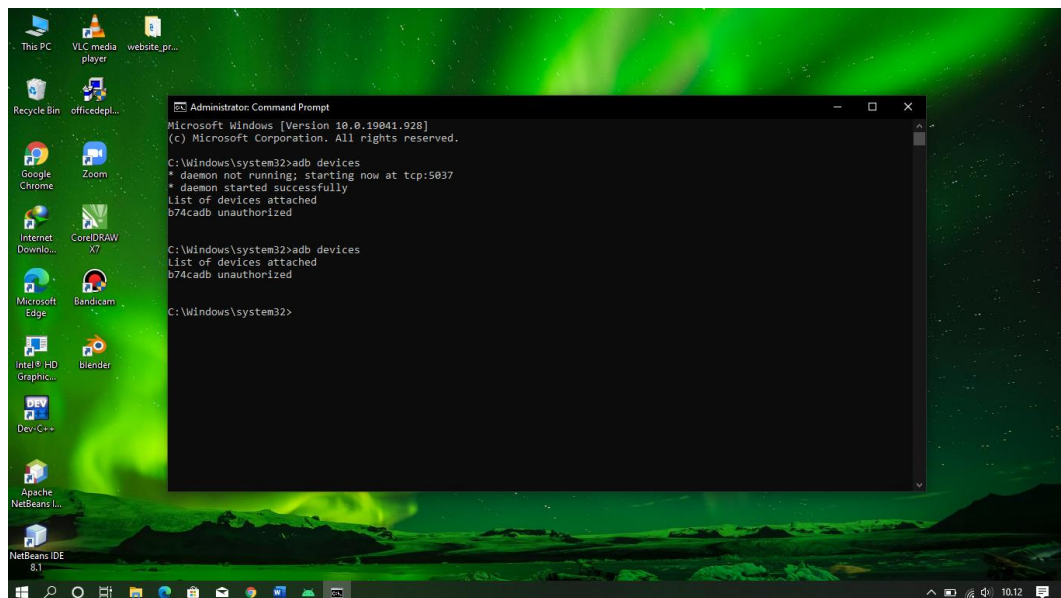






```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Etri\Documents\ReactNative>react-native init ProjectSaya
This will walk you through creating a new React Native project in C:\Users\Etri\Documents\ReactNative\ProjectSaya
'yarn' is not recognized as an internal or external command,
operable program or batch file.
Installing react-native...
Consider installing yarn to make this faster: https://yarnpkg.com
npm WARN deprecated urix@0.1.0: Please see https://github.com/lydell/urix#deprecated
npm WARN deprecated resolve-url@0.2.1: https://github.com/lydell/resolve-url#deprecated
npm WARN deprecated uglify-es@3.3.9: support for ECMAScript is superseded by 'uglify-js' as of v3.13.0
added 718 packages, and audited 719 packages in 3m
19 packages are looking for funding
  run `npm fund` for details
Found 0 vulnerabilities
Info Setting up new React Native app in C:\Users\Etri\Documents\ReactNative\ProjectSaya
(node:10384) Warning: Accessing non-existent property 'padLevels' of module exports inside circular dependency
(Use `node --trace-warnings ...` to show where the warning was created)
Info Adding required dependencies
npm WARN deprecated har-validator@5.1.3: this library is no longer supported
npm WARN deprecated request-promise-native@1.0.9: request-promise-native has been deprecated because it extends the now deprecated request package, see https://github.com/request/request/issues/3142
npm WARN deprecated babel-eslint@10.1.0: babel-eslint is now @babel/eslint-parser. This package will no longer receive updates.
npm WARN deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
added 458 packages, and audited 1177 packages in 3m
71 packages are looking for funding
  run `npm fund` for details
Found 0 vulnerabilities
Info Adding required dev dependencies
up to date, audited 1177 packages in 10s
71 packages are looking for funding
  run `npm fund` for details
Found 0 vulnerabilities

Run instructions for Android:
  * Have an Android emulator running (quickest way to get started), or a device connected.
```



```
Administrator: C:\Windows\system32\cmd.exe - "node" "C:\Users\Etri\AppData\Roaming\npm\node_modules\react-native-cli\index.js" run-android
Detifier found 903 file(s) to Forward-Jetify. Using 4 workers...
info Starting JS server...
info Installing the app...
Downloading https://services.gradle.org/distributions/gradle-6.7-all.zip
.....10%.....20%.....30%.....40%.....50%.....60%.....70%.....80%.....90%.....100%

Welcome to Gradle 6.7!

Here are the highlights of this release:
- File system watching is ready for production use
- Declare the version of Java your build requires
- Java 15 support

For more details see https://docs.gradle.org/6.7/release-notes.html

File C:\Users\Etri\.android\repositories.cfg could not be loaded.
Checking the license for package Android SDK Build-Tools 29.0.2 in C:\Users\Etri\AppData\Local\Android\Sdk\licenses
License for package Android SDK Build-Tools 29.0.2 accepted.
Preparing "Install Android SDK Build-Tools 29.0.2 (revision: 29.0.2)".
"Install Android SDK Build-Tools 29.0.2 (revision: 29.0.2)" ready.
Installing Android SDK Build-Tools 29.0.2 in C:\Users\Etri\AppData\Local\Android\Sdk\build-tools\29.0.2
"Install Android SDK Build-Tools 29.0.2 (revision: 29.0.2)" complete.
"Install Android SDK Build-Tools 29.0.2 (revision: 29.0.2)" finished.

> Task :app:compileDebugJavaWithJavac

> Task :app:stripDebugDebugSymbols
Unable to strip the following libraries, packaging them as they are: libc++_shared.so, libevent-2.1.so, libevent_core-2.1.so, libevent_extra-2.1.so, libfbjni.so, libfbjni.so, libflipper.so, libfolly_futures.so, libfolly_json.so, liblog.so, liblog_init.so, libhermes-executor-common-debug.so, libhermes-executor-common-release.so, libhermes-executor-debug.so, libhermes-executor-release.so, libhermes-inspector.so, libimagepipeline.so, libjs.so, libjscexecutor.so, libjsiexecutor.so, libjsiinspector.so, libnative-filters.so, libnative-image-transcoder.so, libreact_codegen_reactandroidspec.so, libreact_nativecore.so, libreact_nativemodule_core.so, libreactnativeblob.so, libreactnativejni.so, libreactnativeuilibjni.so, libreactperfloggerjni.so, libturboModulejsi.so, libyoga.so.

> Task :app:installDebug
Installing APK 'app-debug.apk' on 'vivo 1807 - 8.1.0' for app:debug
Installed on 1 device.

BUILD SUCCESSFUL in 13m 54s
29 actionable tasks: 29 executed
info Connecting to the development server...
info Starting the app on "b74cadb"...
Starting: Intent { cmp=com.projectsaya/.MainActivity }
```

```
File Edit Selection View Go Run Terminal Help Apps - Untitled (Workspace) - Visual Studio Code

EXPLORER
OPEN EDITORS
X JS App.js C:\Users\Etri\Documents\ReactNative\ProjectSaya\JS App.js
UNTITLED (WORKSPACE)
> tes
> buku
> absensi2
> Etrilian_Tongalu-K352...
> personal_web
> personal_web2

60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92

return (
  <SafeAreaView style={backgroundStyle}>
    <StatusBar barStyle={isDarkMode ? 'light-content' : 'dark-content'} />
    <ScrollView
      contentInsetAdjustmentBehavior="automatic"
      style={backgroundStyle}>
      <Header />
      <View>
        <style={{
          backgroundColor: isDarkMode ? Colors.black : Colors.white,
        }}>
        <Section title="Nama">
          { /* <Text style={styles.highlight}>App.js</Text> */ }
          Etrilian Tongalu
        </Section>
        <Section title="NIM">
          Etri18083
        </Section>
        <Section title="Kelas">
          C
        </Section>
        <Section title="Modul">
          V
        </Section>
        <LearnMoreLinks />
      </View>
    </ScrollView>
  </SafeAreaView>
);
```



Step One

Edit `App.js` to change this screen and then come back to see your edits.

See Your Changes

Double tap `R` on your keyboard to reload your app's code.

Debug

Press `Cmd` or `Ctrl + M` or `Shake` your device to open the React Native debug menu.

Learn More



Nama

Etrilian Tongalu

NIM

E1E118003

Kelas

C

Modul

V

