

LAPORAN PRAKTIKUM
PEMROGRAMAN WEB DAN MOBILE I



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MODUL : V (React Native)

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BAB I

TUJUAN DAN LANDASAN TEORI

1.1. Tujuan

1.1.1. Mahasiswa mampu melakukan instalasi react native

1.2. Landasan Teori

1.2.1. React Native

React Native adalah framework yang digunakan untuk membuat mobile app di dua sistem operasi sekaligus, yaitu Android dan iOS. Untuk itulah, React Native disebut juga dengan cross-platform network karena Anda bisa membuat satu aplikasi yang bisa digunakan di berbagai platform, yaitu Android dan iOS.

Dalam membuat sebuah aplikasi, Anda perlu belajar bahasa pemrograman yang spesifik atau khusus (disebut juga dengan ‘Native’) untuk platform tersebut. Hal ini dikarenakan setiap sistem operasi memiliki bahasa pemrograman yang berbeda-beda.

Untuk membuat aplikasi di Android, Anda butuh belajar bahasa pemrograman Java. Sedangkan untuk membuat aplikasi di iOS, Anda perlu belajar menggunakan bahasa pemrograman Objective C atau Swift. Namun dengan menggunakan React Native sebagai framework, Anda tidak perlu lagi melakukan hal spesifik tersebut.

Alih-alih menggunakan Java atau Objective C maupun Swift, Anda hanya butuh belajar bahasa pemrograman Javascript untuk bisa membuat aplikasi dengan menggunakan platform ini. Javascript sendiri biasa digunakan oleh para developer dalam membuat website.

Jadi, dengan menggunakan platform ini, Anda hanya perlu membuat satu aplikasi. Anda tidak perlu lagi membuat banyak versi aplikasi yang compatible dengan sistem operasi yang ada. (Andy, 2020)

1.2.2. 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 Anda dalam membuat aplikasi Android, seperti :

- Sistem build berbasis Gradle yang fleksibel
- Emulator yang cepat dan kaya fitur
- Lingkungan terpadu tempat Anda 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 Anda 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

Tugas Praktikum

1. Instalasi react native

Pembahasan

Berikut adalah instalasi react native untuk system operasi windows 10

1. Install chocolatey

Untuk menginstall chocolatey dapat menggunakan *setup application* namun bisa juga menggunakan *command prompt*. Karena disini saya menggunakan *command prompt* berikut ini adalah cara untuk menginstall chocolatey pada *command prompt*.



```
Microsoft Windows [Version 10.0.19042.928]
(c) Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32>choco install chocolatey

Getting latest version of the Chocolatey package for download.
Getting Chocolatey from https://community.chocolatey.org/api/v2/package/chocolatey/0.10.15.
Downloading https://community.chocolatey.org/api/v2/package/chocolatey/0.10.15 to C:\Users\Ozan\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip
Not using proxy.
Extracting C:\Users\Ozan\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip to C:\Users\Ozan\AppData\Local\Temp\chocolatey\chocoInstall
Installing Chocolatey on the local machine.
Creating ChocolateyInstall as an environment variable (targeting 'Machine')
Setting ChocolateyInstall to 'C:\ProgramData\chocolatey'
WARNING: You can safely ignore errors related to missing log files when
installing from a repository of chocolatey packages.
chocolatey.nupkg file not installed in lib
Attempting to locate it from bootstrapper.
PATH environment variable does not have C:\ProgramData\chocolatey\bin in it. Adding...
WARNING: Not setting tab completion: Profile file does not exist at
C:\Users\Ozan\AppData\Local\Microsoft\PowerShell\profile.ps1.
Chocolatey (choco.exe) is now ready.
You can call choco from anywhere, command line or powershell by typing choco.
Run choco /? for a list of functions.
You may need to shut down and restart powershell and/or consoles
first prior to using choco.
Ensuring Chocolatey commands are on the path
Ensuring chocolatey.nupkg is in the lib folder

C:\WINDOWS\system32>
```

Gambar 2.1. Install Chocolatey

2. Install node.js, python2 dan jdk8

Untuk menginstall node.js, python2 dan jdk8 dibutuhkan chocolatey untuk menginstall ketiganya dan berikut ini adalah cara untuk menginstallnya

```

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.
nodejs.install v16.1.0 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.
python2 v2.7.18 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.
Progress: Downloading jdk8 8.0.211... 100%

jdk8 v8.0.211 [powershell]
jdk8 package files install completed. Performing other installation steps.
Downloading JDK from https://java1.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...
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 1/3 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).

Warnings:
- python2 - python2 v2.7.18 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.
nodejs.install - nodejs.install v16.1.0 already installed.
Use --force to reinstall, specify a version to install, or try upgrade.

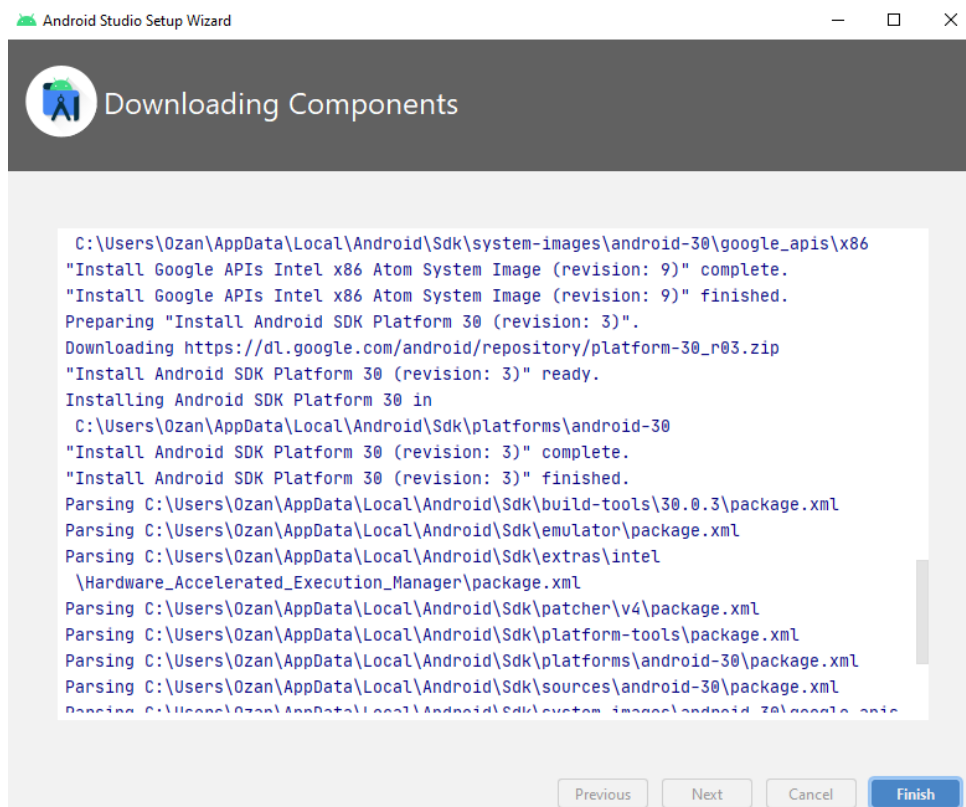
Did you know the proceeds of Pro (and some proceeds from other
licensed editions) go into bettering the community infrastructure?
Your support ensures an active community keeps chocolatey tip top,
plus it nets you some awesome features.
https://chocolatey.org/compar

```

Gambar 2.2. Install node.js, python2 dan jdk8

3. Install Android Studio

Download file setup pada halaman website android studio dan lakukan penginstalan seperti aplikasi lainnya, berikut ini adalah hasil android studio yang telah diinstall.



Gambar 2.3. Install Android Studio

4. Konfigurasi SDK Manager

Download android 10 dan 9 pada konfigurasi SDK Manager

Android 10.0 (Q)

☒

Android SDK Platform 29

29

5

Installed

☒

Sources for Android 29

29

1

Installed

☐

Android TV Intel x86 Atom System Image

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3

Not installed

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Intel x86 Atom System Image

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7

Not installed

☐

Intel x86 Atom_64 System Image

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7

Not installed

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Google APIs Intel x86 Atom System Image

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11

Not installed

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Google APIs Intel x86 Atom_64 System Image

29

11

Installed

☒

Google Play Intel x86 Atom System Image

29

8

Installed

☐

Google Play Intel x86 Atom_64 System Image

29

8

Not installed

Gambar 2.4. Android 10 SDK

Android 9.0 (Pie)

Android SDK Platform 28

Sources for Android 28

Android TV Intel x86 Atom System Image

China version of Wear OS Intel x86 Atom System Image

Wear OS Intel x86 Atom System Image

Intel x86 Atom System Image

Intel x86 Atom_64 System Image

Google APIs Intel x86 Atom System Image

Google APIs Intel x86 Atom_64 System Image

Google Play Intel x86 Atom System Image

Google Play Intel x86 Atom_64 System Image

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Installed

Installed

Not installed

Not installed

Not installed

Not installed

Not installed

Not installed

Installed

Not installed

Not installed

Gambar 2.5. Android 9 Pie

5. Setup PATH environment variable

Buat user variable baru dengan nama ANDROID_HOME

Edit User Variable

Variable name: ANDROID_HOME

Variable value: %LOCALAPPDATA%\Android\Sdk

Browse Directory...

Browse File...

OK

Cancel

Gambar 2.6. User Variabel

```
C:\Users\Ozan\AppData\Local\Android\Sdk\platform-tools
C:\Program Files\OpenJDK\openjdk-8u292-b10\bin
D:\Download IDM\Compressed\platform-tools_r31.0.2-windows\platform-tools
```

Gambar 2.7. System Environment Variabel

6. Install react native

Install react native menggunakan syntax seperti gambar dibawah ini

```
C:\Users\Ozan>npm install -g react-native-cli

changed 81 packages, and audited 82 packages in 4s

36 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
```

Gambar 2.8. Install React Native

7. Buat aplikasi pertamamu

```
C:\Users\Ozan\Documents\ReactNative>react-native init Muhammad

This will walk you through creating a new React Native project in C:\Users\Ozan\Documents\ReactNative\Muhammad
If you're not ready to create a new project, you can use the following command to create a new project from an
existing project or batch file.

Installing react-native...
You can install yarn to make this faster: https://yarnpkg.com
npm WARN deprecated orage@1.0: Please see https://github.com/2dell/orage#deprecated
npm WARN deprecated resolve-url@0.2.1: https://github.com/2dell/resolve-url#deprecated
npm WARN deprecated uglify-uglify@1.3.0: support for ECMAScript is superseded by 'uglify-js' as of v3.13.0
added 718 packages, and audited 719 packages in 21s

18 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities

info Setting up new React Native app in C:\Users\Ozan\Documents\ReactNative\Muhammad
(node:1000) Warning: Received non-existent property 'platform' of module exports inside circular dependency
(Use `node --trace-warnings` to show where the warning was created)
info Adding required dependencies
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/314
npm WARN deprecated har-validator@5.1.3: this library is no longer supported
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 418 packages, and audited 1177 packages in 18s

19 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 5s

19 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.
  * cd "C:\Users\Ozan\Documents\ReactNative\Muhammad" && npx react-native run-android

Run instructions for Windows:
  * See https://aka.ms/ReactNativeWindows for the latest up-to-date instructions.
```

Gambar 2.9. Membuat aplikasi react native

8. Setting Device/Emulator

Cek ketersediaan atau koneksi dari pc ke device mobile phone atau emulator menggunakan adb devices

```
C:\Users\Ozan\Documents\Reactnative\MuhammadFauzan
λ adb devices
List of devices attached
emulator-5554    device
```

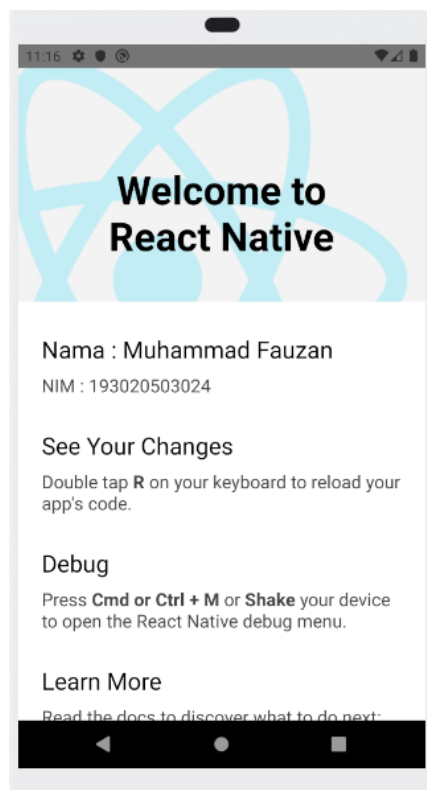
Gambar 2.10. Adb devices

9. Menjalankan react native app di HP

```
C:\Users\Ozan\Documents\Reactnative\MuhammadFauzan
λ react-native run-android
info Running Jetifier to migrate libraries to AndroidX. You can disable it using "--no-jetifier" flag.
(node:14944) Warning: Accessing non-existent property 'padLevels' of module exports inside circular dependency
(Use 'node --trace-warnings ...' to show where the warning was created)
Jetifier found 903 file(s) to forward-jetify. Using 8 workers...
info Starting JS server...
info Installing the app...
> Task :app:installDebug
Installing APK 'app-debug.apk' on 'Pixel_API_29(AVD) - 10' for app:debug
Installed on 1 device.

BUILD SUCCESSFUL in 15s
29 actionable tasks: 2 executed, 27 up-to-date
info Connecting to the development server...
8081
info Starting the app on "emulator-5554"...
Starting: Intent { cmp=com.muhammadfauzan/.MainActivity }
```

Gambar 2.11. React-native run-android



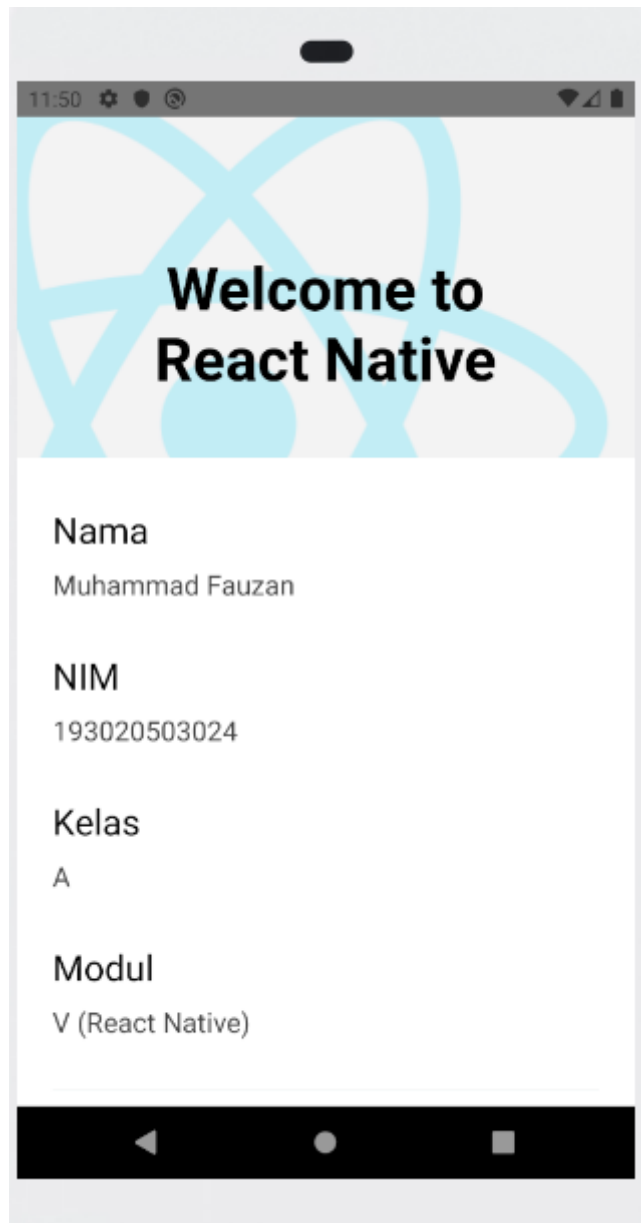
Gambar 2.12. React Native Phone

10. Edit Codingan App

Untuk mengedit codingan aplikasi react native dapat diedit pada file app.js dengan menggunakan code editor.

```
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 : Muhammad Fauzan">  
          NIM : 193020503024  
        </Section>  
        <Section title="See Your Changes">  
          <ReloadInstructions />  
        </Section>  
        <Section title="Debug">  
          <DebugInstructions />  
        </Section>  
        <Section title="Learn More">  
          Read the docs to discover what to do next:  
        </Section>  
        <LearnMoreLinks />  
      </View>  
    </ScrollView>  
  </SafeAreaView>  
)  
);
```

Gambar 2.13. App.js



Gambar 2.14. Display Tampilan HP Setelah Edit

BAB III

KESIMPULAN

Dari praktikum ini dapat disimpulkan bahwa, React native merupakan sebuah framework cross-platform yang memiliki basis bahasa pemrograman JavaScript. React native memungkinkan developer membuat mobile apps yang bisa dijalankan di dalam dua sistem operasi mobile yaitu android dan iOS

DAFTAR PUSTAKA

- Andy. (2020, Maret 8). *Apa itu React Native dan Kenapa Cocok Digunakan untuk Perusahaan Anda?* - Qwords. <https://qwords.com/blog/apa-itu-react-native/>
- Rasupe. (2019). *Cara install react native di windows 10* – Rasupe. <https://rasupe.com/cara-install-react-native-di-windows-10/>