

**LAPORAN PRAKTIKUM
PEMROGRAMAN WEB DAN MOBILE**



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**JURUSAN TEKNIK INFORMATIKA
FAKULTAS TEKNIK
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BAB I

LANDASAN TEORI

1.1. Landasan Teori

Apa itu React Native?

React Native adalah kerangka aplikasi seluler sumber terbuka yang dibuat oleh Facebook, Inc. Ini digunakan untuk mengembangkan aplikasi untuk Android, Android TV, iOS, macOS, tvOS, Web, Windows, dan UWP dengan memungkinkan pengembang menggunakan kerangka kerja React bersama dengan platform asli kemampuan. 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.

Kelebihan React Native

Setelah mengetahui apa itu React Native, sekarang saatnya Anda mengetahui apa saja kelebihan yang ditawarkan React Native. Cross-platform framework ini memiliki banyak kelebihan, diantaranya yaitu:

1. Digunakan oleh Perusahaan-Perusahaan Besar

Meskipun tergolong framework baru, React Native tercatat telah digunakan oleh sejumlah perusahaan besar dalam membuat aplikasi. Sebut saja aplikasi Facebook, Instagram, Airbnb, dan Baidu. Nyatanya, React Native memang dikembangkan oleh tim Facebook untuk membuat aplikasi mobile.

2. Kode yang digunakan lebih simpel

React Native lebih mudah dipelajari daripada 'Native'. Hal ini dikarenakan kode yang digunakan lebih simpel. Untuk Anda yang terbiasa dengan Javascript, menggunakan HTML, dan sejenisnya tentu akan merasa sangat familiar ketika dihadapkan dengan React Native.

Selain kode yang digunakan lebih simpel, Anda tidak perlu lagi menguasai bahasa pemrograman lainnya demi bisa membuat aplikasi yang bisa berjalan di dua sistem operasi sekaligus.

3. Cocok untuk startup

Untuk perusahaan yang baru merintis, atau biasa disebut dengan start up, dan ingin mengembangkan aplikasi mobile, React Native bisa menjadi pilihan framework yang tepat. Karena perusahaan hanya perlu merekrut satu orang developer yang menguasai React Native dan bisa menghasilkan aplikasi yang bisa berjalan di dua sistem operasi sekaligus. Sayangnya, masih jarang developer yang menguasai framework ini.

4. Lebih hemat

Karena bisa merekrut satu orang untuk dua tugas sekaligus, perusahaan akan hemat dalam menggaji karyawan. Anggaran yang seharusnya digunakan untuk menggaji dua developer bisa dialihkan untuk kebutuhan lainnya yang tak kalah penting. Misalnya seperti untuk konten, marketing, atau produk activation yang tentu bakal membutuhkan banyak sumber daya.

Kelemahan React Native

React Native for iOS and Android

1. JavaScript yang Berkembang Sangat Cepat

JavaScript menjadi kelemahan dari React Native karena javascript berkembang begitu cepat sehingga efeknya menimbulkan beberapa hal tidak bisa dilakukan sesuai harapan.

2. Framework

Sama seperti JavaScript, framework React Native juga menjadi kelemahan tersendiri karena perubahan yang begitu cepat terjadi.

3. Platform

Sebagaimana kita ketahui, untuk bisa mengembangkan aplikasi mobile berbasis Ios maka developer juga harus menggunakan perangkat MAC OS karena sistem operasi ini eksklusif hanya tersedia di Mac, maka setidaknya Anda harus menyediakan Macbook.

4. Performance

Manusia memang tidak akan pernah puas soal performa, sehingga saat ini masih ada perdebatan terkait kinerja React Native secara umum di kalangan developer. Nah, bagi Anda yang memiliki pendapat kurang tentu hal ini menjadi poin negatif soal kekurangan React Native.

BAB II

PEMBAHASAN

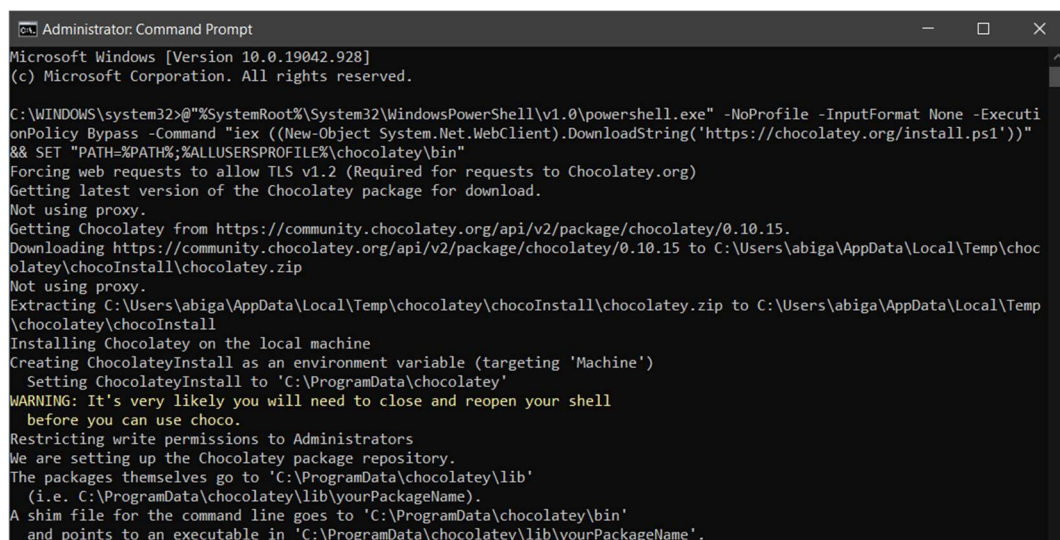
Install Chocolatey

Chocolatey adalah package manager di level operating system, tujuan penggunaannya yaitu memungkinkan untuk mengatur program dengan relatif mudah. Install dan upgrade program lebih sederhana hanya dengan beberapa perintah. Untuk teman-teman yang terbiasa dengan CLI akan sangat terasa kegunaannya. Chocolatey akan digunakan untuk melakukan penginstalan JDK, Node.JS dan juga Phyton.

Cara menginstalnya klik search, ketikkan “cmd” jika sudah muncul “Comamnd Prompt” klik kanan lalu “Run As Administrator”. Lalu mengetikkan kode berikut ini.

```
@ "%SystemRoot%\System32\WindowsPowerShell\v1.0\powershell.exe" -  
NoProfile -InputFormat None -ExecutionPolicy Bypass -Command "iex ((New-  
Object  
System.Net.WebClient).DownloadString('https://chocolatey.org/install.ps1'))"  
&& SET "PATH=%PATH%;%ALLUSERSPROFILE%\chocolatey\bin"
```

Berikut ini penginstalan chocolatey di cmd.



```
Administrator: Command Prompt  
Microsoft Windows [Version 10.0.19042.928]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\WINDOWS\system32>@"%SystemRoot%\System32\WindowsPowerShell\v1.0\powershell.exe" -NoProfile -InputFormat None -ExecutionPolicy Bypass -Command "iex ((New-Object System.Net.WebClient).DownloadString('https://chocolatey.org/install.ps1'))" && SET "PATH=%PATH%;%ALLUSERSPROFILE%\chocolatey\bin"  
Forcing web requests to allow TLS v1.2 (Required for requests to Chocolatey.org)  
Getting latest version of the Chocolatey package for download.  
Not using proxy.  
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\abiga\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip  
Not using proxy.  
Extracting C:\Users\abiga\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip to C:\Users\abiga\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: It's very likely you will need to close and reopen your shell  
before you can use choco.  
Restricting write permissions to Administrators  
We are setting up the Chocolatey package repository.  
The packages themselves go to 'C:\ProgramData\chocolatey\lib'  
(i.e. C:\ProgramData\chocolatey\lib\yourPackageName).  
A shim file for the command line goes to 'C:\ProgramData\chocolatey\bin'  
and points to an executable in 'C:\ProgramData\chocolatey\lib\yourPackageName'.
```

```

Creating Chocolatey folders if they do not already exist.

WARNING: You can safely ignore errors related to missing log files when
upgrading from a version of Chocolatey less than 0.9.9.
'Batch file could not be found' is also safe to ignore.
'The system cannot find the file specified' - also safe.
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\abiga\OneDrive\Documents\WindowsPowerShell\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

```

Gambar 1.1 Chocolatey

Install JDK, Node.JS, dan Phyton

JDK atau Java Development Kit adalah implementasi dari salah satu Platform Java, Edisi Standar, Platform Java, Edisi Perusahaan, atau Platform Java, platform Edisi Mikro yang dirilis oleh Oracle Corporation dalam bentuk produk biner yang ditujukan untuk pengembang Java di Solaris, Linux, macOS atau Windows.

Node.js adalah platform perangkat lunak pada sisi peladen dan aplikasi jaringan. Ditulis dengan bahasa JavaScript dan dijalankan pada Windows, Mac OS X, dan Linux tanpa perubahan kode program.

Python adalah bahasa pemrograman tujuan umum yang ditafsirkan, tingkat tinggi. Dibuat oleh Guido van Rossum dan pertama kali dirilis pada tahun 1991, filosofi desain Python menekankan keterbacaan kode dengan penggunaan spasi putih yang signifikan.

Cara penginstalannya seperti berikut ini. Ketikkan perintah dibawah di CMD tadi dan denter.

```
choco install -y nodejs.install python2 jdk8
```

```
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%

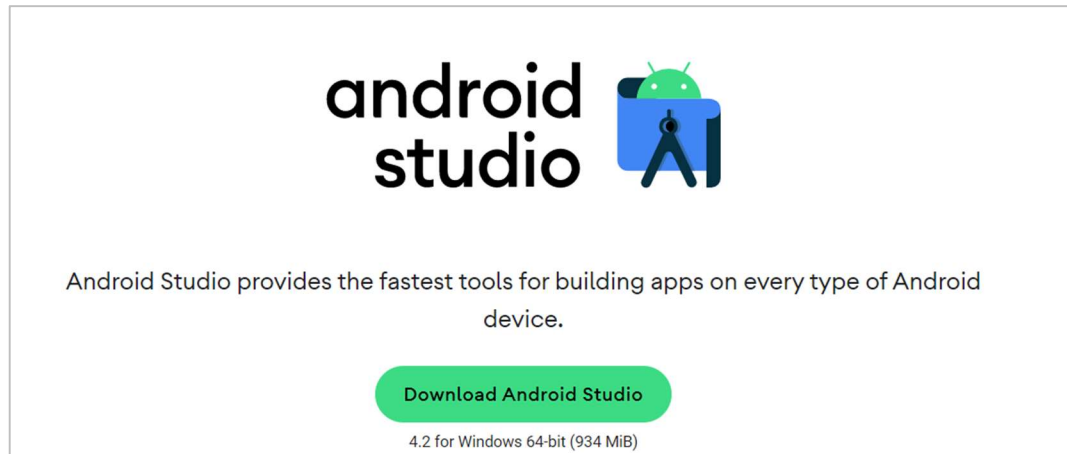
jdk8 v8.0.211 [Approved]
jdk8 package files install completed. Performing other installation steps.
Downloading JDK from https://javadl.oracle.com/webapps/download/GetFile/1.8.0_211-b12/478a62b7d4e34b78b671c754eaf38ab/w
indows-i586/jdk-8u211-windows-x64.exe
Installing jdk8...
jdk8 has been installed.
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 to 'C:\Program Files\Java\jdk1.8.0_211\'

Chocolatey installed 3/3 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
```

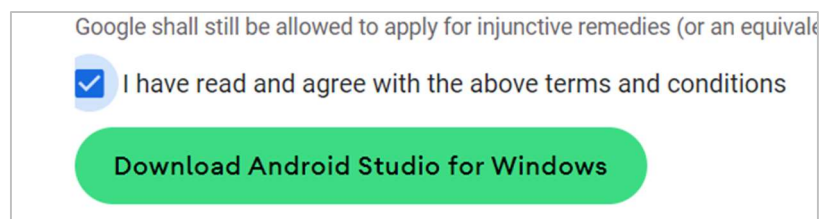
Gambar 1.2 JDK, Node.JS, dan Phyton

Install Android Studio

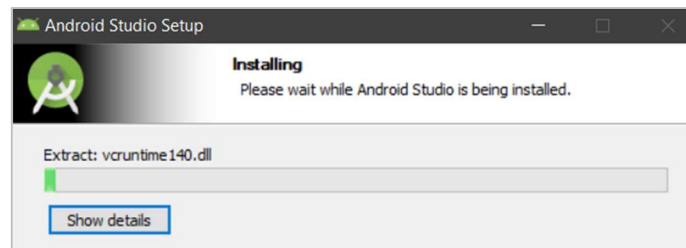
Android Studio adalah Integrated Development Enviroment untuk sistem operasi Android, yang dibangun di atas perangkat lunak JetBrains IntelliJ IDEA dan didesain khusus untuk pengembangan Android. Untuk menginstalkannya pertama masuk web <https://developer.android.com/studio/> untuk mendownload aplikasinya. Setelah didownload install seperti biasa seperti aplikasi pada umumnya. Di klik dua kali lalu, tekan next, jika selesai tekan finish.



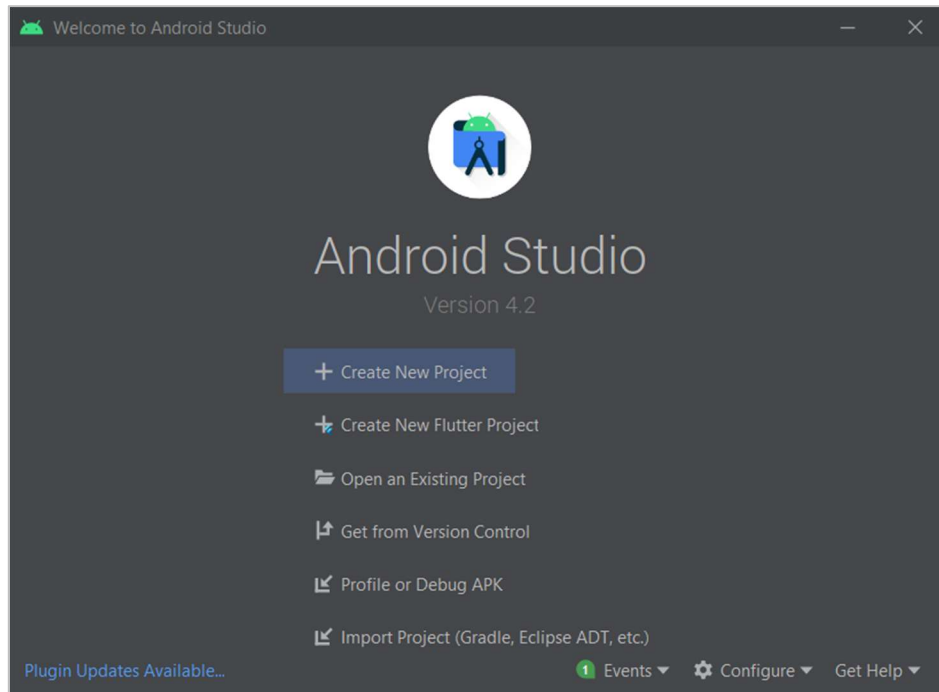
Gambar 1.3 Android Studio



Gambar 1.4 Android Studio



Gambar 1.5 Android Studio



Gambar 1.6 Android Studio

Install Android SDK

Untuk menginstal Android SDK dengan cara, jalankan android studio, saat di halaman “Welcome to Android Studio” klik Menu Configure lalu pilih “SDK Manager”. Pilih Tab “SDK Platforms” pada SDK Manager, kemudian cek pada list Android 9.0 (Pie) dan Android 8.0 (Oreo). Kemudian cek “Show Package Details” yang ada di kanan bawah.

- Android SDK Platform 28 & 26
- Source for android 28 & 26
- Intel x86 Atom_64 System Image atau Google APIs Intel x86 Atom System Image

Kemudian pilih tab “SDK Tools” dan cek “Show Package Details” di kanan bawah. Cari “Android SDK Build-Tools”, pastikan bahwa 28.0.3 sudah di cek. Cek juga “Android Emulator, Android SDK Platform-Tools, Android SDK Tools”. Jika sudah, klik “Apply” lalu akan muncul popup info yang akan didownload ber GB, jika sudah yakin klik “OK”.

Tunggu sampai proses download selesai.

Android 9.0 (Pie)					
↓	<input checked="" type="checkbox"/>	Android SDK Platform 28	28	6	Not installed
↓	<input checked="" type="checkbox"/>	Sources for Android 28	28	1	Not installed
	<input type="checkbox"/>	Android TV Intel x86 Atom System Image	28	10	Not installed
	<input type="checkbox"/>	China version of Wear OS Intel x86 Atom System Image	28	5	Not installed
	<input type="checkbox"/>	Wear OS Intel x86 Atom System Image	28	5	Not installed
	<input type="checkbox"/>	Intel x86 Atom System Image	28	4	Not installed
↓	<input checked="" type="checkbox"/>	Intel x86 Atom_64 System Image	28	4	Not installed
	<input type="checkbox"/>	Google APIs Intel x86 Atom System Image	28	12	Not installed
↓	<input checked="" type="checkbox"/>	Google APIs Intel x86 Atom_64 System Image	28	11	Not installed
	<input type="checkbox"/>	Google Play Intel x86 Atom System Image	28	9	Not installed
	<input type="checkbox"/>	Google Play Intel x86 Atom_64 System Image	28	8	Not installed

Gambar 1.7 Android SKD

Android 8.1 (Oreo)					
↓	<input checked="" type="checkbox"/>	Android SDK Platform 27	27	3	Not installed
↓	<input checked="" type="checkbox"/>	Sources for Android 27	27	1	Not installed
	<input type="checkbox"/>	Android TV Intel x86 Atom System Image	27	9	Not installed
	<input type="checkbox"/>	Intel x86 Atom System Image	27	1	Not installed
↓	<input checked="" type="checkbox"/>	Intel x86 Atom_64 System Image	27	1	Not installed
	<input type="checkbox"/>	Google APIs Intel x86 Atom System Image	27	11	Not installed
↓	<input checked="" type="checkbox"/>	Google Play Intel x86 Atom System Image	27	3	Not installed

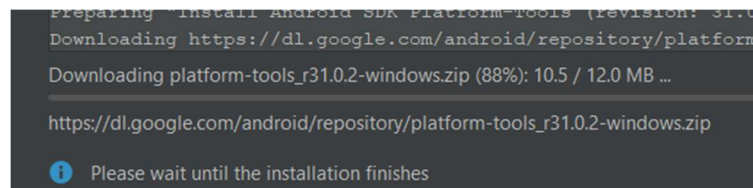
Gambar 1.8 Android SKD

Name	Version	Status
Android SDK Build-Tools 31-rc3		
<input type="checkbox"/> 31.0.0-rc3	31.0.0 rc3	Not installed
<input checked="" type="checkbox"/> 30.0.3	30.0.3	Installed
<input type="checkbox"/> 30.0.2	30.0.2	Not installed
<input type="checkbox"/> 30.0.1	30.0.1	Not installed
<input type="checkbox"/> 30.0.0	30.0.0	Not installed
<input type="checkbox"/> 29.0.3	29.0.3	Not installed
<input type="checkbox"/> 29.0.2	29.0.2	Not installed
<input type="checkbox"/> 29.0.1	29.0.1	Not installed
<input type="checkbox"/> 29.0.0	29.0.0	Not installed
↓ <input checked="" type="checkbox"/> 28.0.3	28.0.3	Not installed

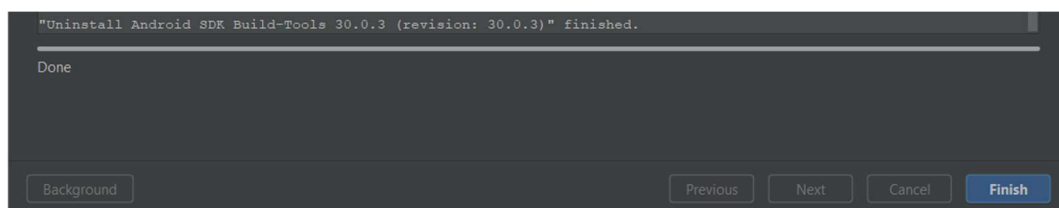
Gambar 1.8 Android SKD

	Name	Version	Status
>	<input type="checkbox"/> Android SDK Build-Tools 31-rc3		
>	<input type="checkbox"/> NDK (Side by side)		
>	<input checked="" type="checkbox"/> Android SDK Command-line Tools (latest)		
>	<input type="checkbox"/> CMake		
	<input type="checkbox"/> Android Auto API Simulators	1	Not installed
	<input type="checkbox"/> Android Auto Desktop Head Unit Emulator	1.1	Not installed
↓	<input checked="" type="checkbox"/> Android Emulator	30.3.5	Update Available: 30.6.5
	<input type="checkbox"/> Android Emulator Hypervisor Driver for AMD Processors (installer)	1.7.0	Not installed
↓	<input checked="" type="checkbox"/> Android SDK Platform-Tools	30.0.5	Update Available: 31.0.2
	<input type="checkbox"/> Google Play APK Expansion Files		Not installed

Gambar 1.9 Android SKD



Gambar 1.20 Android SKD



Gambar 1.21 Android SKD

Setup PATH environment variable

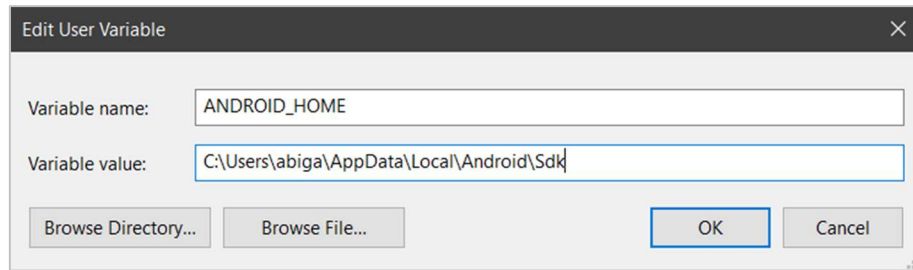
Untuk mengsetup Path klik menu pencarian, ketikkan “path” klik “edit the system environment variables”. Pada tab “Advanced” klik “environment variable...” di kanan bawah. Pada “User variables”, klik “New” lalu diisi:

variable name : ANDROID_HOME

variable value : c:\Users\abiga\AppData\Local\Android\Sdk

Lanjut, klik variabel “path”, kemudian klik edit. Klik New lalu masukkan path platform-tools. c:\Users\abiga\AppData\Local\Android\Sdk\platform-tools

Setelah selesai, klik “OK”, “OK”.



Gambar 1.22 Setup PATH

C:\Users\abiga\AppData\Local\Android\Sdk\platform-tools

Gambar 1.23 Setup PATH

Install REACT NATIVE CLI

Sederhananya, React Native adalah framework yang memungkinkan developer membuat aplikasi untuk berbagai platform dengan menggunakan basis kode yang sama. Caranya dengan Tutup CMD lalu buka lagi. Lalu ketikkan:

```
npm install -g react-native-cli
```

Tunggu sampai selesai.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19042.928]
(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 -> 7.12.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v7.12.0
npm notice Run npm install -g npm@7.12.0 to update!
npm notice

added 81 packages, and audited 82 packages in 5s

36 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 -> 7.12.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v7.12.0
npm notice Run npm install -g npm@7.12.0 to update!
npm notice
```

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

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

changed 81 packages, and audited 82 packages in 5s

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

found 0 vulnerabilities
```

Gambar 1.24 React Native CLI

Buat aplikasi pertamamu

Untuk membuat ini dengan cara mengetikan kode pada cmd dibawah ini.

```
react-native init ProjectSaya
```

Untuk pertama kali, ini akan memerlukan waktu agak lama. Tunggu sampai selesai.

```
C:\WINDOWS\system32\cmd.exe
C:\Users\abiga>react-native init ProjectSaya
This will walk you through creating a new React Native project in C:\Users\abiga\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 32s

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

found 0 vulnerabilities
info Setting up new React Native app in C:\Users\abiga\ProjectSaya
(node:3636) 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 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 har-validator@5.1.5: 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 u
pdates.
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 19s

70 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 3s

70 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\abiga\ProjectSaya" && npx react-native run-android

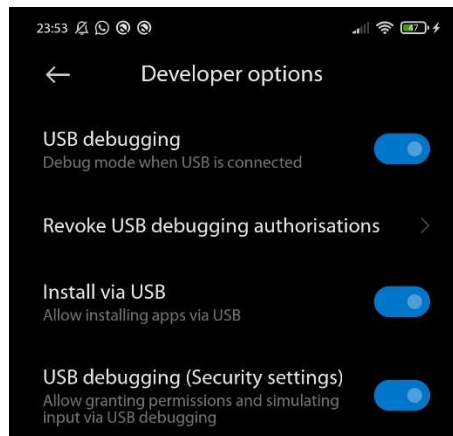
Run instructions for Windows:
  • See https://aka.ms/ReactNativeGuideWindows for the latest up-to-date instructions.
```

Gambar 1.25 React Native ProjectSaya

Setting device/emulator kamu

Untuk men-setting device pada HP dengan cara menancapkan HP dengan kabel ke PC. Pastikan developer mode sudah aktif dan “USB Debugging” di aktifkan juga. Setelah itu cek di CMD apakah sudah terdeteksi dengan cara ketik:

```
adb devices
```



Gambar 1.26 Setting Devices



Gambar 1.27 adb devices

Menjalankan react native app di HP

kembali ke CMD, ketik

```
cd ProjectSaya  
react-native run-android
```

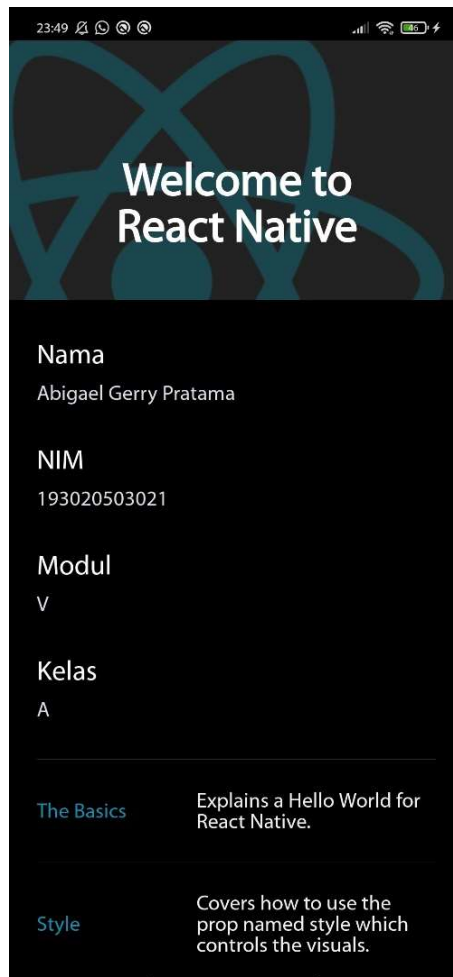
Tunggu sampai selesai, jika di HP ada aplikasi menanyakan izin instalasi, klik “Ijinkan”.


```

<Header />
<View
  style={{
    backgroundColor: isDarkMode ? Colors.black : Colors.white,
  }}>
  <Section title="Nama">
    Abigael Gerry Pratama
  </Section>
  <Section title="NIM">
    193020503021
  </Section>
  <Section title="Modul">
    V
  </Section>
  <Section title="Kelas">
    A
  </Section>
  <LearnMoreLinks />
</View>
</ScrollView>
</SafeAreaView>
);

```

Gambar 1.30 Coding App.js



Gambar 1.31 Output

BAB III

KESIMPULAN

Jadi kesimpulan pada praktikum ini yaitu menginstall chocolaty, jdk, node.js, python, android studio beserta path-nya dan menjalankan aplikasi react native di handphone. React Native merupakan sebuah framework yang memungkinkan pengembangan aplikasi untuk berbagai platform menggunakan basis kode yang sama,

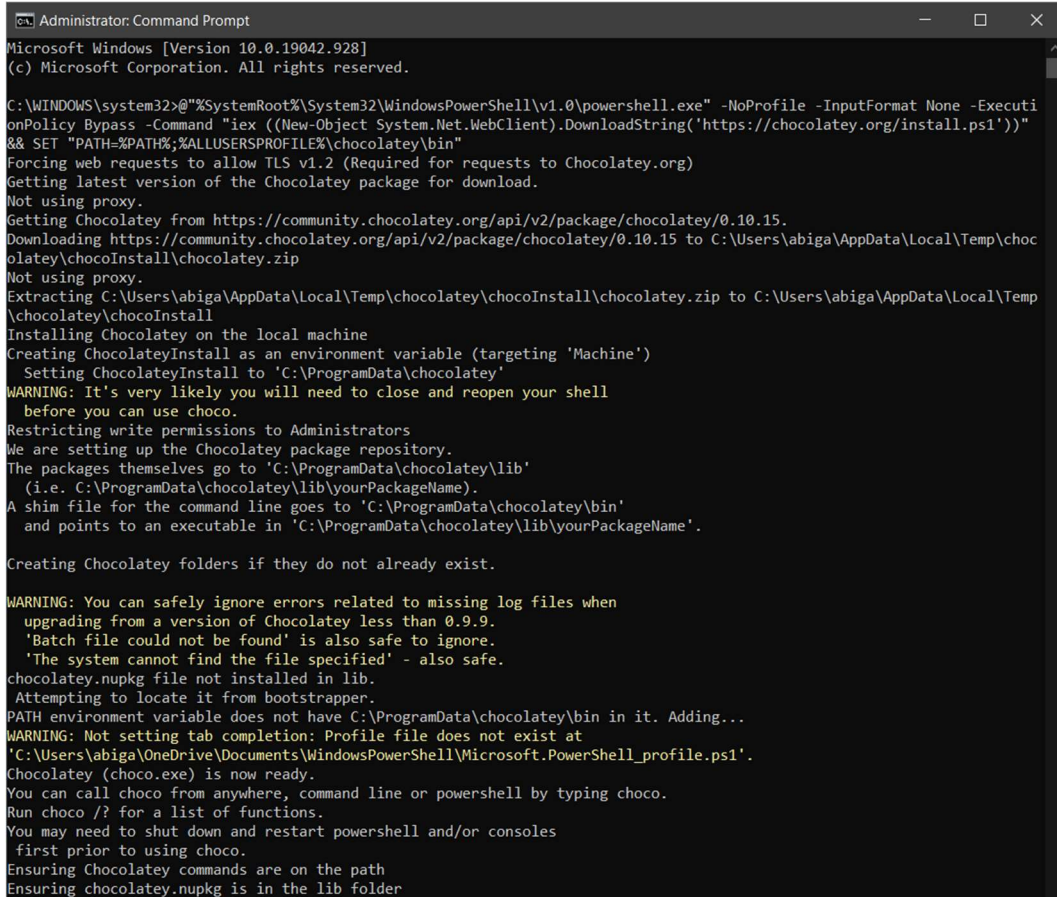
BAB IV

DAFTAR PUSTAKA

Cara install react native di windows 10. Rasupe. 2019. <https://rasupe.com/cara-install-react-native-di-windows-10/>

Apa itu React Native dan Kenapa Cocok Digunakan untuk Perusahaan Anda?
Andy. 2020. <https://qwords.com/blog/apa-itu-react-native/>

LAMPIRAN



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19042.928]
(c) Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32>@"%SystemRoot%\System32\WindowsPowerShell\v1.0\powershell.exe" -NoProfile -InputFormat None -ExecutionPolicy Bypass -Command "iex ((New-Object System.Net.WebClient).DownloadString('https://chocolatey.org/install.ps1'))"
&& SET "PATH=%PATH%;%ALLUSERSPROFILE%\chocolatey\bin"
Forcing web requests to allow TLS v1.2 (Required for requests to Chocolatey.org)
Getting latest version of the Chocolatey package for download.
Not using proxy.
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\abiga\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip
Not using proxy.
Extracting C:\Users\abiga\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip to C:\Users\abiga\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: It's very likely you will need to close and reopen your shell
        before you can use choco.
Restricting write permissions to Administrators
We are setting up the Chocolatey package repository.
The packages themselves go to 'C:\ProgramData\chocolatey\lib'
  (i.e. C:\ProgramData\chocolatey\lib\yourPackageName).
A shim file for the command line goes to 'C:\ProgramData\chocolatey\bin'
  and points to an executable in 'C:\ProgramData\chocolatey\lib\yourPackageName'.

Creating Chocolatey folders if they do not already exist.

WARNING: You can safely ignore errors related to missing log files when
  upgrading from a version of Chocolatey less than 0.9.9.
  'Batch file could not be found' is also safe to ignore.
  'The system cannot find the file specified' - also safe.
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\abiga\OneDrive\Documents\WindowsPowerShell\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
```

Gambar 1.1 Chocolatey

```
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%

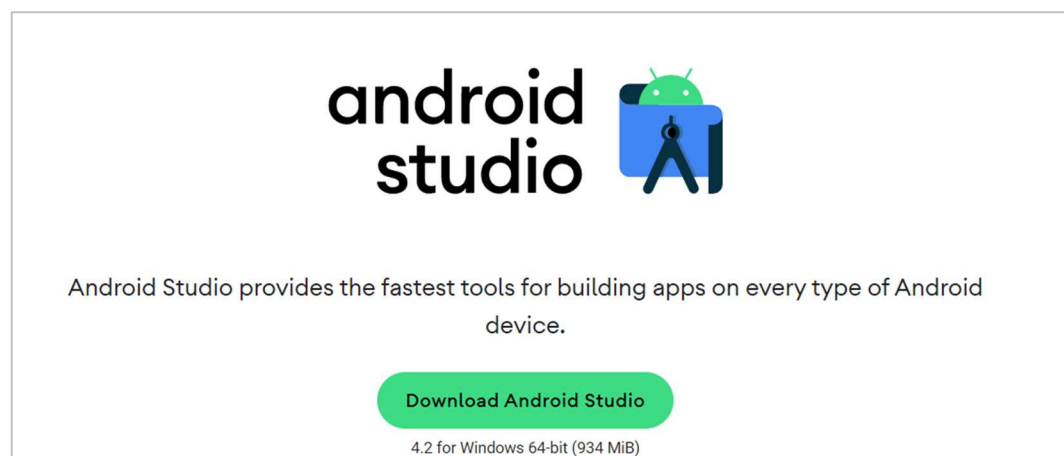
nodejs.install v16.1.0 [Approved]
nodejs.install package files install completed. Performing other installation steps.
Installing 64 bit version
Installing nodejs.install...
nodejs.install has been installed.
nodejs.install may be able to be automatically uninstalled.
Environment Vars (like PATH) have 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%

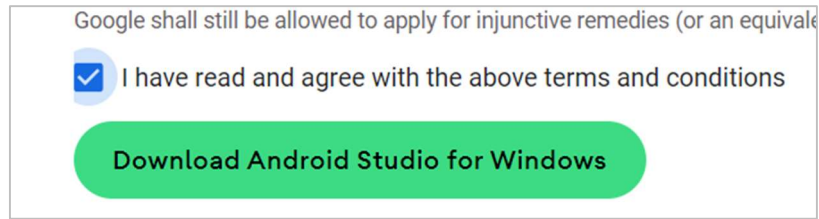
jdk8 v8.0.211 [Approved]
jdk8 package files install completed. Performing other installation steps.
Downloading JDK from https://javadl.oracle.com/webapps/download/GetFile/1.8.0_211-b12/478a62b7d4e34b78b671c754eaf38ab/w
indows-i586/jdk-8u211-windows-x64.exe
Installing jdk8...
jdk8 has been installed.
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 to 'C:\Program Files\Java\jdk1.8.0_211\'

Chocolatey installed 3/3 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
```

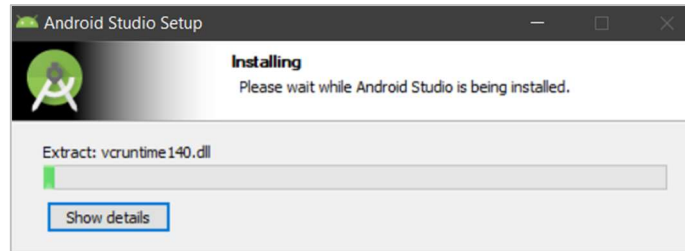
Gambar 1.2 JDK, Node.JS, dan Phyton



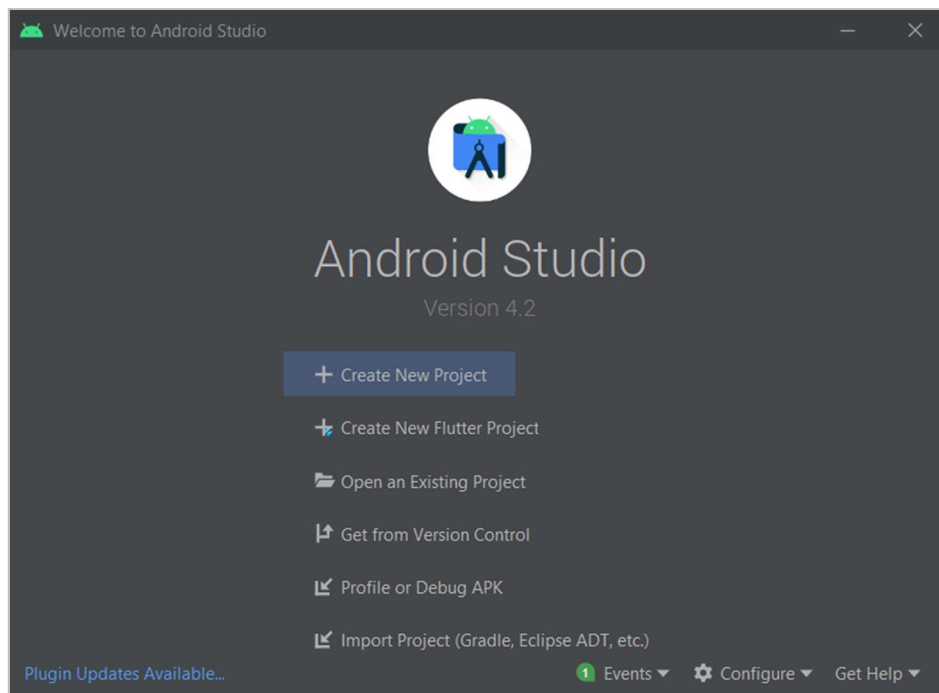
Gambar 1.3 Android Studio



Gambar 1.4 Android Studio



Gambar 1.5 Android Studio



Gambar 1.6 Android Studio

Android 9.0 (Pie)					
↓	<input checked="" type="checkbox"/>	Android SDK Platform 28	28	6	Not installed
↓	<input checked="" type="checkbox"/>	Sources for Android 28	28	1	Not installed
	<input type="checkbox"/>	Android TV Intel x86 Atom System Image	28	10	Not installed
	<input type="checkbox"/>	China version of Wear OS Intel x86 Atom System Image	28	5	Not installed
	<input type="checkbox"/>	Wear OS Intel x86 Atom System Image	28	5	Not installed
	<input type="checkbox"/>	Intel x86 Atom System Image	28	4	Not installed
↓	<input checked="" type="checkbox"/>	Intel x86 Atom_64 System Image	28	4	Not installed
	<input type="checkbox"/>	Google APIs Intel x86 Atom System Image	28	12	Not installed
↓	<input checked="" type="checkbox"/>	Google APIs Intel x86 Atom_64 System Image	28	11	Not installed
	<input type="checkbox"/>	Google Play Intel x86 Atom System Image	28	9	Not installed
	<input type="checkbox"/>	Google Play Intel x86 Atom_64 System Image	28	8	Not installed

Gambar 1.7 Android SKD

Android 8.1 (Oreo)					
↓	<input checked="" type="checkbox"/>	Android SDK Platform 27	27	3	Not installed
↓	<input checked="" type="checkbox"/>	Sources for Android 27	27	1	Not installed
	<input type="checkbox"/>	Android TV Intel x86 Atom System Image	27	9	Not installed
	<input type="checkbox"/>	Intel x86 Atom System Image	27	1	Not installed
↓	<input checked="" type="checkbox"/>	Intel x86 Atom_64 System Image	27	1	Not installed
	<input type="checkbox"/>	Google APIs Intel x86 Atom System Image	27	11	Not installed
↓	<input checked="" type="checkbox"/>	Google Play Intel x86 Atom System Image	27	3	Not installed

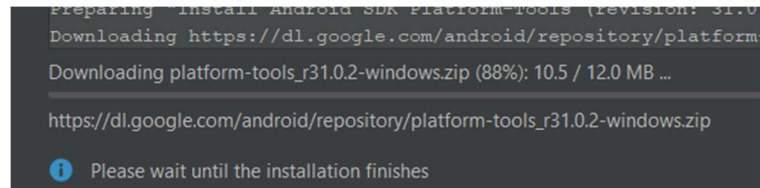
Gambar 1.8 Android SKD

Name	Version	Status
Android SDK Build-Tools 31-rc3		
<input type="checkbox"/> 31.0.0-rc3	31.0.0 rc3	Not installed
<input checked="" type="checkbox"/> 30.0.3	30.0.3	Installed
<input type="checkbox"/> 30.0.2	30.0.2	Not installed
<input type="checkbox"/> 30.0.1	30.0.1	Not installed
<input type="checkbox"/> 30.0.0	30.0.0	Not installed
<input type="checkbox"/> 29.0.3	29.0.3	Not installed
<input type="checkbox"/> 29.0.2	29.0.2	Not installed
<input type="checkbox"/> 29.0.1	29.0.1	Not installed
<input type="checkbox"/> 29.0.0	29.0.0	Not installed
↓ <input checked="" type="checkbox"/> 28.0.3	28.0.3	Not installed

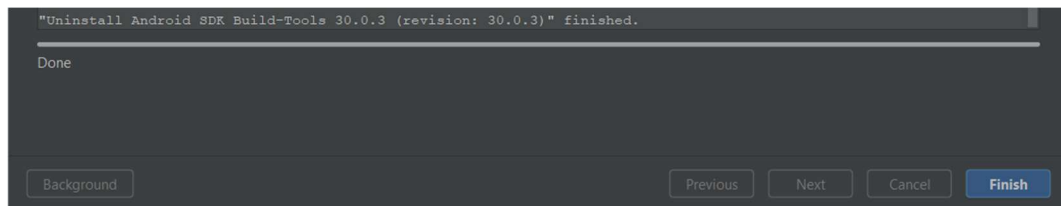
Gambar 1.8 Android SKD

Name	Version	Status
> Android SDK Build-Tools 31-rc3		
> <input type="checkbox"/> NDK (Side by side)		
> <input checked="" type="checkbox"/> Android SDK Command-line Tools (latest)		
> <input type="checkbox"/> CMake		
<input type="checkbox"/> Android Auto API Simulators	1	Not installed
<input type="checkbox"/> Android Auto Desktop Head Unit Emulator	1.1	Not installed
↓ <input checked="" type="checkbox"/> Android Emulator	30.3.5	Update Available: 30.6.5
<input type="checkbox"/> Android Emulator Hypervisor Driver for AMD Processors (installer)	1.7.0	Not installed
↓ <input checked="" type="checkbox"/> Android SDK Platform-Tools	30.0.5	Update Available: 31.0.2
<input type="checkbox"/> Google Play SDK Extension Library	1	Not installed

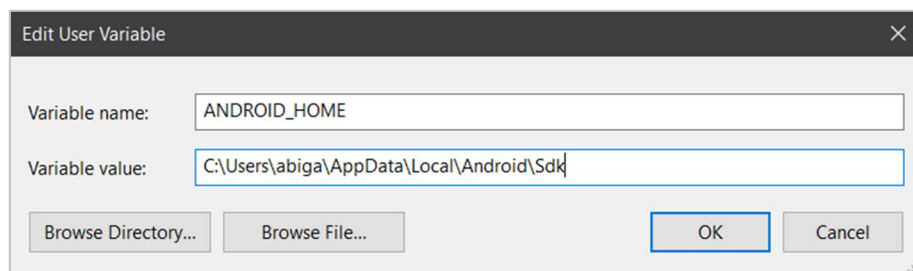
Gambar 1.9 Android SKD



Gambar 1.20 Android SKD



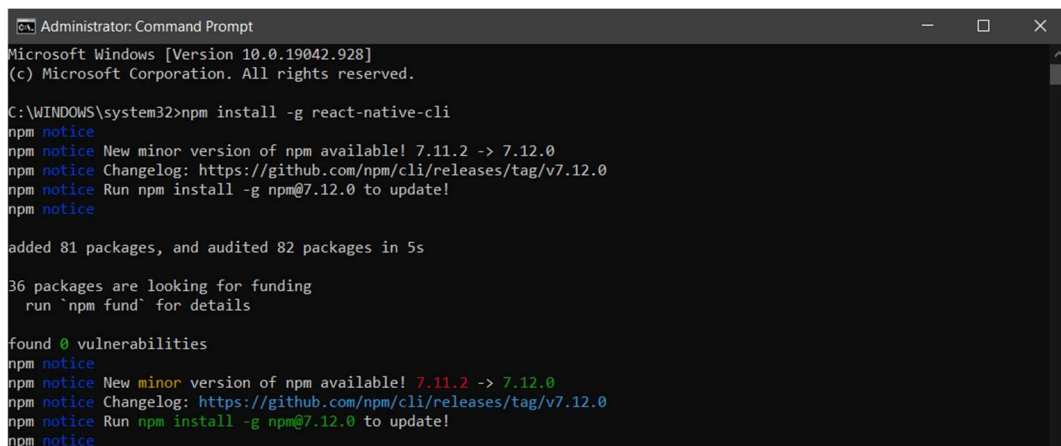
Gambar 1.21 Android SKD



Gambar 1.22 Setup PATH



Gambar 1.23 Setup PATH




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

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

changed 81 packages, and audited 82 packages in 5s

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

found 0 vulnerabilities
```

Gambar 1.24 React Native CLI

```
C:\WINDOWS\system32\cmd.exe
C:\Users\abiga>react-native init ProjectSaya
This will walk you through creating a new React Native project in C:\Users\abiga\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 32s

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

found 0 vulnerabilities
info Setting up new React Native app in C:\Users\abiga\ProjectSaya
(node:3636) 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 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 har-validator@5.1.5: 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 u
pdates.
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 19s

70 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 3s

70 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\abiga\ProjectSaya" && npx react-native run-android

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

Gambar 1.25 React Native ProjectSaya


```
C:\WINDOWS\system32\cmd.exe
C:\Users\abiga\ProjectSaya>react-native run-android
info Running jetifier to migrate libraries to AndroidX. You can disable it using "--no-jetifier" flag.
(node:5288) 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 12 workers...

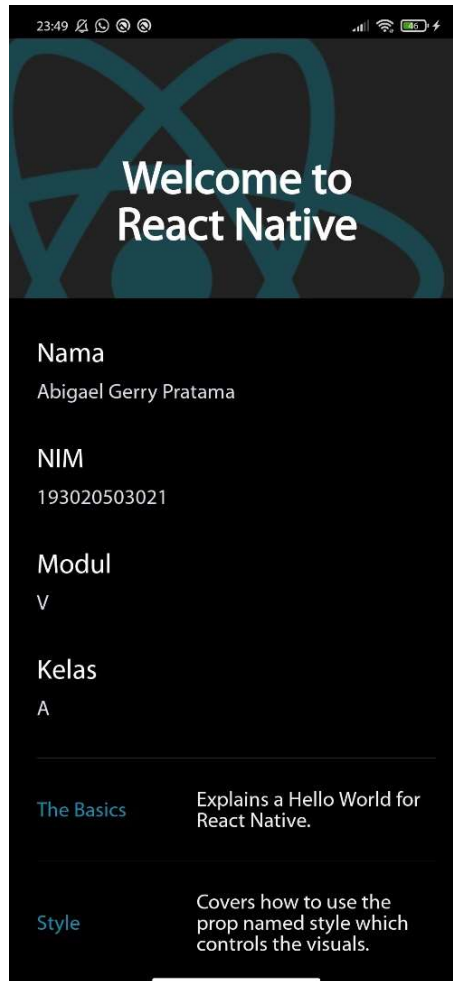
> Task :app:installDebug
Installing APK 'app-debug.apk' on 'Redmi Note 7 - 10' for app:debug
Installed on 1 device.

BUILD SUCCESSFUL in 2m 48s
29 actionable tasks: 2 executed, 27 up-to-date
info Connecting to the development server...
8081
info Starting the app on "2739c2df"...
Starting: Intent { cmp=com.projectsaya/.MainActivity }
```

Gambar 1.29 React Native App Android

```
<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">
        Abigael Gerry Pratama
      </Section>
      <Section title="NIM">
        193020503021
      </Section>
      <Section title="Modul">
        V
      </Section>
      <Section title="Kelas">
        A
      </Section>
      <LearnMoreLinks />
    </View>
  </ScrollView>
</SafeAreaView>
);
```

Gambar 1.30 Coding App.js



Gambar 1.31 Output