

**LAPORAN HASIL PRAKTIKUM  
PEMROGRAMAN WEB DAN MOBILE I**



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**Modul : V (React Native)**

**JURUSAN/PROGRAM STUDI TEKNIK INFORMATIKA**

**FAKULTAS TEKNIK**

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# **BAB I**

## **TUJUAN DAN LANDASAN TEORI**

### **1.1. Landasan Teori**

#### **Pengertian React Native**

React Native adalah salah satu framework dari JavaScript untuk membantu mengembangkan aplikasi berbasis Android dan iOS. Kemudian, juga banyak sekali perusahaan besar yang menggunakan seperti Facebook. Dalam pengembangannya, tidak memerlukan pembuatan aplikasi hybrid. React Native juga mampu untuk mengkompilasi sebuah aplikasi ke dalam native code, baik pada Android maupun iOS.

#### **Cara Kerja React Native**

React Native adalah framework yang ditulis dengan campuran bahasa JavaScript dan JXL, sebuah kode markup khusus yang menyerupai XML. Framework ini memiliki kemampuan untuk berkomunikasi dengan kedua ranah sekaligus, yaitu threads yang berbasis JavaScript dan threads dari native app. Jadi, bagaimana caranya untuk berkomunikasi? Rupanya React Native menggunakan apa yang disebut dengan “bridge” atau jembatan. JavaScript dan threads native memang ditulis dengan dua bahasa pemrograman yang berbeda. Namun, fitur bridging dari React Native tetap memungkinkan untuk komunikasi dua arah. Itu artinya saat pengembang sudah memiliki aplikasi Android atau iOS, mereka masih tetap bisa menggunakan komponennya saat menggunakan React Native.

#### **Kelebihan React Native**

##### **1. Hemat biaya**

Kelebihan pertama dari React Native adalah biaya yang lebih hemat jika dibandingkan dengan proses pengembangan yang lainnya. Itulah mengapa perusahaan *startup* lebih menyukai untuk menggunakan React Native dalam mengembangkan aplikasi seluler mereka.

Saat melakukan pengembangan dengan React Native tentu perusahaan tidak perlu menyewa dua tim pengembang Android dan iOS secara terpisah. Jadi, anggaran untuk membayar dua tim tersebut bisa dialokasikan untuk keperluan yang lain.

## **2. Aplikasi bisa berjalan lebih cepat**

Sebelumnya banyak yang beranggapan bahwa JavaScript tidak akan bisa membuat aplikasi berjalan lebih cepat seperti saat menggunakan kode dari *native*.

## **3. Lebih hemat waktu**

Kelebihan selanjutnya dari React Native adalah bisa menghemat waktu lebih banyak untuk proses pengembangannya.

Kode dari React Native bisa digunakan kembali tanpa banyak mengubah komponennya. Jadi, proses pengembangan aplikasi seluler pun bisa menjadi lebih cepat.

## **4. Memiliki komunitas pengembang yang besar**

React Native adalah *framework* JavaScript open source yang memungkinkan para pengembang untuk saling berbagi pengetahuannya. Oleh karena itu, saat ada kesulitan saat menggunakan React Native, *developer* tidak perlu khawatir karena bisa bertanya di komunitas pengembang. Selain itu, para pengembang pemula yang ikut komunitas juga mendapatkan keuntungan yaitu bisa meningkatkan kemampuan *coding*.

## **Kelebihan React Native**

### **1. Kompatibilitas dan *debugging***

*React Native* memang menjadi salah satu *framework* yang terbilang masih muda. Jadi, saat ini mereka masih dalam fase beta. Hal tersebut bisa membuat pengembang menemukan berbagai masalah dengan kompatibilitas dan *debugging*. Jika pengembang tersebut masih belum terlalu mahir dalam menggunakan React Native, tentu akan membuatnya kesulitan untuk memecahkan masalah tersebut.

### **2. Kinerja dan kualitasnya lebih rendah**

Kekurangan dari React Native yang selanjutnya adalah hasil kinerja dan kualitas dari aplikasi yang cukup rendah. React Native merupakan pengembangan lintas *platform* sehingga tidak semua aspek akan membuahkan hasil yang sempurna. Kinerja dan kualitas menjadi salah satu hal yang harus dikorbankan. Hal itu berbeda dengan saat menggunakan pengembangan kode *native* yang tentunya bisa memberikan hasil yang lebih maksimal. Itulah mengapa *React Native* tidak dijadikan pilihan untuk membuat aplikasi yang menjalankan animasi yang berat atau pun *game*.

### **3. Tetap membutuhkan *native developer***

React Native memang memiliki fitur bridging untuk menjembatani JavaScript dan kode native. Akan tetapi, jika perusahaan tidak memiliki native developer tentu akan cukup kesulitan. Native developer masih dibutuhkan untuk memasukkan kode native ke dalam basis kode React Native. Jadi, jika pengembang tidak memiliki keterampilan menggunakan kode native tentu akan kebingungan.

### **Pengertian React Native**

React Android Studio adalah Lingkungan Pengembangan Terpadu – Integrated Development Environment (IDE) untuk pengembangan aplikasi Android, berdasarkan IntelliJ IDEA . Selain merupakan editor code IntelliJ dan alat pengembang yang berdaya guna, Android Studio menawarkan lebih banyak fitur. Gunanya untuk meningkatkan produktivitas kamu saat membuat aplikasi Android, misalnya:

- Sistem versi berbasis Gradle yang fleksibel
- Emulator yang cepat dan kaya fitur
- Lingkungan yang menyatu untuk pengembangan bagi semua perangkat Android
- Instant Run untuk mendorong perubahan ke aplikasi yang berjalan tanpa membuat APK baru
- Template kode dan integrasi GitHub untuk membuat fitur aplikasi yang sama dan mengimpor kode contoh
- Alat pengujian dan kerangka kerja yang ekstensif

- Alat Lint untuk meningkatkan kinerja, kegunaan, kompatibilitas versi, dan masalah-masalah lain
- Dukungan C++ dan NDK

## BAB II

## PEMBAHASAN

Pada praktikum ini diminta untuk melakukan installasi react native. Berikut ini langkah-langkah dalam melakukan installasinya

Hal pertama yang perlu dilakukan adalah menginstall chocolatey. Chocolatey adalah package manager di level operating system, bukan application level seperti Composer atau RubyGems. Seperti hal nya package manager lainnya, fungsi dari Chocolatey adalah mengatur dan mengotomasi program dalam komputer, seperti install, upgrade, dan menghapus program. Chocolatey akan digunakan untuk melakukan penginstallan JDK, Node, JS dan juga Phyton.

Untuk melakukan chocolatey caranya adalah dengan membuka pencarian di windows, ketik “cmd” lalu buka run as administrator, setelah itu jalankan perintah:

```
@ "%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"
```

Setelah memasukkan command diatas tekan enter lalu tunggu instalasi sampai selesai seperti gambar berikut.

```

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

C:\WINDOWS\system32\cmd.exe /s /c (New-Object System.Net.WebClient).DownloadString('https://chocolatey.org/install.ps1') | & SET "PATH=PATH;SALUSERS\PROG\lib\chocolatey\bin"
forcing web requests to allow TLS v1.2 (Required for requests to Chocolatey.org)
Not using proxy.
Getting latest version of the Chocolatey package for download.
Setting 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\ASUS\AppData\Local\Temp\chocolatey\chocoinstall\chocolatey.zip
Not using proxy.
Extracting C:\Users\ASUS\AppData\Local\Temp\chocolatey\chocoinstall\chocolatey.zip to C:\Users\ASUS\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 lib completion: Profile file does not exist at
'C:\Users\ASUS\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.
Pouring Chocolatey commands are on the path
Ensuring chocolatey.nupkg is in the lib folder

```

### Gambar 2.1 Intalasi Chocolatey

Setelah selesai melakukan instalasi chocolatey lanjut melakukan instalasi JDK, Node.JS, dan Phyton. Untuk menginstall hal tersebut masukkan command sebagai berikut.

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

Setelah memasukkan command diatas tekan enter lalu tunggu instalasi sampai selesai seperti gambar berikut.

```
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%

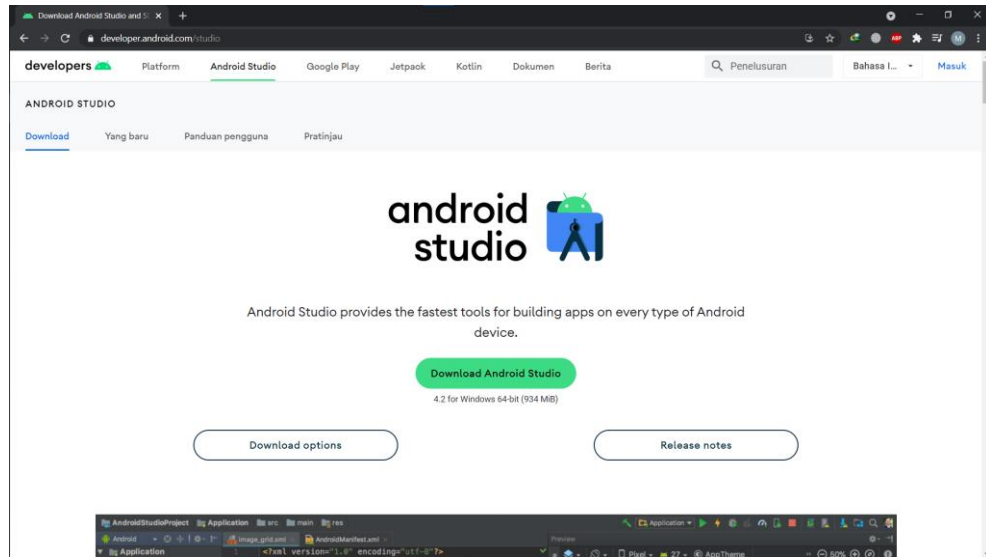
python2 v2.7.18 [Approved]
python2 package files install completed. Performing other installation steps.
Installing 64-bit python2...
python2 has been installed.
Installed to 'C:\Python27'
Adding C:\Python27 to PATH if needed
python2 may be able to be automatically uninstalled.
Environment Vars (like 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://java1.oracle.com/webapps/download/GetFile/1.8_0_211-b12/478a62b7d4e34b78b671c754eaaaf38ab/windows-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 2.2** Instalasi JDK, Node.JS, dan Phyton

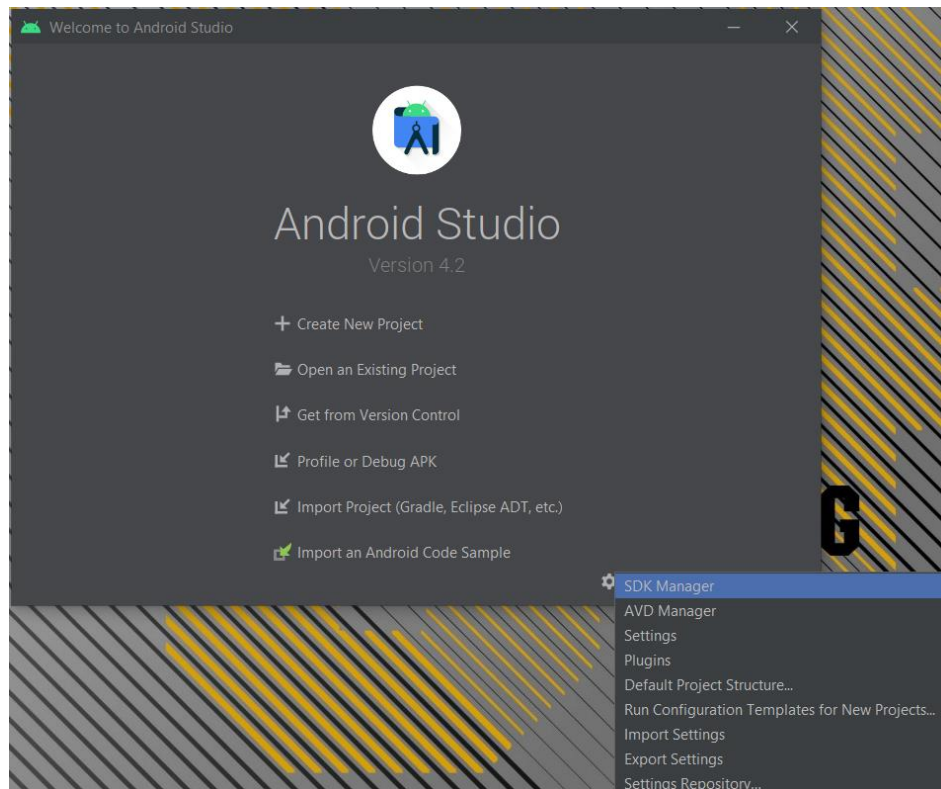
Setelah melakukan hal diatas selanjutnya melakukan instalasi aplikasi Android Studio aplikasi ini dapati didownload paa website resminya yaitu <https://developer.android.com/studio/>



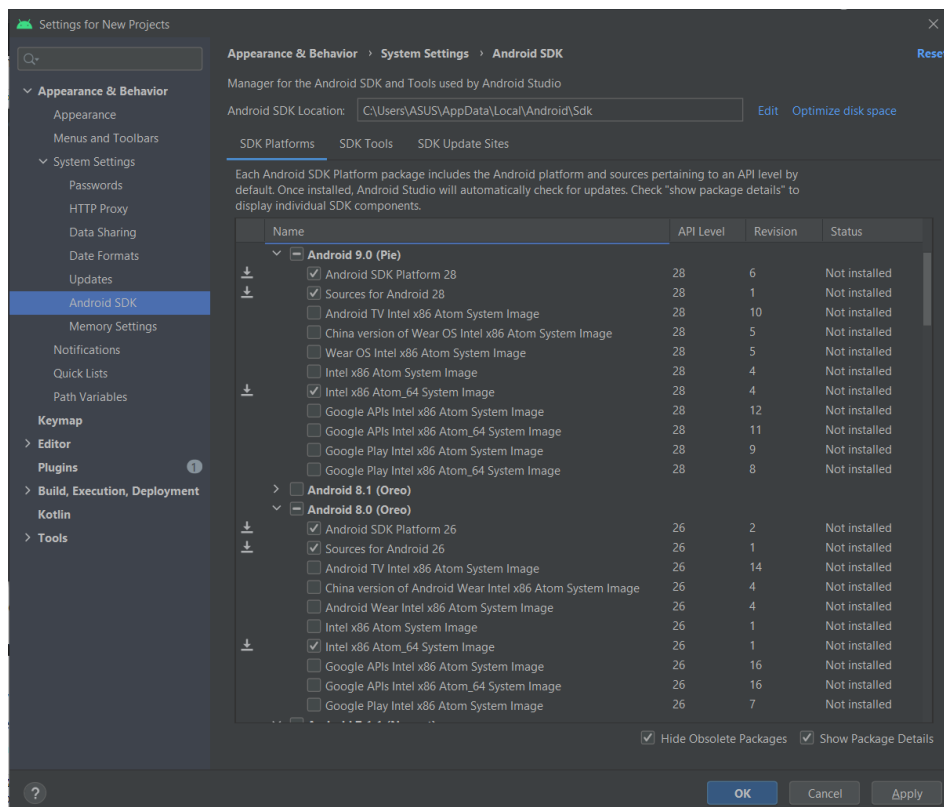
**Gambar 2.3** Tampilan web dari Android Studio

Setelah di download install aplikasi tersebut. Setelah di install buka aplikasinya lalu 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. Pastikan untuk menandai Android SDK Platform 28 & 26, Source for android 28 & 26, dan 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”. Dapat dilihat pada gambar berikut ini.

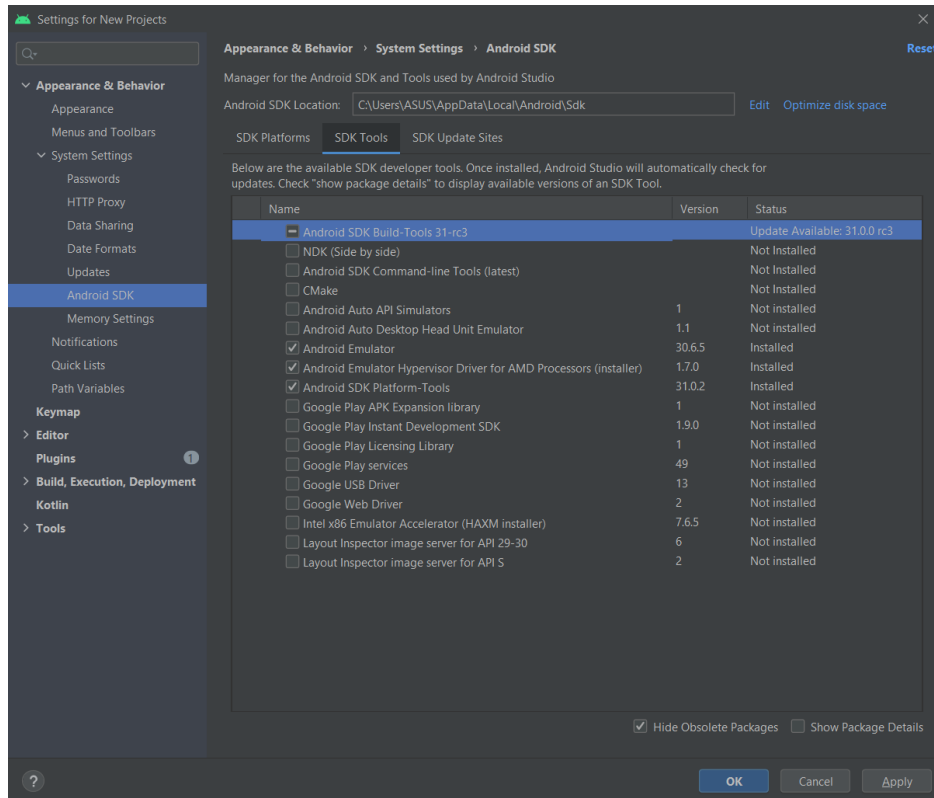




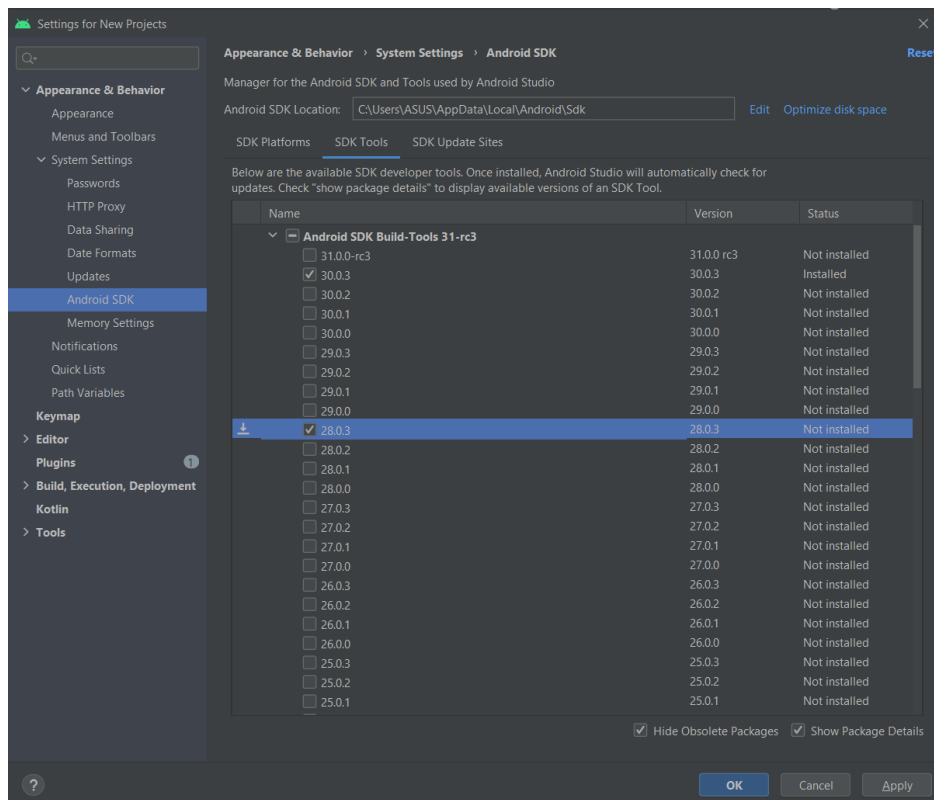
**Gambar 2.4** Tampilan Android



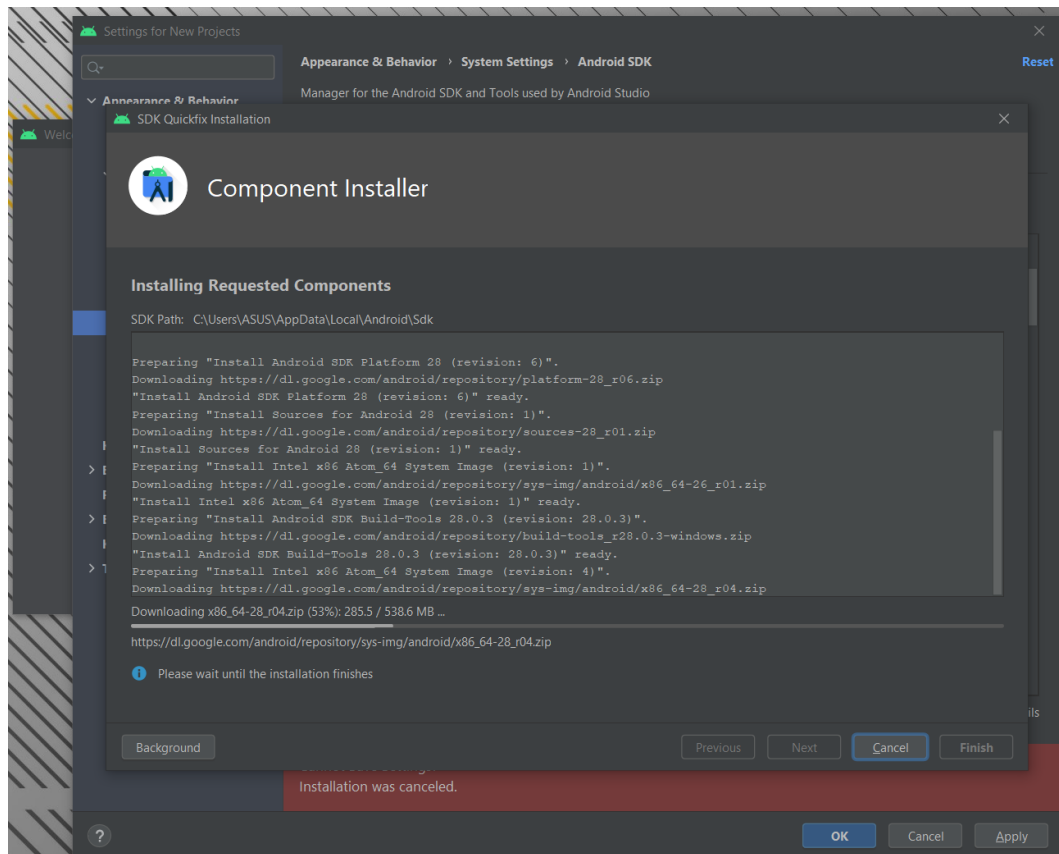
**Gambar 2.5** Kofigurasi SDK



**Gambar 2.6** Kofigurasi SDK tools



**Gambar 2.7** Kofigurasi SDK tools



**Gambar 2.8** Kofigurasi SDK

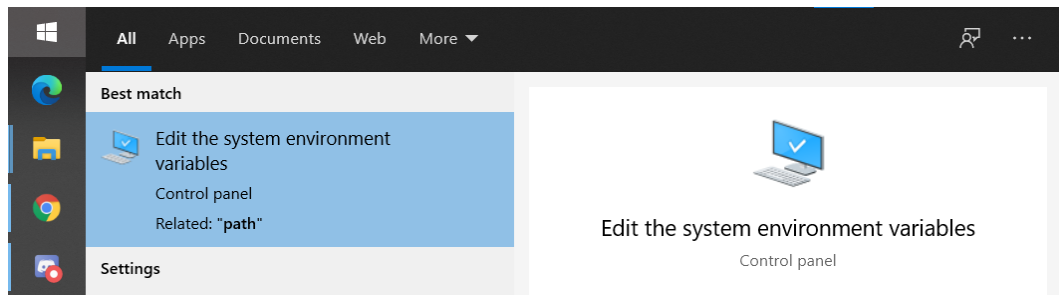
Setelah selesai melakukan installasi dan mendownload fitur-fitur yang telah diminta selanjutnya melakukan setting pada path. Klik menu pencarian windows, ketik “path” klik “edit the system environment variables”. Pada tab “Advanced” klik “environment variable...” di kanan bawah. Pada “User variables”, klik “New” dan isikan.

**variable name : ANDROID\_HOME**

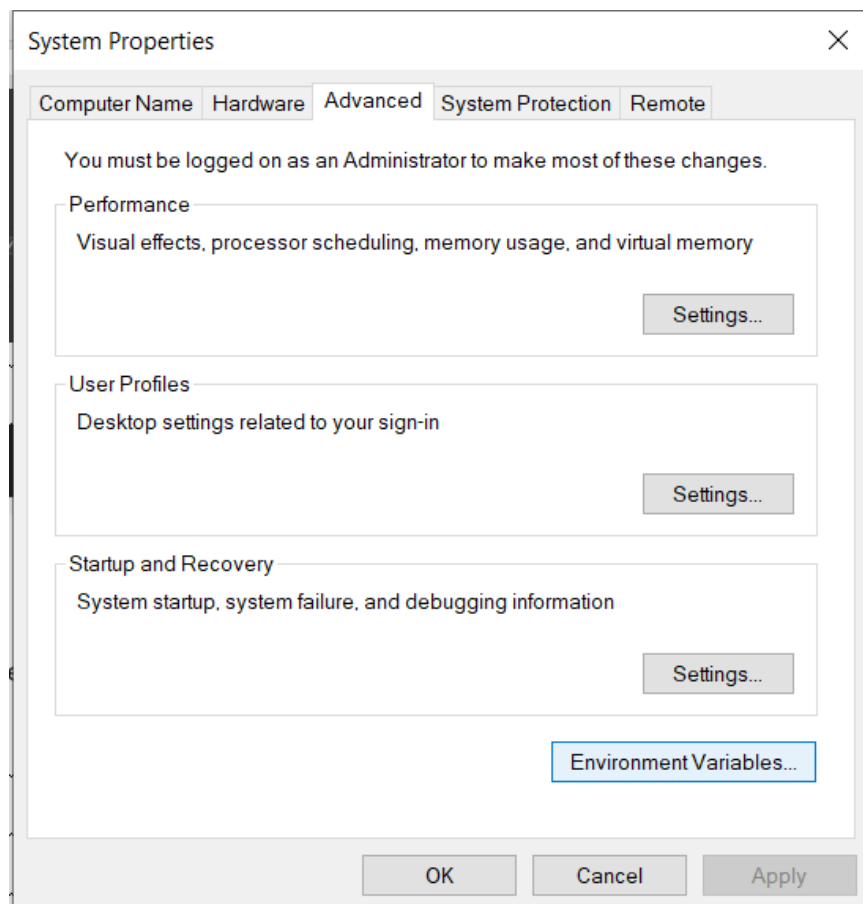
**variable value: C:\Users\ASUS\AppData\Local\Android\Sdk**

Lanjut, klik variabel “path”, kemudian klik edit. Klik New lalu masukkan path platform-tools.

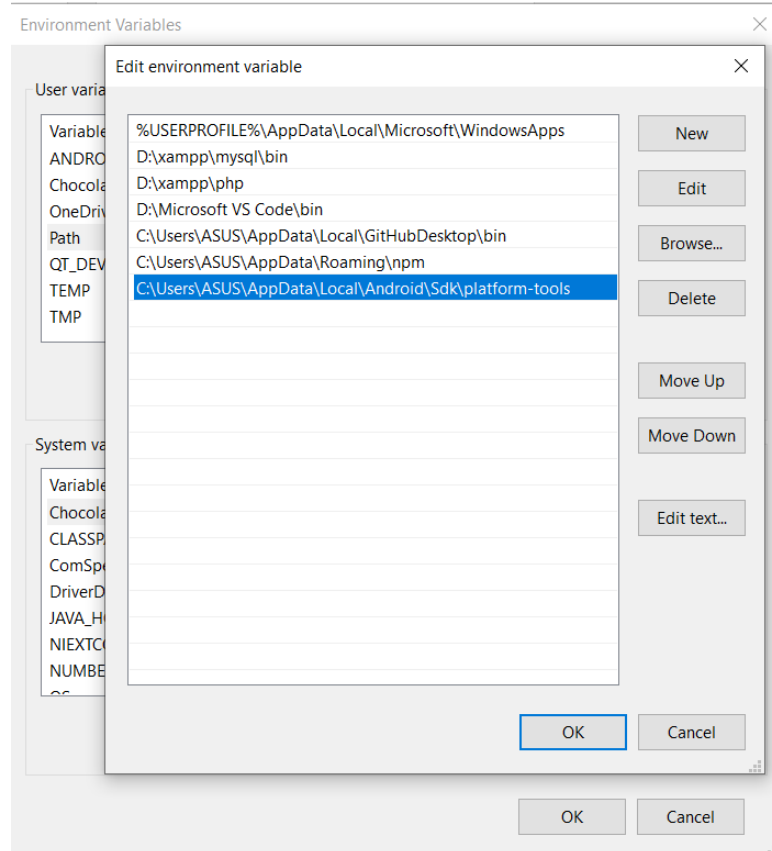
**C:\Users\ASUS\AppData\Local\Android\Sdk\platform-tools**



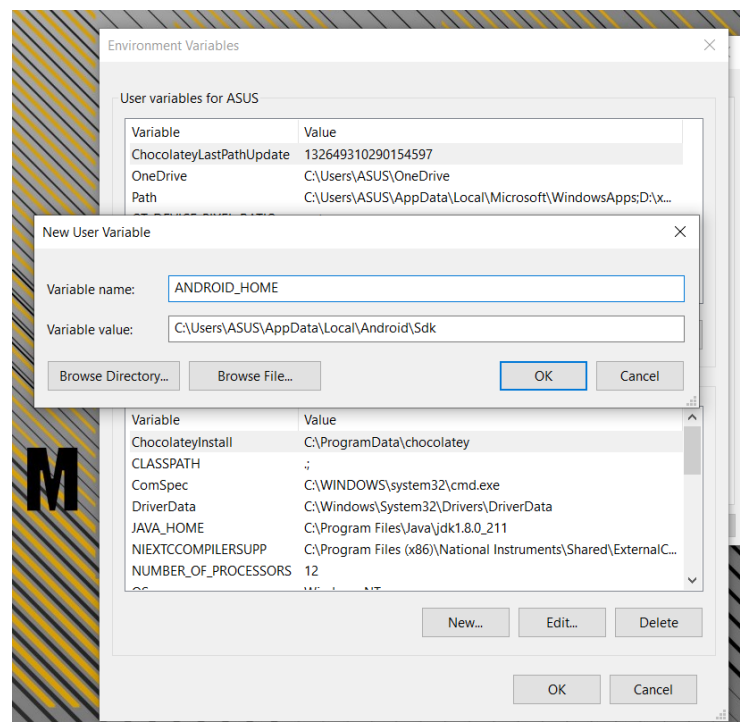
**Gambar 2.9** Setting Path



**Gambar 2.10** Setting Path



**Gambar 2.11** Setting Path

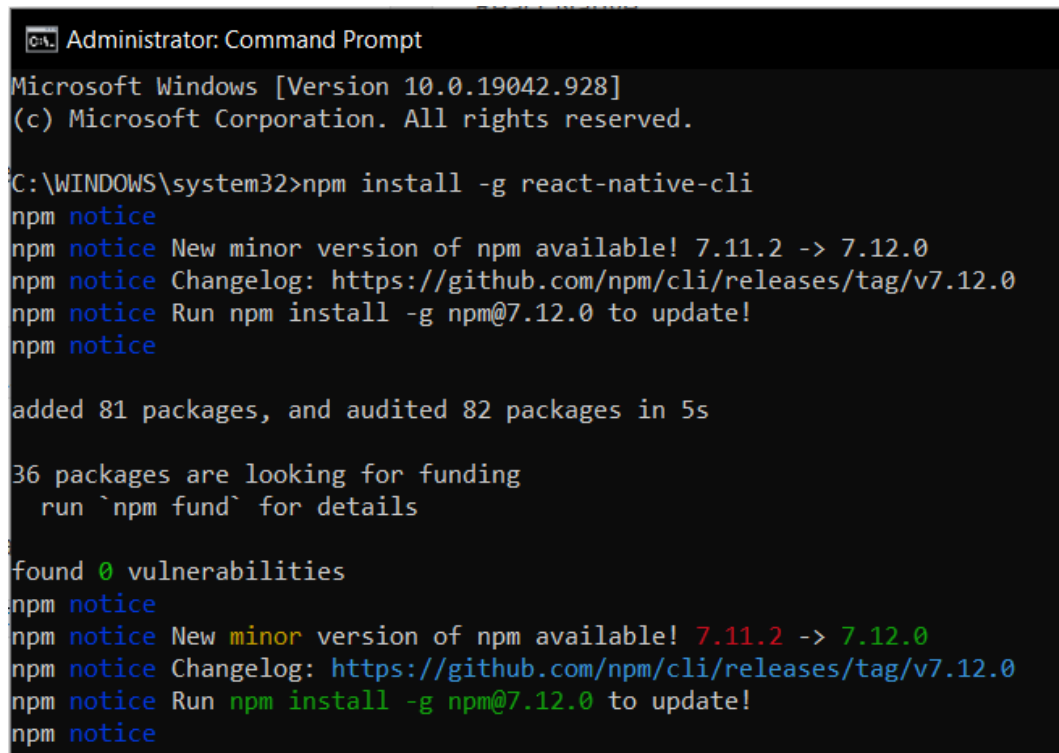


**Gambar 2.11** Setting Path

Setelah selesai melakukan pengaturan path, berikutnya adalah melakukan instalasi react native, caranya dengan membuka CMD lalu setelah itu mengetikkan kode berikut:

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

Setelah memasukkan command diatas tekan enter lalu tunggu instalasi sampai selesai seperti gambar berikut.

A screenshot of a Windows Command Prompt window titled "Administrator: Command Prompt". The window shows the execution of the command "npm install -g react-native-cli". The output includes several npm notices about a new minor version of npm (7.12.0) being available, a changelog link, and a prompt to run "npm install -g npm@7.12.0" to update. It also shows that 81 packages were added and audited in 5 seconds, 36 packages are looking for funding, and 0 vulnerabilities were found. The command prompt is set to the path "C:\WINDOWS\system32".

```
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
```

**Gambar 2.12** Install react native

Setelah selesai melakukan instalasi, berikutnya adalah membuat aplikasi pertama, caranya dengan membuka CMD lalu ketik perintah :

```
react-native init ProjectSaya
```

Setelah memasukkan command diatas tekan enter lalu tunggu instalasi sampai selesai seperti gambar berikut.

```

C:\WINDOWS\system32>react-native init ProjectSaya
This will walk you through creating a new React Native project in C:\WINDOWS\system32\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:\WINDOWS\system32\ProjectSaya
(node:3572) 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@5.1.5: 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 22s

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:\WINDOWS\system32\ProjectSaya" && npx react-native run-android

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

```

**Gambar 2.13** Membuat ProjectSaya

Setelah selesai membuat ProjectSaya lalu melakukan pengaturan pada emulator atau HP yang hendak di pakai. Lalu cek apakah device sudah terdeteksi menggunakan perintah :

**adb devices**

Setelah memasukkan command diatas tekan enter lalu tunggu instalasi sampai selesai seperti gambar berikut.

```

C:\WINDOWS\system32>adb devices
* daemon not running; starting now at tcp:5037
* daemon started successfully
List of devices attached
emulator-5554    device

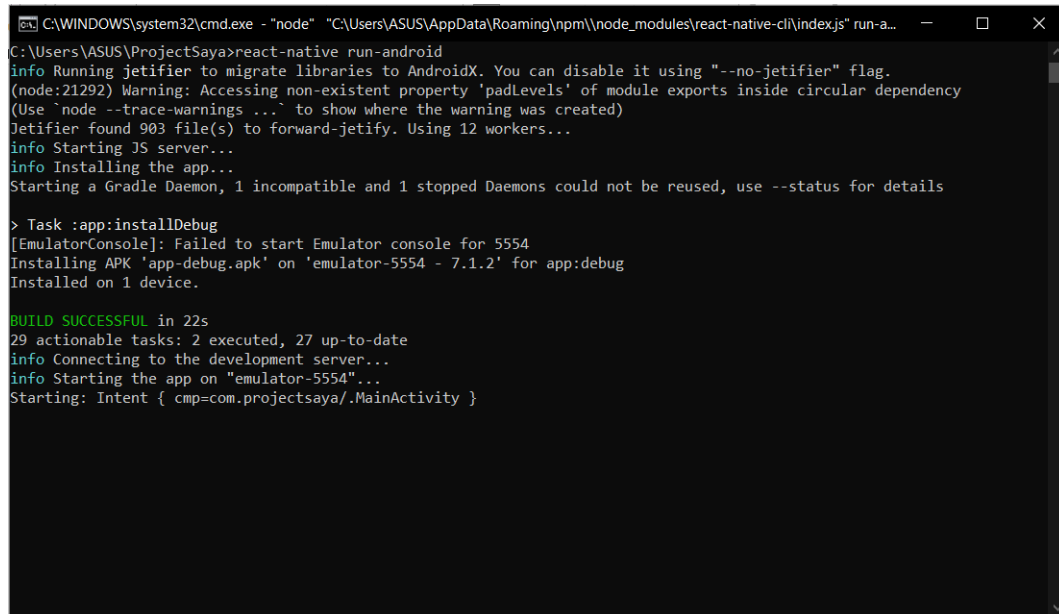
```

**Gambar 2.14** Pemeriksaan device yang terhubung

File index.php Setelah itu jalankan command berikut di dalam cmd di dalam file ProjectSaya. Kodenya adalah :

**react-native run-android**

Setelah memasukkan command diatas tekan enter lalu tunggu installasi sampai selesai. Setelah selesai check kedalam emulatoanya lalu modifikasi isi programnya. Buka folder ProjectSaya dengan Visual Studio Code. Cari App.js, lalu edit beberapa kode. Kembali ke HP, klik menu lalu “Reload”, lihat apa yang terjadi. Berikut ini gambarnya

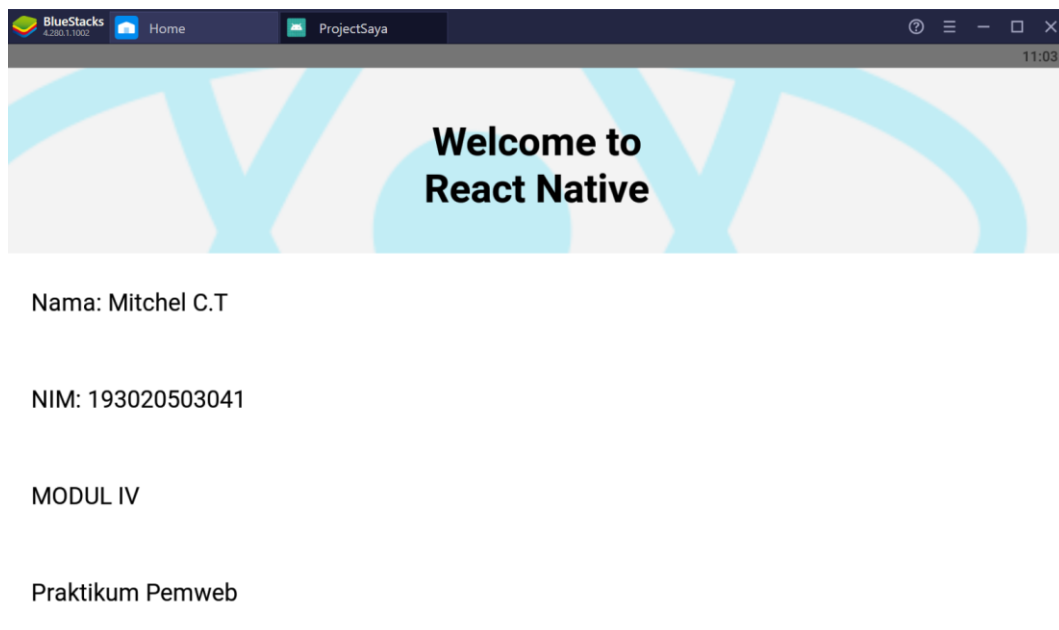


```
C:\WINDOWS\system32\cmd.exe - "node" "C:\Users\ASUS\AppData\Roaming\npm\node_modules\react-native-cli\index.js" run-a...
C:\Users\ASUS\ProjectSaya>react-native run-android
info Running jetifier to migrate libraries to AndroidX. You can disable it using "--no-jetifier" flag.
(node:21292) Warning: 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...
info Starting JS server...
info Installing the app...
Starting a Gradle Daemon, 1 incompatible and 1 stopped Daemons could not be reused, use --status for details

> Task :app:installDebug
[EmulatorConsole]: Failed to start Emulator console for 5554
Installing APK 'app-debug.apk' on 'emulator-5554 - 7.1.2' for app:debug
Installed on 1 device.

BUILD SUCCESSFUL in 22s
29 actionable tasks: 2 executed, 27 up-to-date
info Connecting to the development server...
info Starting the app on "emulator-5554"...
Starting: Intent { cmp=com.projectsaya/.MainActivity }
```

**Gambar 2.15** Running Project Saya



**Gambar 2.16** Program Emulator



## **BAB III**

### **KESIMPULAN**

Dari praktikum ini dapat disimpulkan bahwa React Native merupakan salah satu framework dari JavaScript untuk membantu mengembangkan aplikasi berbasis Android dan iOS. Dalam pengembangannya, tidak memerlukan pembuatan aplikasi hybrid. React Native juga mampu untuk mengkompilasi sebuah aplikasi ke dalam native code, baik pada Android maupun iOS. Dengan memungkinkan pengembangan aplikasi untuk berbagai platform menggunakan basis kode yang sama, sehingga membantu dan mempermudah dalam pembuatan aplikasi untuk berbagai platform.

## DAFTAR PUSTAKA

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MODUL PRAKTIKUM PEMROGRAMAN WEB I.

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# LAMPIRAN

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19042.928]
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le -InputFormat None -ExecutionPolicy Bypass -Command "iex ((New-Object System.Net.WebClient).DownloadString('https://community.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.
Setting 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\ASUS\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip
Not using proxy.
Extracting C:\Users\ASUS\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip to C:\Users\ASUS\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.
'Match 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\ASUS\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 2.1 Intalasi Chocolatey

```
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%

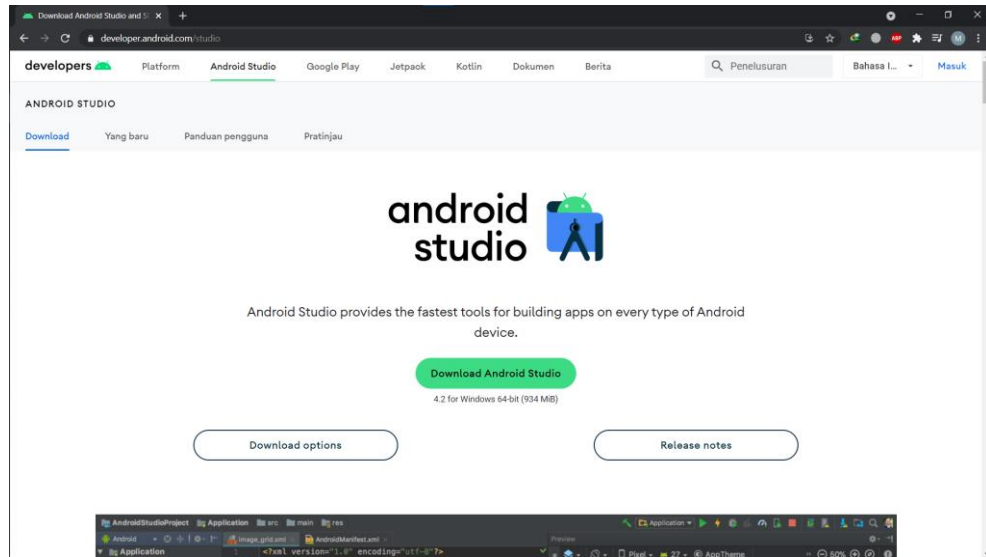
nodejs.install v16.1.0 [Approved]
nodejs.install package files install completed. Performing other installation steps.
Installing 64 bit version
Installing nodejs.install...
nodejs.install has been installed.
nodejs.install may be able to be automatically uninstalled.
Environment Vars (like PATH) have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

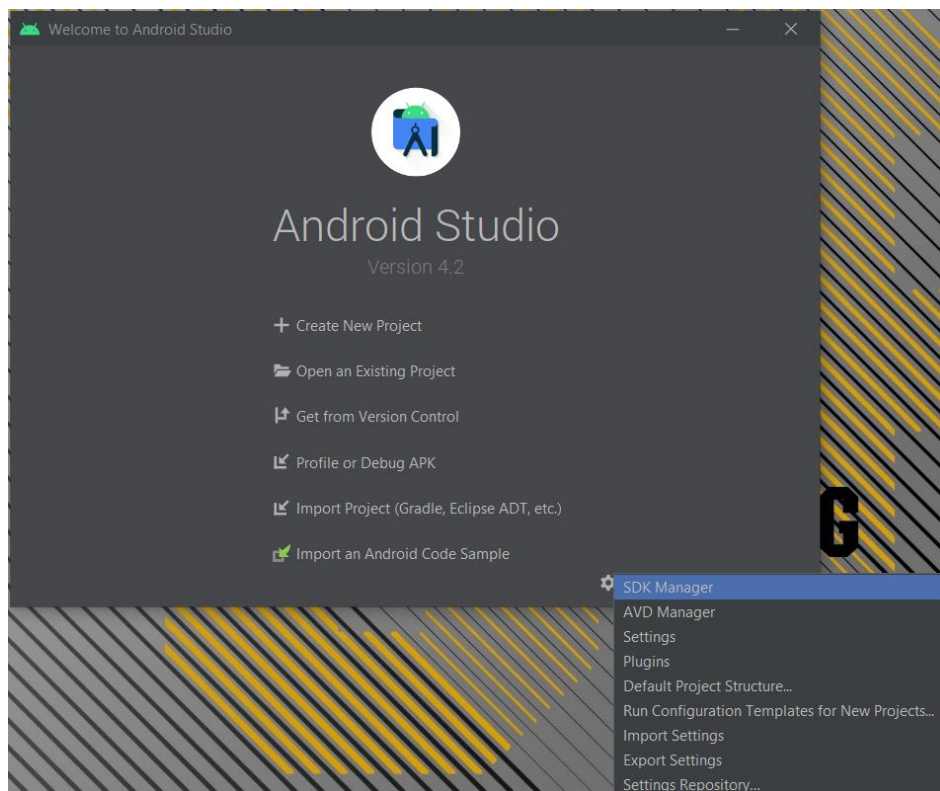
jdk8 v8.0.211 [Approved]
jdk8 package files install completed. Performing other installation steps.
Downloading JDK from https://java1.oracle.com/webapps/download/GetFile/1.8.0_211-b12/478a62b7d4e34b78b671c754eaf38ab/windows-i586/jdk-8u211-windows-x64.exe
Installing jdk8...
jdk8 has been installed.
PATH 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).
```

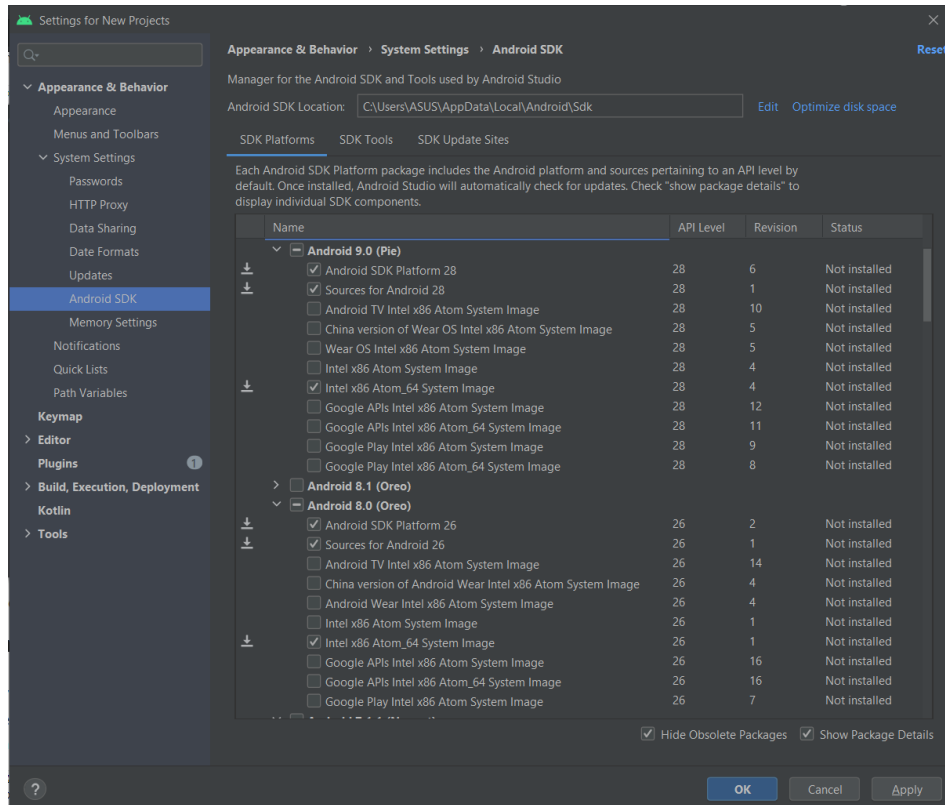
Gambar 2.2 Installasi JDK, Node.JS, dan Phyton



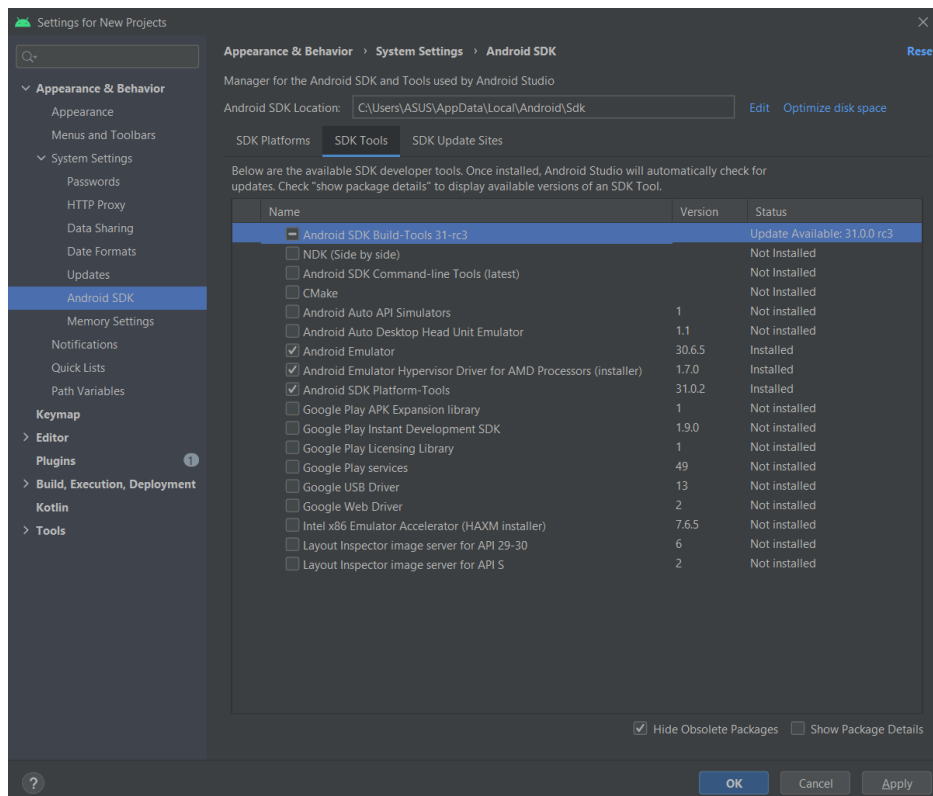
**Gambar 2.3** Tampilan web dari Android Studio



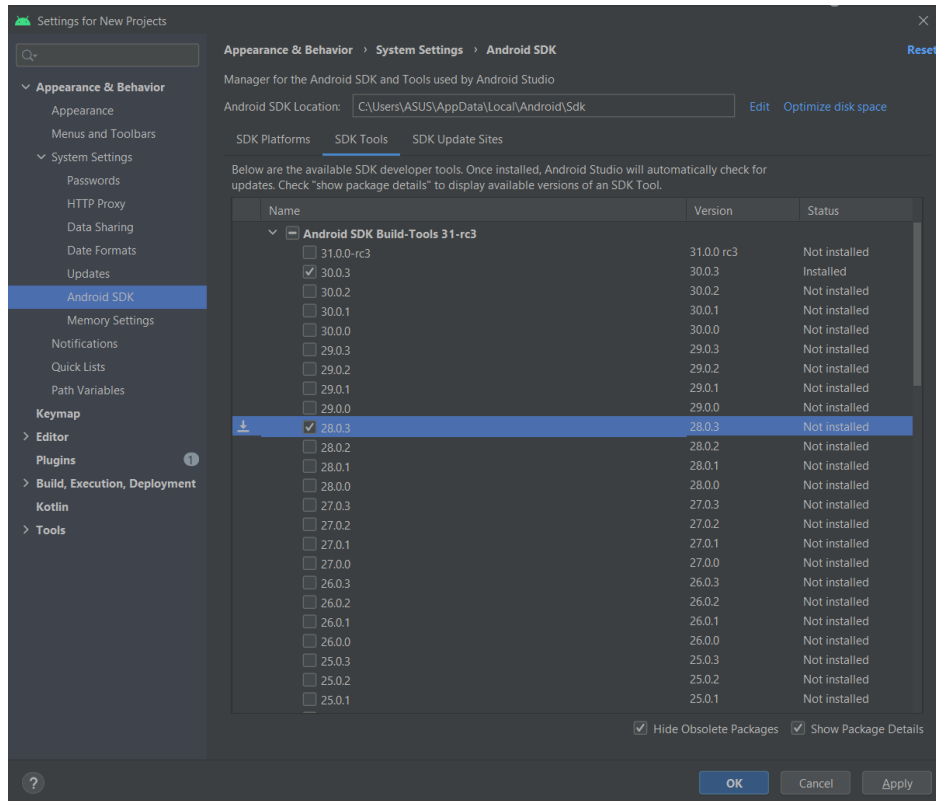
**Gambar 2.4** Tampilan Android



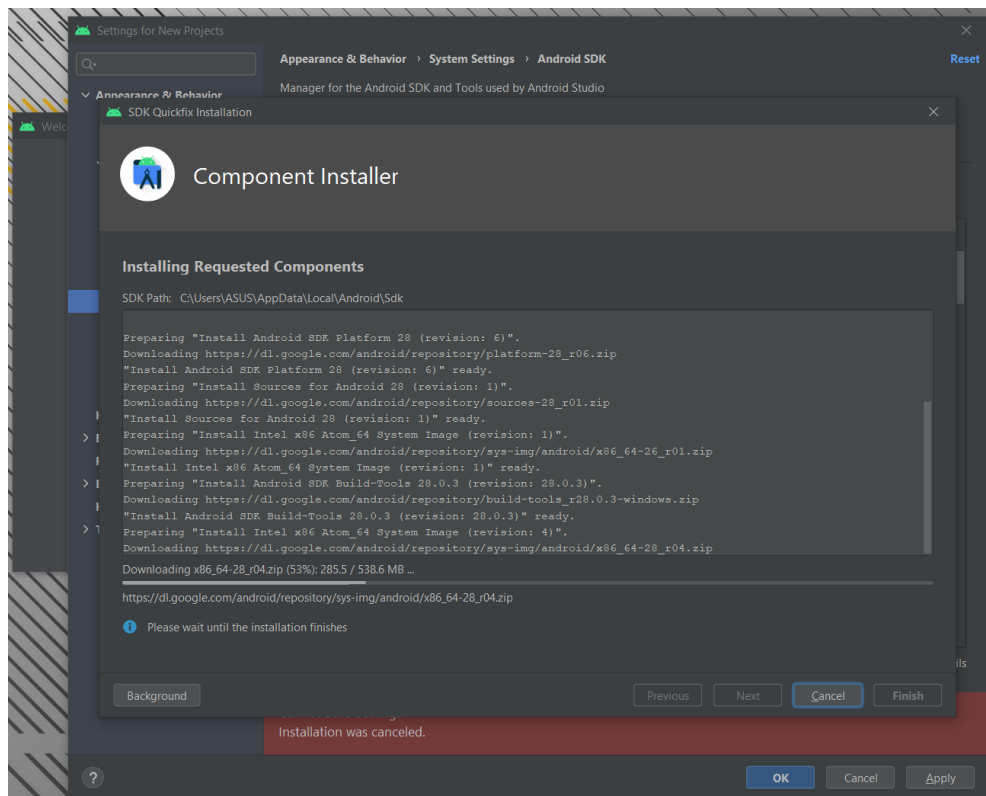
**Gambar 2.5** Kofigurasi SDK



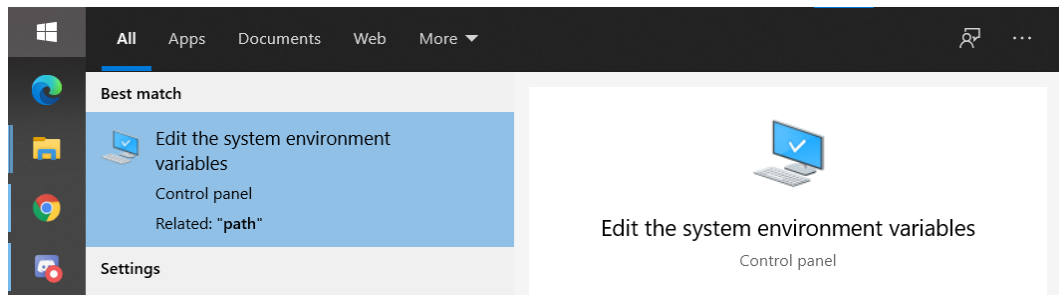
**Gambar 2.6** Kofigurasi SDK tools



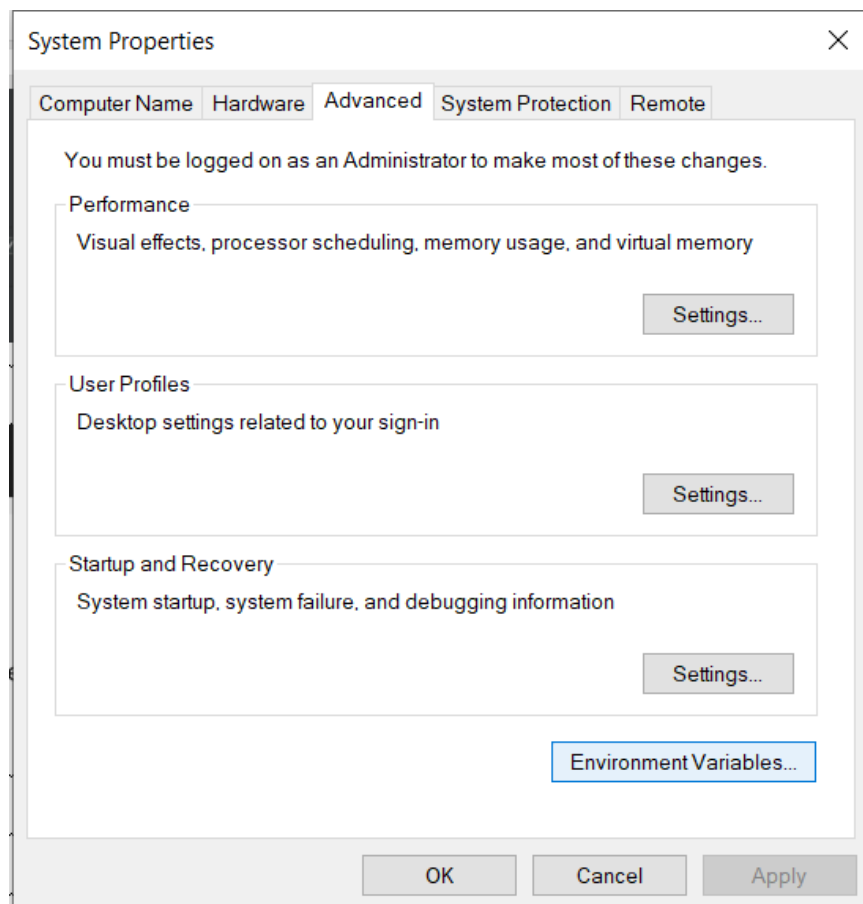
**Gambar 2.7** Kofigurasi SDK tools



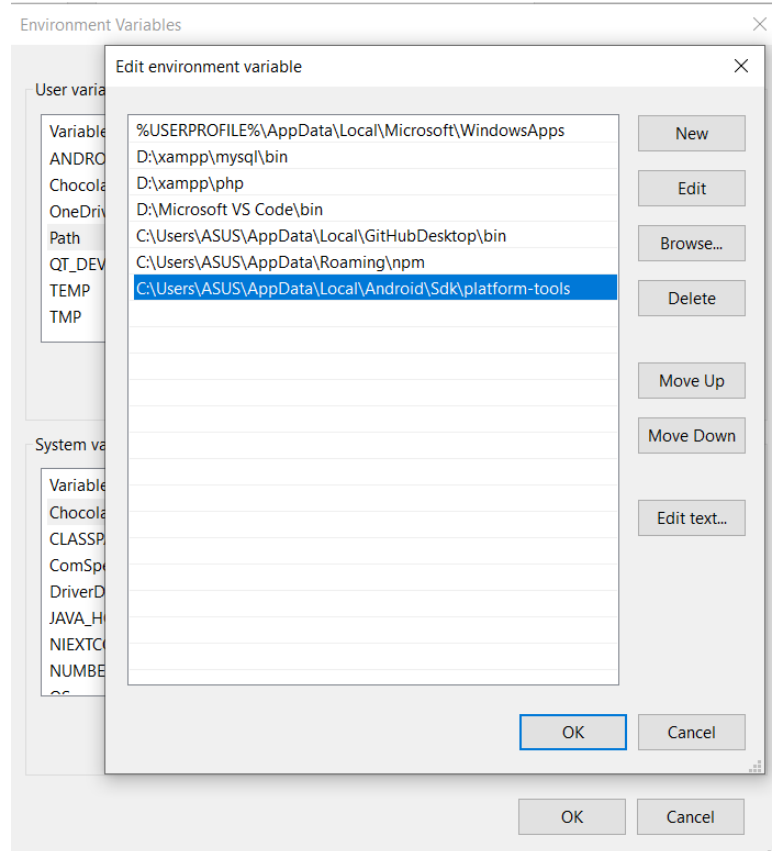
**Gambar 2.8** Kofigurasi SDK



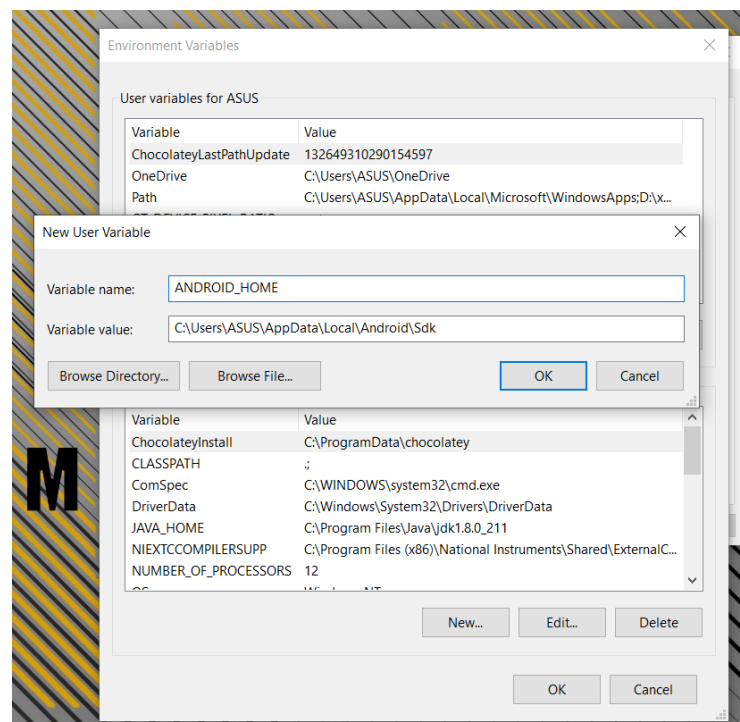
**Gambar 2.9** Setting Path



**Gambar 2.10** Setting Path



**Gambar 2.11** Setting Path



**Gambar 2.11** Setting Path



```
Administrator: Command Prompt

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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
```

**Gambar 2.12** Install react native

```
C:\WINDOWS\system32>react-native init ProjectSaya
This will walk you through creating a new React Native project in C:\WINDOWS\system32\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:\WINDOWS\system32\ProjectSaya
(node:3572) 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@5.1.5: 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 22s

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:\WINDOWS\system32\ProjectSaya" && npx react-native run-android

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

**Gambar 2.13** Membuat ProjectSaya

```
C:\WINDOWS\system32>adb devices
* daemon not running; starting now at tcp:5037
* daemon started successfully
List of devices attached
emulator-5554    device
```

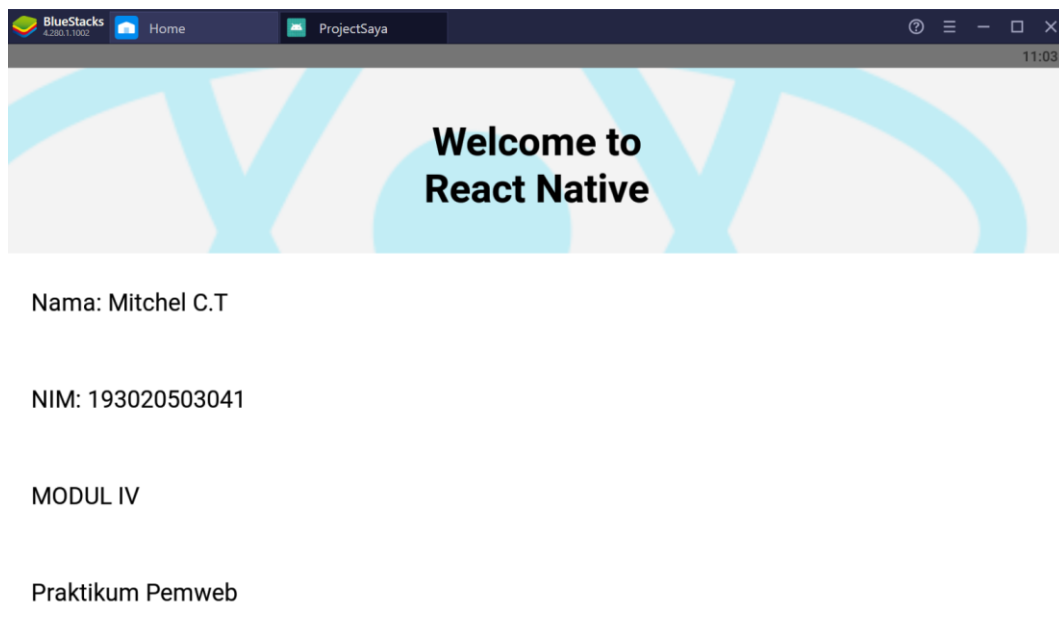
**Gambar 2.14** Pemeriksaan device yang terhubung

```
C:\WINDOWS\system32\cmd.exe - "node" "C:\Users\ASUS\AppData\Roaming\npm\node_modules\react-native-cli\index.js" run-a...
C:\Users\ASUS\ProjectSaya>react-native run-android
info Running jetifier to migrate libraries to AndroidX. You can disable it using "--no-jetifier" flag.
(node:21292) 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...
info Starting JS server...
info Installing the app...
Starting a Gradle Daemon, 1 incompatible and 1 stopped Daemons could not be reused, use --status for details

> Task :app:installDebug
[EmulatorConsole]: Failed to start Emulator console for 5554
Installing APK 'app-debug.apk' on 'emulator-5554 - 7.1.2' for app:debug
Installed on 1 device.

BUILD SUCCESSFUL in 22s
29 actionable tasks: 2 executed, 27 up-to-date
info Connecting to the development server...
info Starting the app on "emulator-5554"...
Starting: Intent { cmp=com.projectsaya/.MainActivity }
```

**Gambar 2.15** Running Project Saya



**Gambar 2.16** Program Emulator