

# Pemrograman Mobile

3 SKS | Semester 7 | S1 Sistem Informasi

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Pertemuan 2



# Arsitektur Android



# Komponen Android

- ✓ Activity
- ✓ Service
- ✓ Content Provider
- ✓ Resource
- ✓ Views
- ✓ Notification

# Versi Android

**Tabel 1.** Versi Android

Versi	Nama Kode
Android 1.0	
Android 1.1	
Android 1.5	Cupcake
Android 1.6	Donut
Android 2.0	Eclair
Android 2.0.1	Eclair
Android 2.1	Eclair
Android 2.2–2.2.3	Froyo
Android 2.3–2.3.2	Gingerbread
Android 2.3.3–2.3.7	Gingerbread
Android 3.0	Honeycomb
Android 3.1	Honeycomb
Android 3.2	Honeycomb
Android 4.0–4.0.2	Ice Cream Sandwich
Android 4.0.3–4.0.4	Ice Cream Sandwich
Android 4.1	Jelly Bean
Android 4.2	Jelly Bean
Android 4.3	Jelly Bean
Android 4.4	KitKat
Android 5.0	Lollipop
Android 5.1	Lollipop
Android 6.0	Marshmallow
Android 7.0	Nougat

# Persiapan Perangkat Pemrograman Android

- ✓ Java JDK
- ✓ Android SDK
- ✓ IDE Eclipse
- ✓ Android ADT

# Instalasi Paket Java JDK

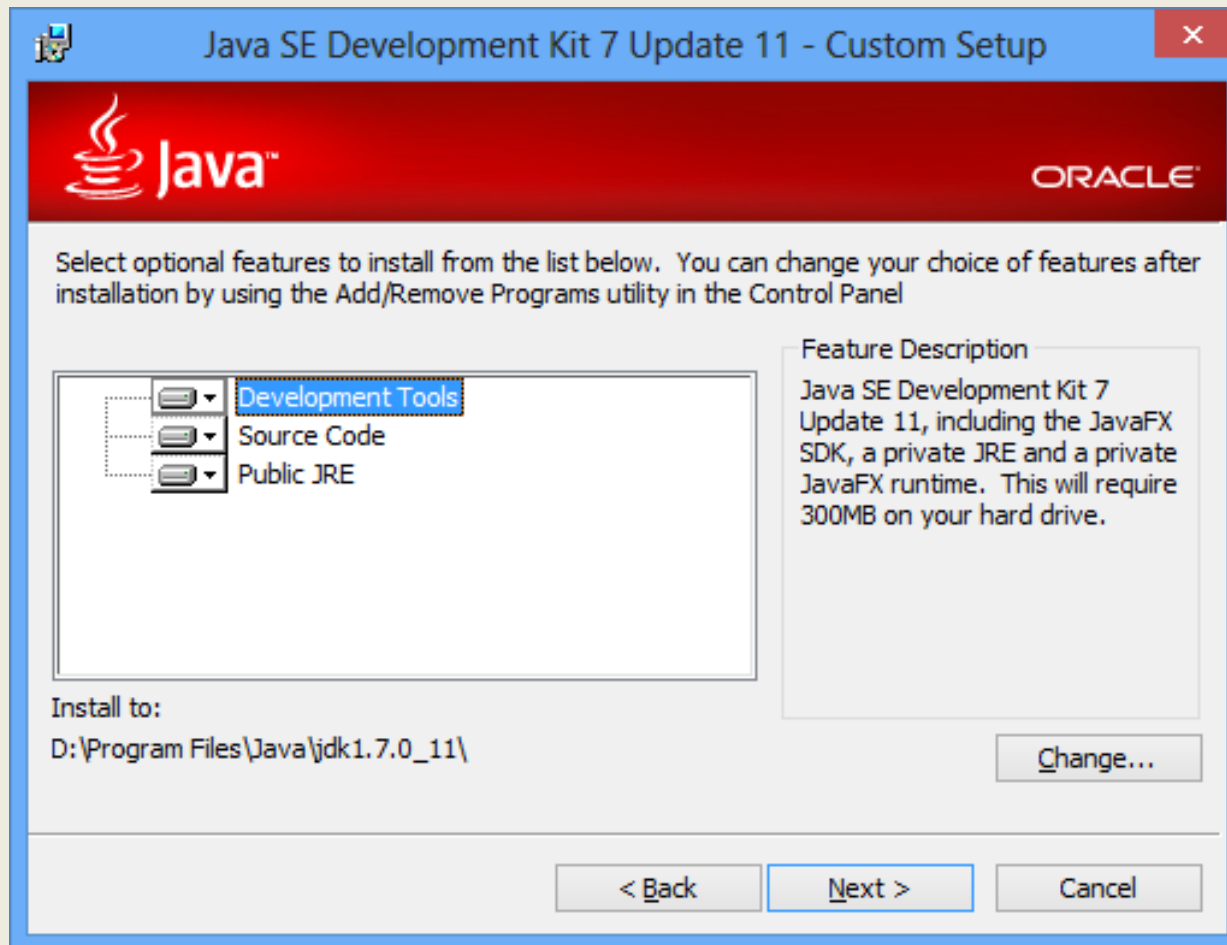
Link download:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>



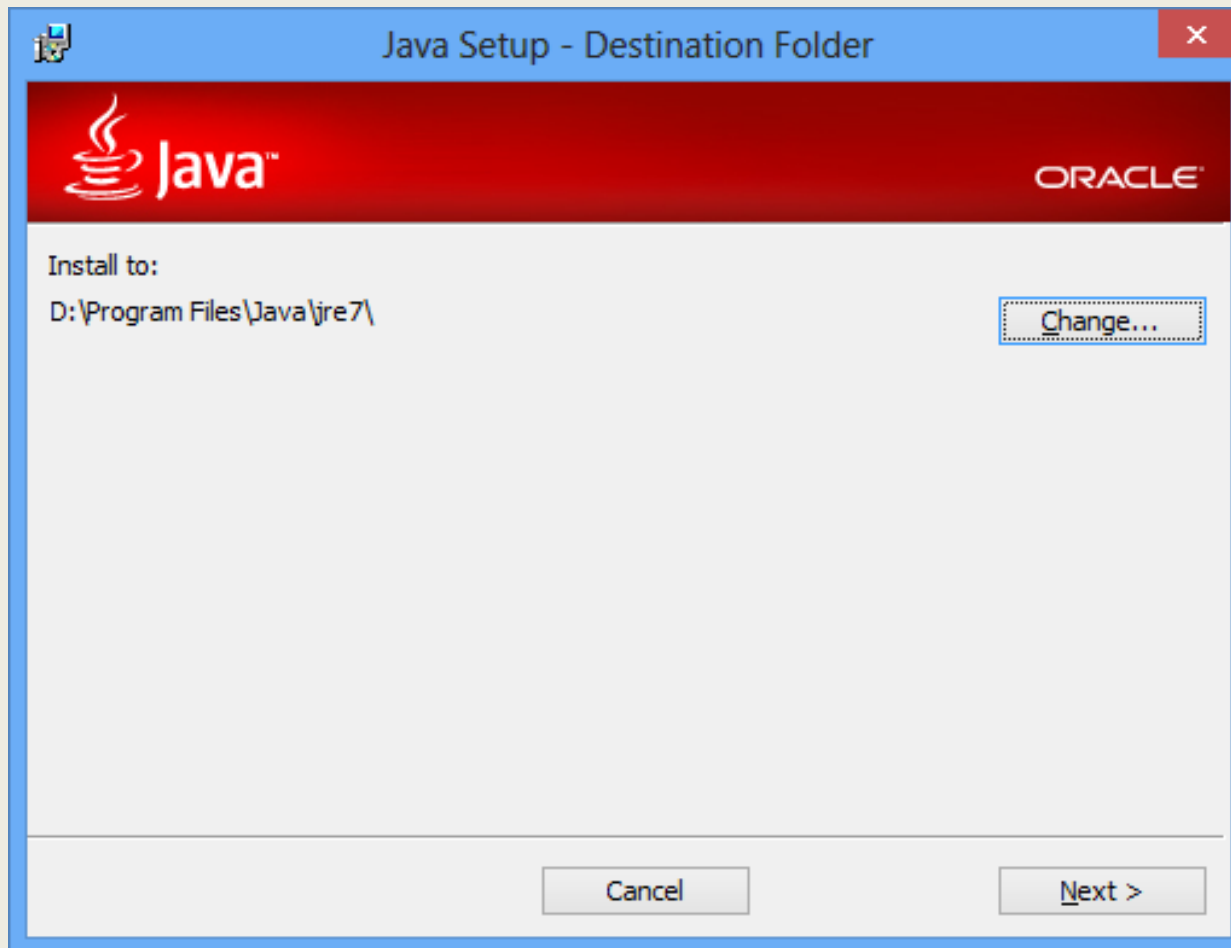
# Instalasi Paket Java JDK

Deskripsi fitur, pemilihan fitur, dan penentuan lokasi instalasi



# Instalasi Paket Java JDK

Termasuk instalasi pake java JRE



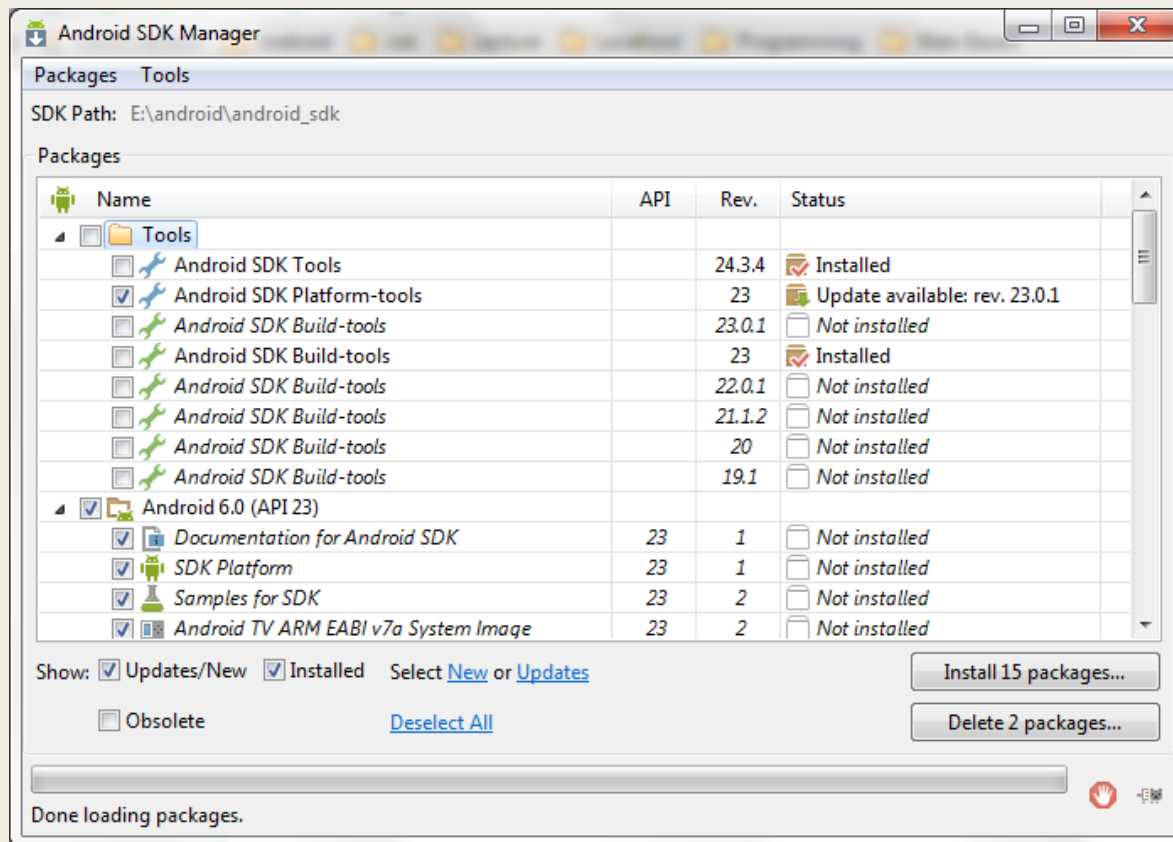


# Instalasi Paket Java SDK

Link Download:

<https://developer.android.com/sdk/index.html>

Tersedia untuk sistem operasi Windows, Linux, Mac OS.



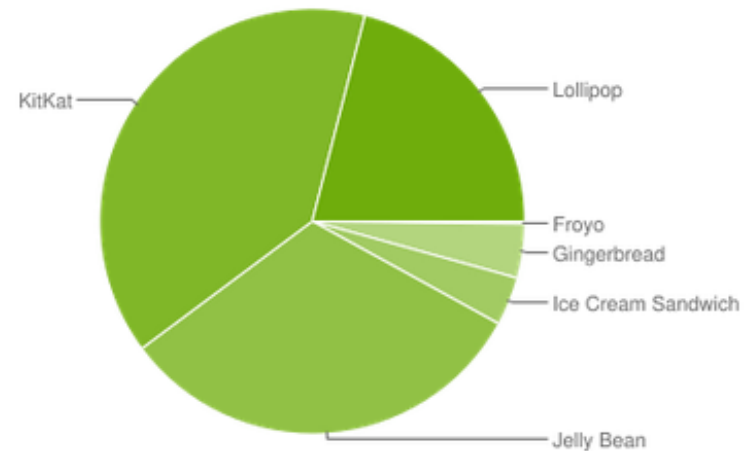
# Level API setiap Versi Android

<u>Versi</u>	<u>Nama Kode</u>	<u>Level API</u>
Android 1.0		API level 1
Android 1.1		API level 2
Android 1.5	Cupcake	API level 3
Android 1.6	Donut	API level 4
Android 2.0	<u>Eclair</u>	API level 5
Android 2.0.1	<u>Eclair</u>	API level 6
Android 2.1	<u>Eclair</u>	API level 7
Android 2.2–2.2.3	<u>Froyo</u>	API level 8
Android 2.3–2.3.2	Gingerbread	API level 9
Android 2.3.3–2.3.7	Gingerbread	API level 10
Android 3.0	Honeycomb	API level 11
Android 3.1	Honeycomb	API level 12
Android 3.2	Honeycomb	API level 13
Android 4.0–4.0.2	Ice Cream Sandwich	API level 14
Android 4.0.3–4.0.4	Ice Cream Sandwich	API level 15
Android 4.1	Jelly Bean	API level 16
Android 4.2	Jelly Bean	API level 17
Android 4.3	Jelly Bean	API level 18
Android 4.4	<u>KitKat</u>	API level 19
Android 5.0	Lollipop	API level 21
Android 5.1	Lollipop	API level 22
Android 6.0	Marshmallow	API level 23

# Penggunaan versi android di Pasaran

<https://developer.android.com/about/dashboards/index.html>

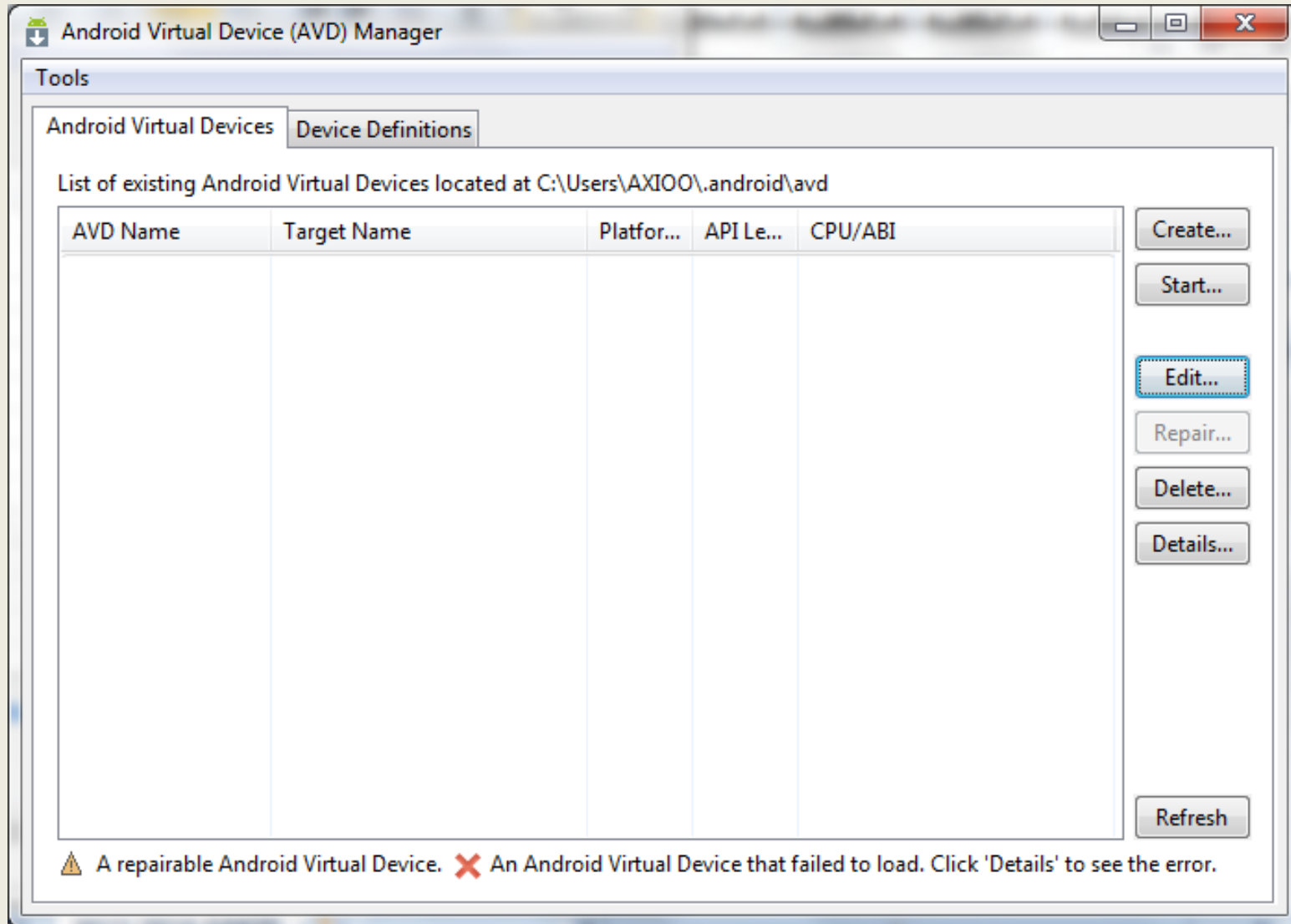
Version	Codename	API	Distribution
<a href="#">2.2</a>	Froyo	8	0.2%
<a href="#">2.3.3 - 2.3.7</a>	Gingerbread	10	4.1%
<a href="#">4.0.3 - 4.0.4</a>	Ice Cream Sandwich	15	3.7%
<a href="#">4.1.x</a>	Jelly Bean	16	12.1%
<a href="#">4.2.x</a>		17	15.2%
<a href="#">4.3</a>		18	4.5%
<a href="#">4.4</a>	KitKat	19	39.2%
<a href="#">5.0</a>	Lollipop	21	15.9%
<a href="#">5.1</a>		22	5.1%



Data collected during a 7-day period ending on September 7, 2015.

Any versions with less than 0.1% distribution are not shown.

## Membuat AVD pada SDK sebagai emulator



## Membuat AVD pada SDK sebagai emulator

**Edit Android Virtual Device (AVD)**

AVD Name:

Device:

Target:

CPU/ABI:

Keyboard: ☒ Hardware keyboard present

Skin:

Front Camera:

Back Camera:

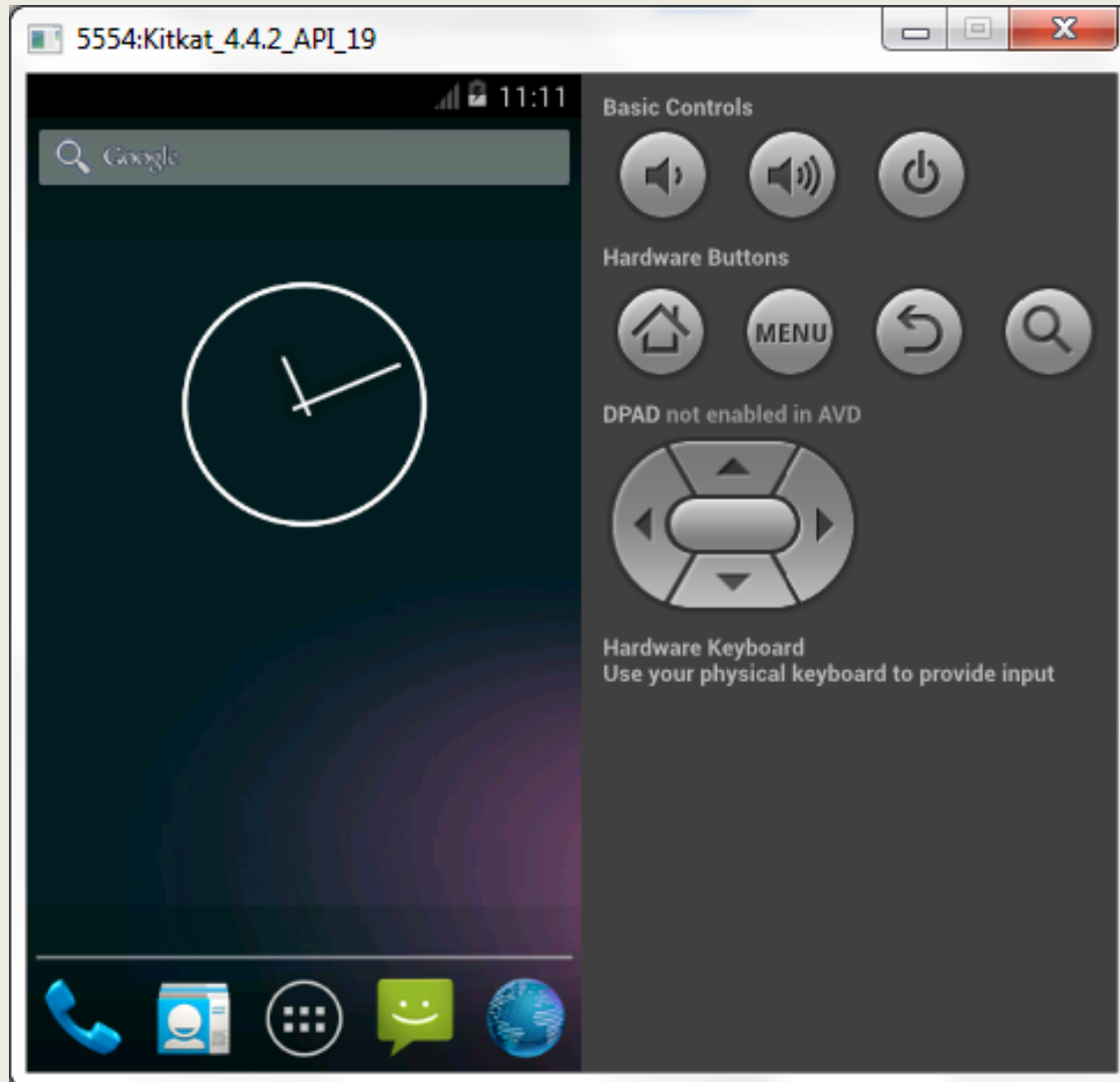
Memory Options: RAM:  VM Heap:

Internal Storage:

SD Card: ☒ Size:   ☐ File:

Emulation Options: ☐ Snapshot ☐ Use Host GPU

## Membuat AVD pada SDK sebagai emulator



# Instalasi IDE Eclipse

Link download:

<https://eclipse.org/downloads/index-developer.php>

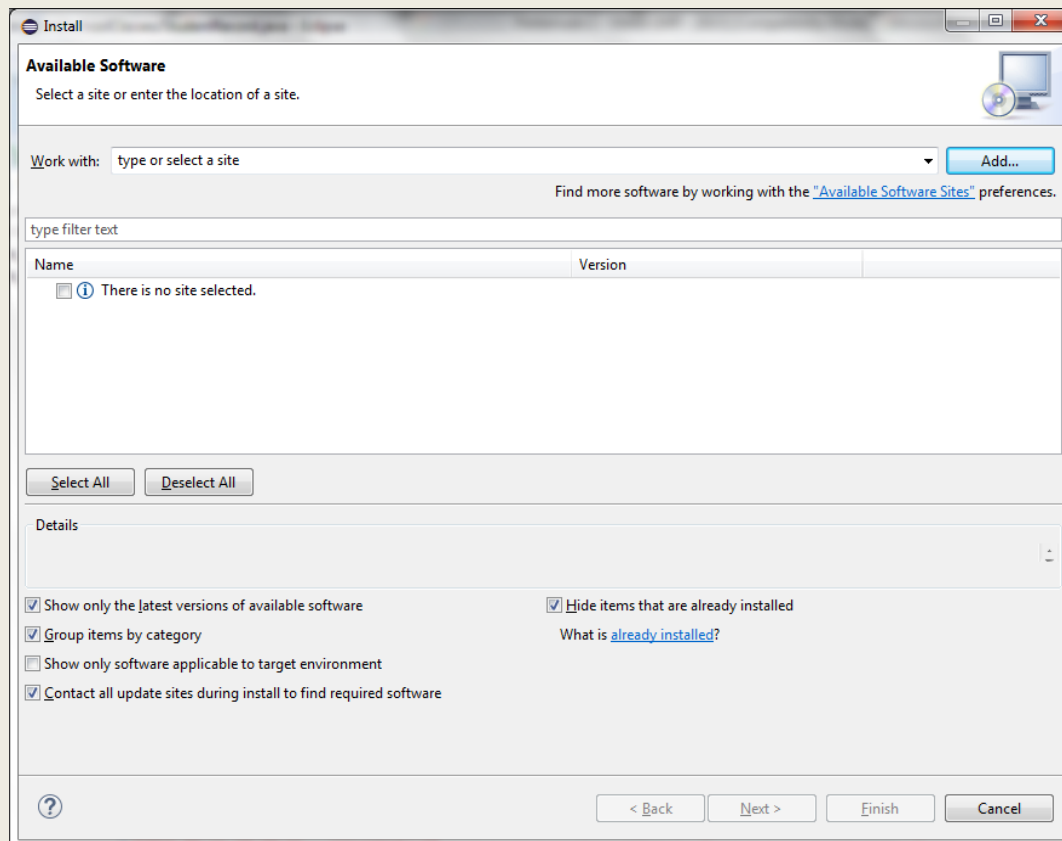
Setelah selesai diunduh lalu ekstrak dan sudah siap untuk digunakan.

# Instalasi ADT pada IDE Eclipse

Link download:

<http://developer.android.com/sdk/installing/installing-adt.html>

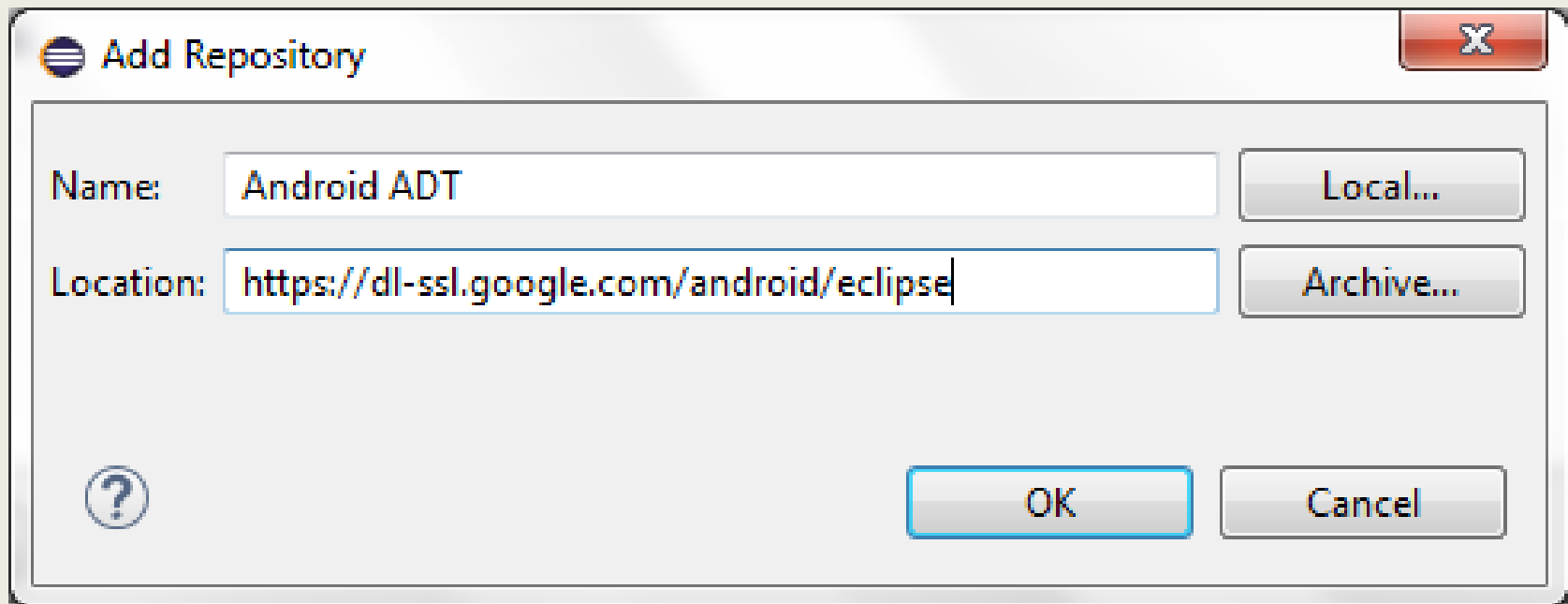
Download ADT plugin dari eclipse menu Help>Install new software.



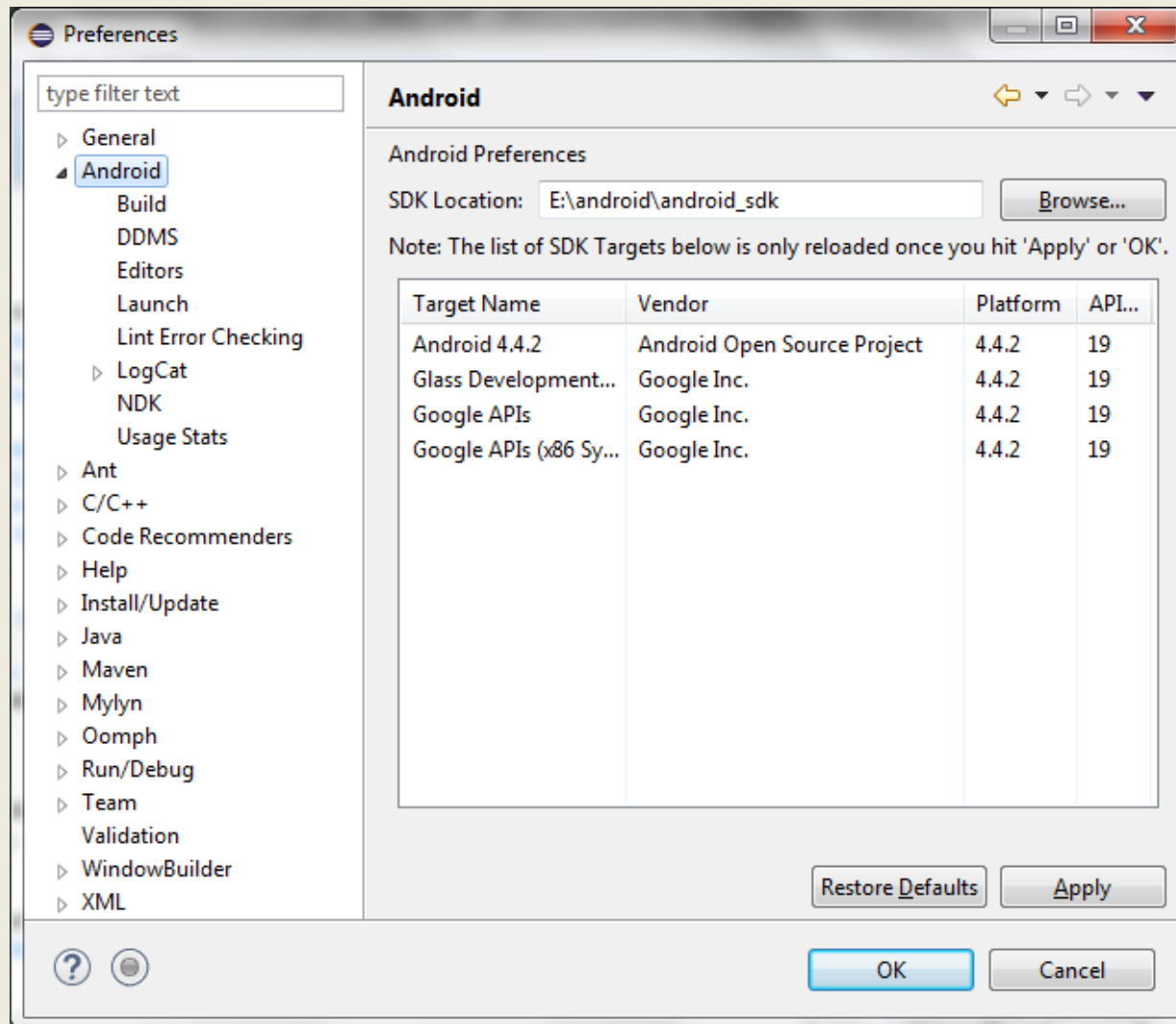


# Instalasi ADT pada IDE Eclipse

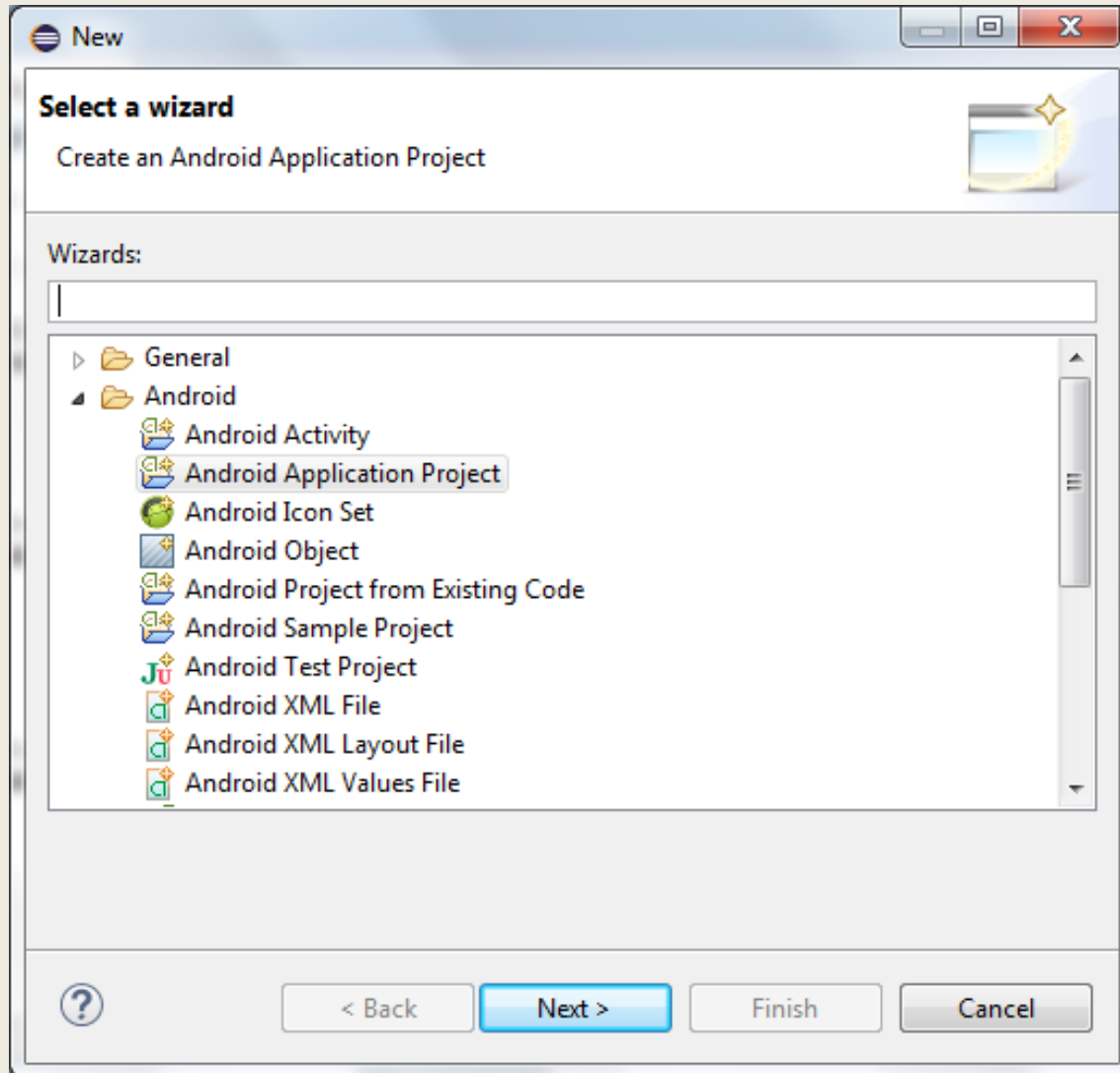
<https://dl-ssl.google.com/android/eclipse/>



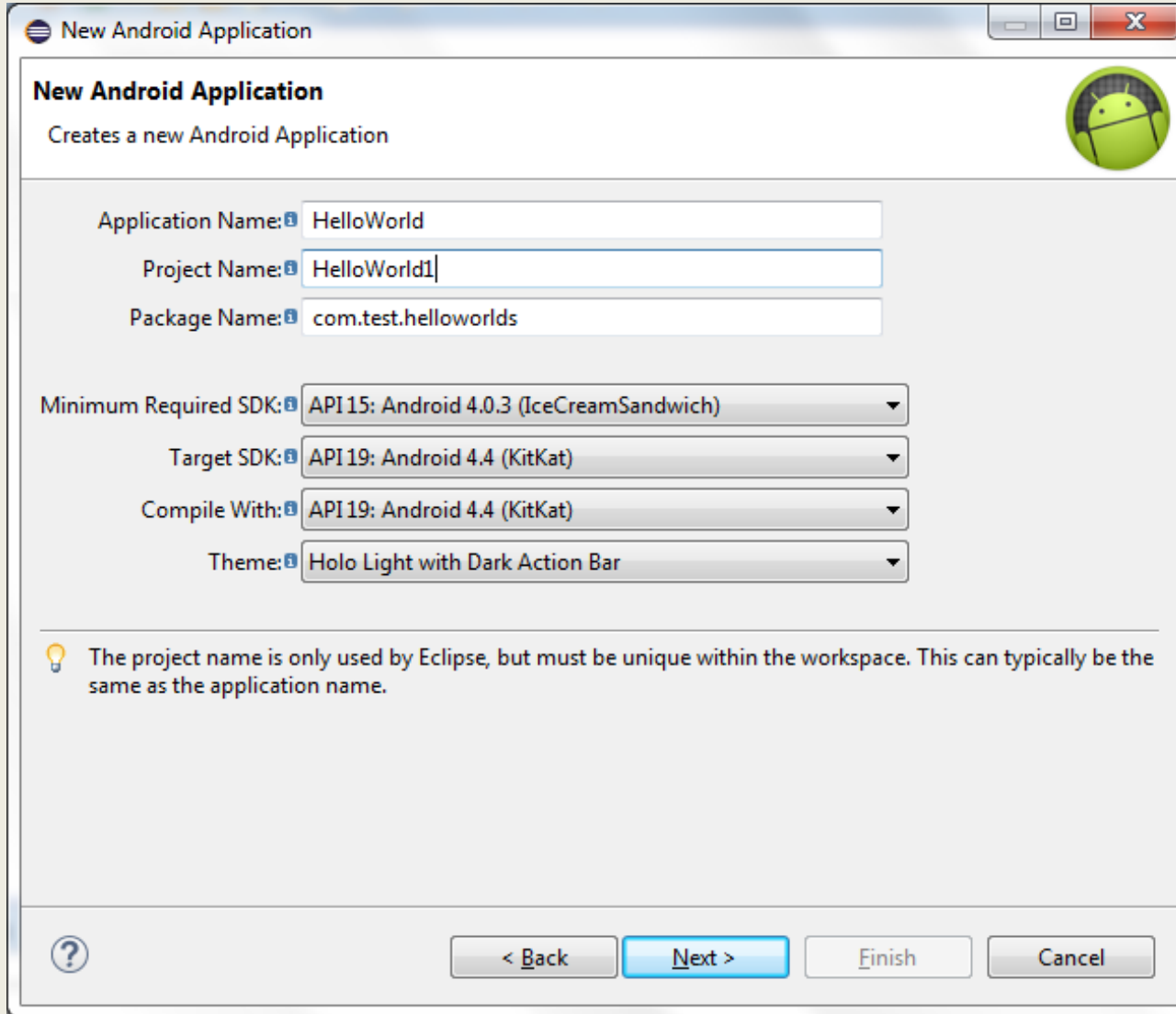
# Mereferensikan Java SDK pada IDE Eclipse



# Hello World pada Android



# Hello World pada Android



The screenshot shows the 'New Android Application' dialog box in the Eclipse IDE. The dialog has a title bar with the text 'New Android Application' and standard window controls. Inside, the title 'New Android Application' is followed by the subtitle 'Creates a new Android Application' and an Android robot icon. The main area contains several input fields and dropdown menus: 'Application Name' with the text 'HelloWorld', 'Project Name' with 'HelloWorld1', and 'Package Name' with 'com.test.helloworlds'. Below these are four dropdown menus for 'Minimum Required SDK' (API 15: Android 4.0.3 (IceCreamSandwich)), 'Target SDK' (API 19: Android 4.4 (KitKat)), 'Compile With' (API 19: Android 4.4 (KitKat)), and 'Theme' (Holo Light with Dark Action Bar). A lightbulb icon and a note at the bottom state: 'The project name is only used by Eclipse, but must be unique within the workspace. This can typically be the same as the application name.' At the bottom of the dialog are four buttons: a help button (question mark icon), '< Back', 'Next >', and 'Cancel'.

**New Android Application**  
Creates a new Android Application

Application Name: HelloWorld

Project Name: HelloWorld1


Package Name: com.test.helloworlds


Minimum Required SDK: API 15: Android 4.0.3 (IceCreamSandwich)

Target SDK: API 19: Android 4.4 (KitKat)

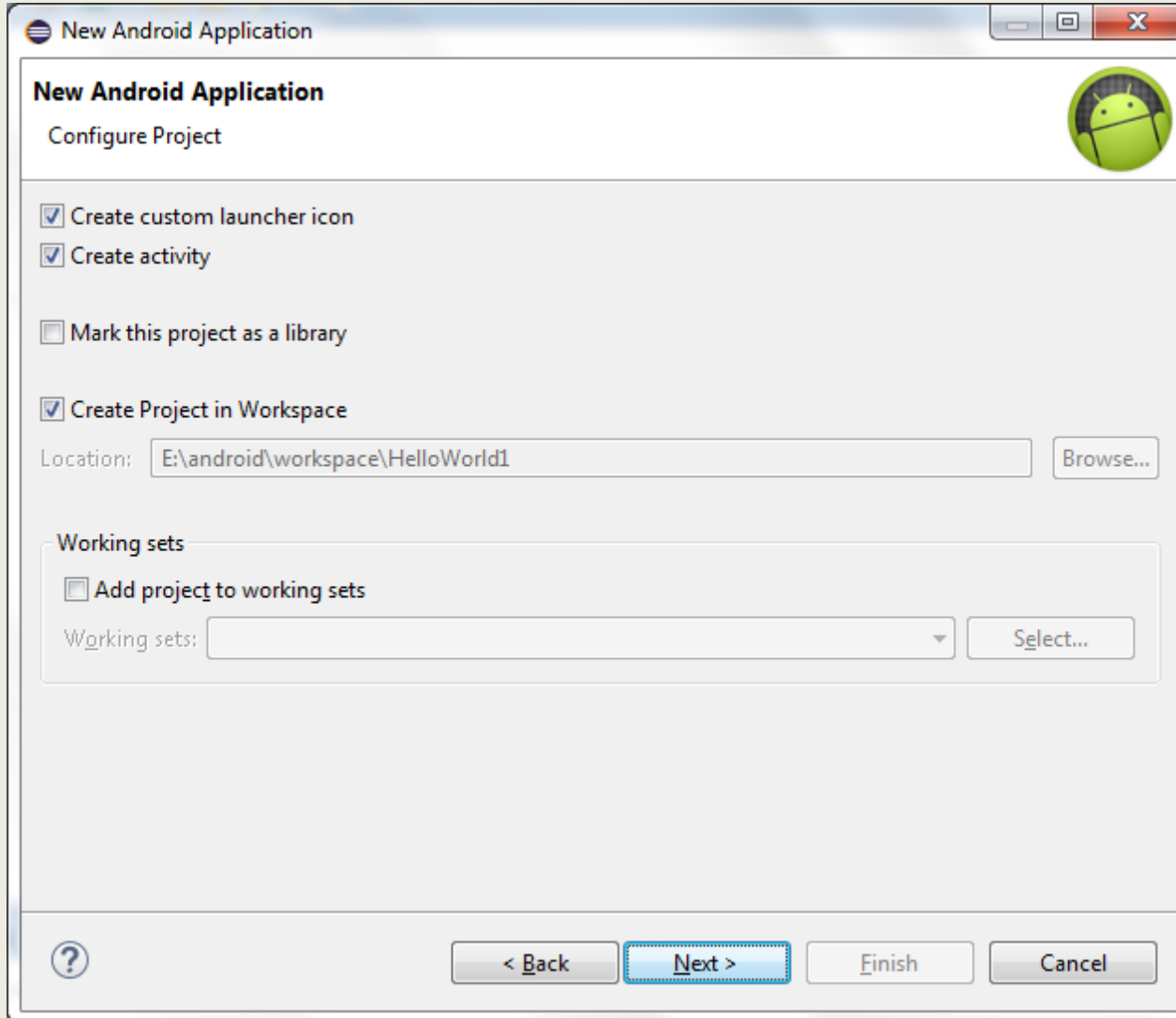
Compile With: API 19: Android 4.4 (KitKat)

Theme: Holo Light with Dark Action Bar

 The project name is only used by Eclipse, but must be unique within the workspace. This can typically be the same as the application name.

 < Back Next > Finish Cancel

# Hello World pada Android



The screenshot shows the 'New Android Application' dialog box in the Eclipse IDE. The window title is 'New Android Application'. The main heading is 'New Android Application' with a subtitle 'Configure Project'. There is an Android robot icon in the top right corner. The dialog contains several checkboxes: 'Create custom launcher icon' (checked), 'Create activity' (checked), 'Mark this project as a library' (unchecked), and 'Create Project in Workspace' (checked). Below these is a 'Location' text field containing 'E:\android\workspace\HelloWorld1' and a 'Browse...' button. A section titled 'Working sets' contains an 'Add project to working sets' checkbox (unchecked) and a 'Working sets:' dropdown menu with a 'Select...' button. At the bottom, there is a help icon (?) and four buttons: '< Back', 'Next >' (highlighted with a blue border), 'Finish', and 'Cancel'.

New Android Application

**New Android Application**  
Configure Project

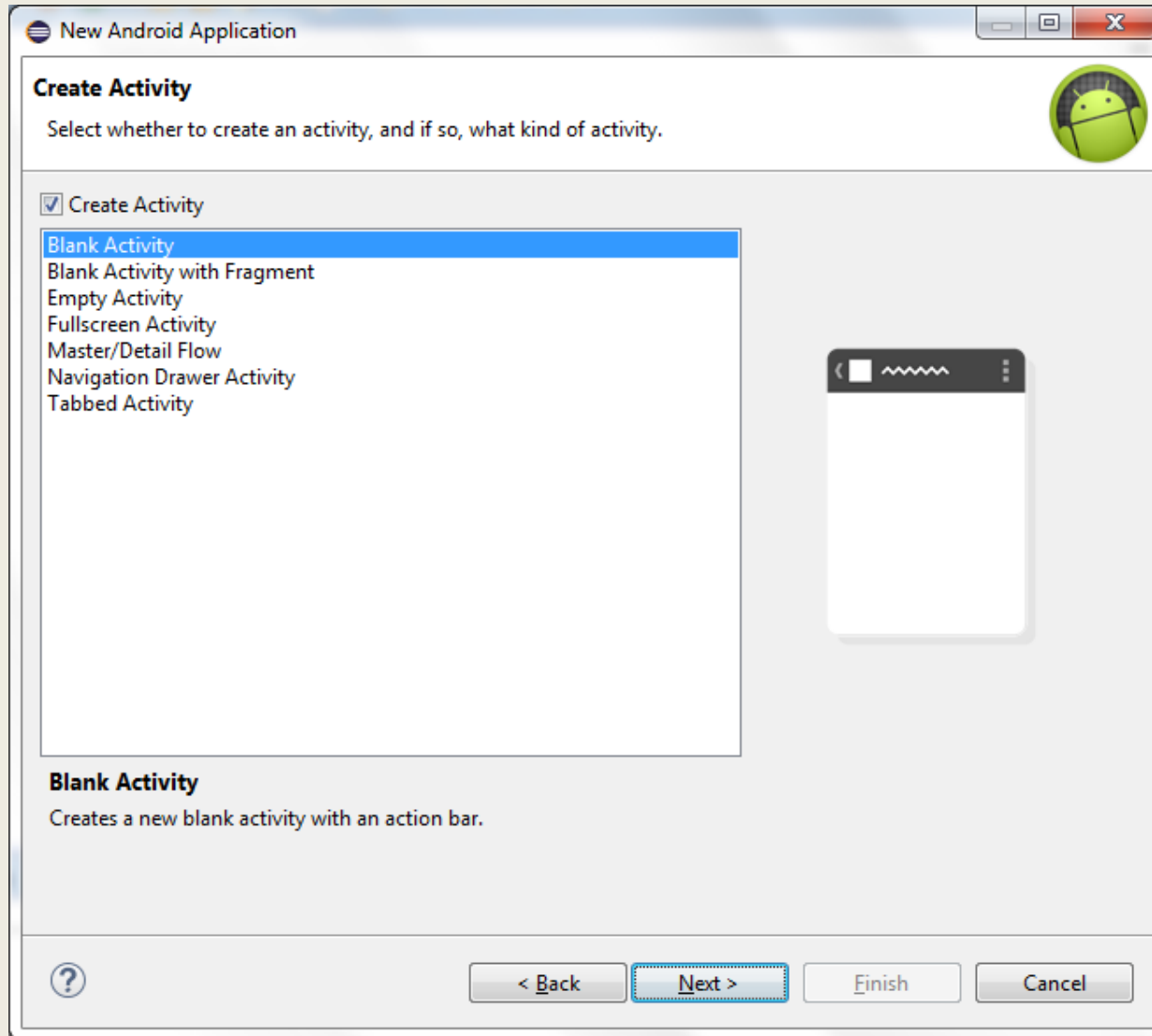
☒ Create custom launcher icon  
☒ Create activity  
☐ Mark this project as a library  
☒ Create Project in Workspace

Location: E:\android\workspace\HelloWorld1 Browse...

**Working sets**  
☐ Add project to working sets  
Working sets: Select...

? < Back Next > Finish Cancel

# Hello World pada Android



## MainActivity.java

```
package com.is.helloworld;

import android.app.Activity;
import android.os.Bundle;

public class MainActivity extends Activity {

    @Override
    protected void onCreate(Bundle
savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

## activity\_main.xml

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.is.helloworld.MainActivity" >

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/hello_world" />

</RelativeLayout>
```



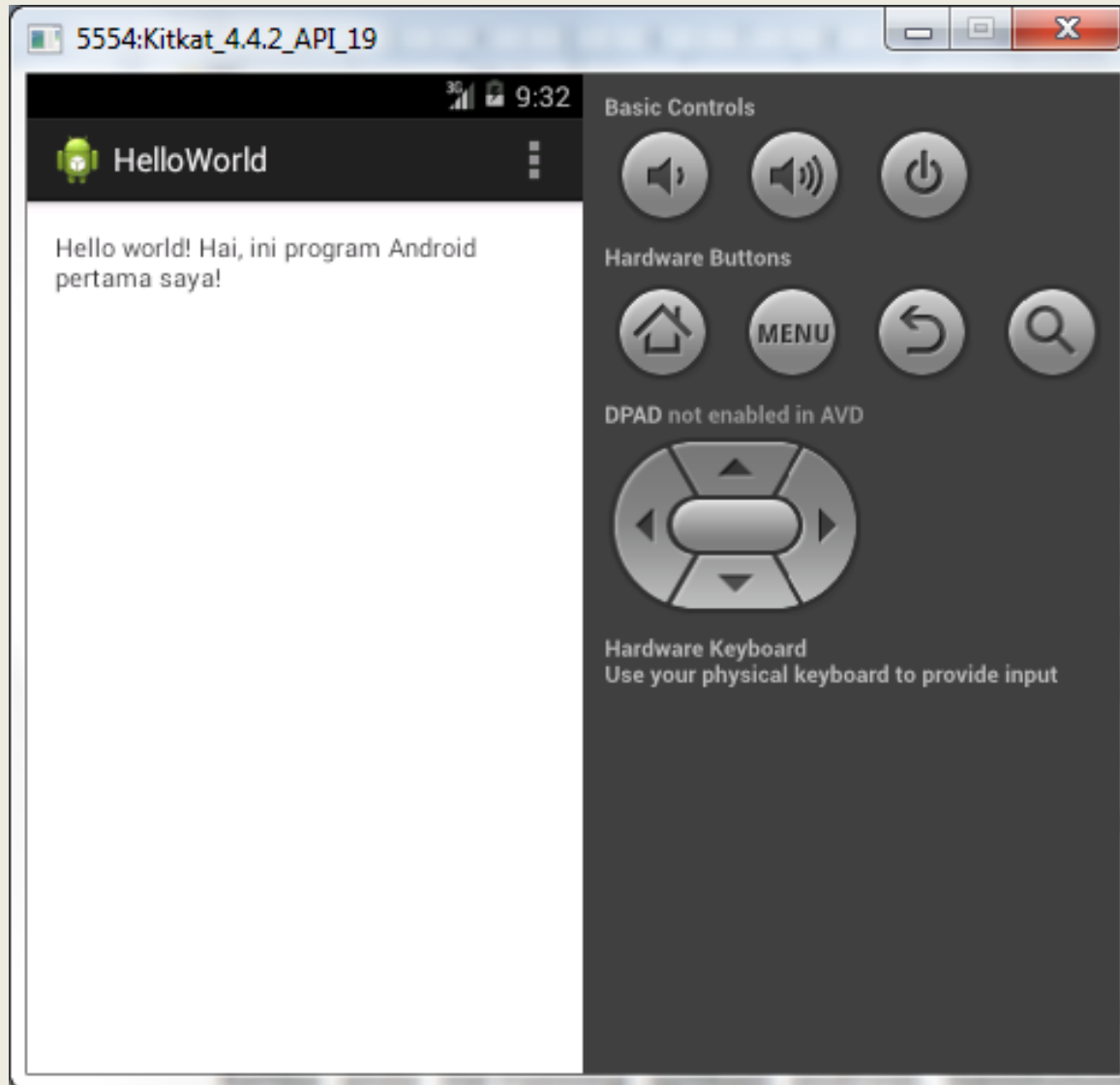
## string.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>

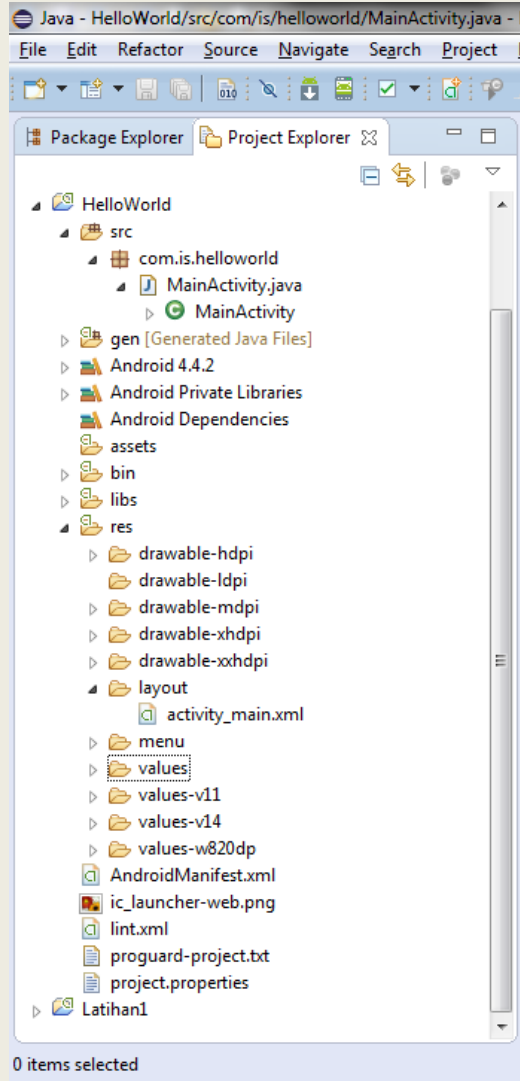
    <string name="app_name">HelloWorld</string>
    <string name="hello_world">Hello world! Hai, ini
program Android pertama saya</string>
    <string name="action_settings">Settings</string>

</resources>
```

## Hasil Run menggunakan AVD



# Struktur Project Aplikasi Android



**src/  
gen/  
Android 4.4.2/  
assets/  
bin/  
libs/  
res/**

**drawable-hdpi  
drawable-ldpi  
drawable-mdpi  
drawable-xhdpi  
drawable-xxhdpi  
layout  
values**

**style.xml  
string.xml**

-----  
**Android Manifest dan Project  
Properties**

# Pemrograman Mobile

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## Materi Pertemuan 3

Activity dan Intent:

1. Pengenalan activity
2. Activity life cycle
3. Pengenalan intent
4. Penggabungan activity dengan intent

~~UNPREPARED~~

