



اندروید

مباحث

- اندروید استودیو و ساخت اولین پروژه
- SDK
- اجرای پروژه و Emulator
- فولدر بندی و ریسورس ها
- کامپوننت های اپلیکیشن
- Manifest
- Activity
- ADB



ساخت اولین پروژه

ریلیزهای اندروید

Version	SDK / API level	Version code	Codename	Cumulative usage ¹	Year ⁴
Android 16 <small>BETA</small>	Level 36	BAKLAVA	Baklava ²	0%	TBD
Android 15	Level 35	VANILLA_ICE_CREAM	Vanilla Ice Cream ²	1.34%	2024
Android 14	Level 34	UPSIDE_DOWN_CAKE	Upside Down Cake ²	38.32%	2023
▪ targetSdk must be 34+ for new apps and app updates as of August 31, 2024.					
Android 13	Level 33	TIRAMISU	Tiramisu ²	57.1%	2022
Android 12	Level 32 <small>Android 12L</small>	S_V2	Snow Cone ²	70.3%	
	Level 31 <small>Android 12</small>	S			2021
Android 11	Level 30	R	Red Velvet Cake ²	82.2%	2020
Android 10	Level 29	Q	Quince Tart ²	88.5%	2019
Android 9	Level 28	P	Pie	92.2%	2018
Android 8	Level 27 <small>Android 8.1</small>	O_MR1	Oreo	93.4%	2017
	Level 26 <small>Android 8.0</small>	O		95.7%	
Android 7	Level 25 <small>Android 7.1</small>	N_MR1	Nougat	96.0%	2016
	Level 24 <small>Android 7.0</small>	N		97.0%	
Android 6	Level 23	M	Marshmallow	98.4%	2015
Android 5	Level 22 <small>Android 5.1</small>	LOLLIPOP_MR1	Lollipop	98.8%	2014
	Level 21 <small>Android 5.0</small>	LOLLIPOP, L		99.7%	



انتخاب API level مناسب

- Min SDK ●
- Compile SDK ●
- Target SDK ●



ساخت امولاتور

Virtual Device Configuration

Select Hardware

Choose a device definition

Category	Name	Play Store	Size	Resolution	Density
Phone	Pixel 8		6.17"	1080x2400	420dpi
Tablet	Pixel Fold		7.58"	1840x2208	420dpi
Wear OS	Pixel 7a		6.1"	1080x2400	420dpi
Desktop	Pixel 7 Pro		6.71"	1440x3120	560dpi
TV	Pixel 7		6.31"	1080x2400	420dpi
Automotive	Pixel 6a		6.13"	1080x2400	420dpi
Legacy	Pixel 6 Pro		6.7"	1440x3120	560dpi
	Pixel 6		6.4"	1080x2400	420dpi

Pixel Fold

Size: xlarge
Ratio: notlong
Density: 420dpi
Folded: 1080x2092

NEW HARDWARE PROFILE


IMPORT HARDWARE PROFILES

CLONE DEVICE...

CANCEL PREVIOUS NEXT FINISH




ورژن اندروید

 System Image

Select a system image

Recommended ARM Images Other Images

Release Name	API	ABI	xABI	Target
Baklava	Baklava	arm64-v8a		Android API Baklava (Google Play)
Baklava	Baklava	arm64-v8a		Android API Baklava (16 KB Page Size)
VanillaIceCream	35	arm64-v8a		Android 15.0 (Google Play)
VanillaIceCream	35	arm64-v8a		Android 15.0 (16 KB Page Size)
UpsideDownCake	34	arm64-v8a		Android 14.0 (Google Play)



API Level

Baklava

Type

Google Play

Android


Google Inc.

System Image

arm64-v8a

We recommend these Google Play images because this device is compatible with Google Play.

Questions on API level?
See the [API level distribution chart](#)

 A system image must be selected to continue.

?

CANCEL PREVIOUS **NEXT** FINISH

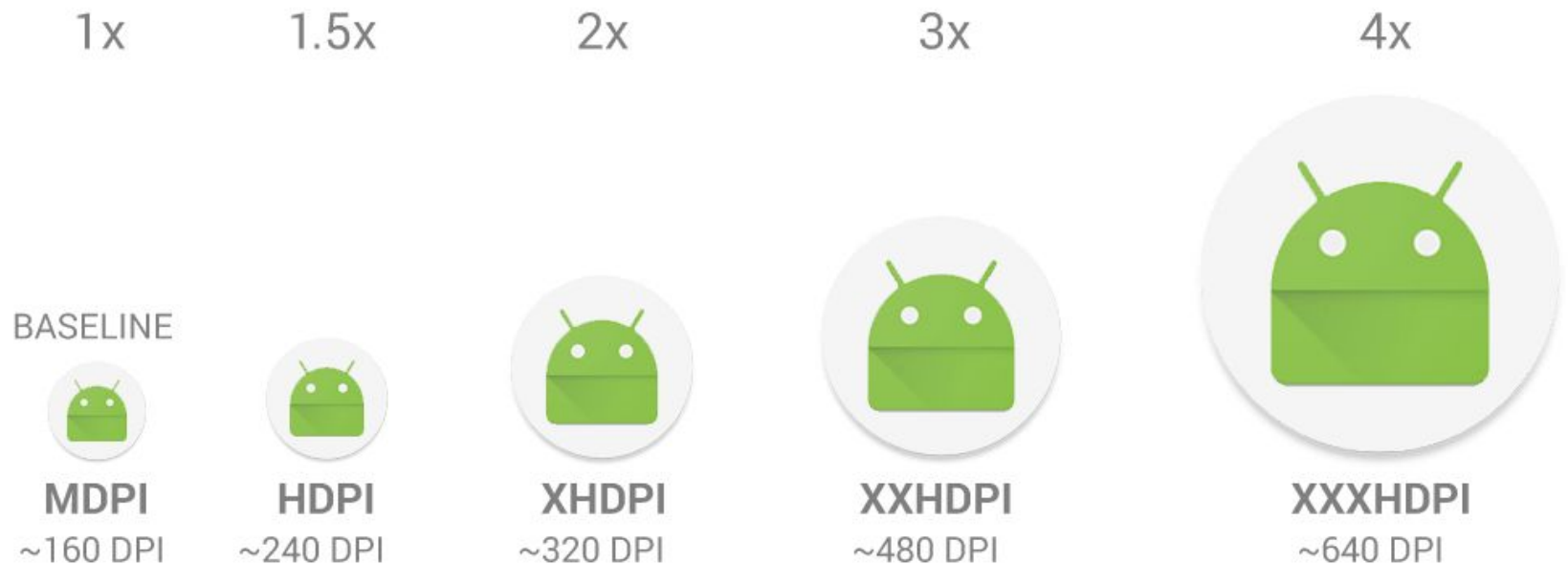


فولدر بندی و ریسورس ها

```
main
├── java
├── res
│   ├── drawable
│   ├── layout
│   ├── mipmap
│   └── values
```



Support different pixel densities



$$px = dp * (dpi / 160)$$



App Components

- Activities
- Services
- Broadcast receivers
- Content providers



Manifest

- تعریف کامپوننت های اپلیکیشن
- تعریف پرمیشن های مورد نیاز
- مشخص کردن مینیمم ورژن
- مشخص نمودن سخت افزار و ویژگی های نرم افزاری مورد نیاز



Activity

