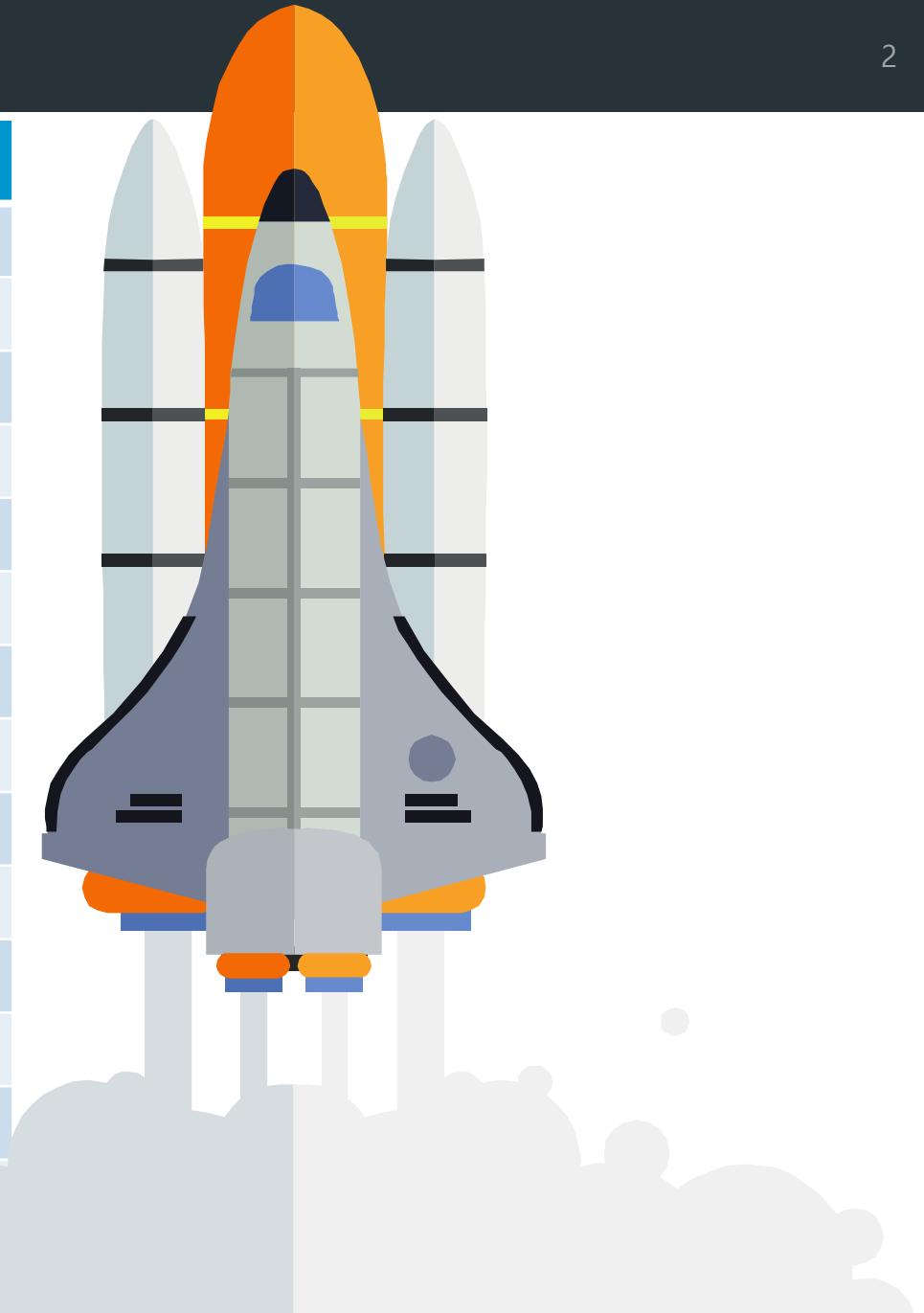


개발환경 구축과 맛보기 프로젝트

개발환경 구축 절차

2

주 차	수업 내용
1	수업 소개
2	개발 환경 구축과 맛보기 프로젝트
3	텍스트 출력과 레이아웃
4	이미지 출력
5	이벤트 처리와 액티비티 간 이동
6	오디오 재생
7	비디오 재생
8	중간고사
9	애니메이션
10	사물인터넷과 센서 – 터치 센서, 모션 센서
11	사물인터넷과 센서 – 위치 센서, 환경 센서
12	하이브리드 앱
13	구글 맵 사용하기
14	공공 DB 오픈 API 활용
15	기말 고사



강의자료 – <https://github.com/hopypark>

The screenshot shows a browser window with multiple tabs open. The active tab is for the GitHub profile of user 'hopypark'. The profile page displays the following information:

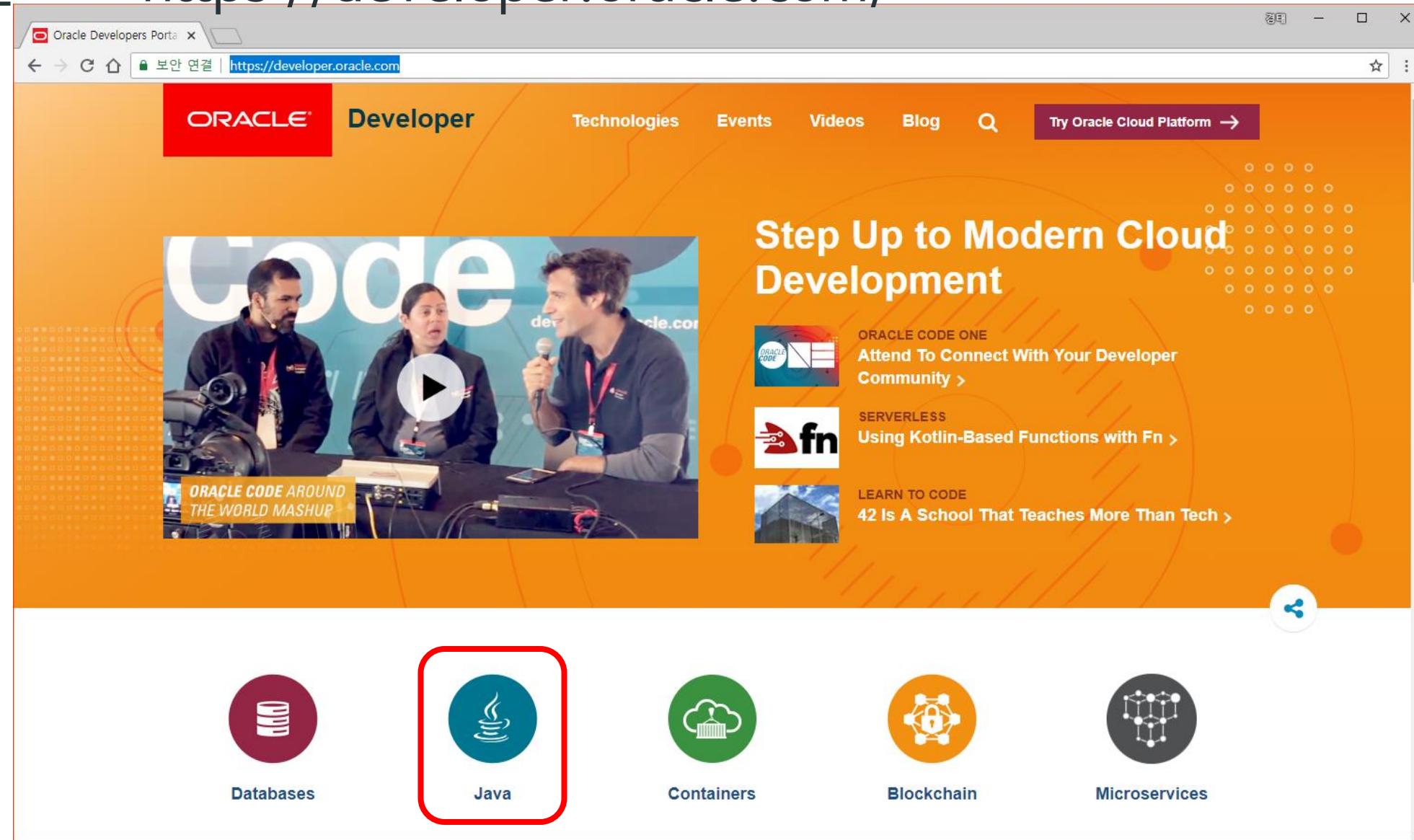
- User Picture:** A photo of a person wearing a cowboy hat and a backpack, standing outdoors with mountains in the background.
- Username:** hopypark
- Profile Summary:** Overview, Repositories 6, Stars 0, Followers 0, Following 0.
- Pinned repositories:** A box containing the repository 'Lecture2018' (highlighted with a red border), described as 'Lecture notes of the first half of 2018'.
- Beta Feature Announcement:** A callout box stating 'There's a new beta feature.' with the text: 'Your profile can now show an overview of your activity across repositories and organizations.' and a 'Got it!' button.
- Contributions:** 134 contributions in the last year, shown in a heatmap grid where darker shades of green represent higher contribution levels. The grid spans from September of the previous year to August of the current year, with specific days like Monday, Wednesday, and Friday highlighted.
- Actions:** Buttons for 'Add a bio' and 'Edit profile'.

- JDK 설치
- Android Studio 설치
- 앱 실행 환경 구축

개발환경 구축

Step 1. JDK 설치

- 다운로드: <https://developer.oracle.com/>



The screenshot shows the Oracle Java Technology Developer website. The header features the Oracle logo and navigation links for Technologies, Events, Videos, and Blog. A search icon is also present. A prominent purple button on the right says "Try Oracle Cloud Platform →". The main content area has a yellow background with abstract red and orange geometric shapes. It displays several news items: an article about Java 10 Local Variable Type Inference, a tutorial on Real-Time WebSocket App Using Oracle Application Container Cloud, and an announcement for Introducing Java SE 10. Below this, a large blue downward arrow is positioned next to a share icon. The text "From Idea to Code" is centered in a dark blue box. At the bottom, there's a call to action for "Experience Oracle Cloud" and a "Try Oracle Cloud Platform for free →" button. A small Korean text "스크롤다운" (scroll down) is overlaid on the right side of the page.

Java Technology | Oracle

Developer Technologies Events Videos Blog Try Oracle Cloud Platform →

Java Development, Better and Faster

ARTICLE Java 10 Local Variable Type Inference >

TUTORIAL Real-Time WebSocket App Using Oracle Application Container Cloud >

ANNOUNCEMENT Introducing Java SE 10 >

From Idea to Code

Let's focus on clean code and improved productivity. These resources—from Java downloads to cloud tools to training videos and tutorials—are here to help you build better Java apps, faster.

X Experience Oracle Cloud —Get up to 3,500 hours free. Try Oracle Cloud Platform for free →

스크롤다운

Java Technology | Oracle X

보안 연결 | https://developer.oracle.com/devo/java

Downloads

Free software downloads for developers.

[Java EE >](#)

[Java SE >](#)

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Documentation and Tutorials

In-depth learning on technical topics.



Experience Oracle Cloud —Get up to 3,500 hours free.

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Java Technology | Oracle Java SE - Downloads | C

주의 요함 | www.oracle.com/technetwork/java/javase/downloads/index-jsp-138363.html

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Oracle Technology Network / Java / Java SE / Downloads

Overview Downloads Documentation Community Technologies Training

Java SE Downloads

Java Platform (JDK) 10 DOWNLOAD

Java Platform, Standard Edition

Java SE 10.0.2

Java SE 10.0.2 is the latest feature release for the Java SE Platform

Learn more →

Installation Instructions
Release Notes
Oracle License
Java SE Licensing Information User Manual
Includes Third Party Licenses
Certified System Configurations
Readme

JDK DOWNLOAD

Server JRE DOWNLOAD

JRE DOWNLOAD

Which Java package do I need?

Software Developers: JDK (Java SE Development Kit). For Java Developers. Includes a complete JRE plus tools for developing, debugging, and monitoring Java applications.

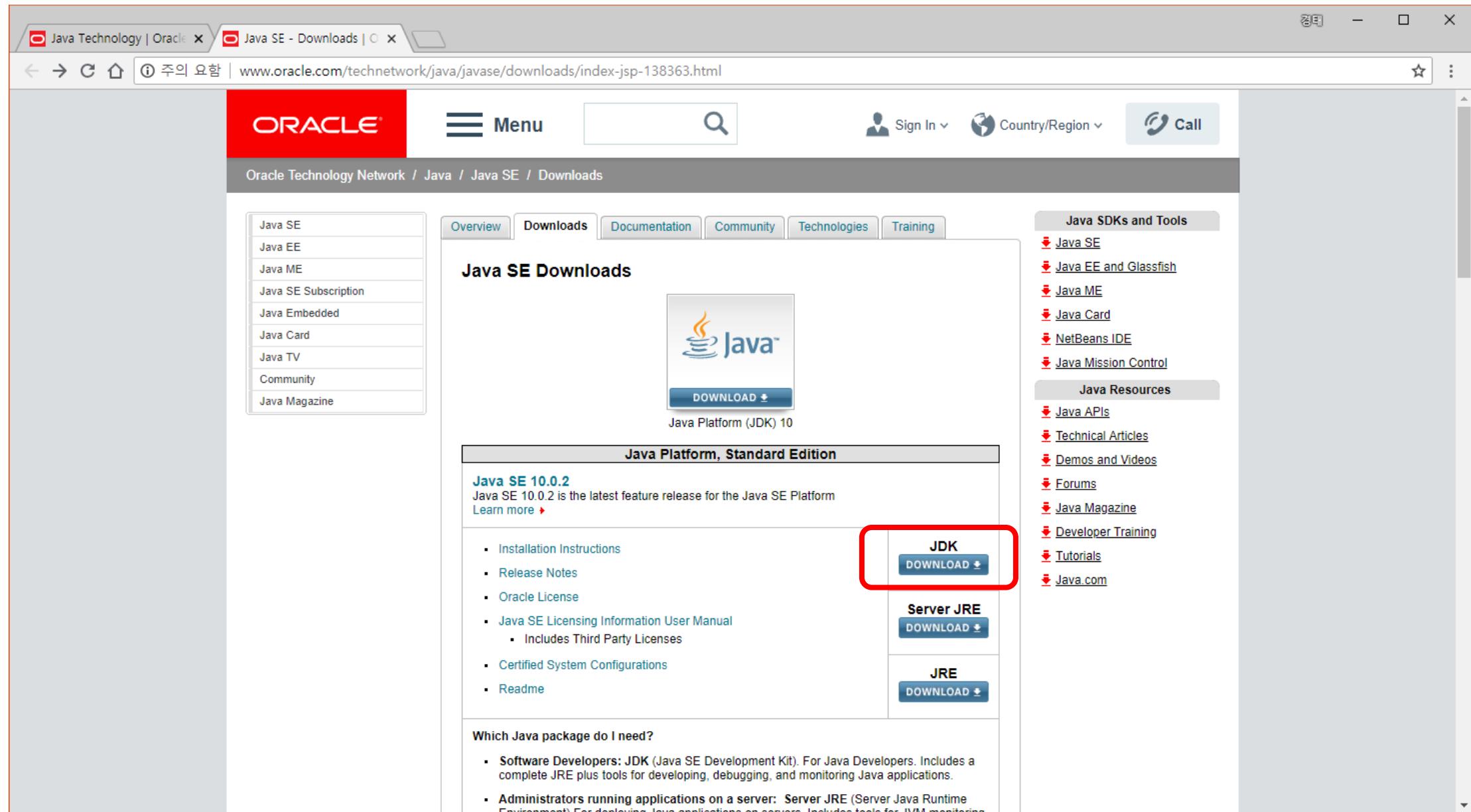
Administrators running applications on a server: Server JRE (Server Java Runtime Environment). For deploying Java applications on servers. Includes tools for JVM monitoring.

Java SDKs and Tools

- Java SE
- Java EE and Glassfish
- Java ME
- Java Card
- NetBeans IDE
- Java Mission Control

Java Resources

- Java APIs
- Technical Articles
- Demos and Videos
- Forums
- Java Magazine
- Developer Training
- Tutorials
- Java.com



Java SE Development Kit 10 Downloads

Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

See also:

- Java Developer Newsletter: From your Oracle account, select Subscriptions, expand Technology, and subscribe to Java.
- Java Developer Day hands-on workshops (free) and other events
- Java Magazine

JDK 10.0.2 checksum

Java SE Development Kit 10.0.2

You must accept the [Oracle Binary Code License Agreement for Java SE](#) to download this software.

Thank you for accepting the Oracle Binary Code License Agreement for Java SE; you may now download this software.

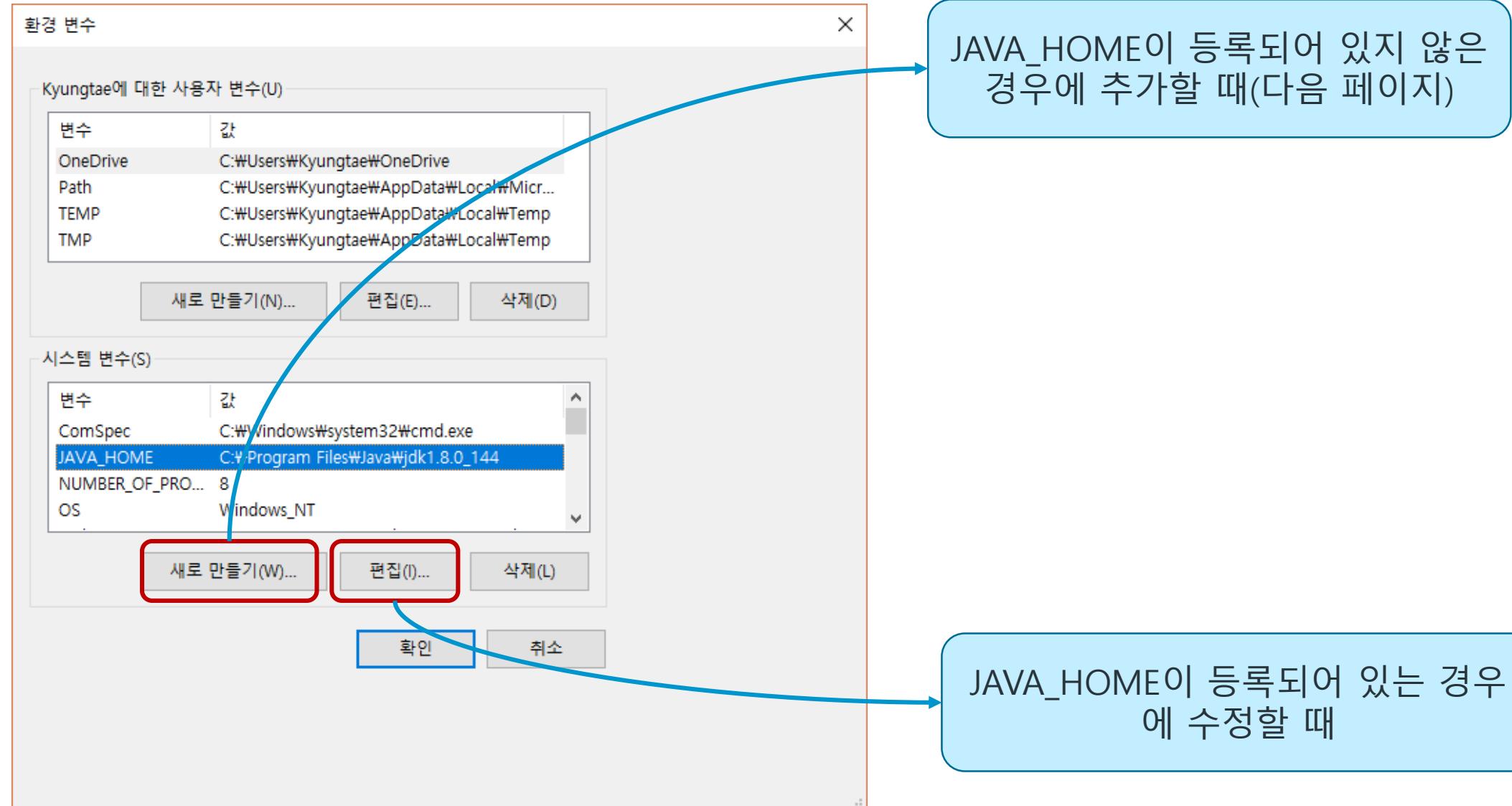
Product / File Description	File Size	Download
Linux	306 MB	jdk-10.0.2_linux-x64_bin.rpm
Linux	338.43 MB	jdk-10.0.2_linux-x64_bin.tar.gz
macOS	395.46 MB	jdk-10.0.2_osx-x64_bin.dmg
Solaris SPARC	207.07 MB	jdk-10.0.2_solaris_sparcv9_bin.tar.gz
Windows	390.25 MB	jdk-10.0.2_windows-x64_bin.exe

E-mail this page Printer View

Continued – 자바홈(JAVA_HOME) 환경설정

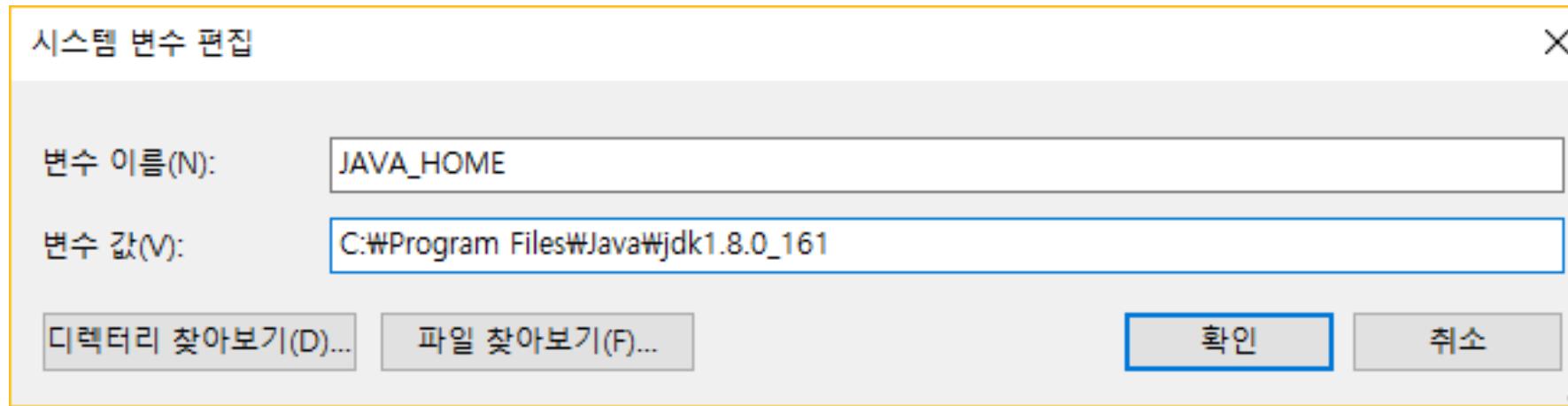
10

- 제어판>시스템>고급 시스템 설정>고급>환경변수



JAVA_HOME 이 없는 경우- 새 시스템 변수 추가

11



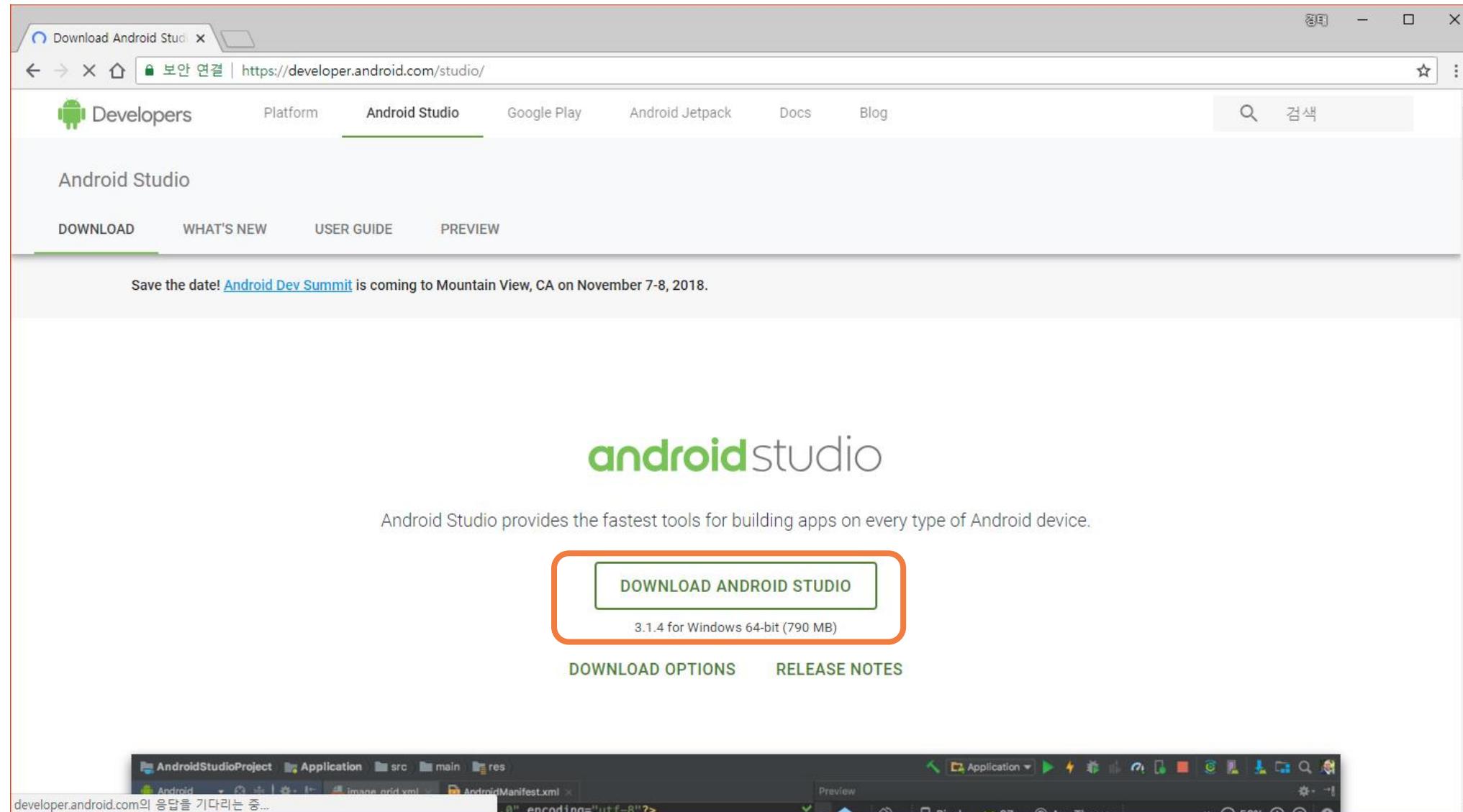
변수 이름: JAVA_HOME

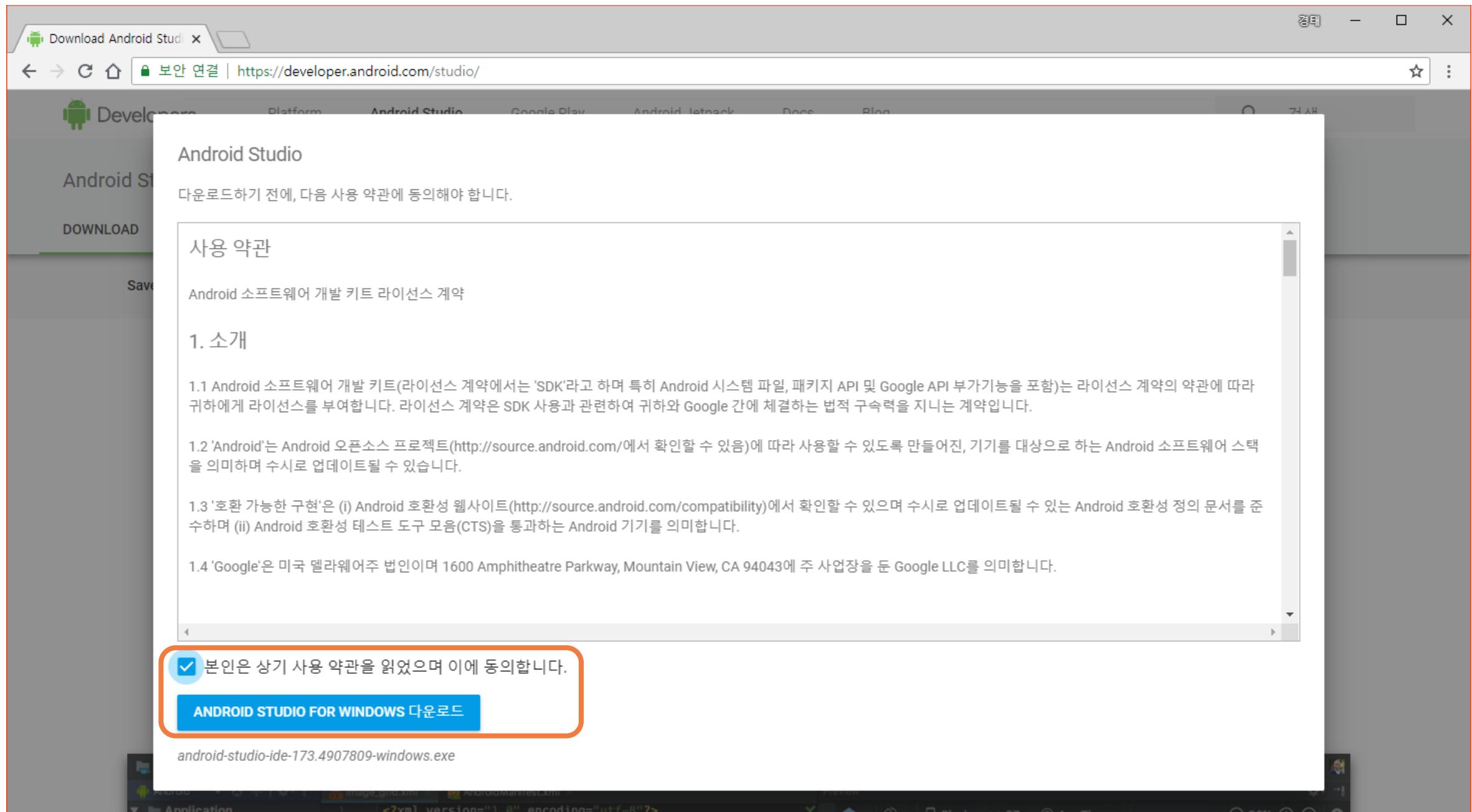
변수 값 : C:\Program Files\Java\jdk1.8.0-161

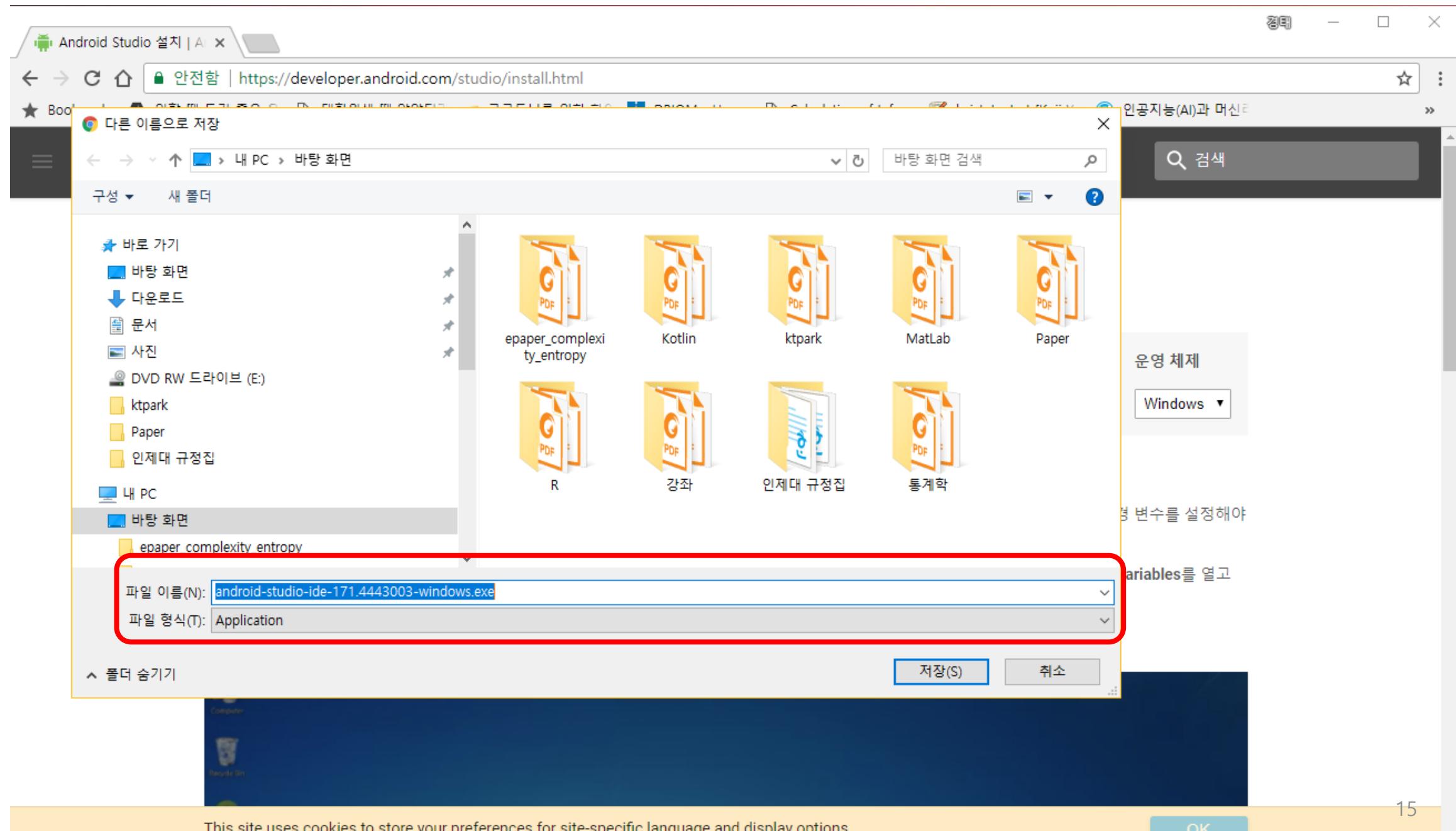
Step 2. Android Studio 설치

Download Android Studio

- <https://developer.android.com/studio/index.html>







Download Android Studio X

보안 연결 | https://developer.android.com/studio/

Android Developers Platform Android Studio Google Play Android Jetpack Docs Blog

Android Studio DOWNLOAD Save

Thank you for downloading Android Studio!

If you're new to Android development, check out the following resources to get started.

 Build your first app

Start writing code in Android Studio by following the tutorial to [Build your first app](#).

 Learn with Udacity

Learn Android with interactive video training in the [Android Fundamentals Udacity course](#).

 Explore Android Studio

Introduce yourself to the Android Studio UI and its various tools in [Meet Android Studio](#).

3.1.4 for Windows 64-bit (790 MB)

DOWNLOAD OPTIONS RELEASE NOTES

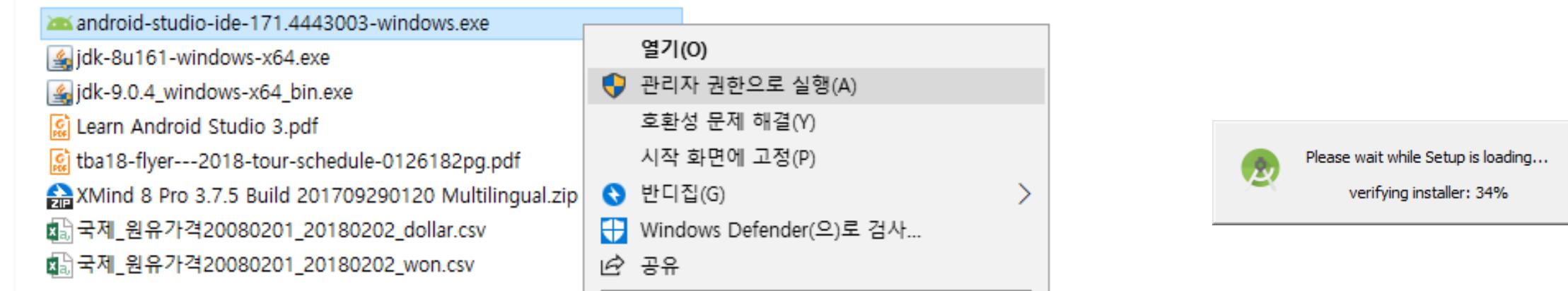
android-studio-ide.exe 1.9/790MB, 34분 남음

전체 보기 X

Install Android Studio on windows

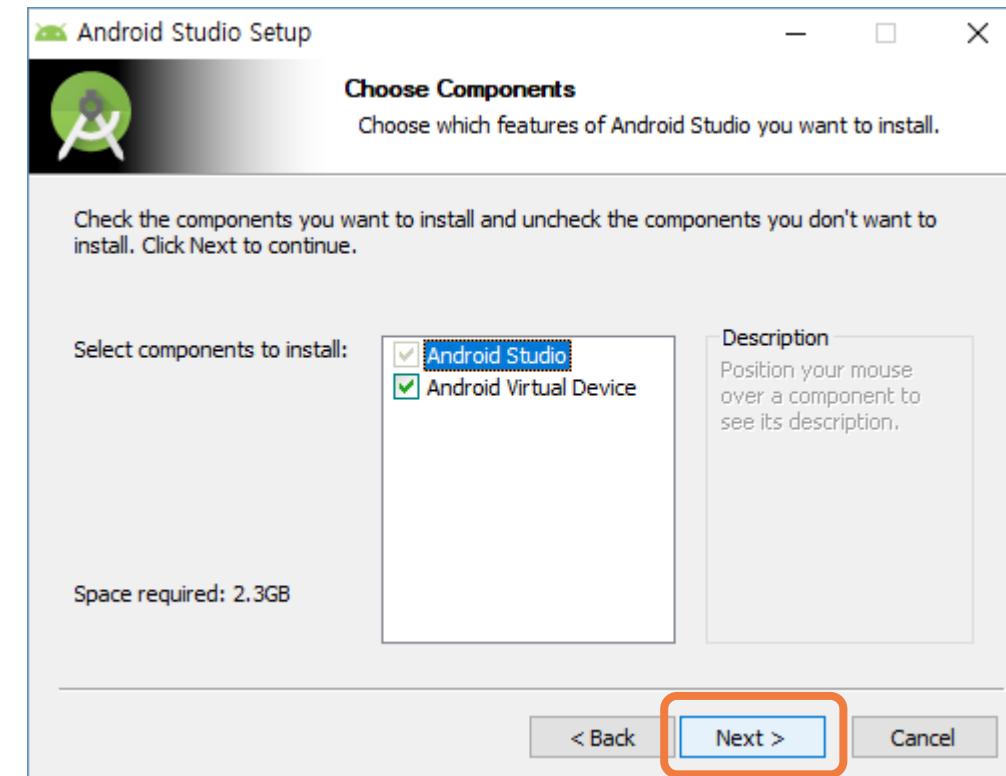
18

- 다운 받은 Android Studio 설치 파일을 클릭하여 '관리자 권한으로 실행' 버튼을 클릭한다.



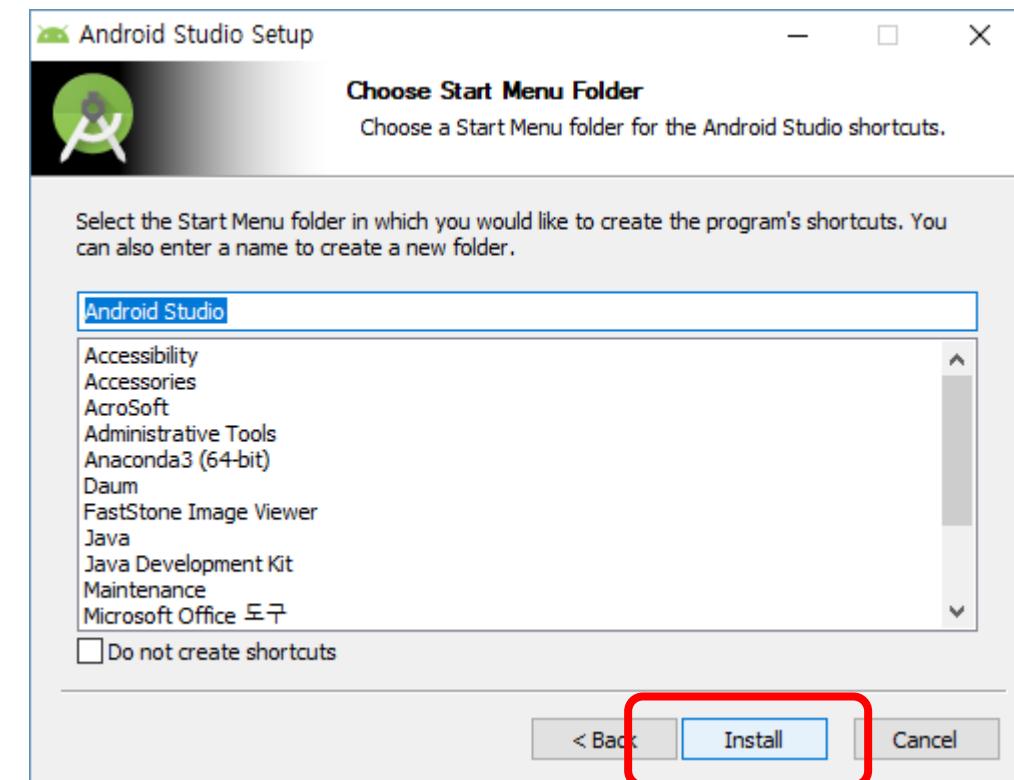
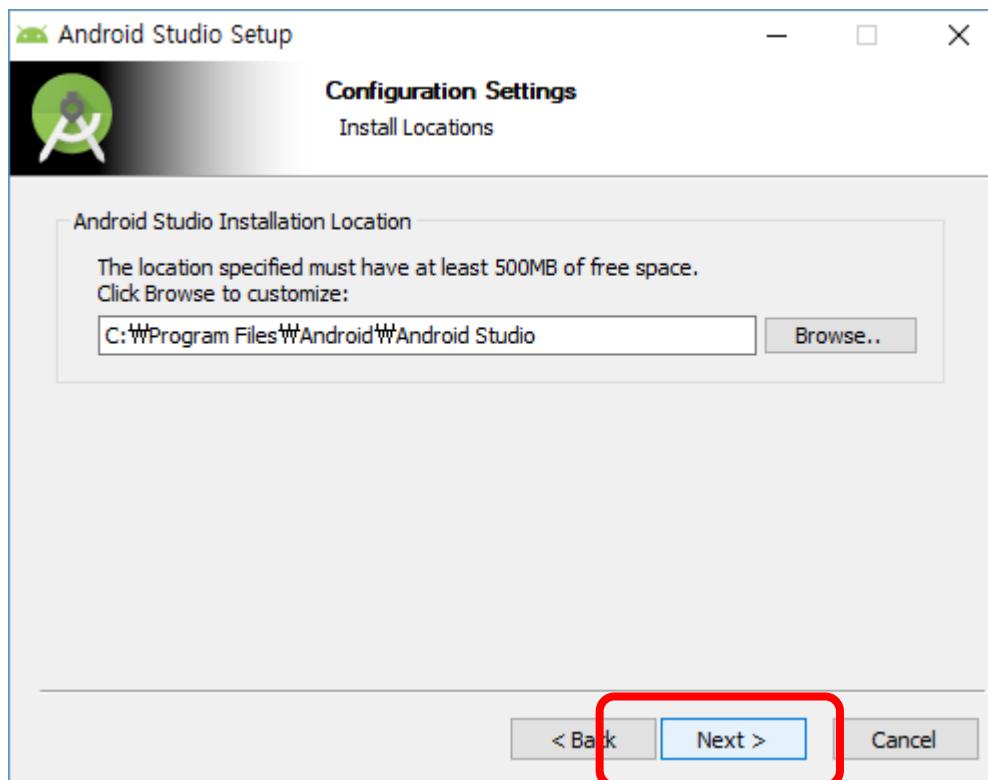
Continued

19



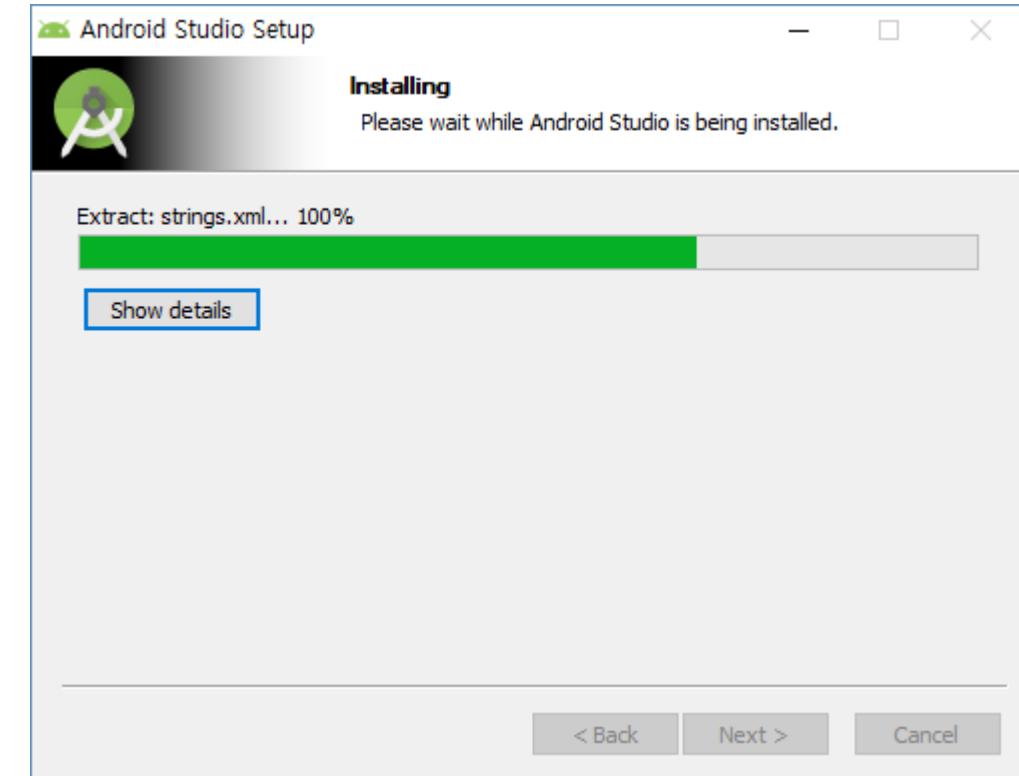
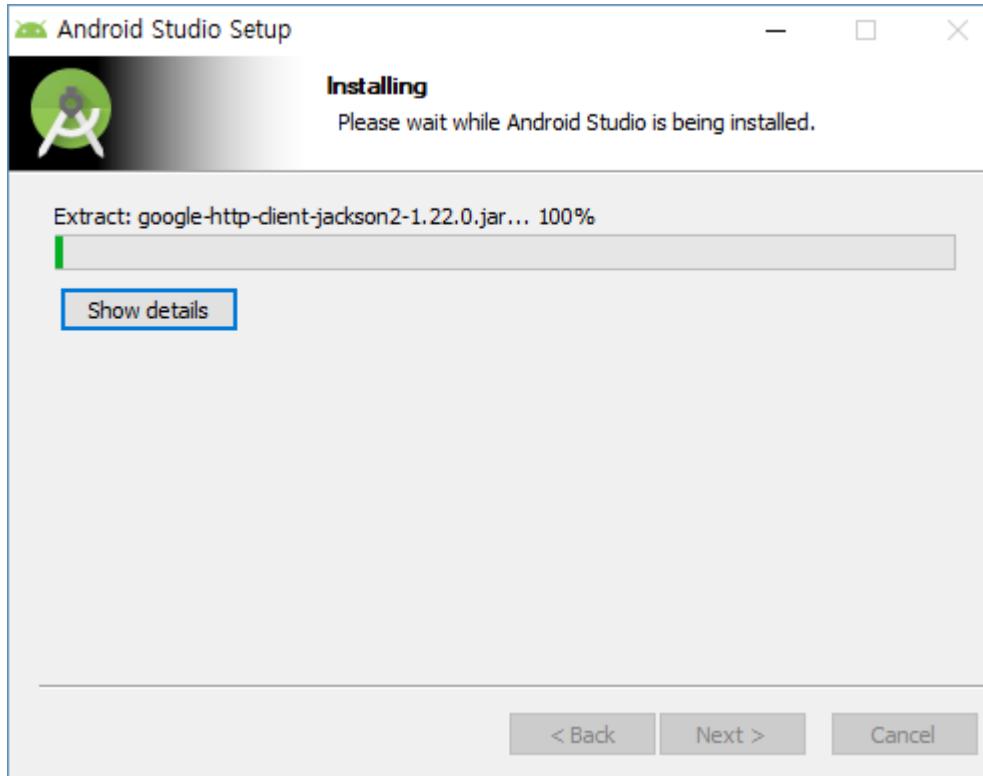
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20



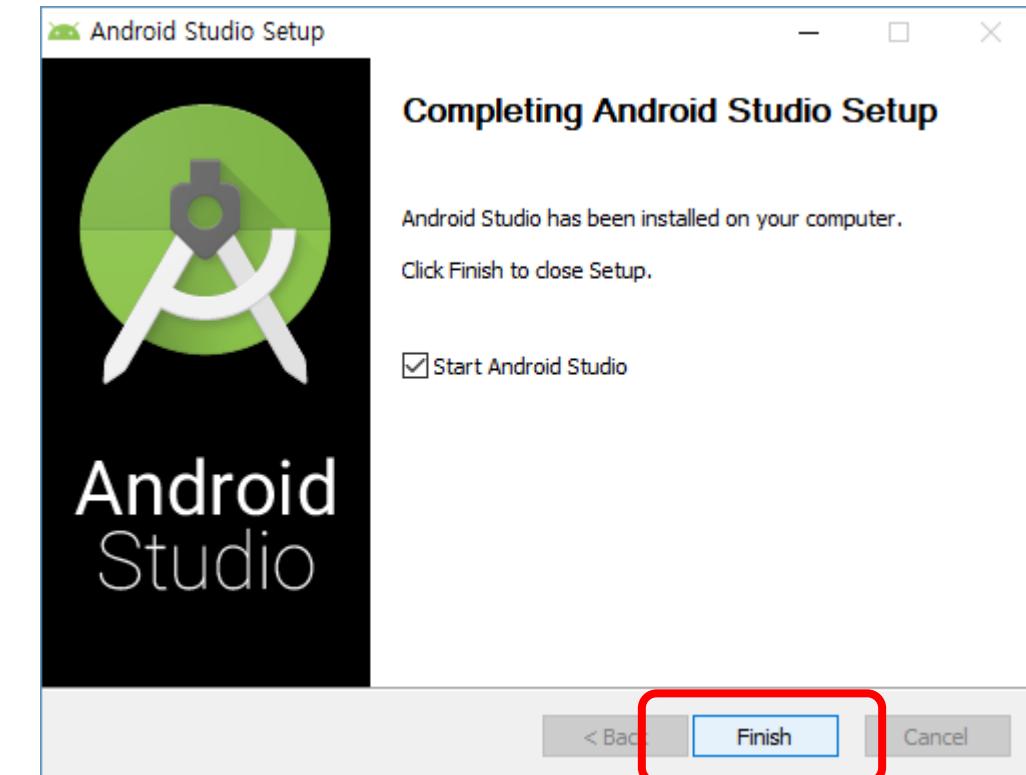
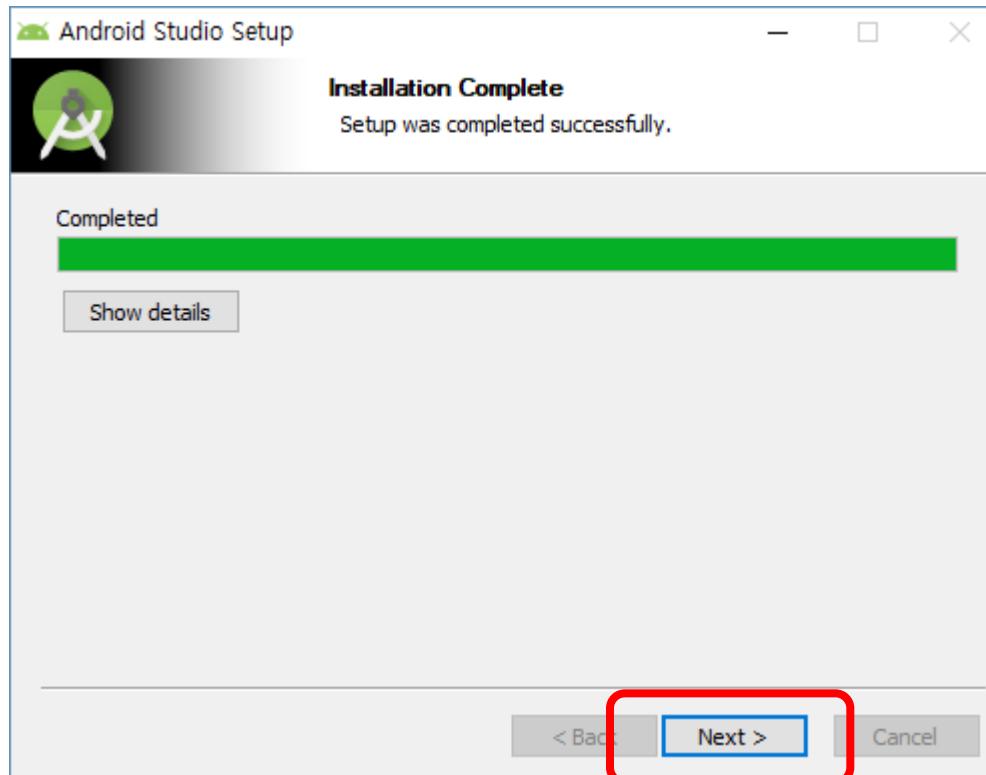
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21



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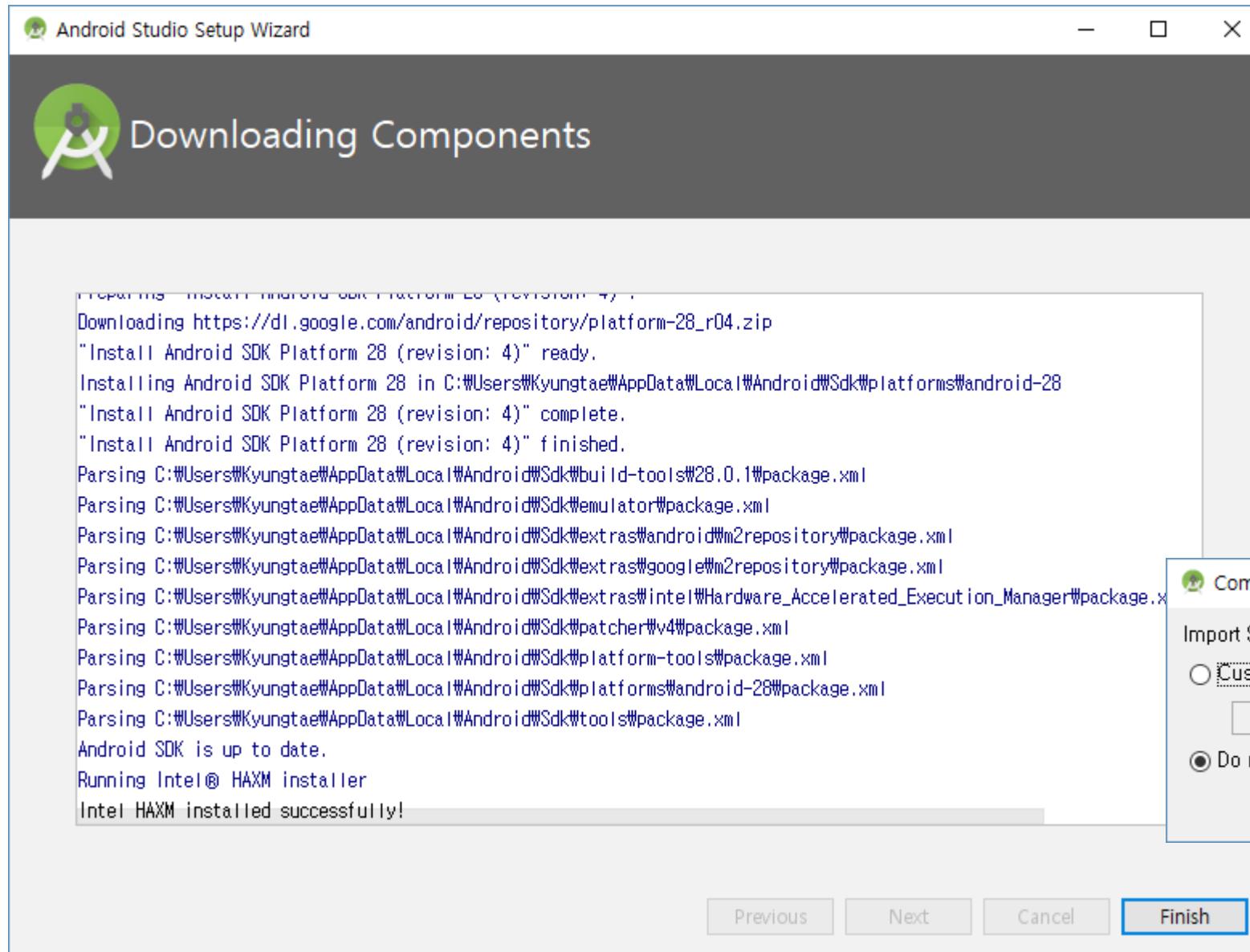
22



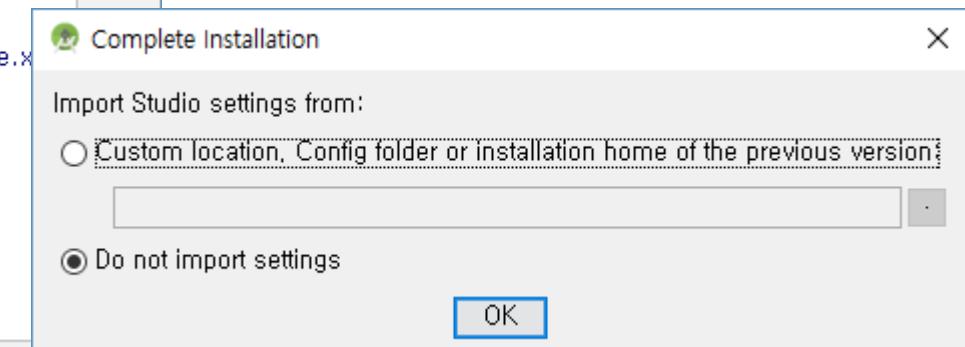
Components download 페이지로 이동→

Continued

23

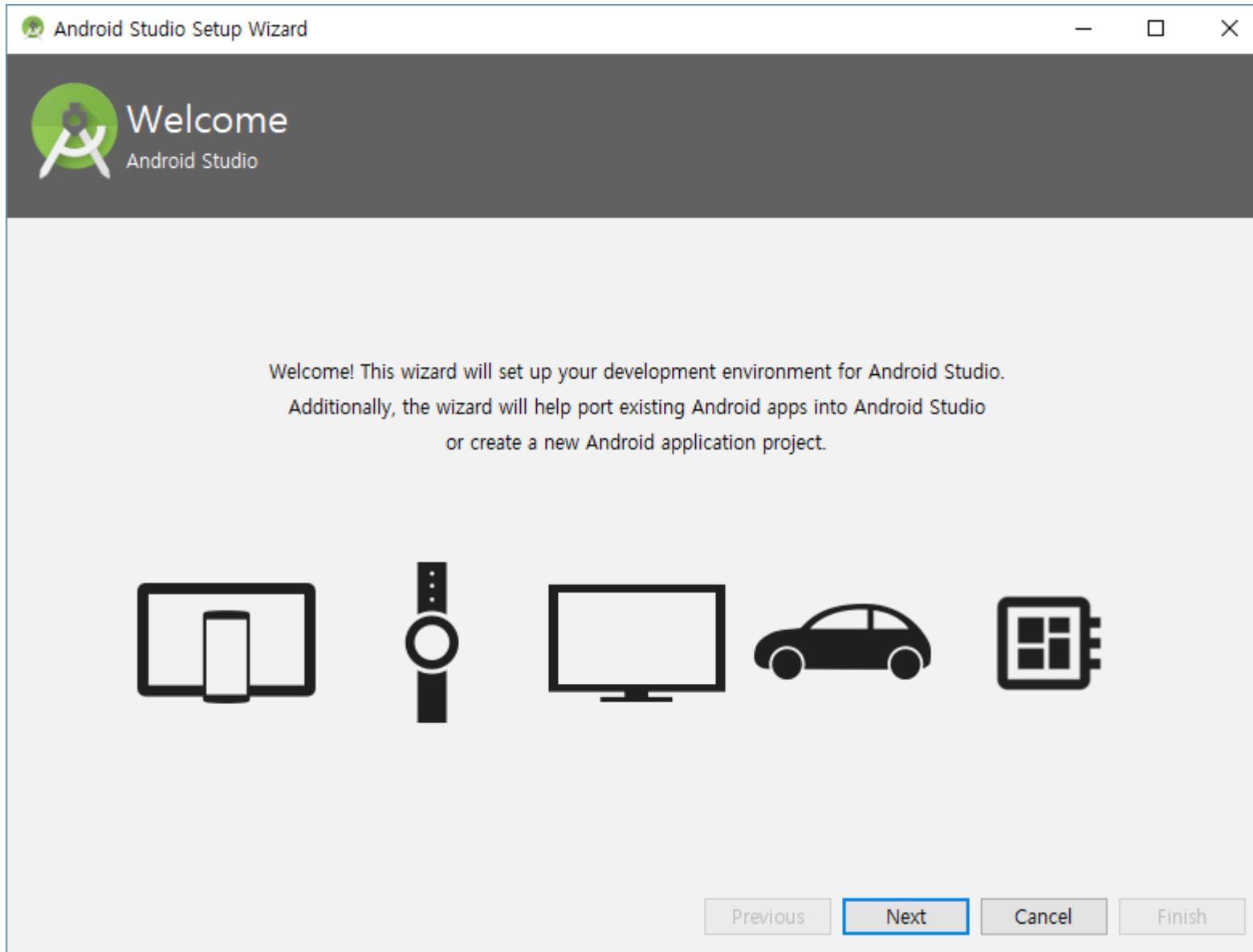


Complete Installation



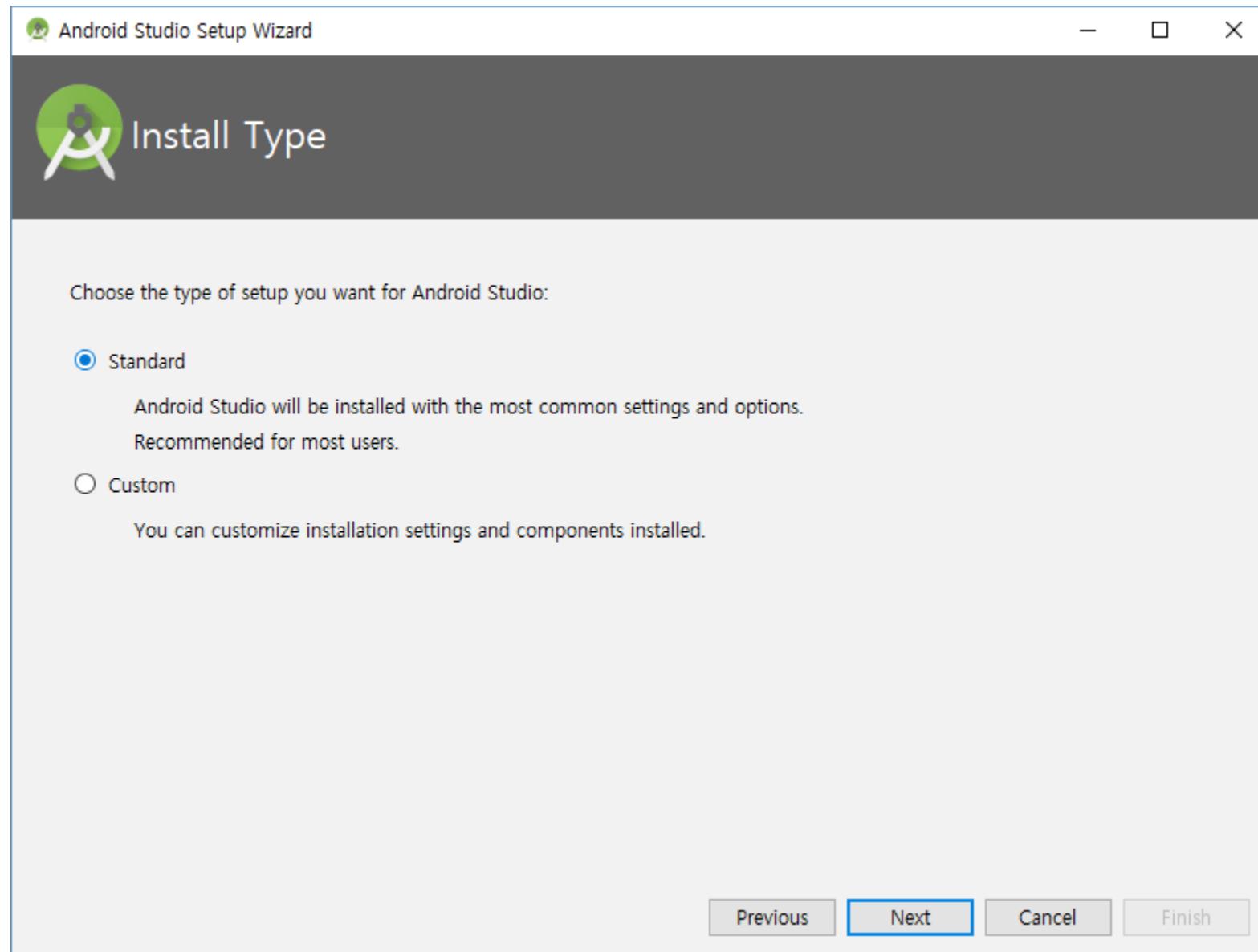
Android Studio Setup Wizard

24

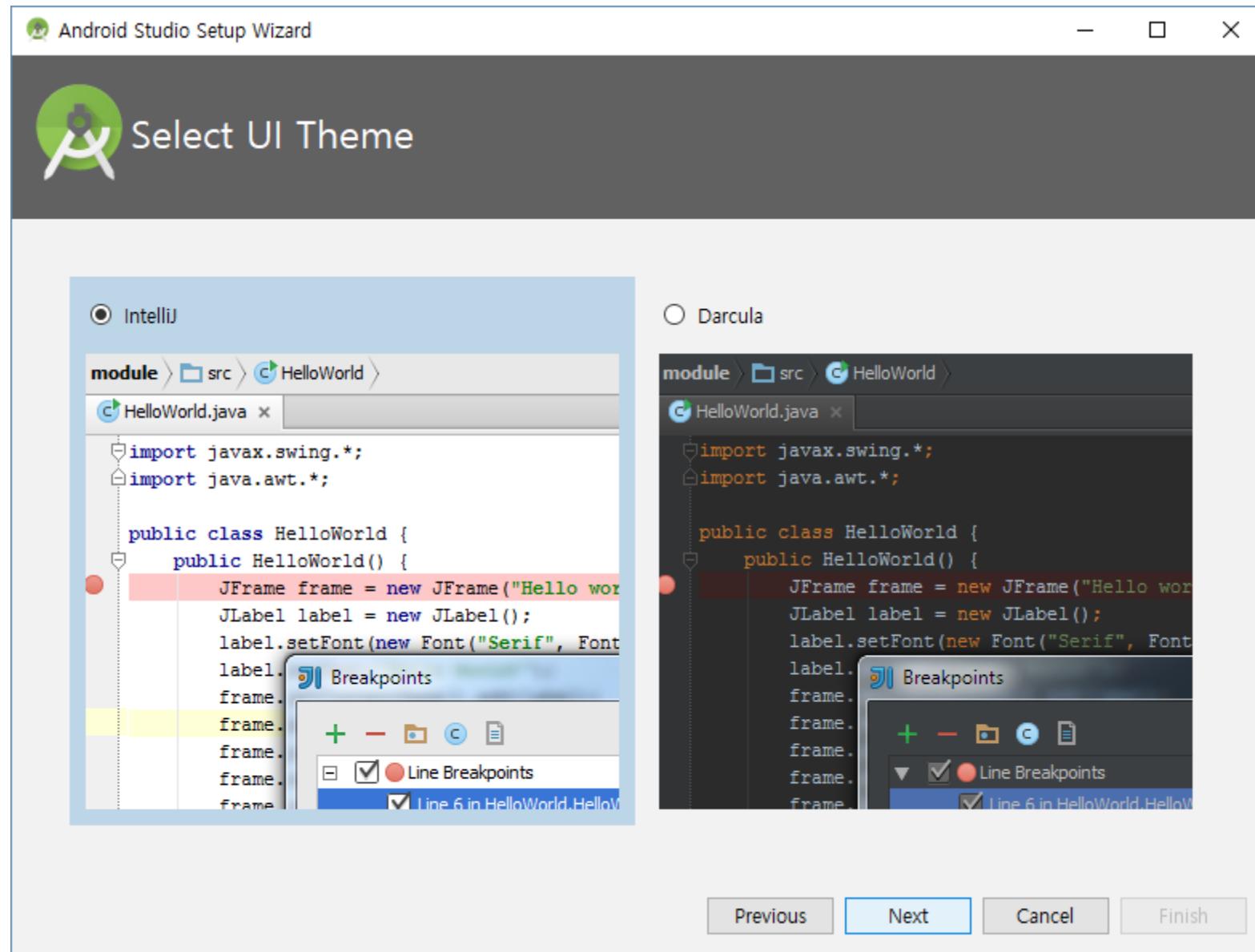


Continued

25

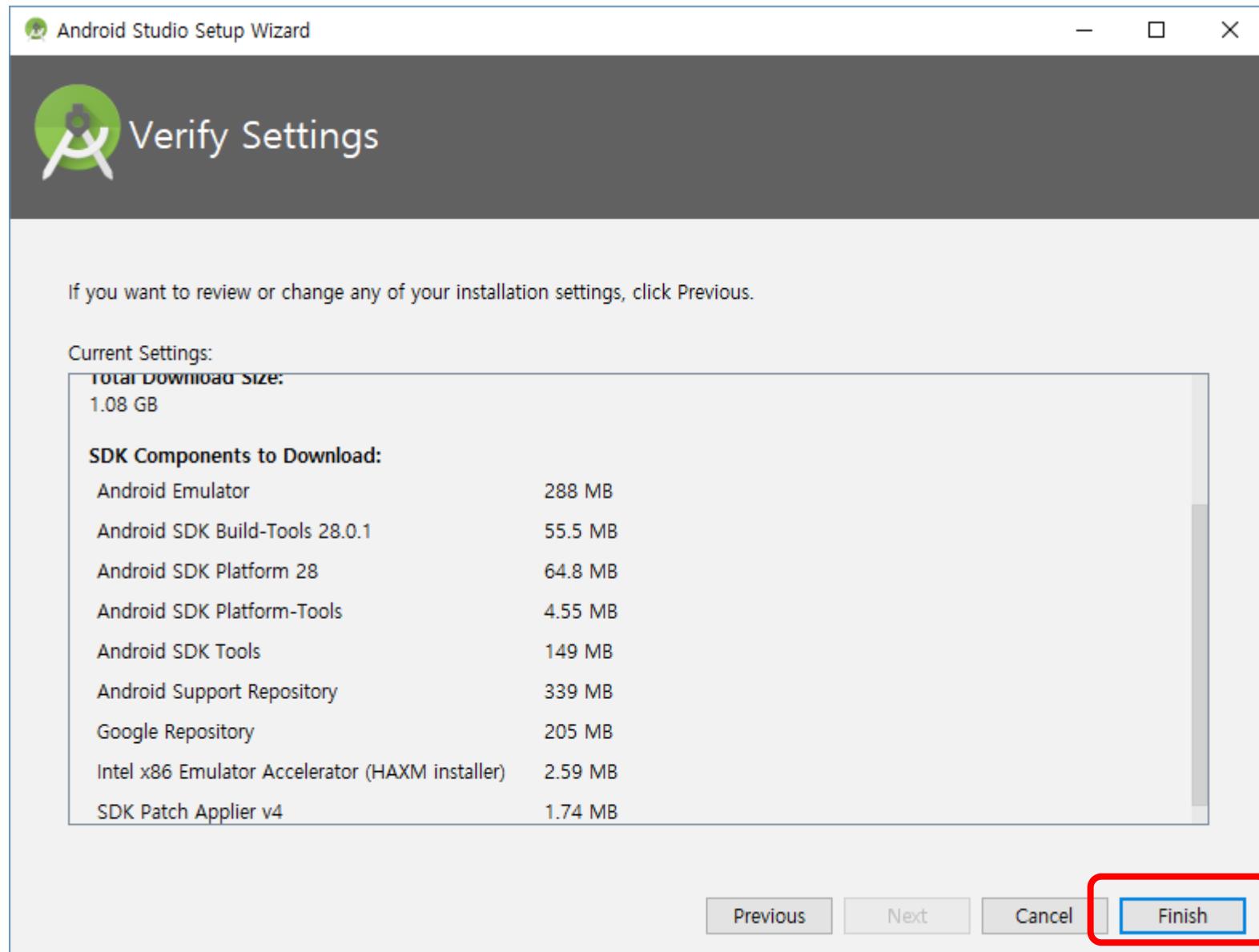


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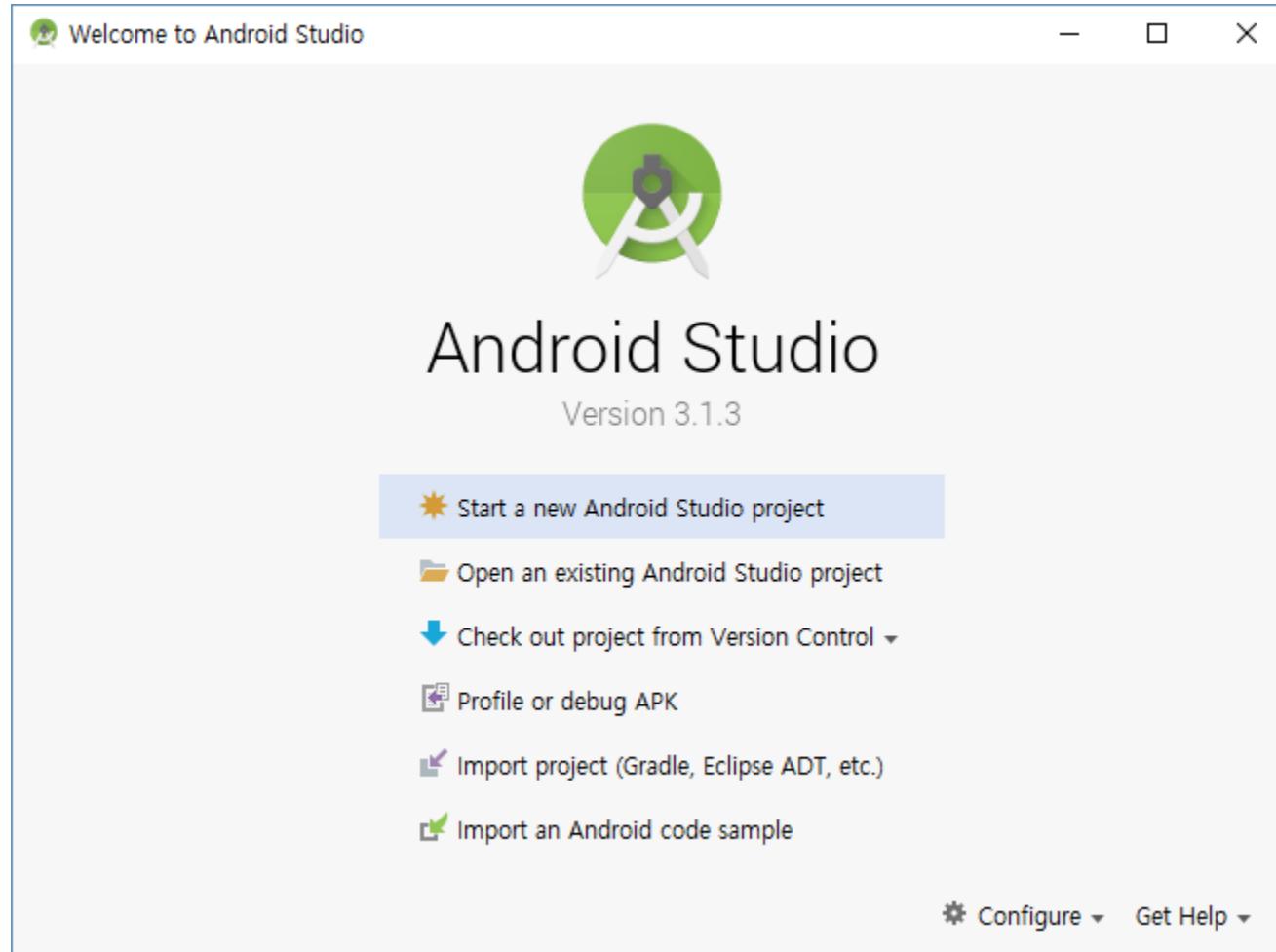
Continued

27



Android Studio 시작화면

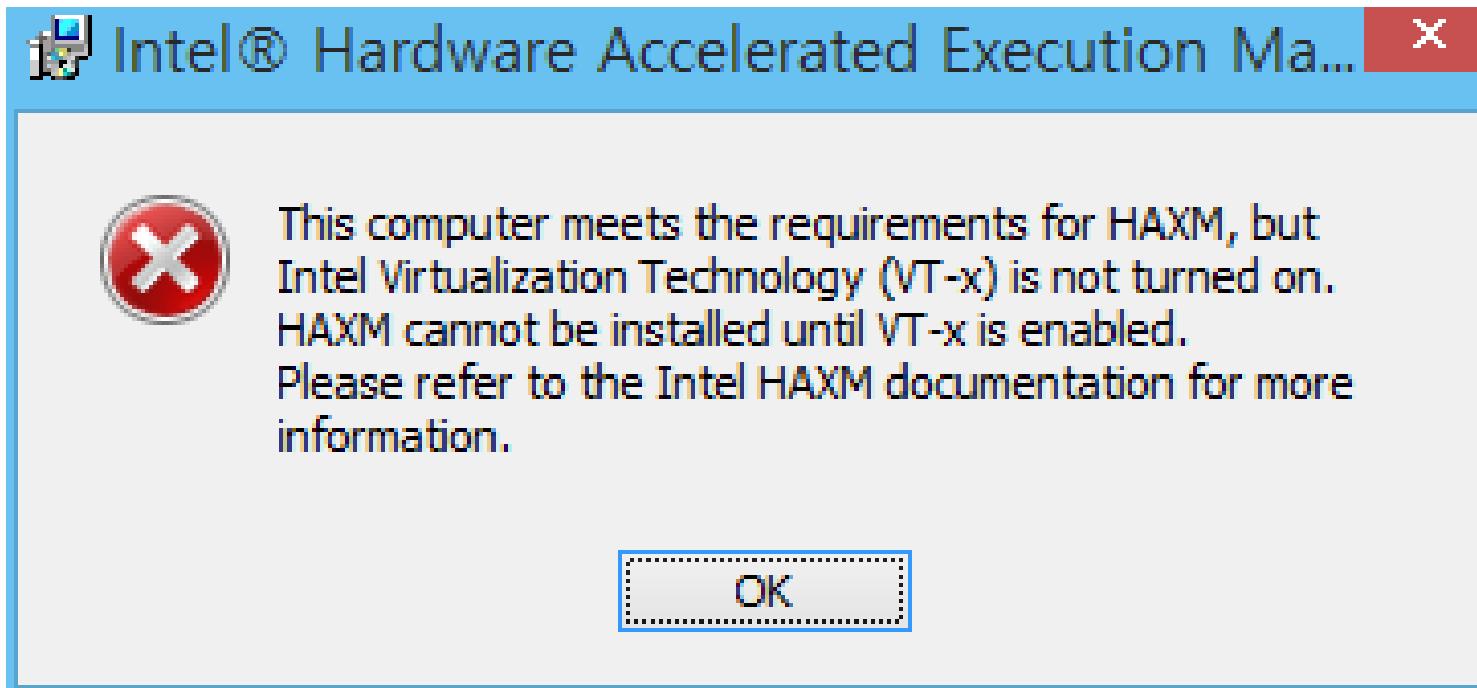
28



Continued-Intel HAXM 설치시 오류(VT-x 비활성화)

29

- TroubleShoot-Intel HAXM(Hardware Accelerated Execution Manager)



- 메인보드에서 CPU VT-x(가상화기술)을 허용하지 않음 상태이므로 BIOS 설정을 통해서 VT-x 활성화하는 게 필요.

Continued-Java Home 확인 오류

30

- 설치 중에 “JAVA_HOME” 경로 설정이 안 된 경우

주의 JAVA_HOME 경로 설정이 안된 경우

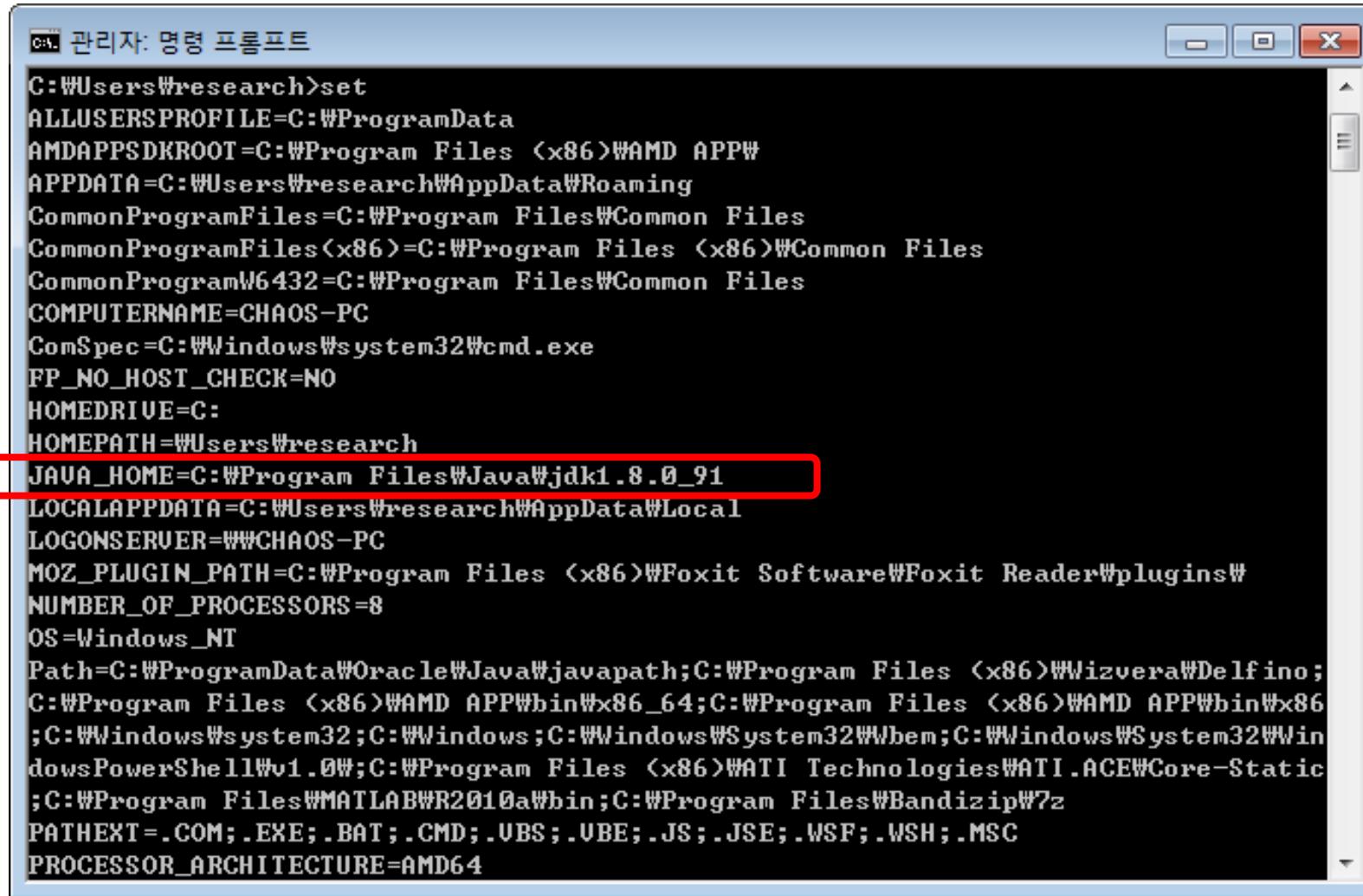
JAVA_HOME 경로 설정이 되어 있지 않을 때 다음과 같은 경고창이 나타난다. 경로 설정 후에 Android Studio를 다시 설치하면 된다.



Continued-Java Home 확인 방법

31

- JAVA_HOME 확인 방법: 명령프롬프트에서 “set” 명령어 실행



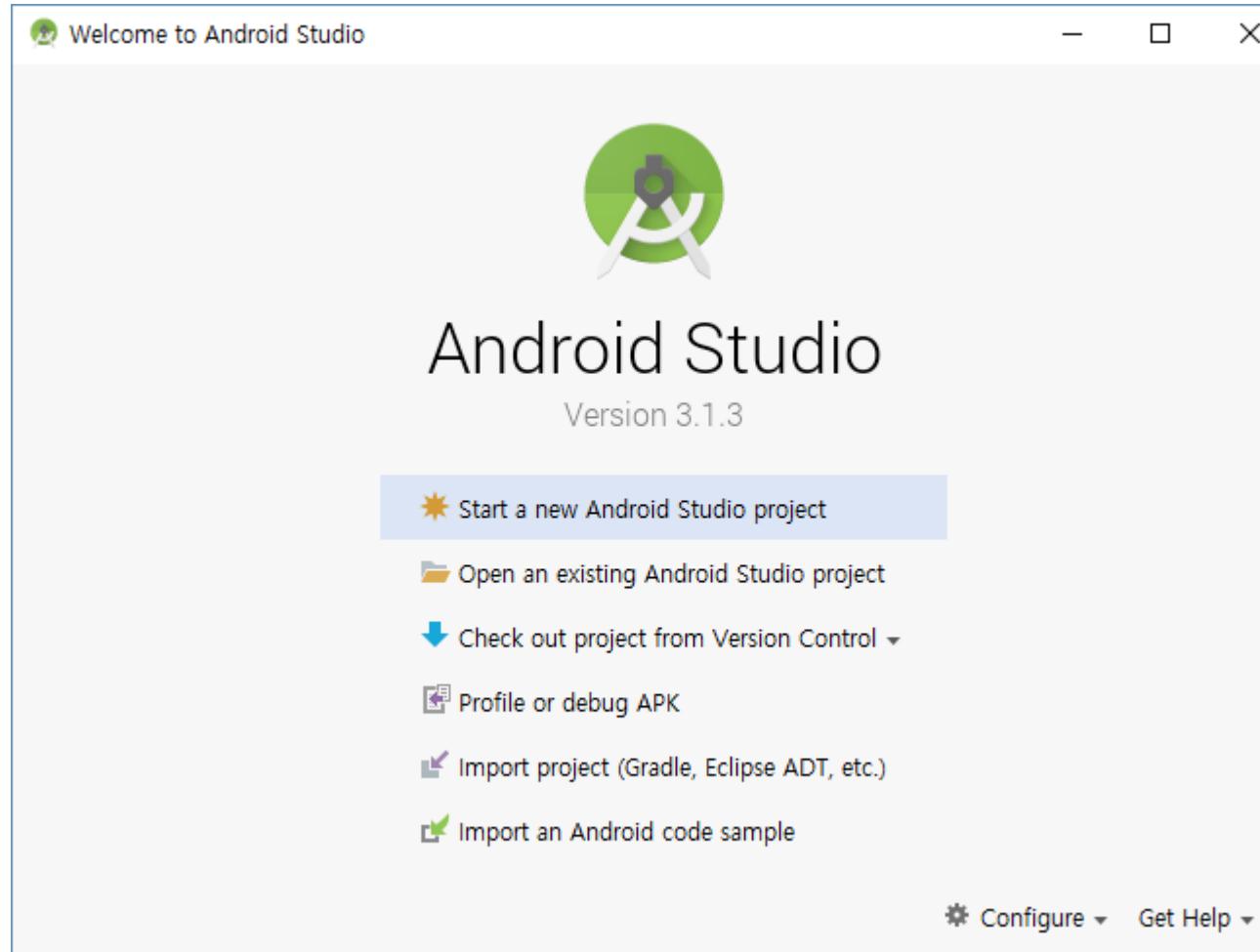
```
C:\ 관리자: 명령 프롬프트
C:\Users\research>set
ALLUSERSPROFILE=C:\ProgramData
AMDAAPPSDKROOT=C:\Program Files (x86)\AMD APP
APPDATA=C:\Users\research\AppData\Roaming
CommonProgramFiles=C:\Program Files\Common Files
CommonProgramFiles(x86)=C:\Program Files (x86)\Common Files
CommonProgramW6432=C:\Program Files\Common Files
COMPUTERNAME=CHAOS-PC
ComSpec=C:\Windows\system32\cmd.exe
FP_NO_HOST_CHECK=NO
HOMEDRIVE=C:
HOMEPATH=\Users\research
JAVA_HOME=C:\Program Files\Java\jdk1.8.0_91
LOCALAPPDATA=C:\Users\research\AppData\Local
LOGONSERVER=\CHAO
MOZ_PLUGIN_PATH=C:\Program Files (x86)\Foxit Software\Foxit Reader\plugins\
NUMBER_OF_PROCESSORS=8
OS=Windows_NT
Path=C:\ProgramData\Oracle\Java\javapath;C:\Program Files (x86)\Wizvera\Defino;C:\Program Files (x86)\AMD APP\bin\x64;C:\Program Files (x86)\AMD APP\bin\x86;C:\Windows\system32;C:\Windows;C:\Windows\System32\WBem;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Program Files (x86)\ATI Technologies\ATI.ACET\Static;C:\Program Files\MATLAB\R2010a\bin;C:\Program Files\Bandizip\7z
PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE=AMD64
```

Android Studio 시작

Android Studio 시작

33

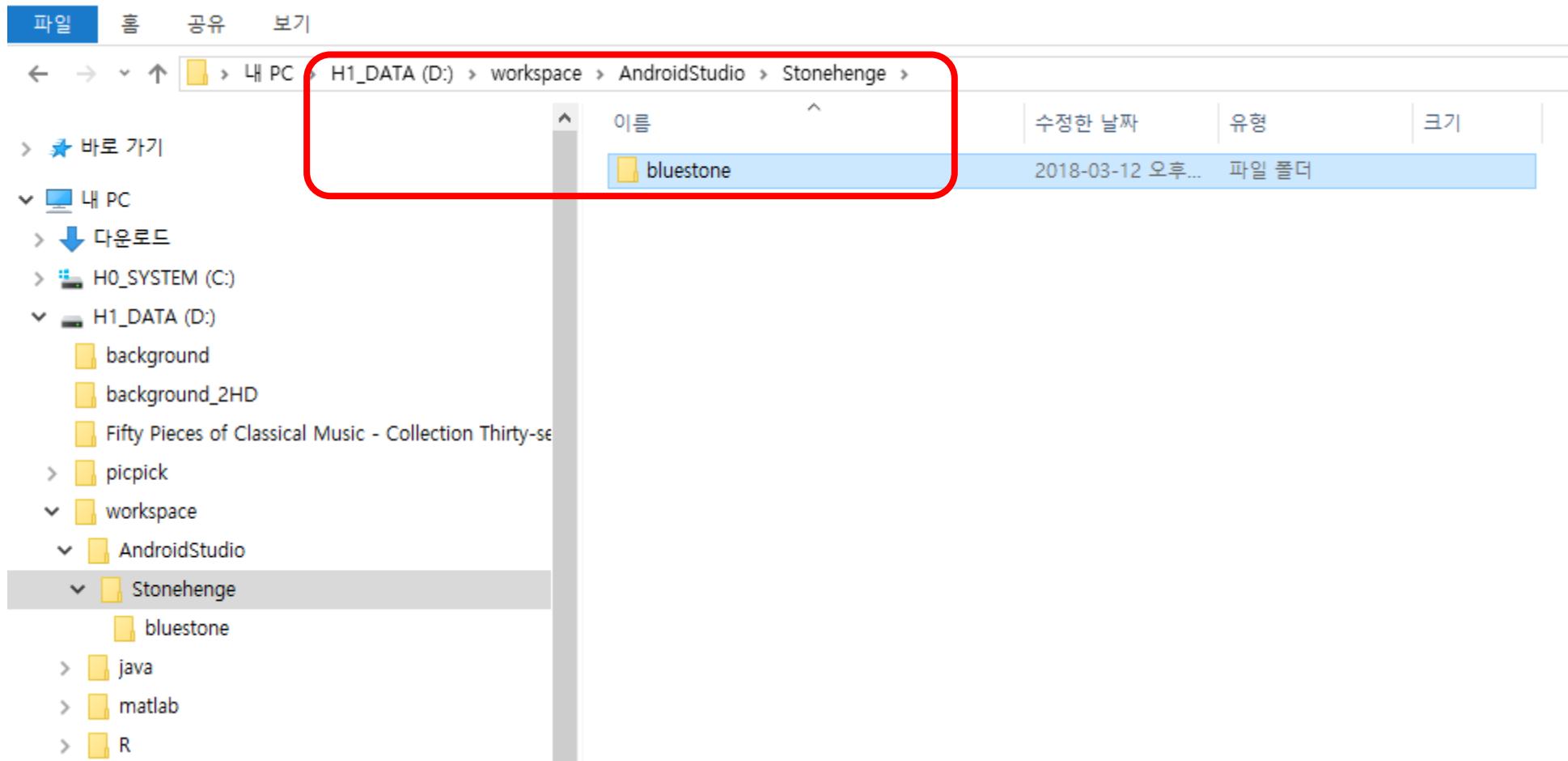
- Start a new Android Studio project 메뉴 클릭



첫 프로젝트 만들기

나만의 작업공간(workspace) 만들기

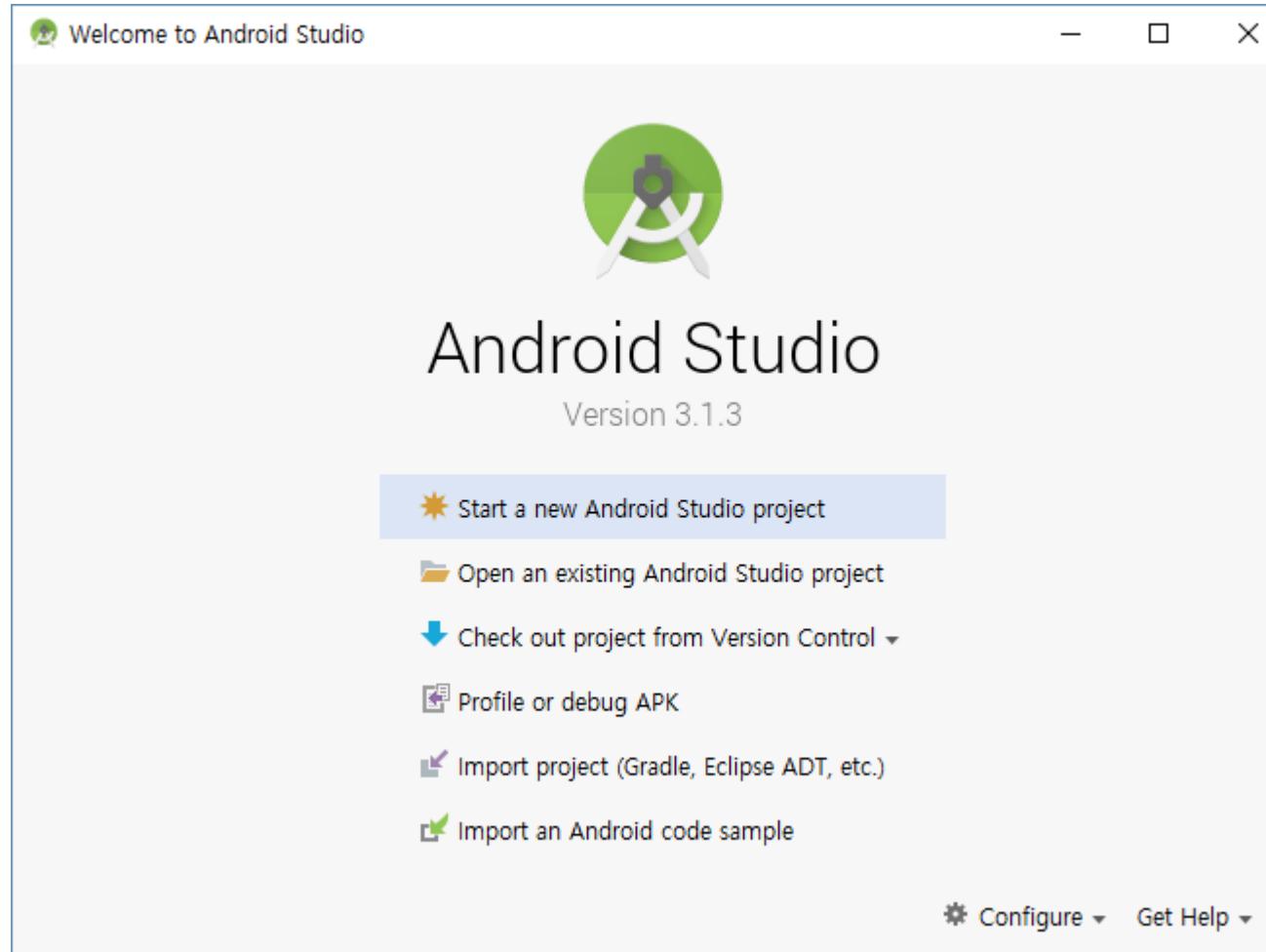
- 개인별 폴더 만들기
- D 드라이브에 workspace 생성 후 자기만의 고유 이름을 가지는 폴더 생성



첫 프로젝트 만들기

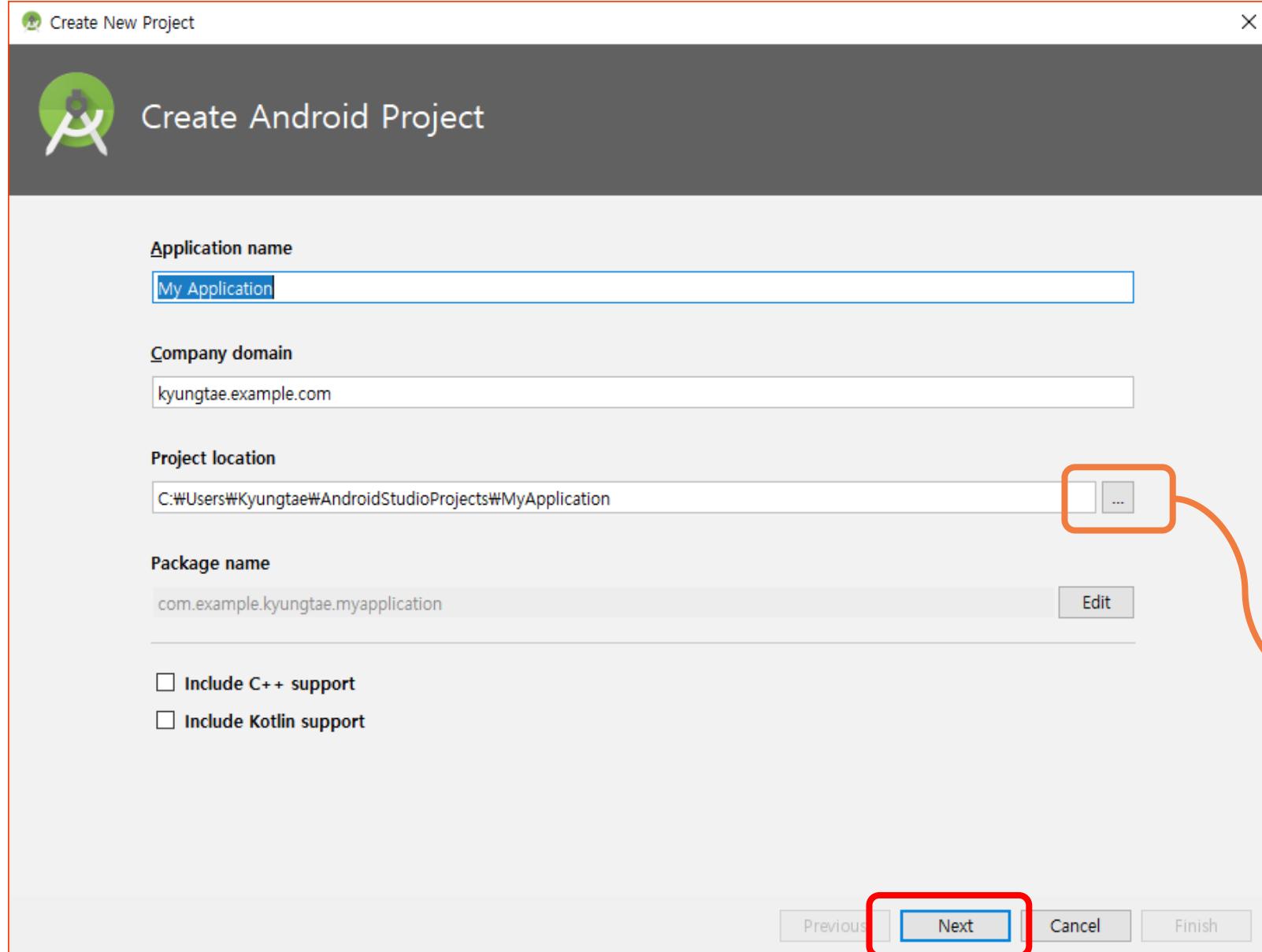
43

- 'Start a new Android Studio project' 클릭



New Project – My Project location 설정하기

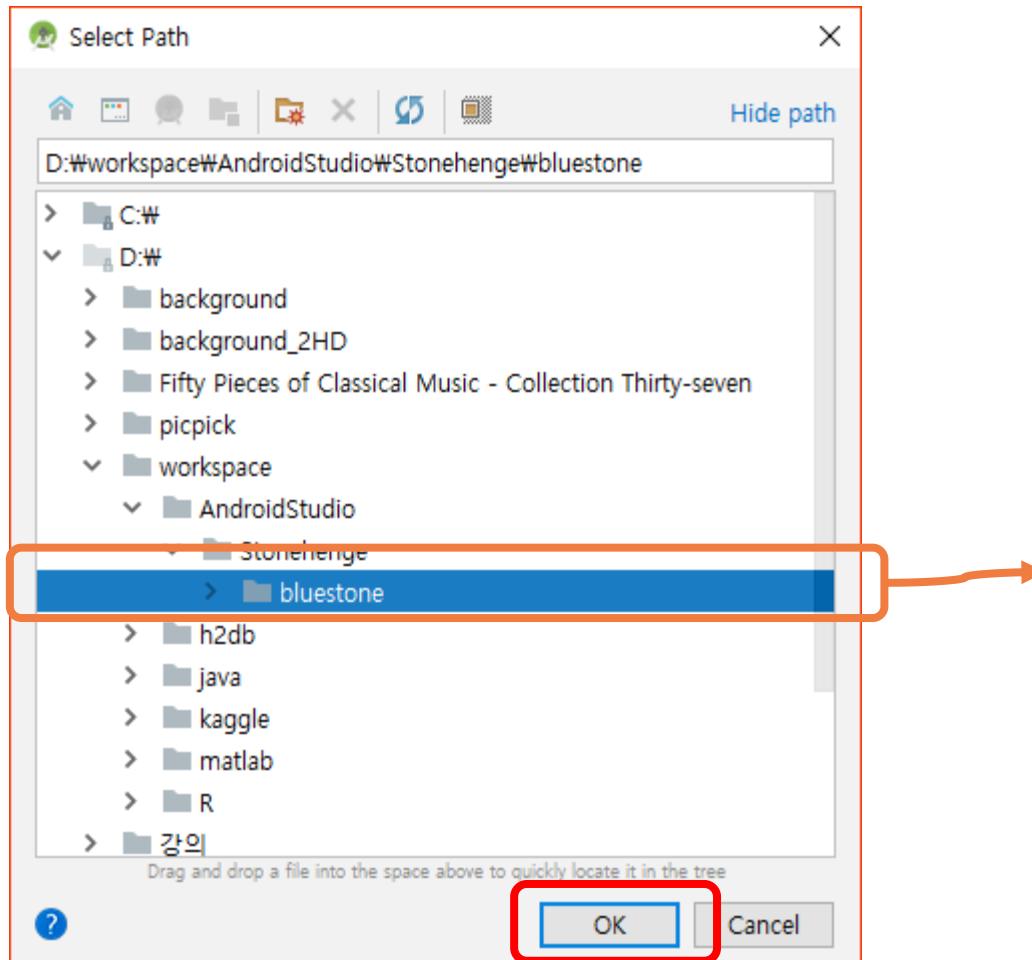
44



탐색창을 통해 설정

Select project path (개인별 폴더 만들기)

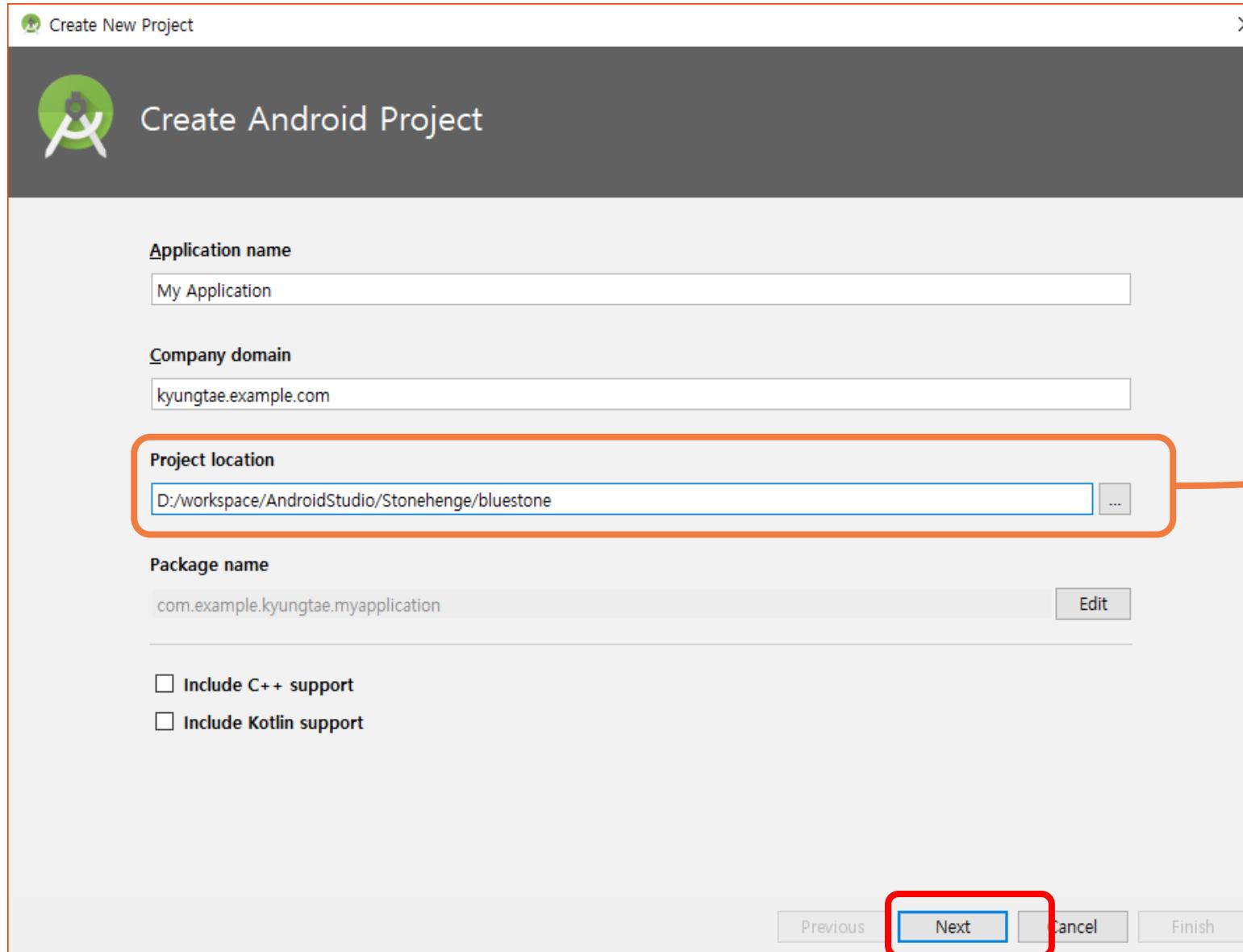
45



탐색창을 통해 원하는 폴더를 설정
(개인별 폴더를 생성하여 설정)

New Project - Select project path

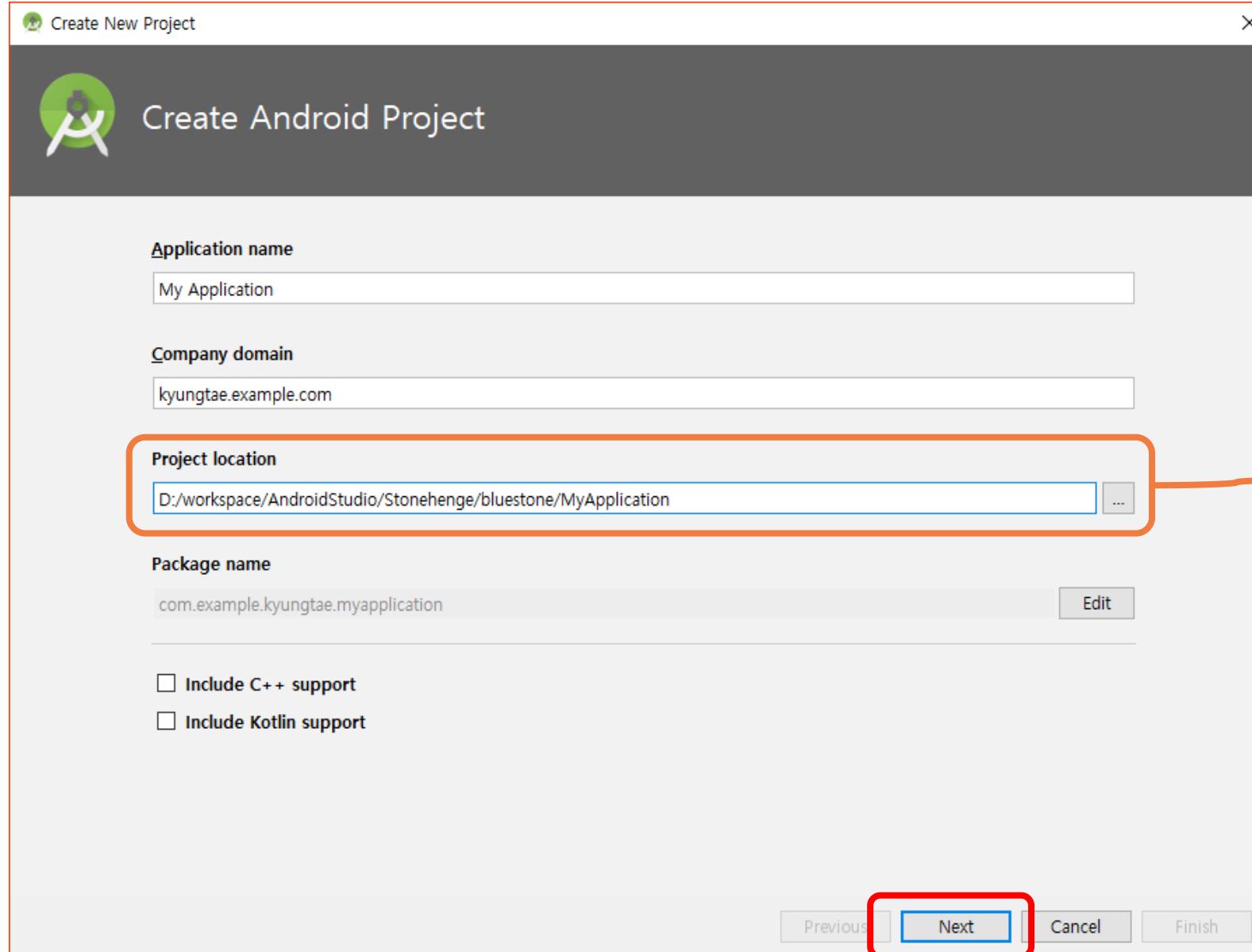
46



탐색창을 통해 원하는 폴더를 설정

New Project – Add a new project

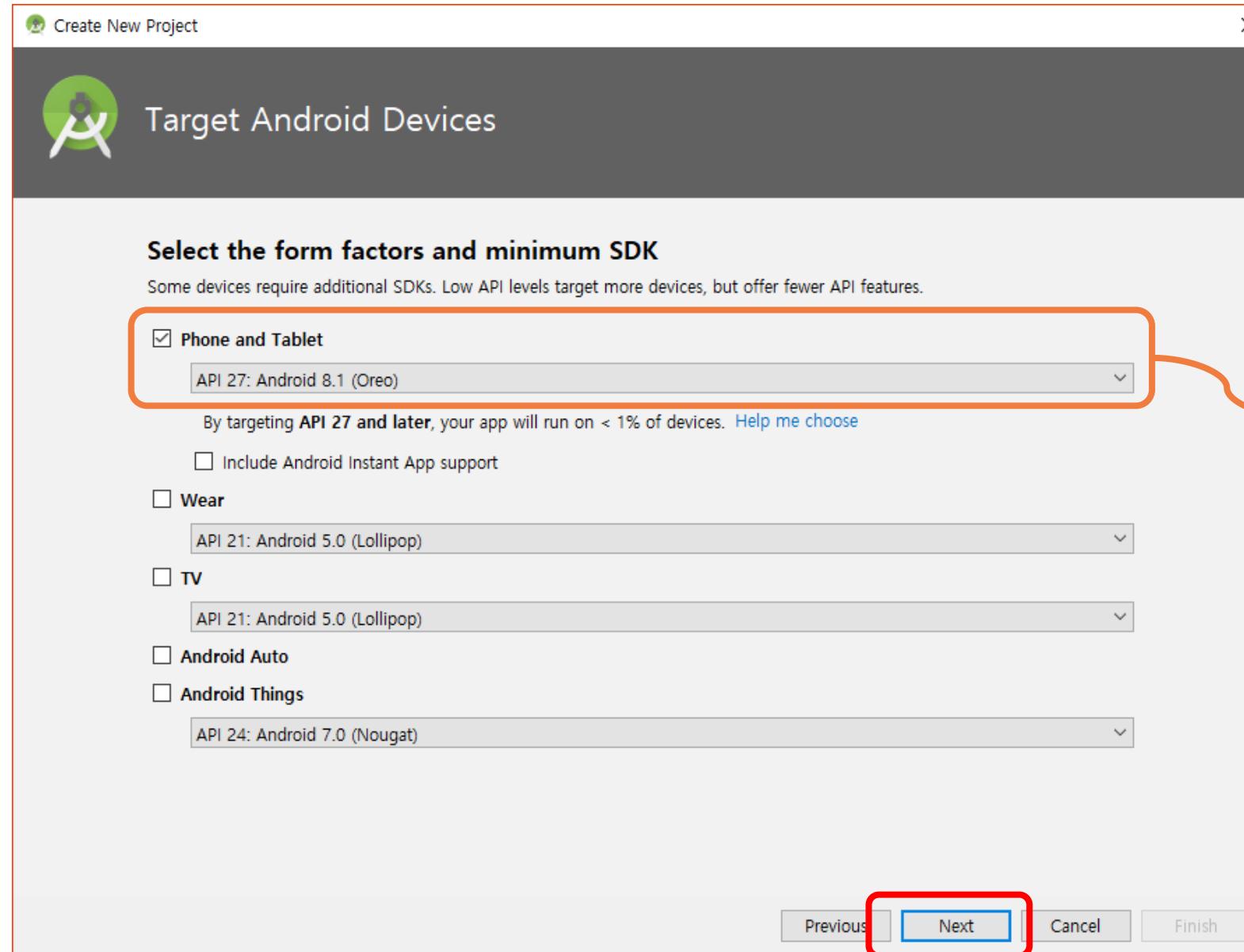
47



프로젝트 이름 폴더 추가
(MyApplication)

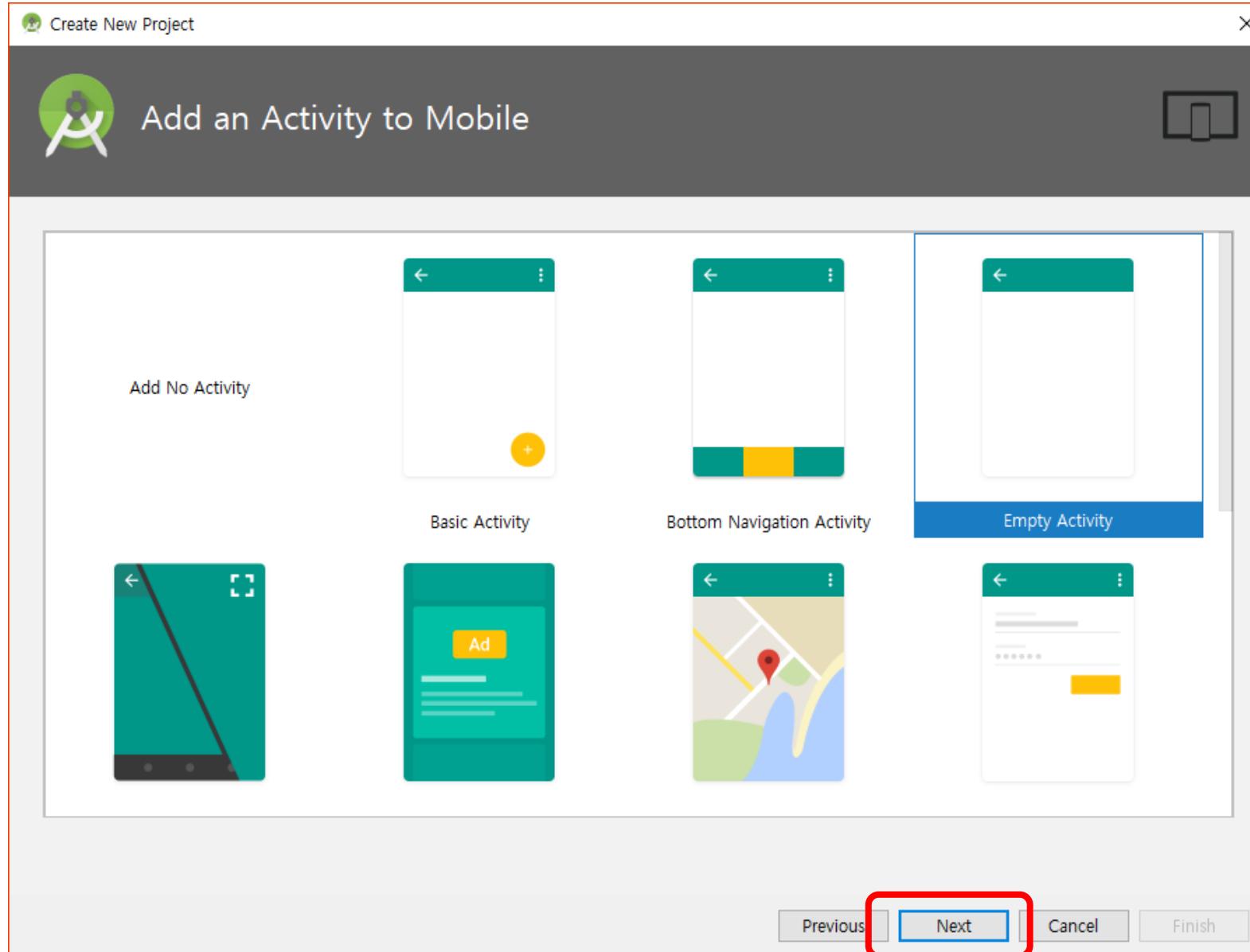
New Project – Target android devices

48



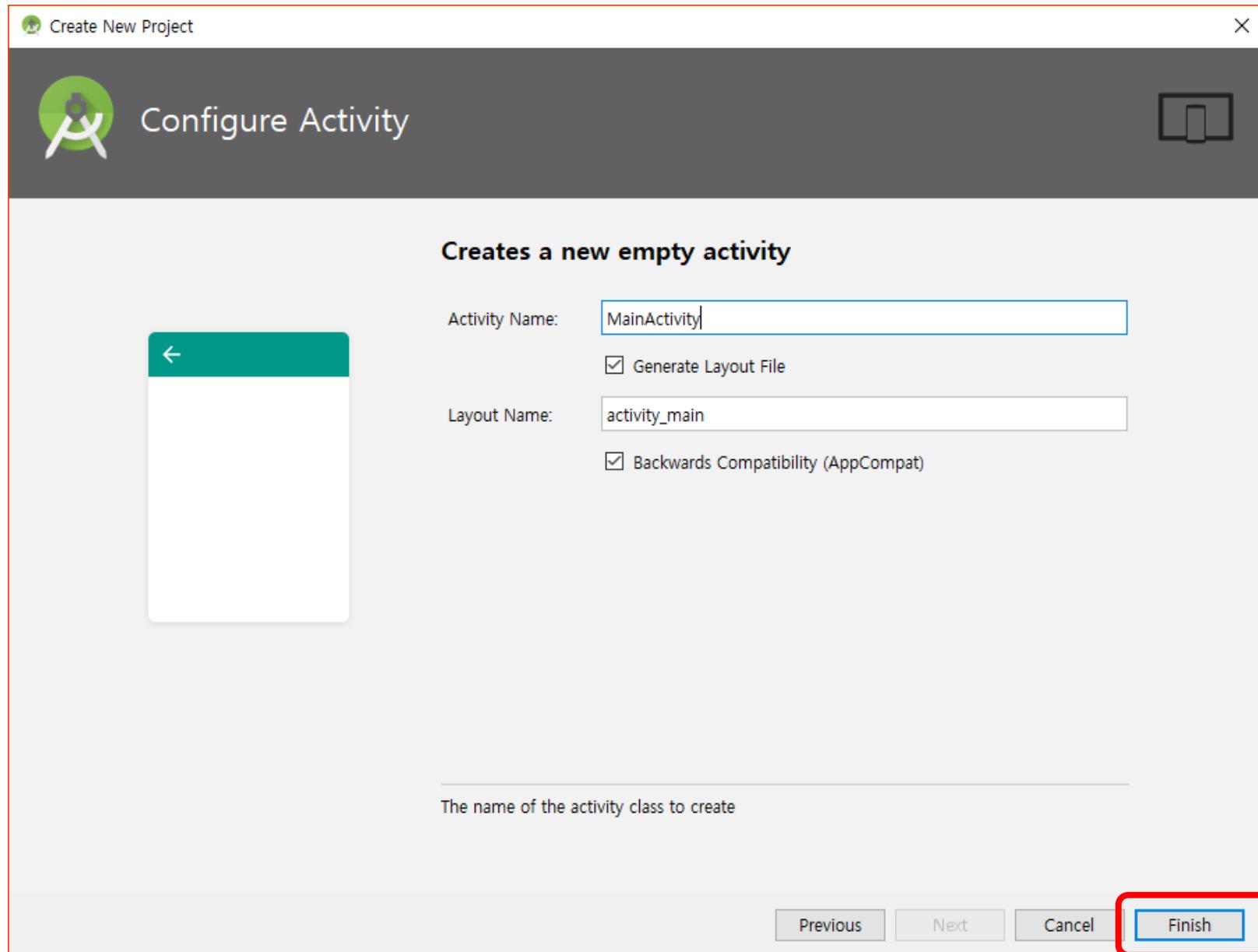
New Project – Target android devices

49



New Project – Configure Activity

50

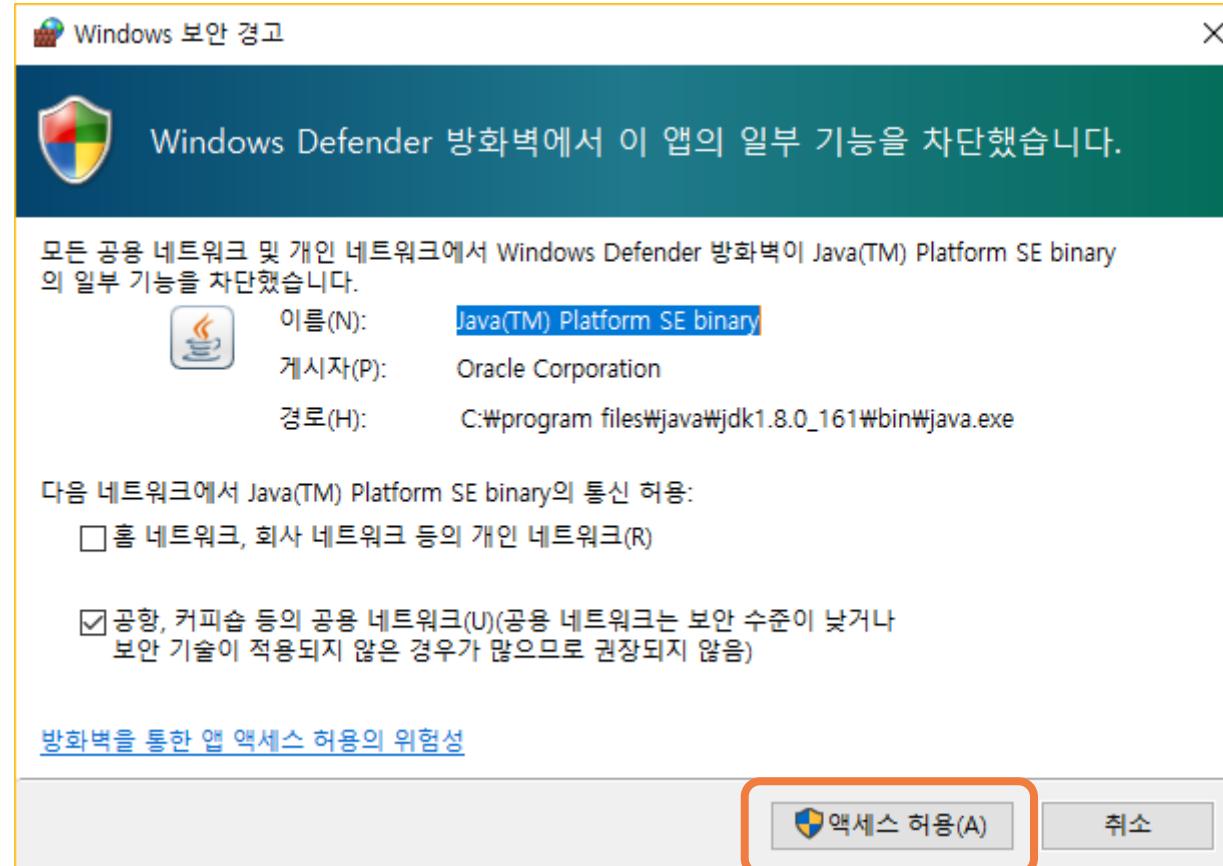


Continued···Gradle 설정



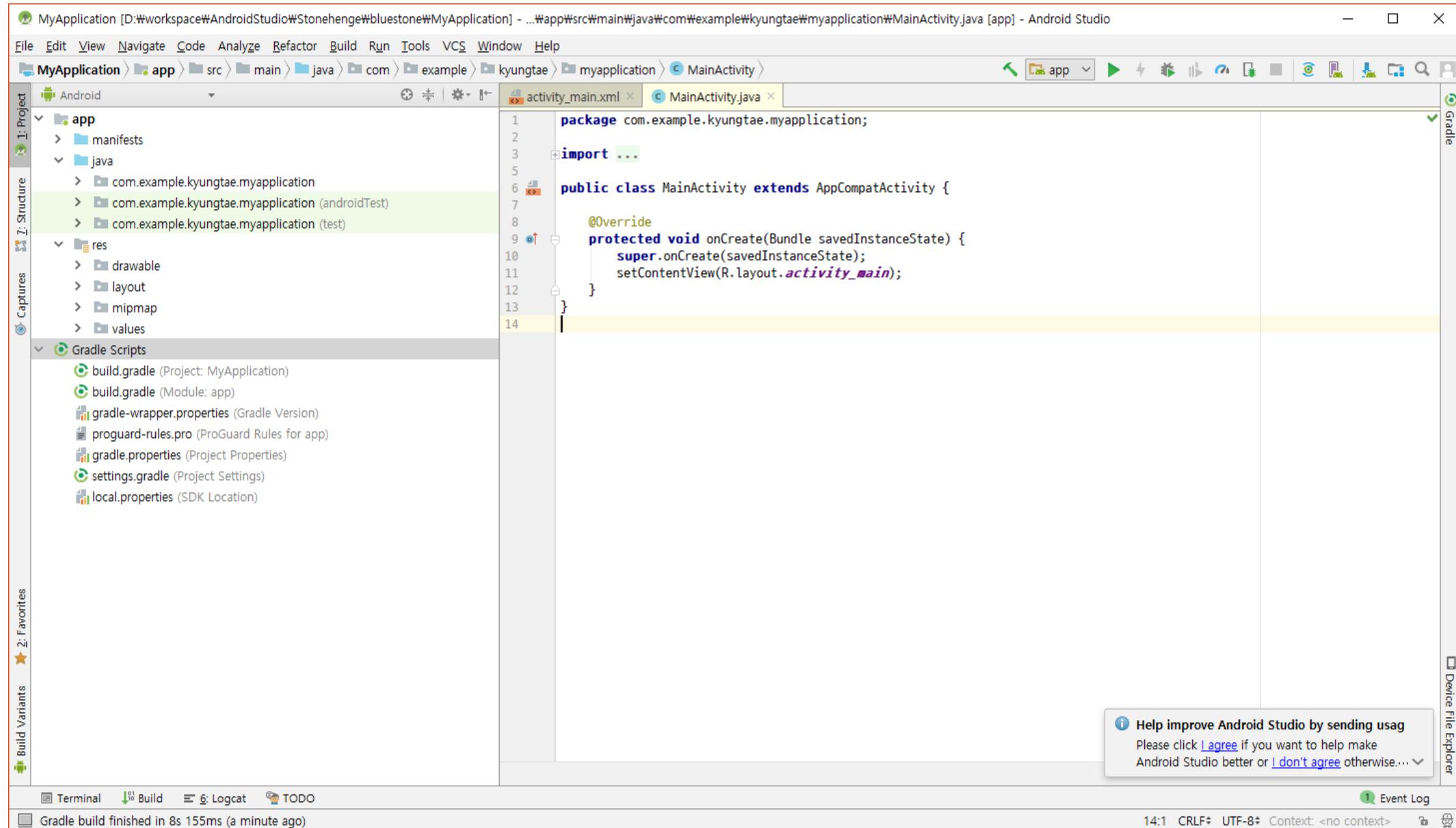
Windows Defender 방화벽 설정

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New Project – 초기 완성 화면

53

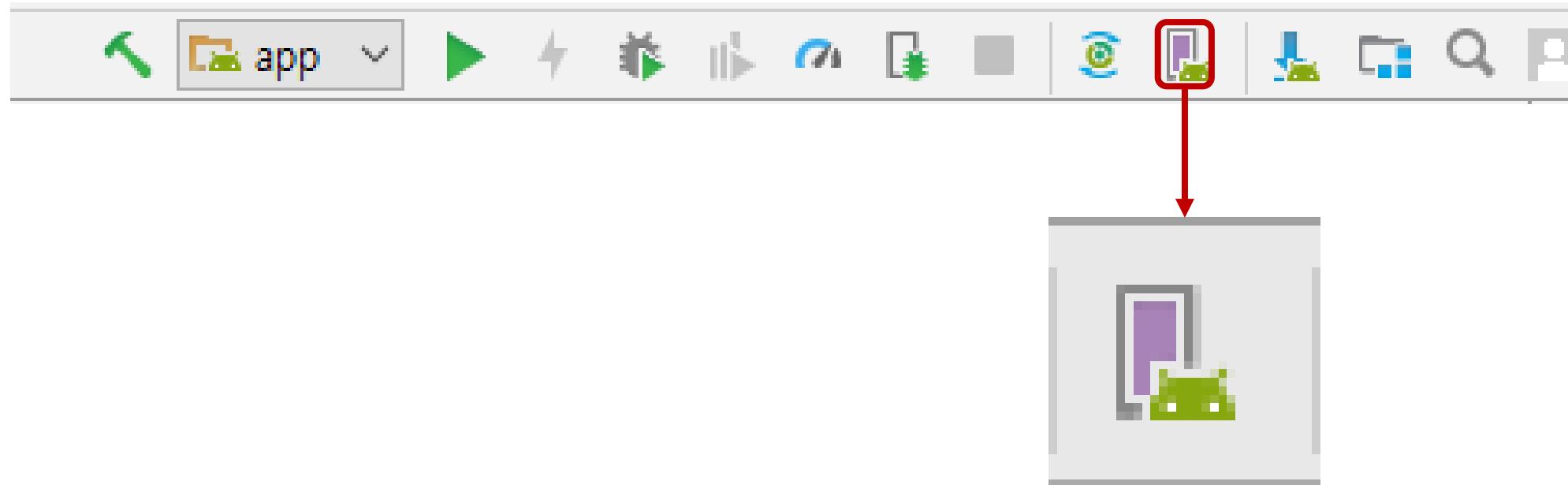


Android Virtual Device(AVD) 추가

Continued···AVD

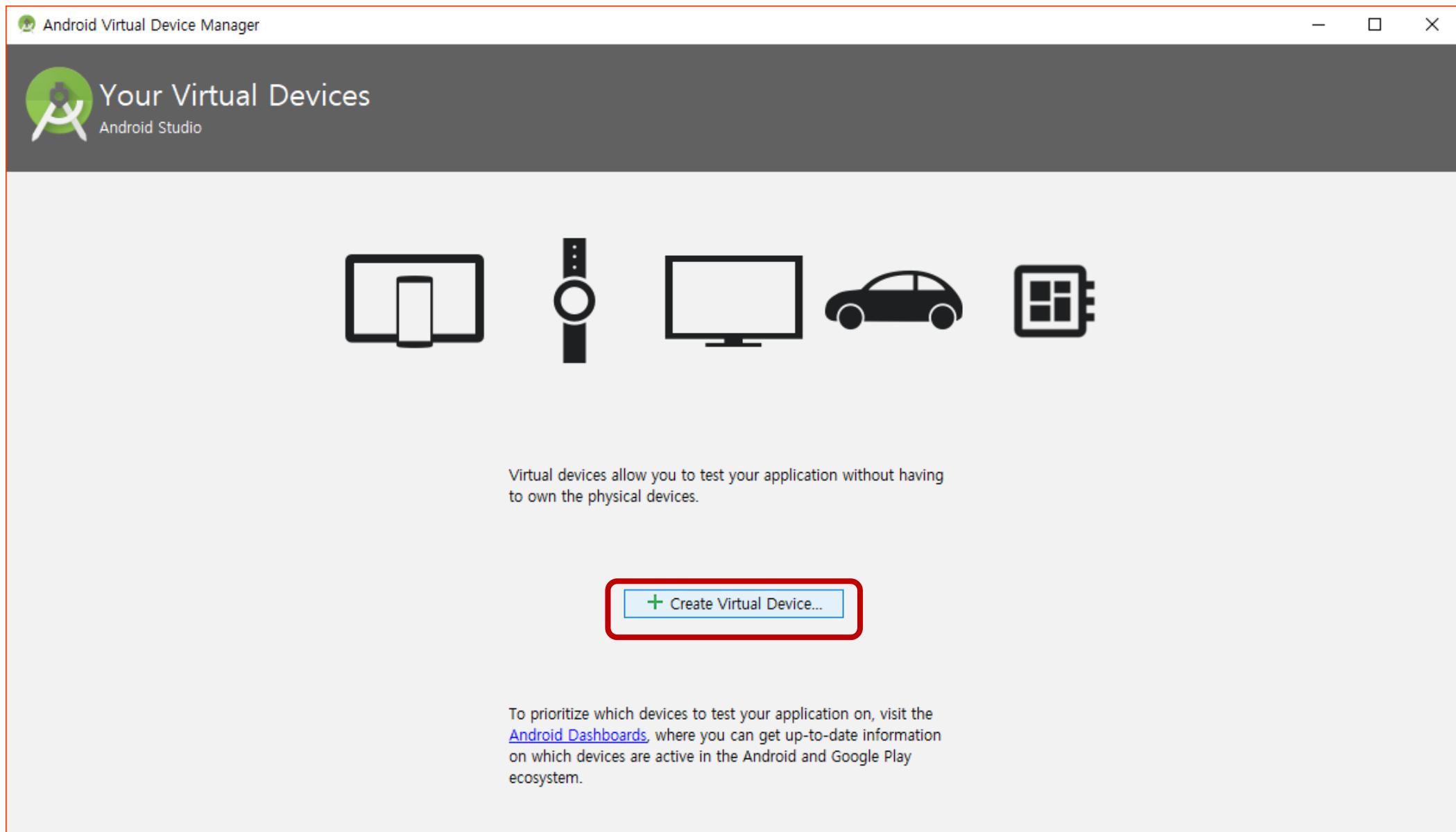
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- Android Studio 실행 후 AVD Manager 실행



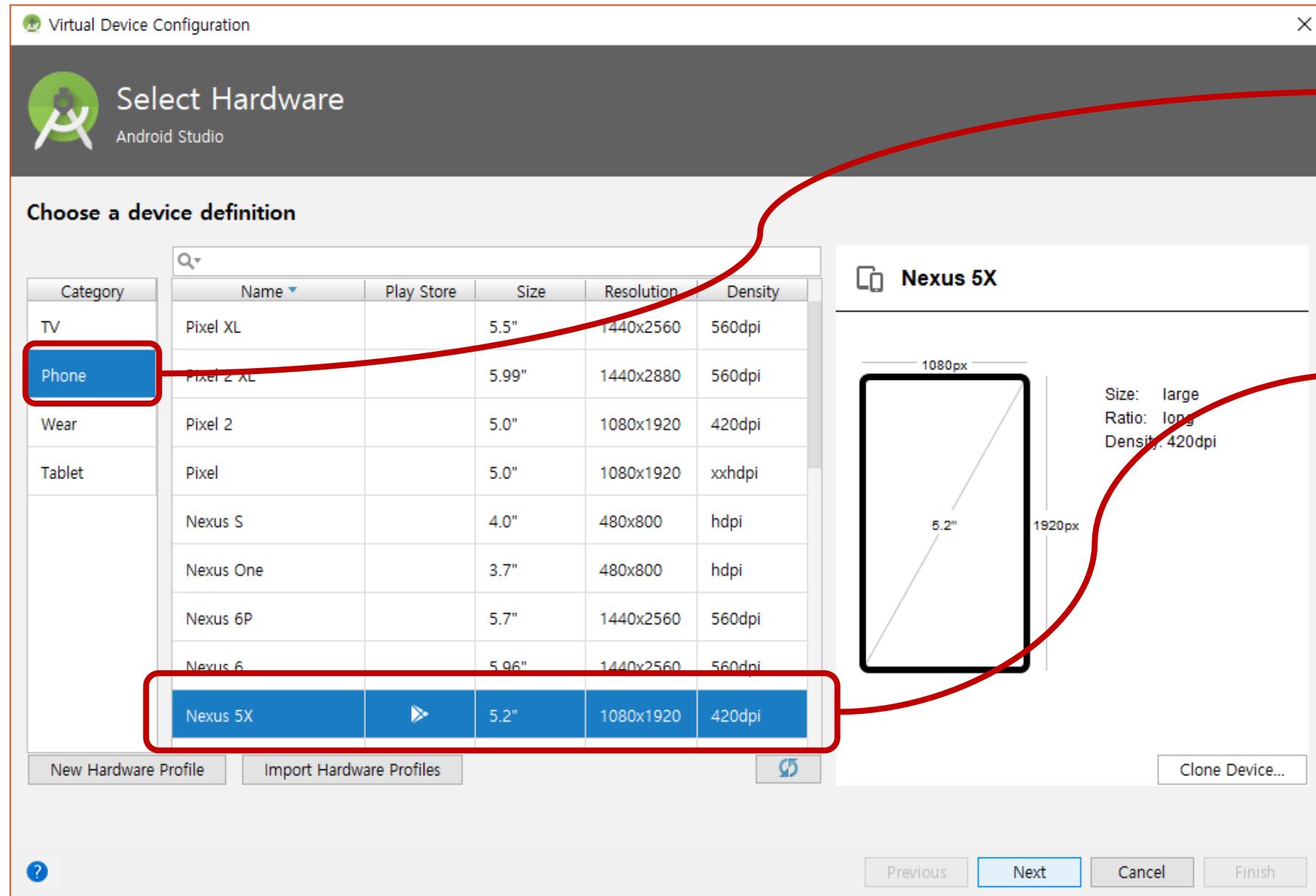
Continued···AVD 추가

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...Continued: 장비 선택

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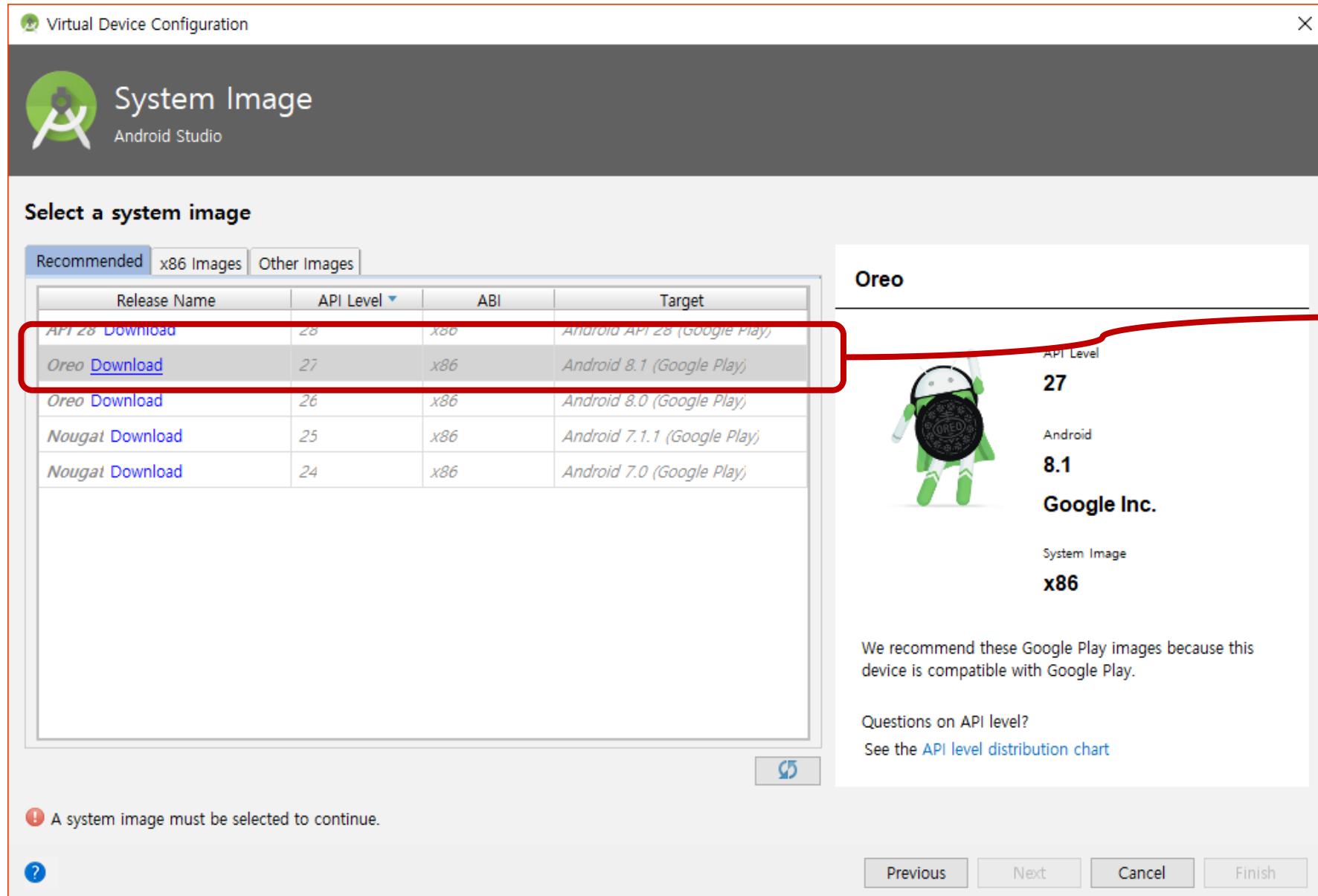


Category – Phone

Device – Nexus 5X

...Continued – System Image(OS) 선택

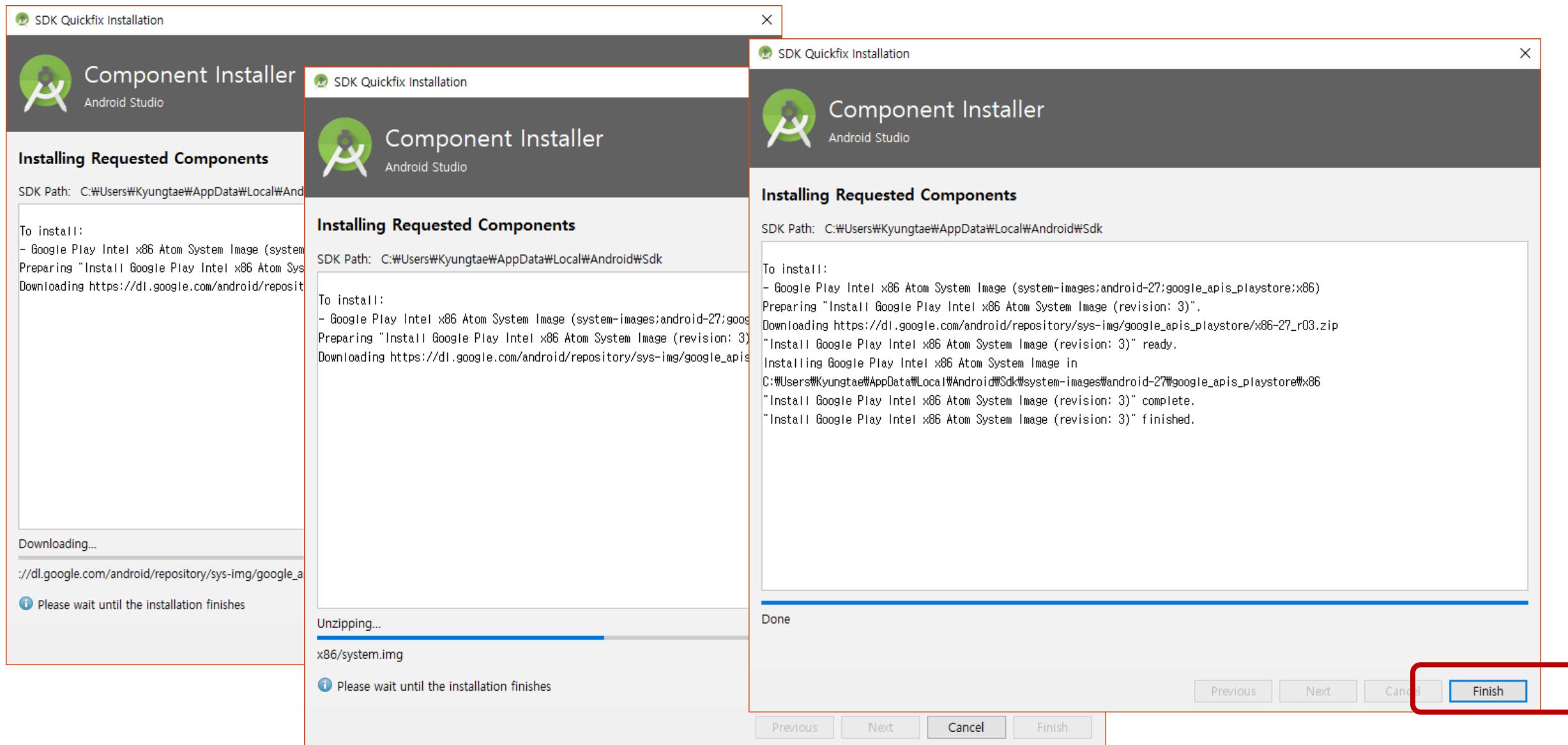
62



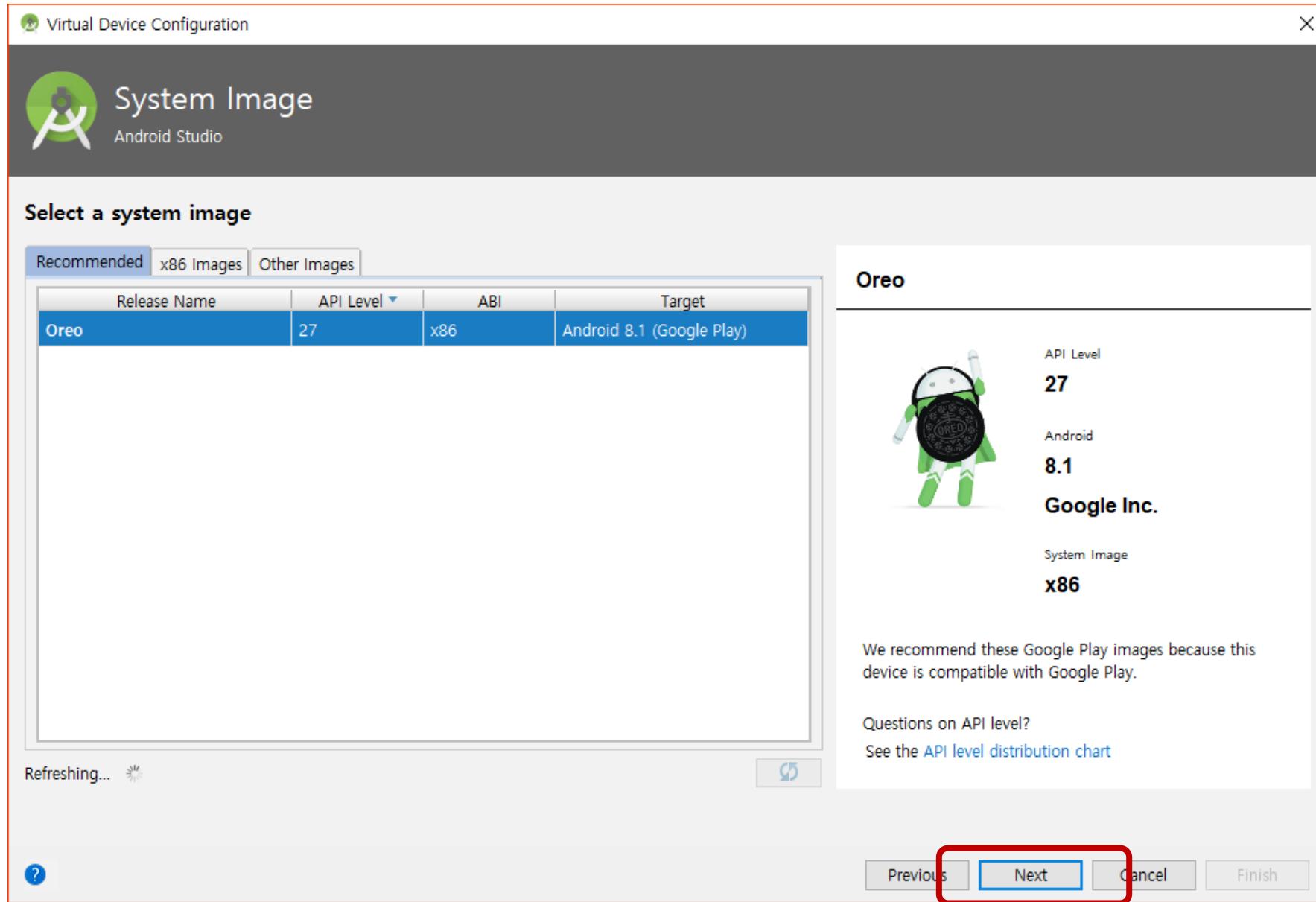
Oreo Download 클
릭 후 치

...Continued: 설치

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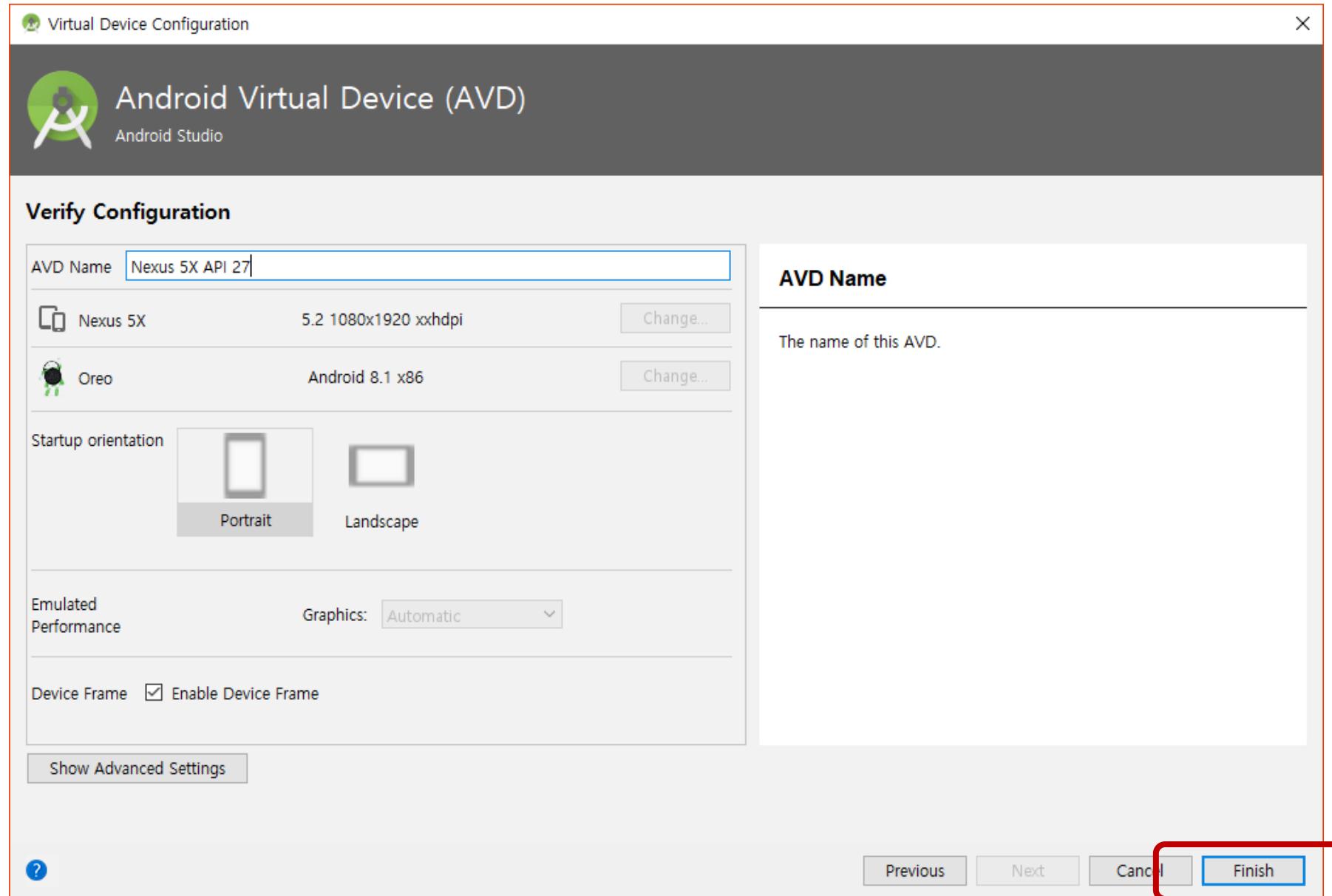


...Continued



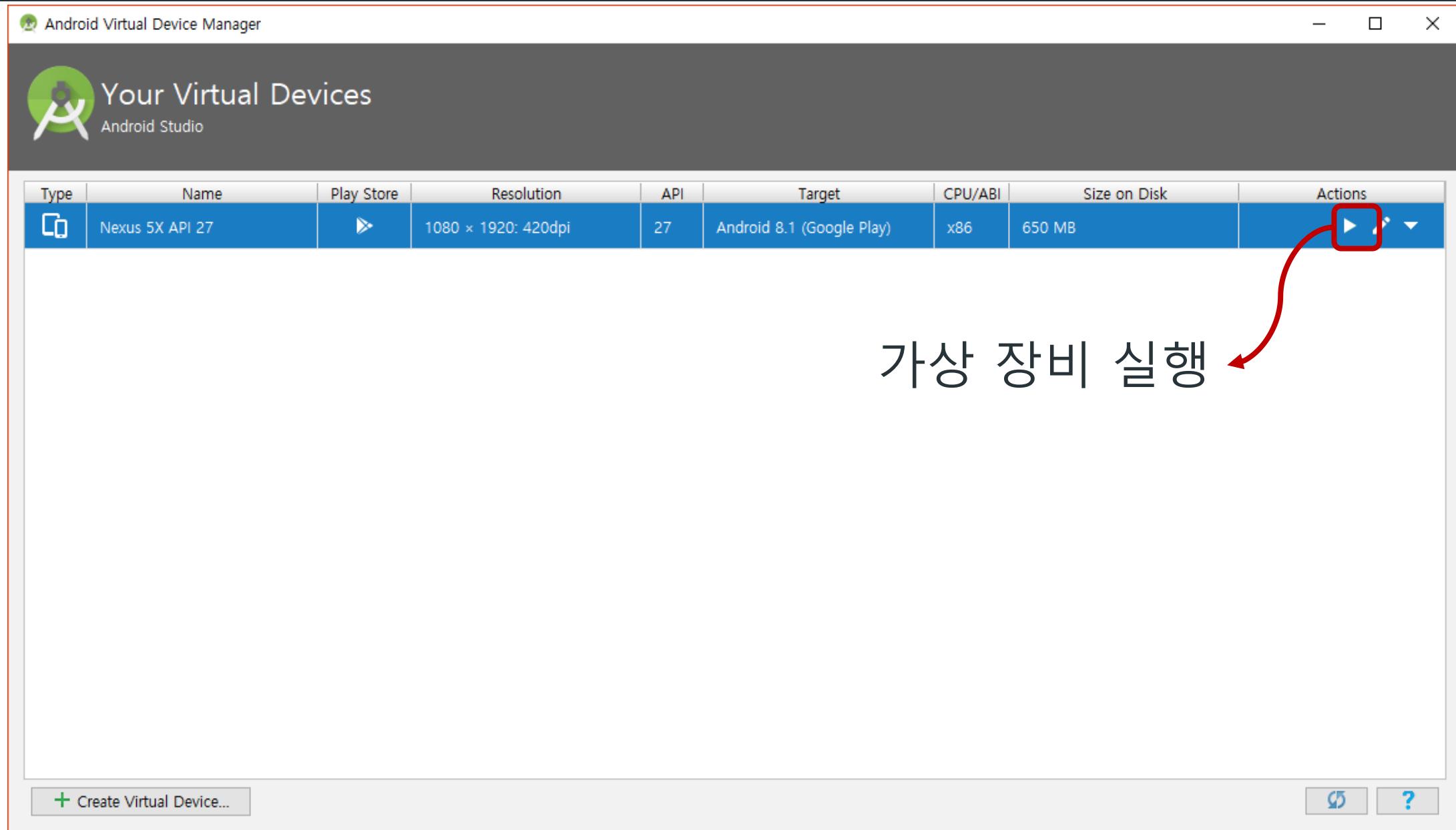
…Continued: AVD 설정 확인

65



...Continued: AVD Manager에서 가상 장비 실행

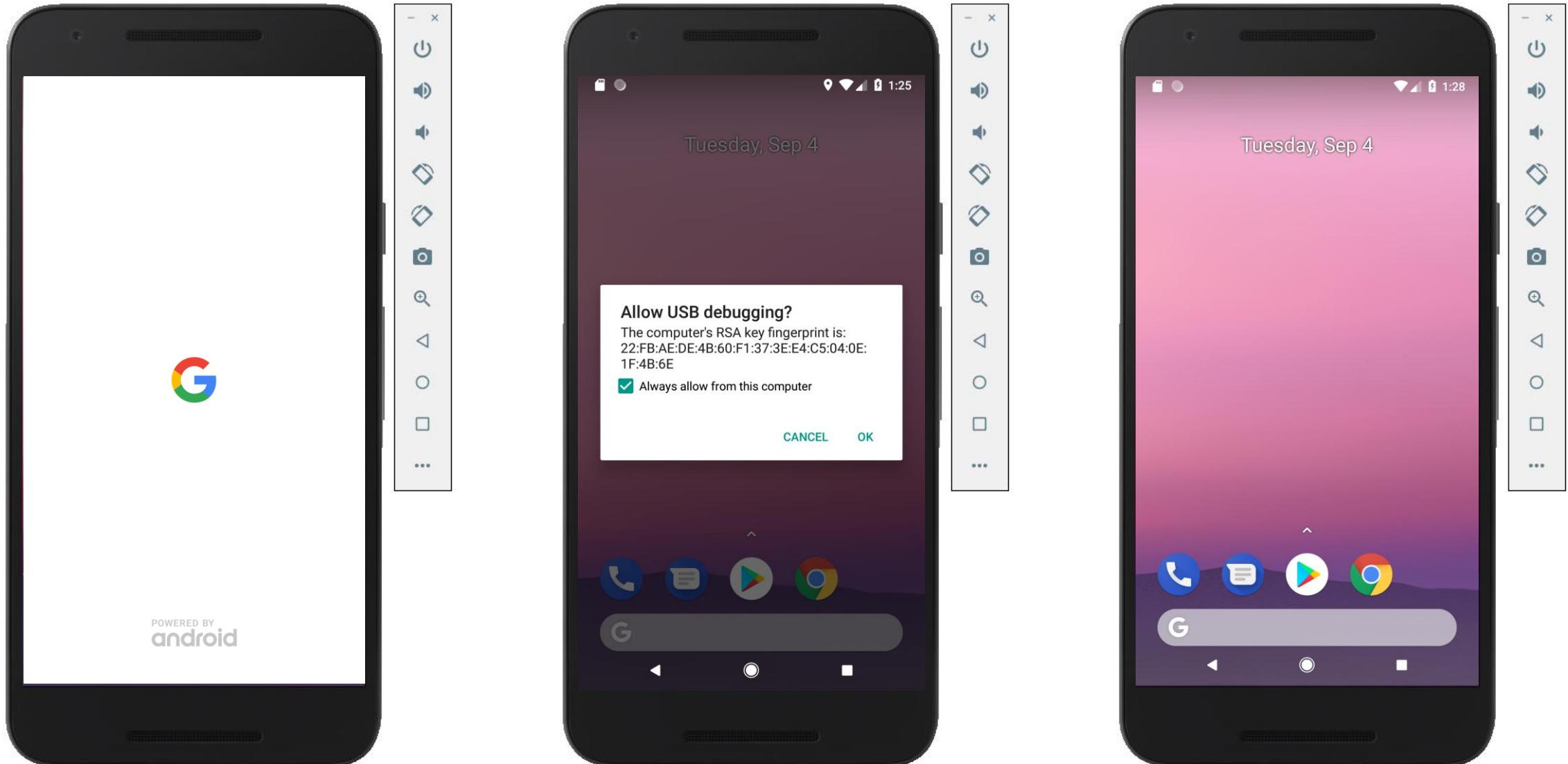
66



Continued

- Nexus 5X Oreo 의 가상 머신 실행

67

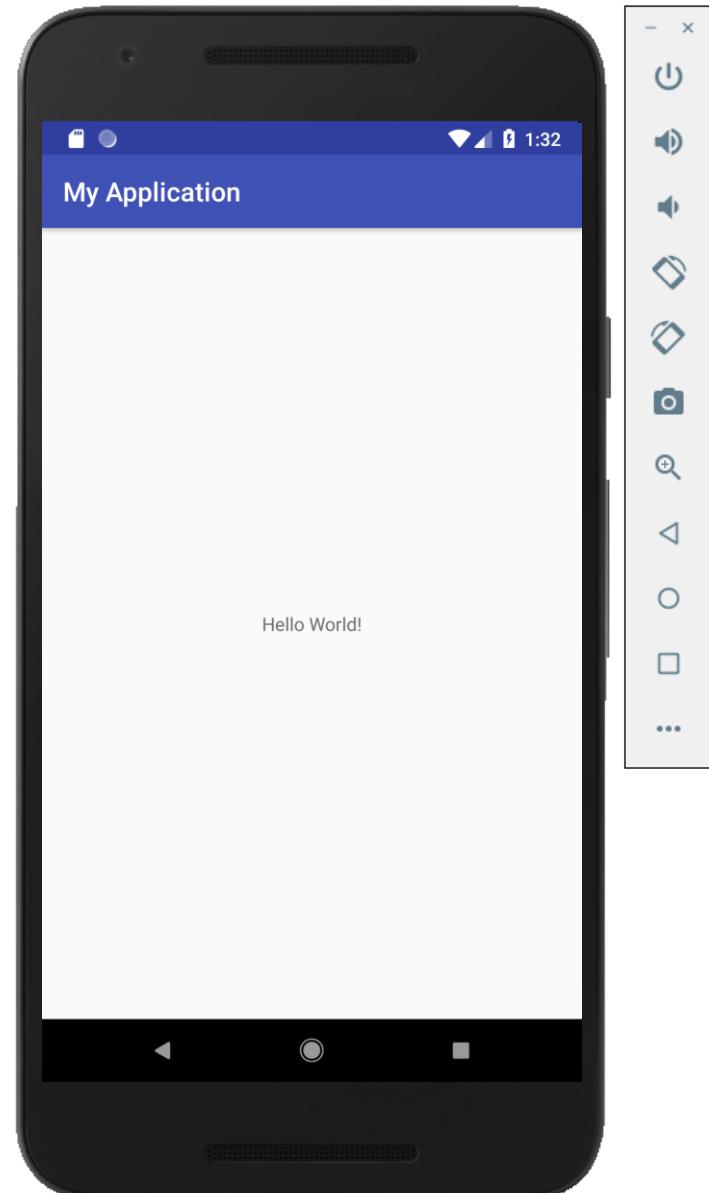
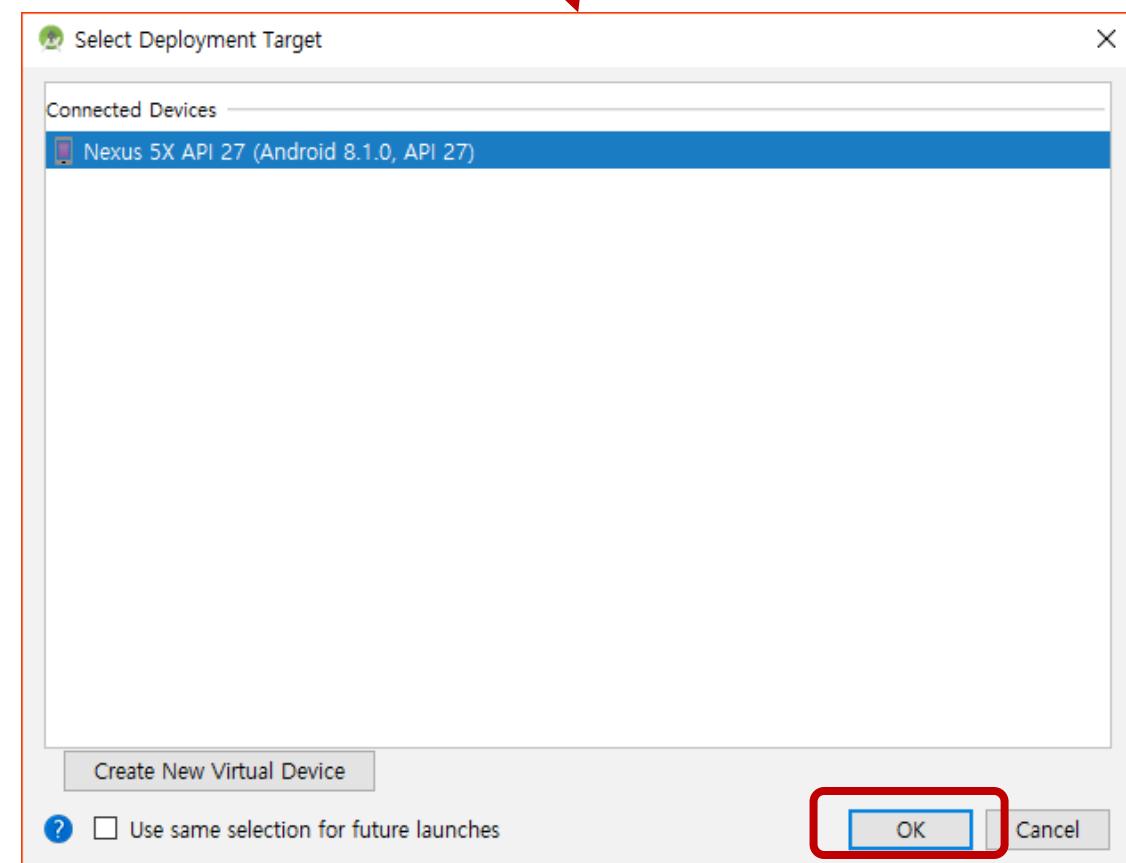


스마트폰(AVD)으로 앱 실행하기

68

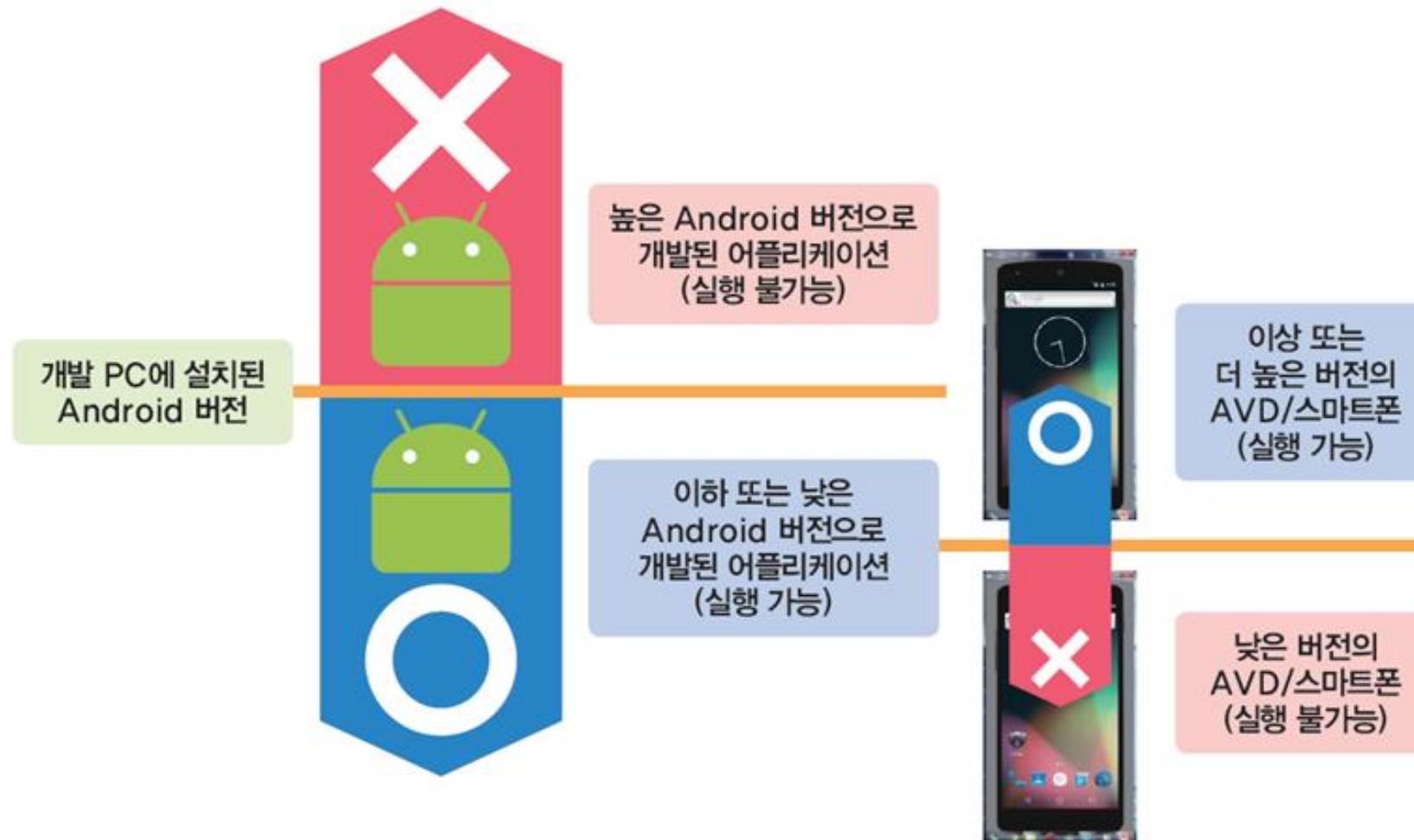


스마트폰 앱을 AVD를 통해 실행



Continued

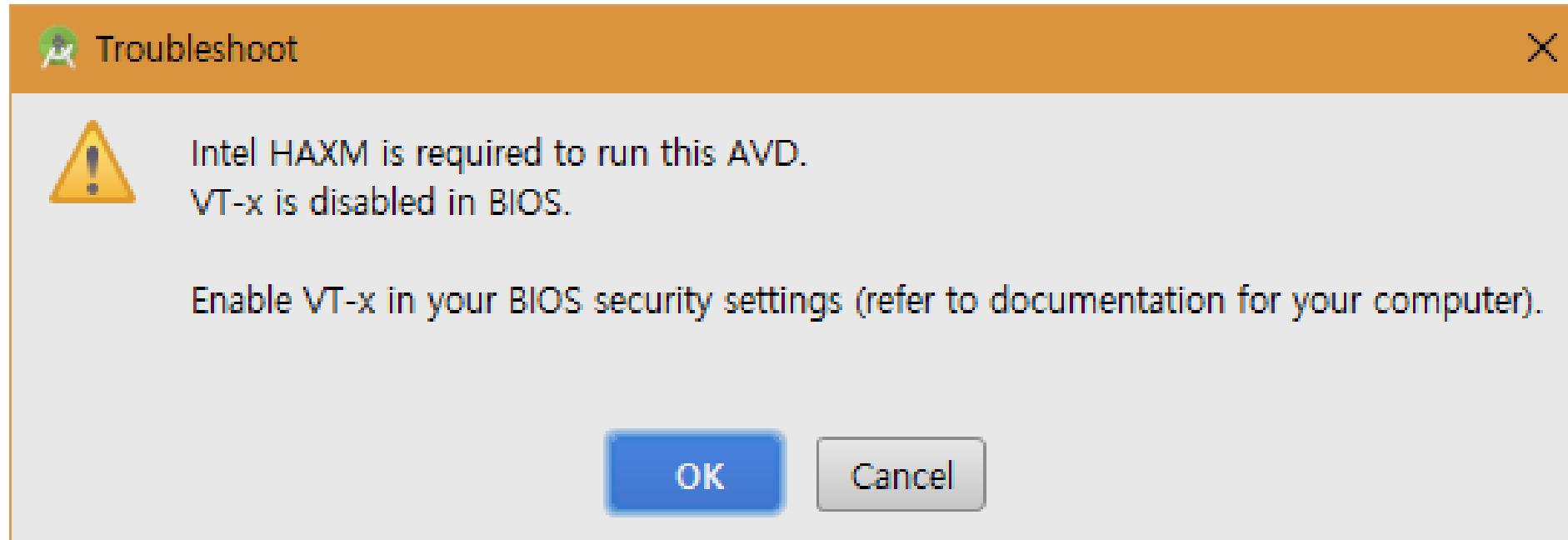
- AVD는 어플리케이션 개발 시에 지정한 최소 SDK 버전 이상만 되면 실행 가능하다.



Intel HAXM…AVD를 실행하기 위해 필요

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- BIOS에서 VT-x 옵션 설정 필요



Step 3. 앱 실행 환경 구축

Step 3. 앱 실행 환경 구축

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- 삼성 스마트폰 (<https://www.samsungsvc.co.kr/online/downLoadMain.do?isDownload=T>)

The screenshot shows a web browser window for the Samsung Smart Service website. The URL in the address bar is <https://www.samsungsvc.co.kr/online/downLoadMain.do?isDownload=T>. The main content area is titled '다운로드' (Download) and features a search bar for model name search. Below it is a section for '유용한 소프트웨어' (Useful Software) with tabs for '휴대폰/기어' (Phone/Gear), 'PC/프린터' (PC/Printer), and '기타' (Others). The '휴대폰/기어' tab is selected. Under this tab, there are icons for '스마트 스위치 (Smartswitch)', '키스 (Kies)', '사이드싱크 (SideSync)', '통합 USB 드라이버 (Unified USB Driver)' (highlighted with a red box), '액션디렉터 (ActionDirector)', and '기어 아이콘X (Gear IconX)'.

Continued

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- LG 스마트폰(<http://www.lge.co.kr/lgekor/download-center/downloadCenterList.do>)

● 소프트웨어 다운로드



LG Bridge (LG 360 캠 포함)
스마트폰, 태블릿과 연동하여 멀티미디어 콘텐츠 및 애플리케이션을 손쉽게 관리해 보세요.

[Windows용 다운로드](#) [Mac용 다운로드](#) [상세보기](#)



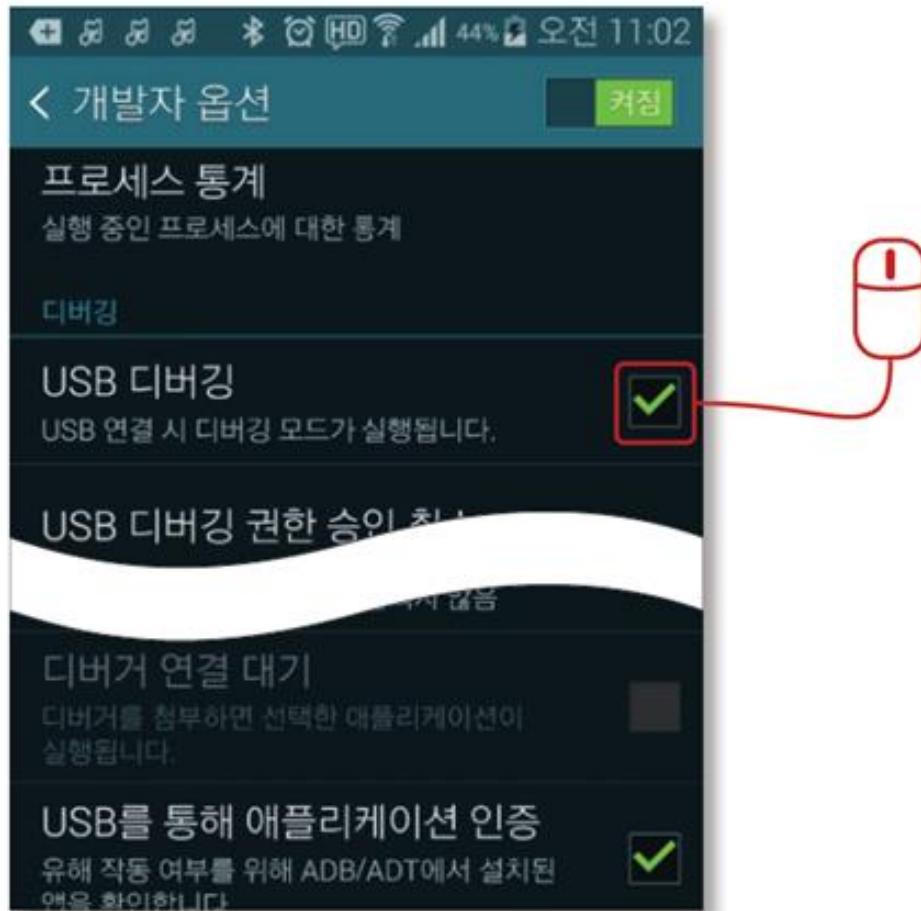
LG United Mobile Driver(LG 360 캠 포함)
LG United Mobile Driver는 사용자의 안드로이드 휴대폰을 최신 버전의 휴대폰 소프트웨어로 업그레이드 할 때 필요한 프로그램입니다.

[다운로드](#) [상세보기](#)

Continued…스마트폰의 환경 설정

74

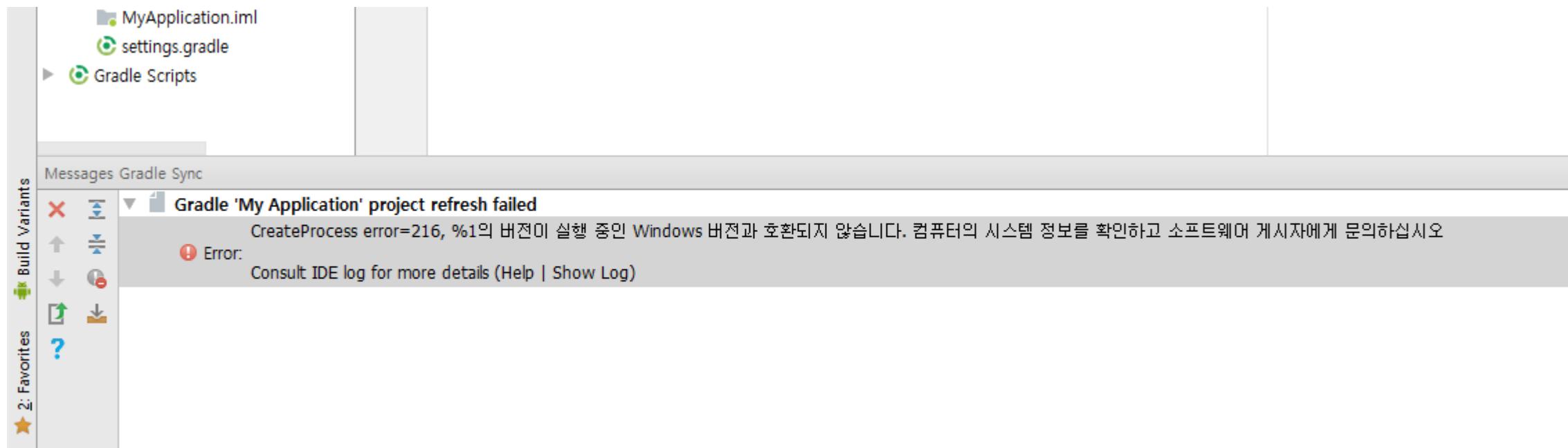
- 설정 > 개발자 옵션에서 'USB 디버깅'을 실행 가능하도록 체크



기타...문제 해결하기

Gradle 'My Application' project refresh failed

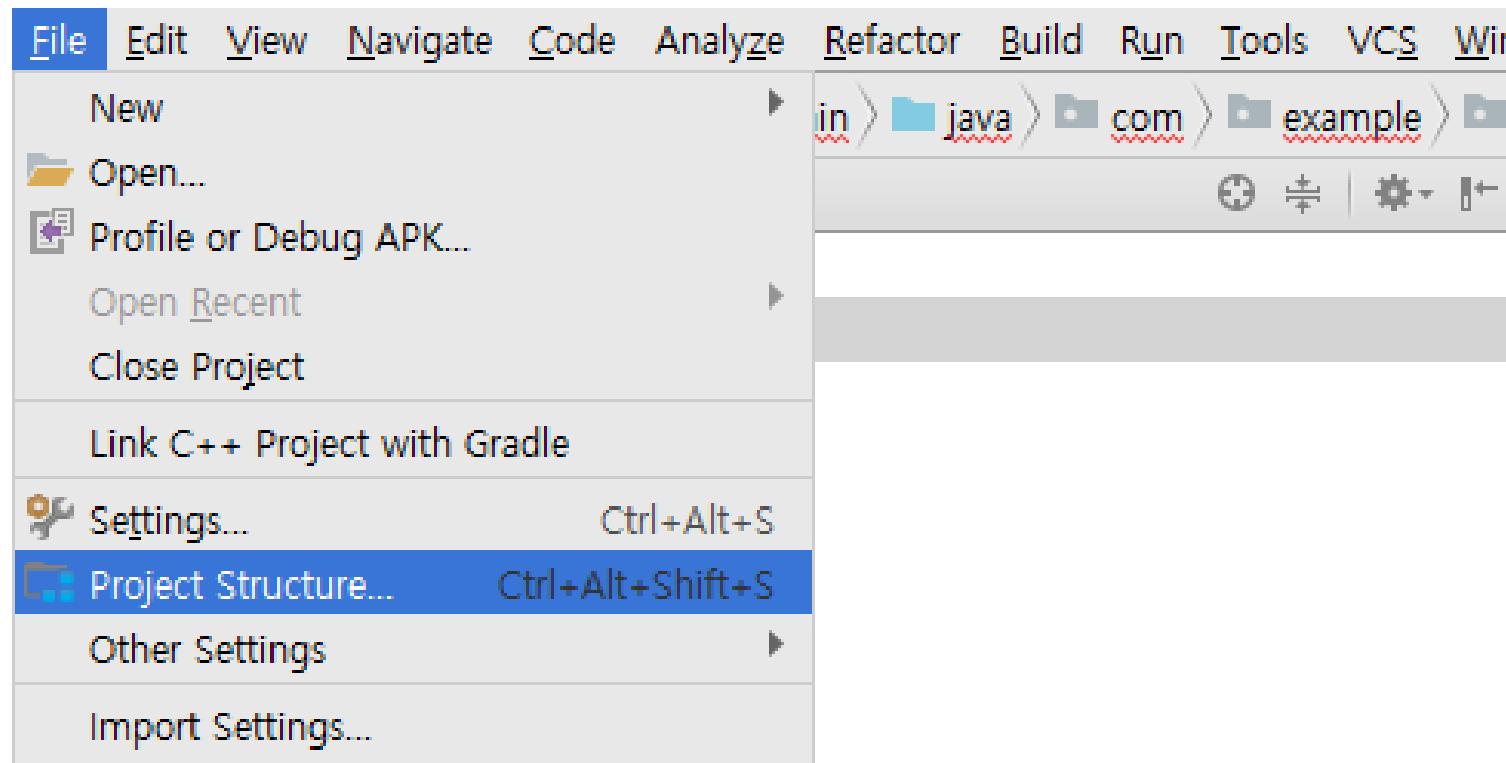
76



→ JDK Location(자바의 설치 경로를 변경 설정이 필요)

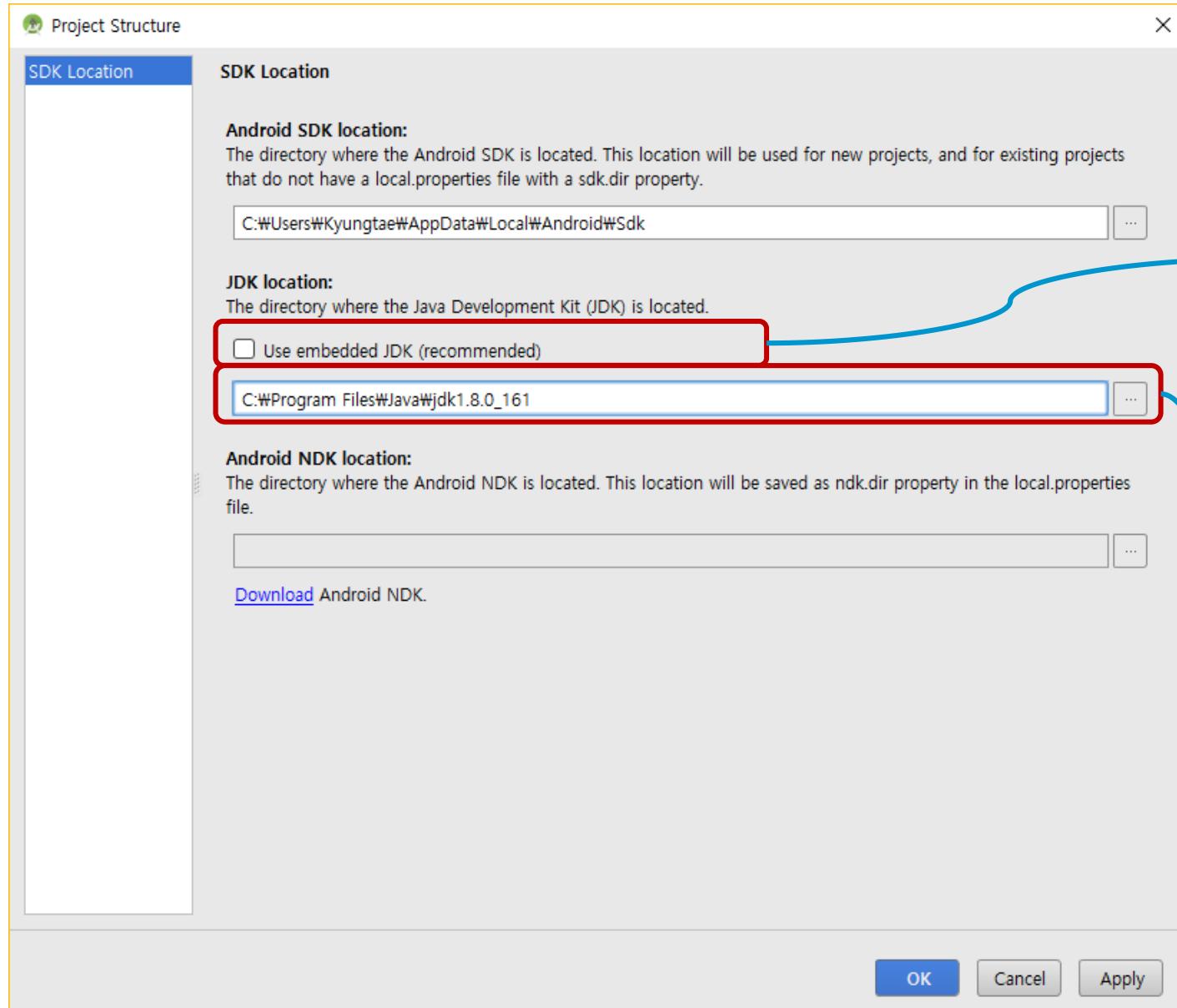
Project Structure... 수정

77



JDK Location(자바의 설치 경로를 변경 설정)

78

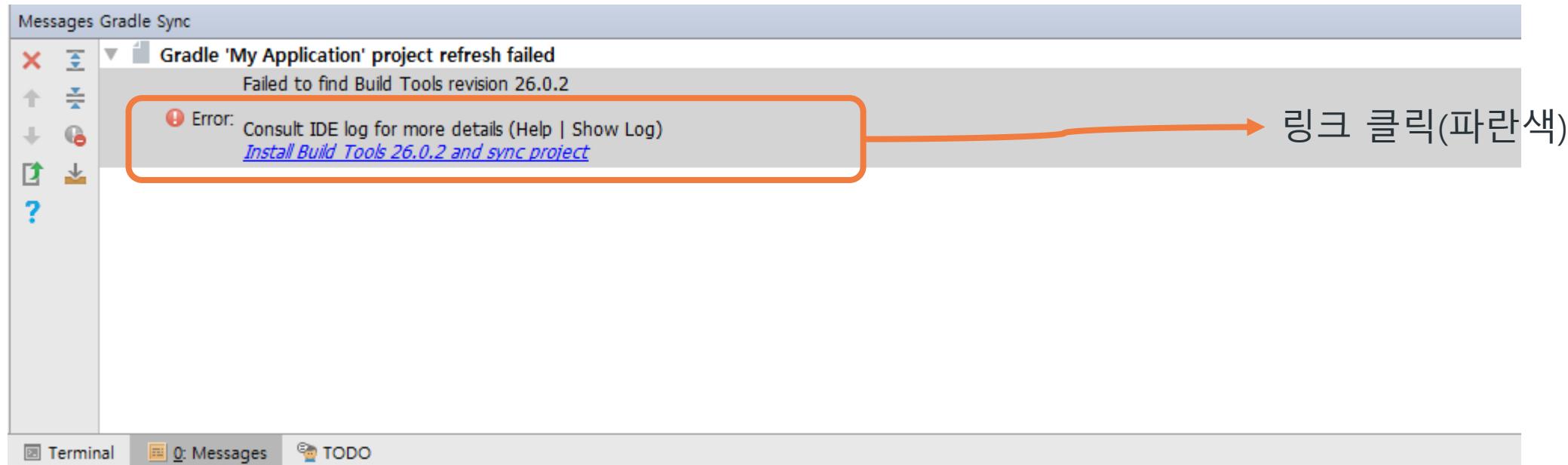


체크 해제

자신PC에 설치된 JDK 폴더 선택
C:\Program Files\Java\jdk1.8.0_161

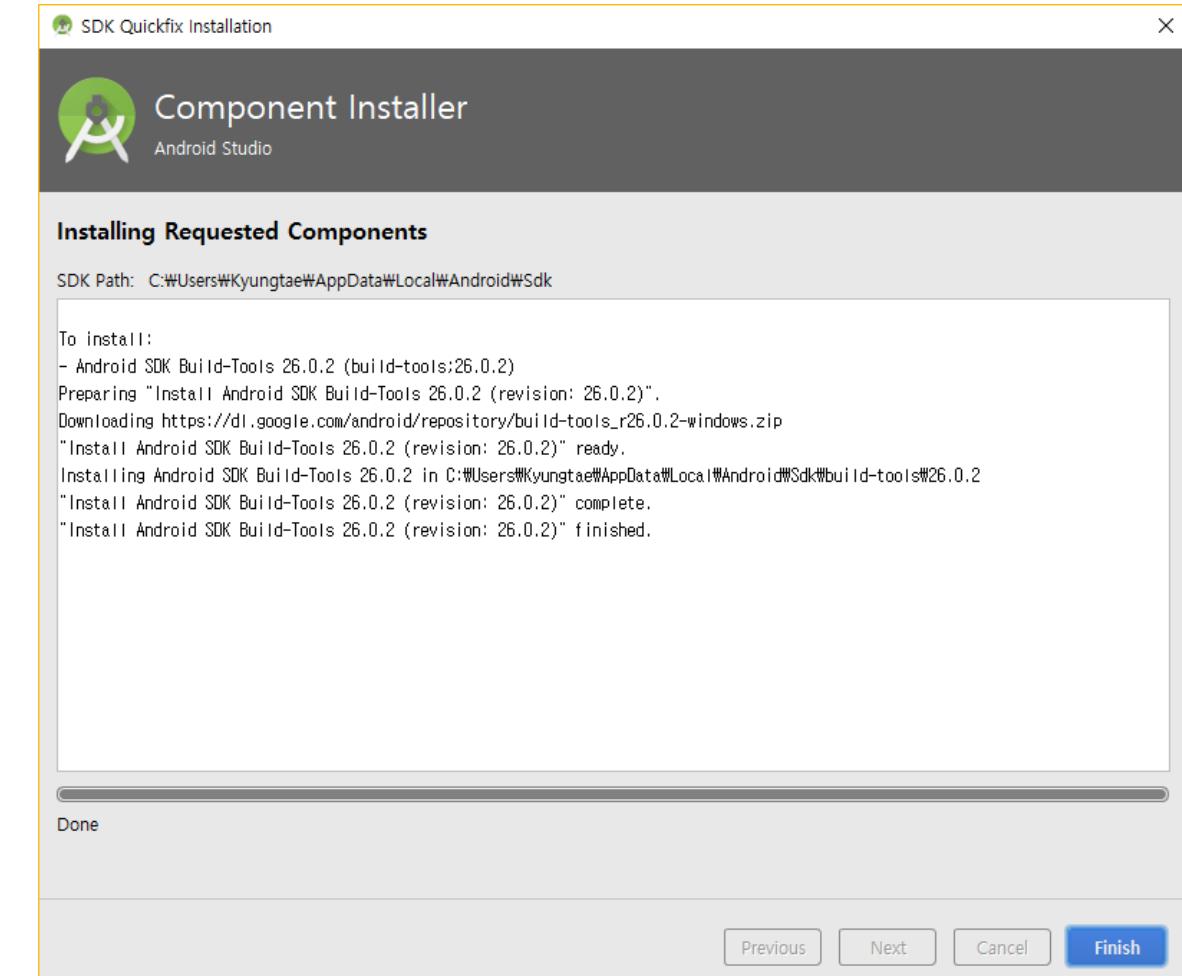
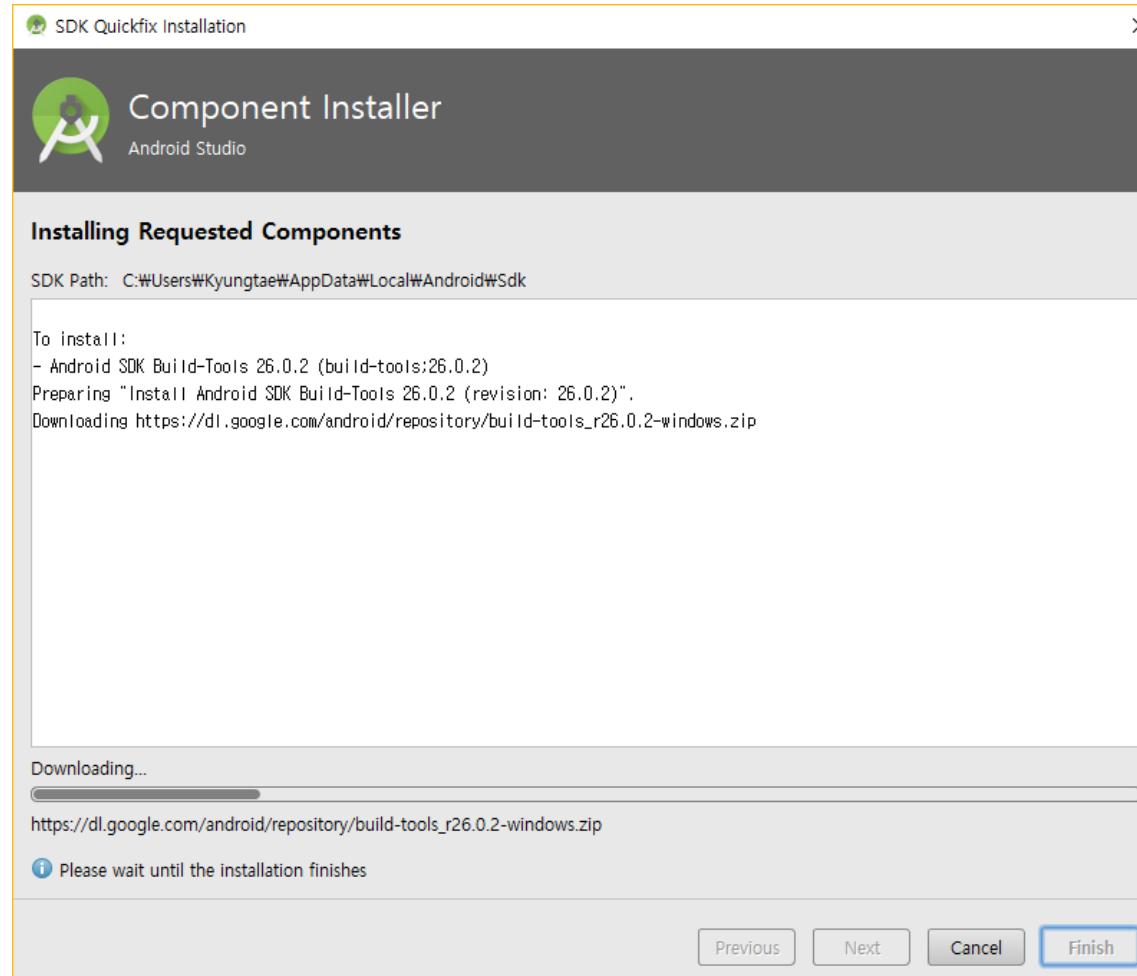
Gradle project refresh Error!!!

79



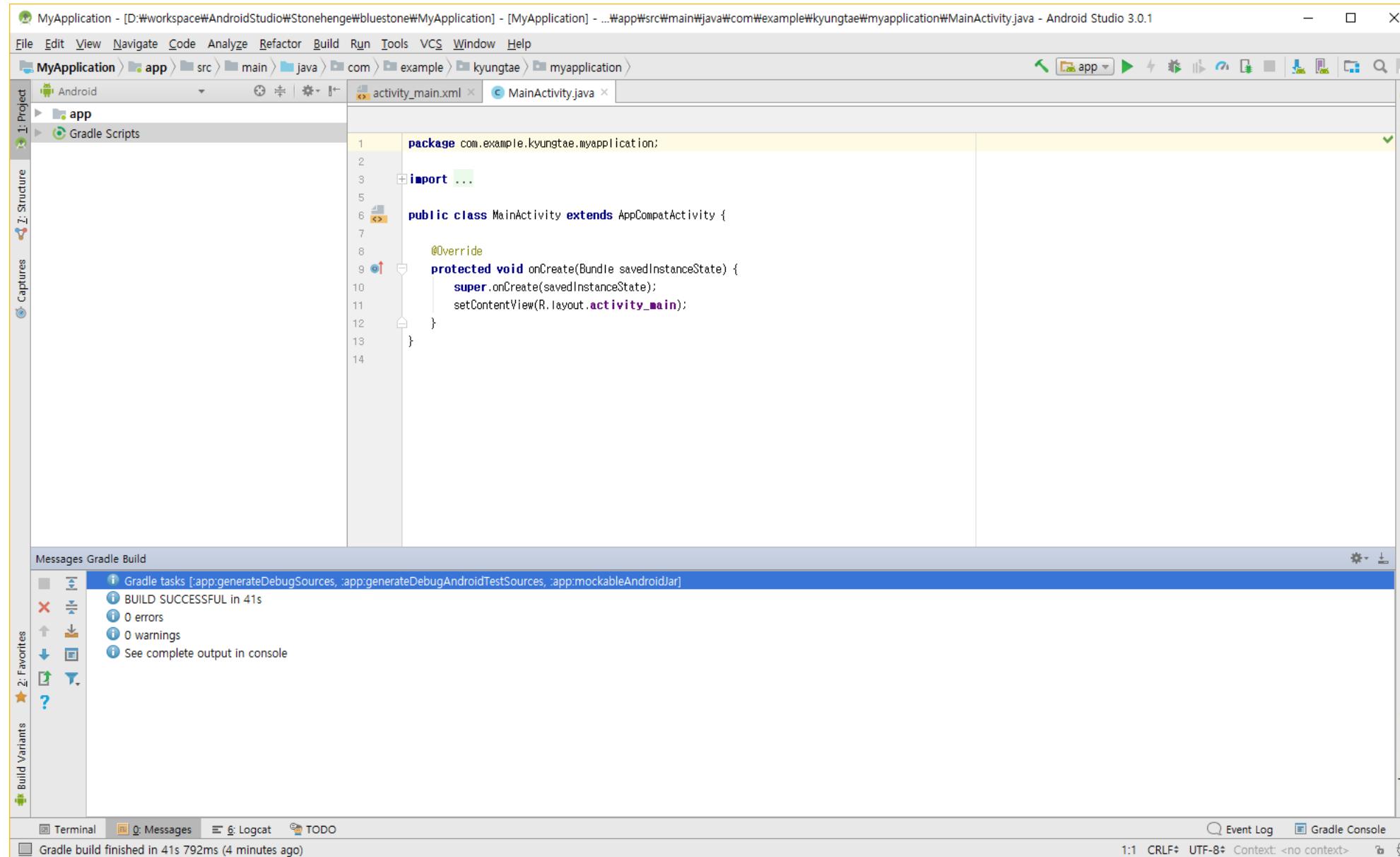
Continued···Android Studio 개발환경

80



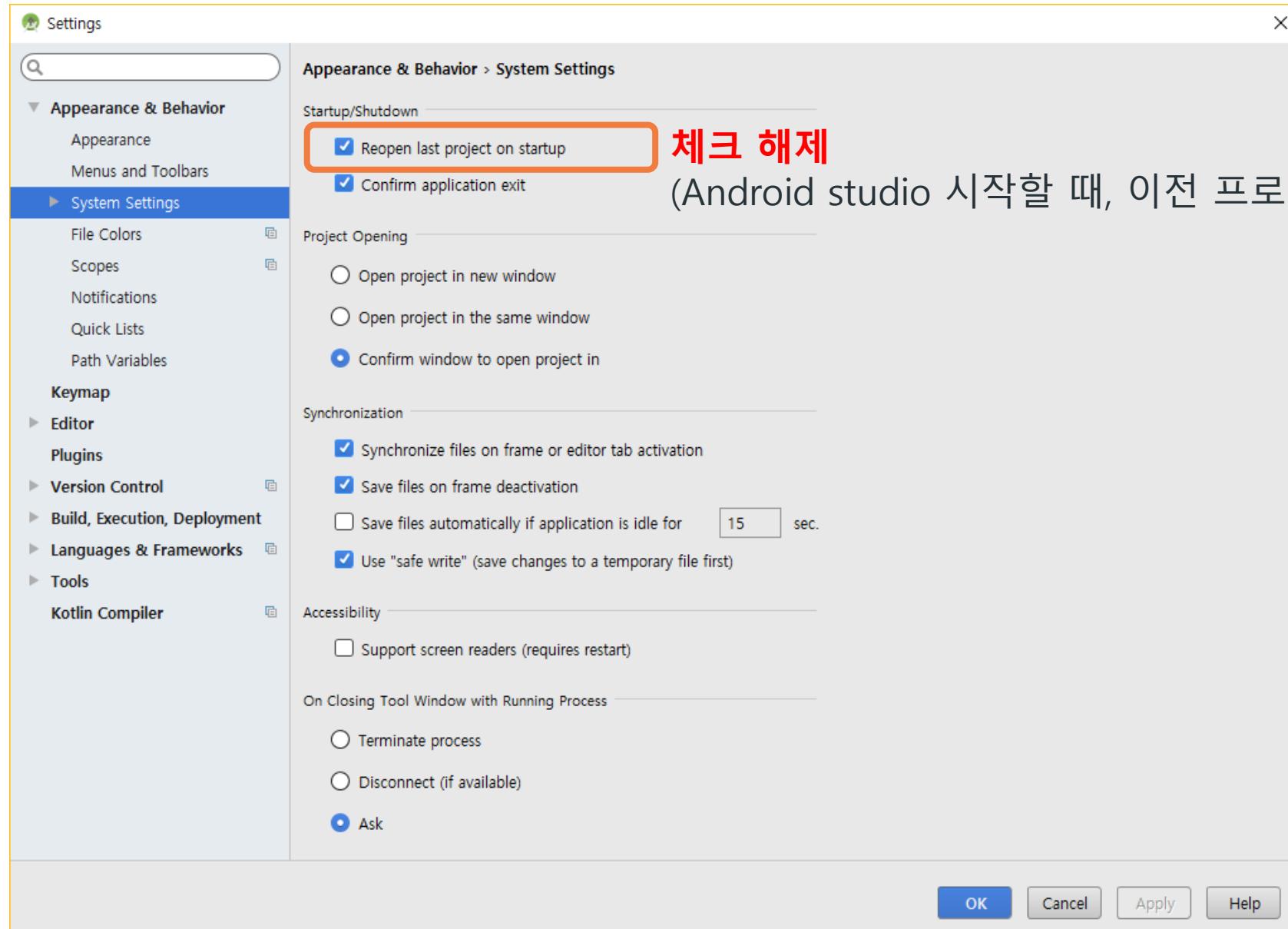
New Project... 완성(Gradle Sync... Complete)

81



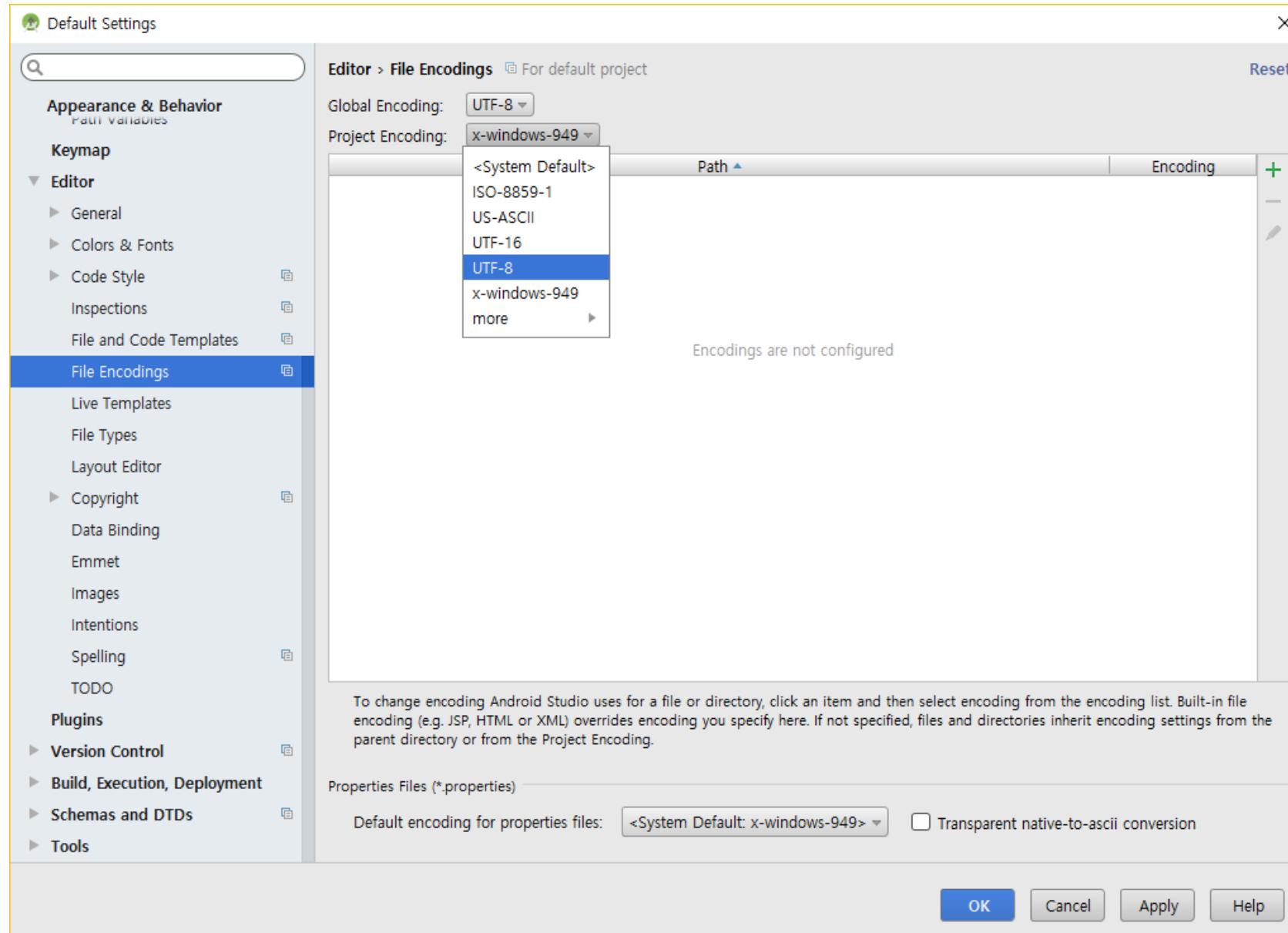
Android Studio Settings

82



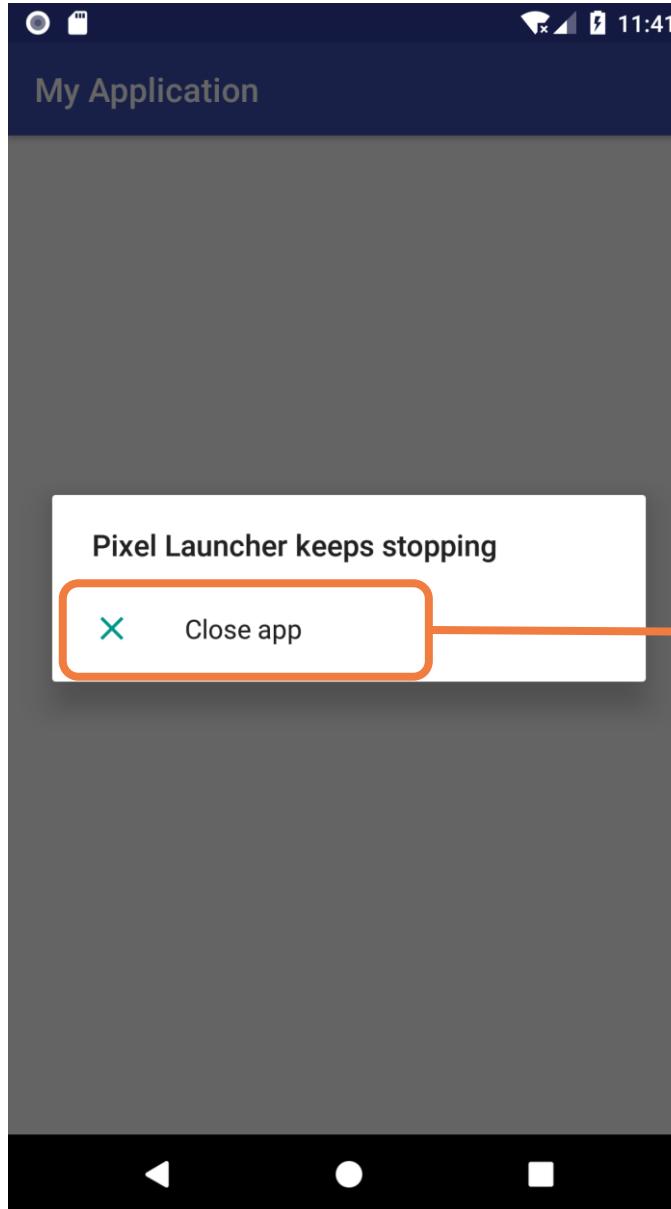
Android Studio Settings – File Encodings(UTF-8)

83



컴퓨터의 낮은 성능의 그래픽 카드

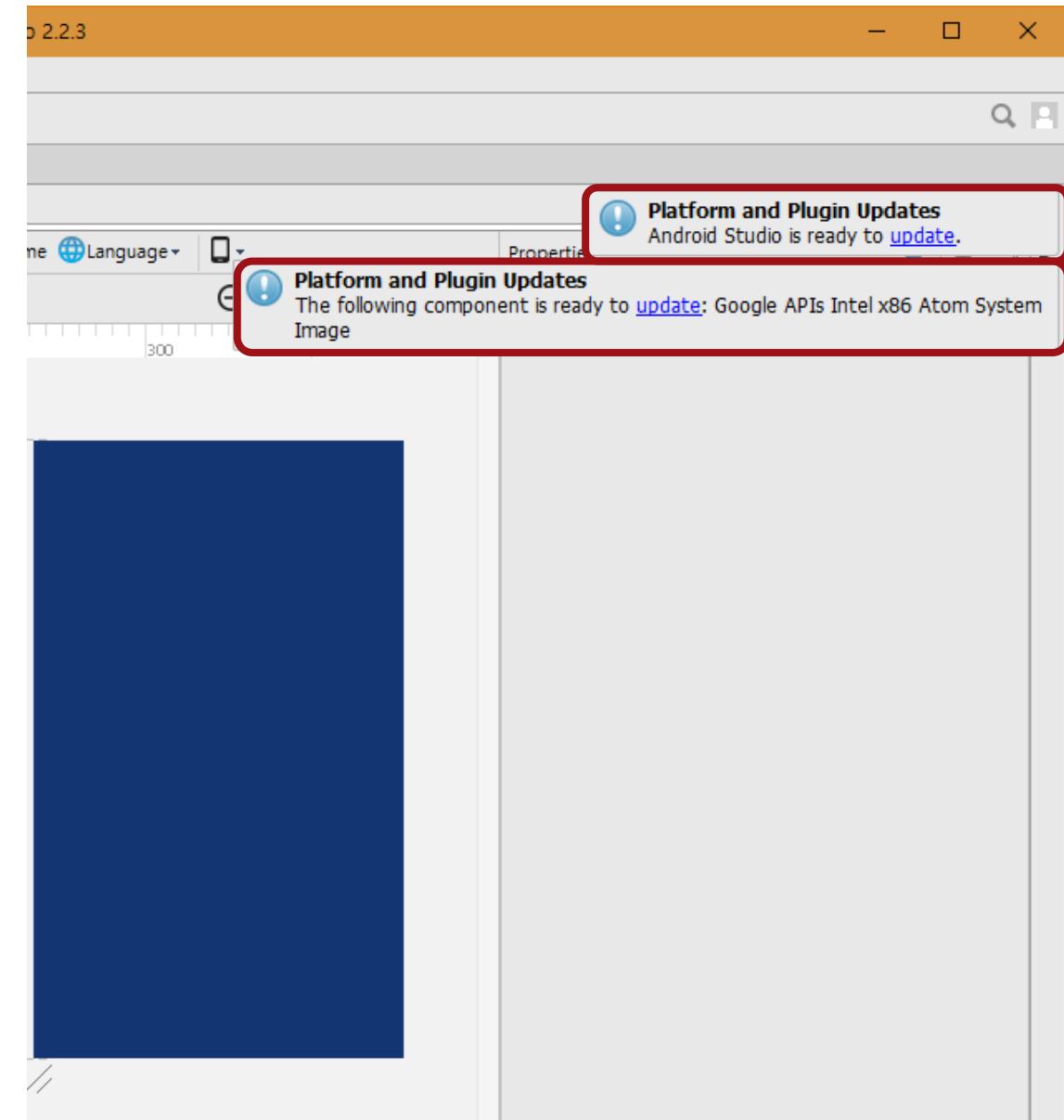
84



Close app 클릭

Android Studio updates...

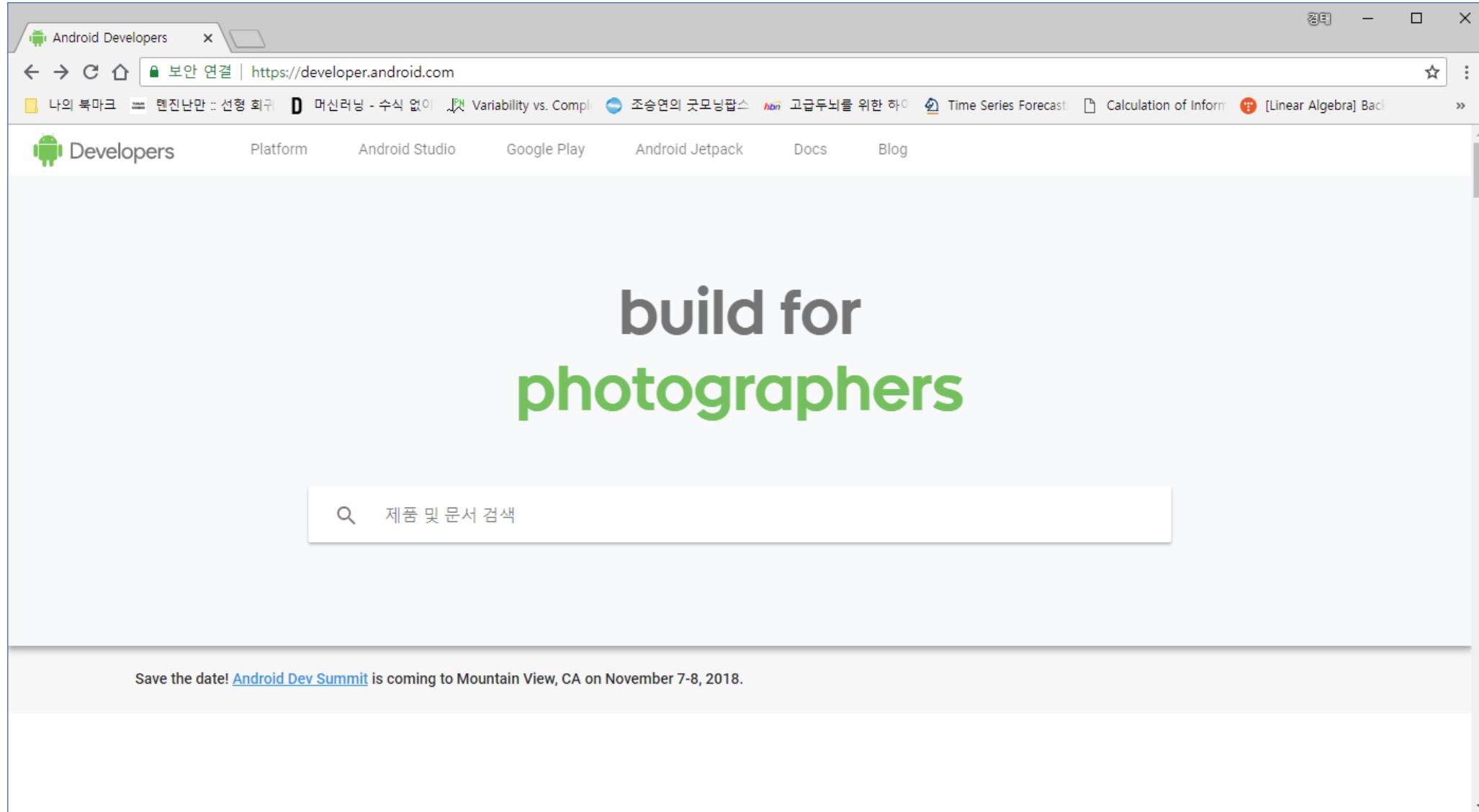
- Update 수행하지 말 것
(무시하세요)



Android Developers Homepage

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- <https://developer.android.com/>



Android Developers Homepage

- <https://developer.android.com/design/index.html>

The screenshot shows a browser window displaying the Android Developers Design homepage. The URL in the address bar is <https://developer.android.com/design/index.html>. The page features a large title '디자인' (Design) and sub-sections '머티리얼 디자인으로 시작하고 실행' (Start and execute with Material Design). It includes a paragraph about Material Design, a link to the Material Design site, and three download links: '머티리얼 디자인 소개' (Material Design introduction), '디자이너 다운로드' (Designer download), and '기사' (Article). To the right, there are three smartphones showing the Material Design interface, a five-star rating, and a sidebar with '목차' (Table of contents) and '최신 뉴스' (Latest news). The browser's toolbar and tabs are visible at the top.