ANDROID PROGRAMMING LESSON 1

Version 1.0

Agenda

- **Instructor introduction**
- **Contents**
- **Course Requirements**
- **Grading policy**
- **Android programming overview**
- **Installation environment**
- **Hello world**
- **Creating AVD (Android** Virtual Devices)

Instructor introduction

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Group online:

Nộp bài: https://classroom.google.com/

- Bảng điểm

Contents

- Android Environment Development Setting
- Android Architecture - Activity life cycle
- Android Layout
- Constrain - Event Handling
- Android Touch and Multi-touch Event Handling
- Fragment
- Transitions
- Floating Action Button - SnackBar - TabLayout

- Navigation – MasterDetail
- Android Intent
- Android Thread
- Android Service
- Android Notification
- Google Firebase
- SQLite - Content Provider
- Google Map

Course Requirements

- Following lessons in classroom
- Reading textbook and documents at home
- Doing all exercises at home
- should bring your laptop to class for short exercises

Grading policy

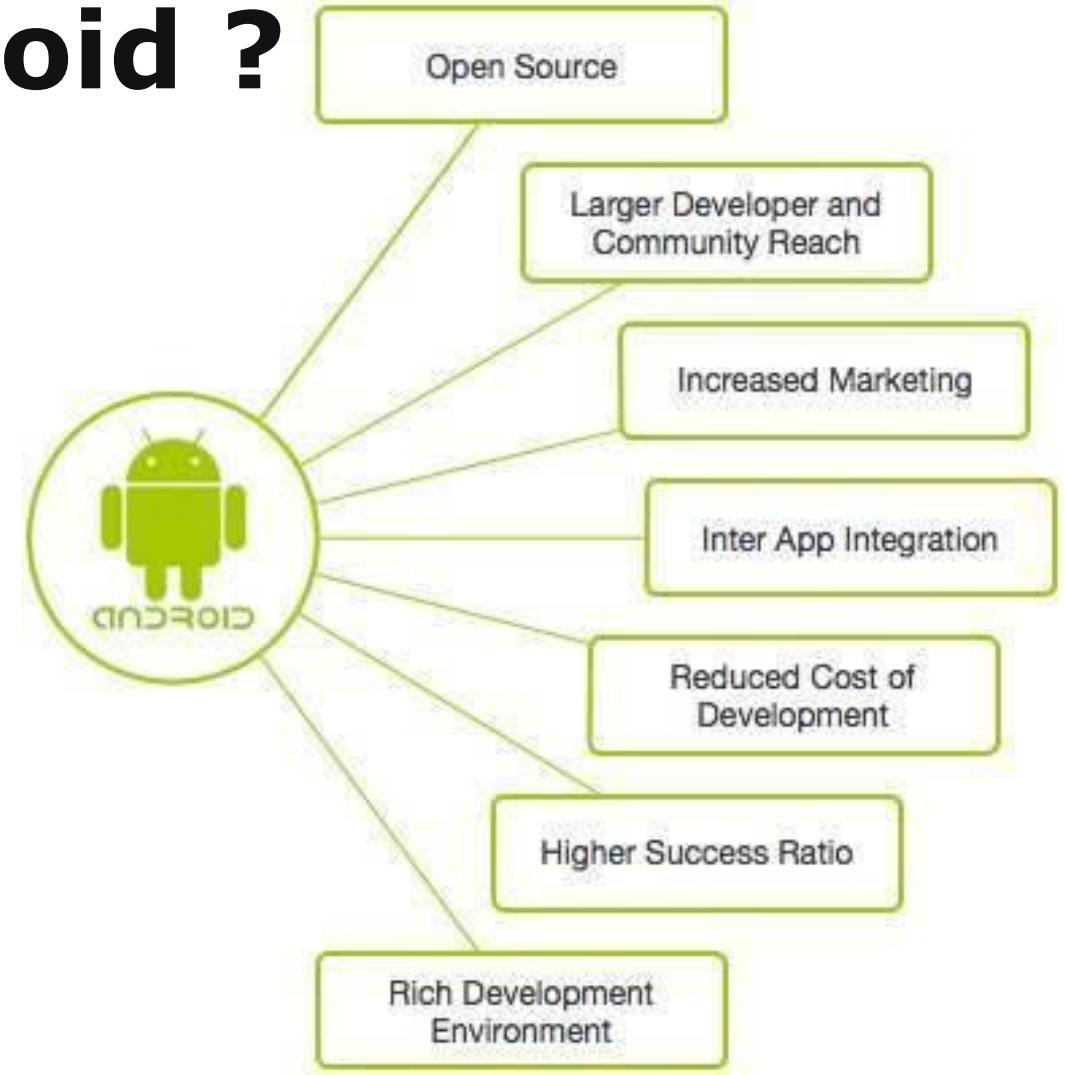
- Must attend at least 75% of contact hours (if not, not allow to take exams).
- Evaluating
  - Attendance marks (AD, 10%)
  - **all** exercises (at class or at home) **or** a presentation for a session (your choice) for L1 (10%)
  - **all** exercises (at Labs) for L1 (10%)
  - Assignment for L2 (20%)
  - Final Exam (FE, 50%) (Lab)
  - Total score = 10%(AD)+20%(L1)+20%(L2)+50% (FE)

Android programming overview

- Android is an open source and Linux-based **Operating System** was developed by the *Open Handset Alliance* led by Google
- The first beta version of android ADK was released by Google in 2007

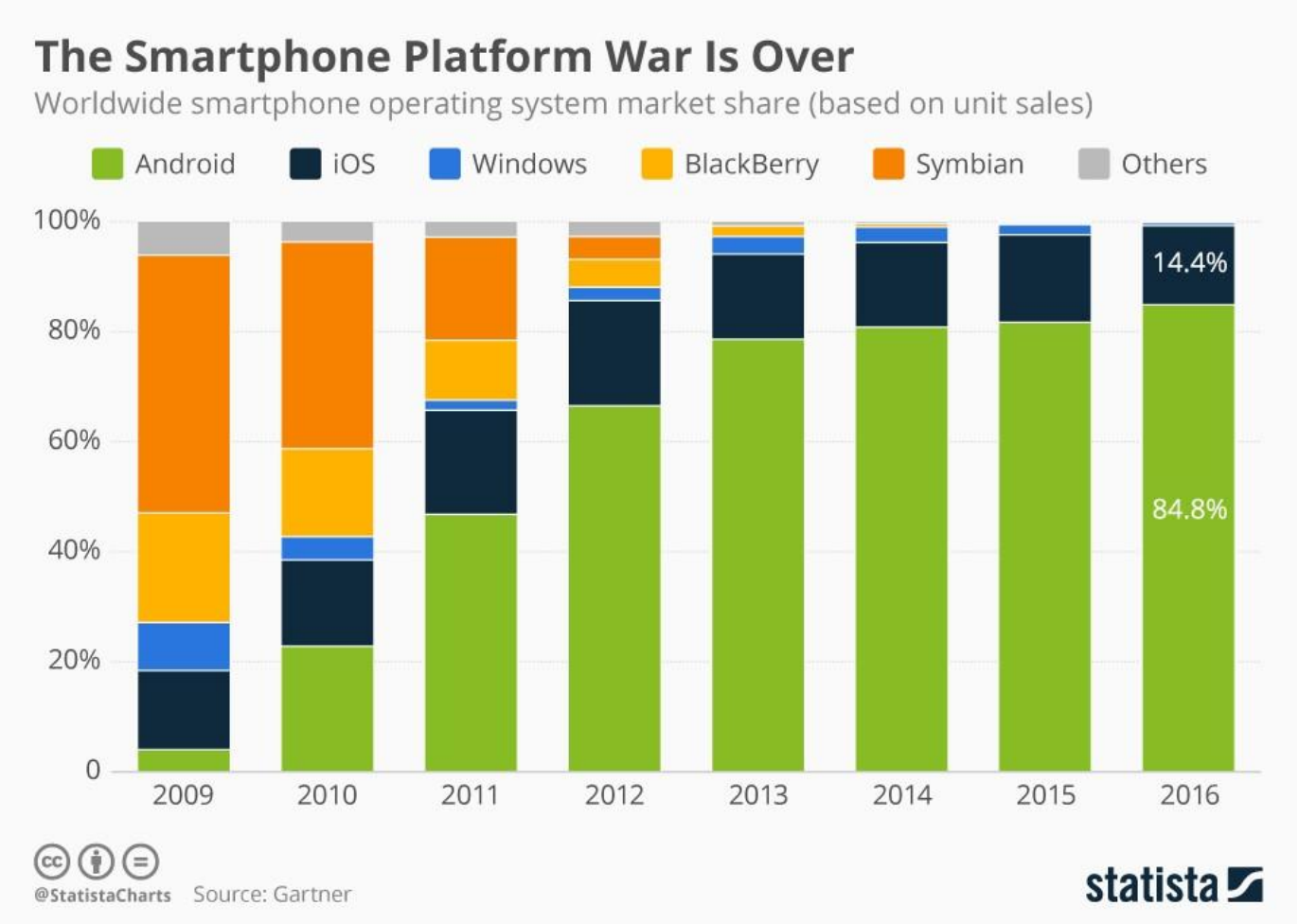
Android programming overview

Why Android ?



Android programming overview

Why Android ?

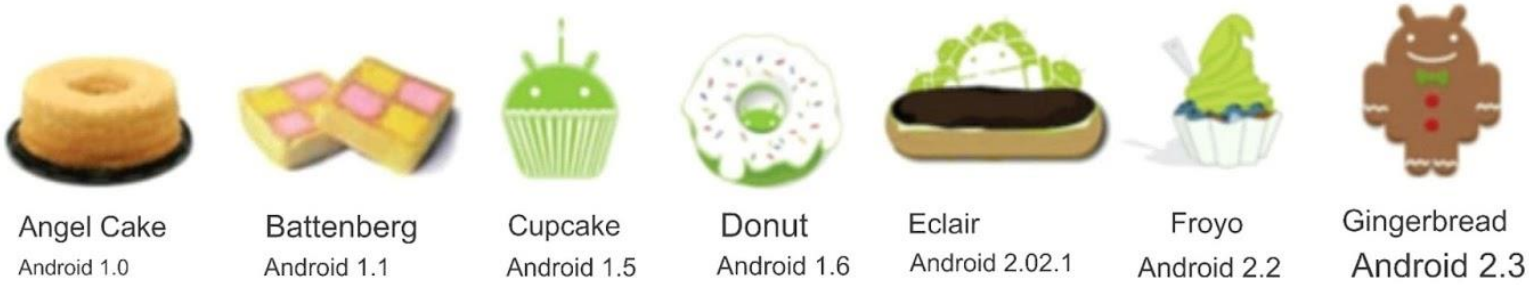


Android programming overview

Features of Android

- UI & UX(User Experience)
- Connectivity
- Storage
- Messaging
- Web browser
- Multi-touch
- Multi-tasking
- Resizable widgets
- Multi-Language
- GCM (Google Cloud Messaging)
- Wi-Fi Direct
- Sensors

Android programming overview



Installation environment

- **System requirement**
  https://developer.android.com/studio/#Requirements
- **Installing JDK**
  https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html
- **Installing Android Studio**
  https://developer.android.com/studio/
- **Installing Additional Android SDK Packages**

  File | Settings | Appearance & Behavior | System Settings | Android SDK

Installation environment

- **Setting environment variables**

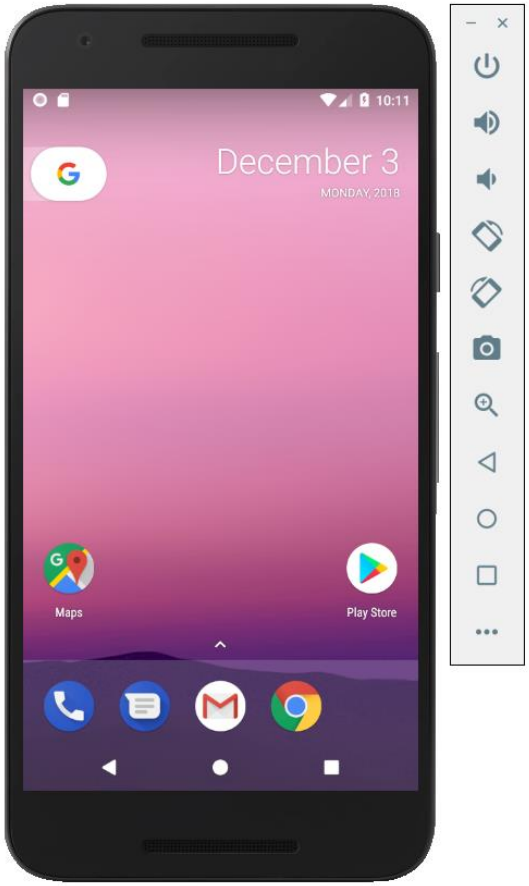
  System | Advanced System Settings | Environment Variables

Hello world

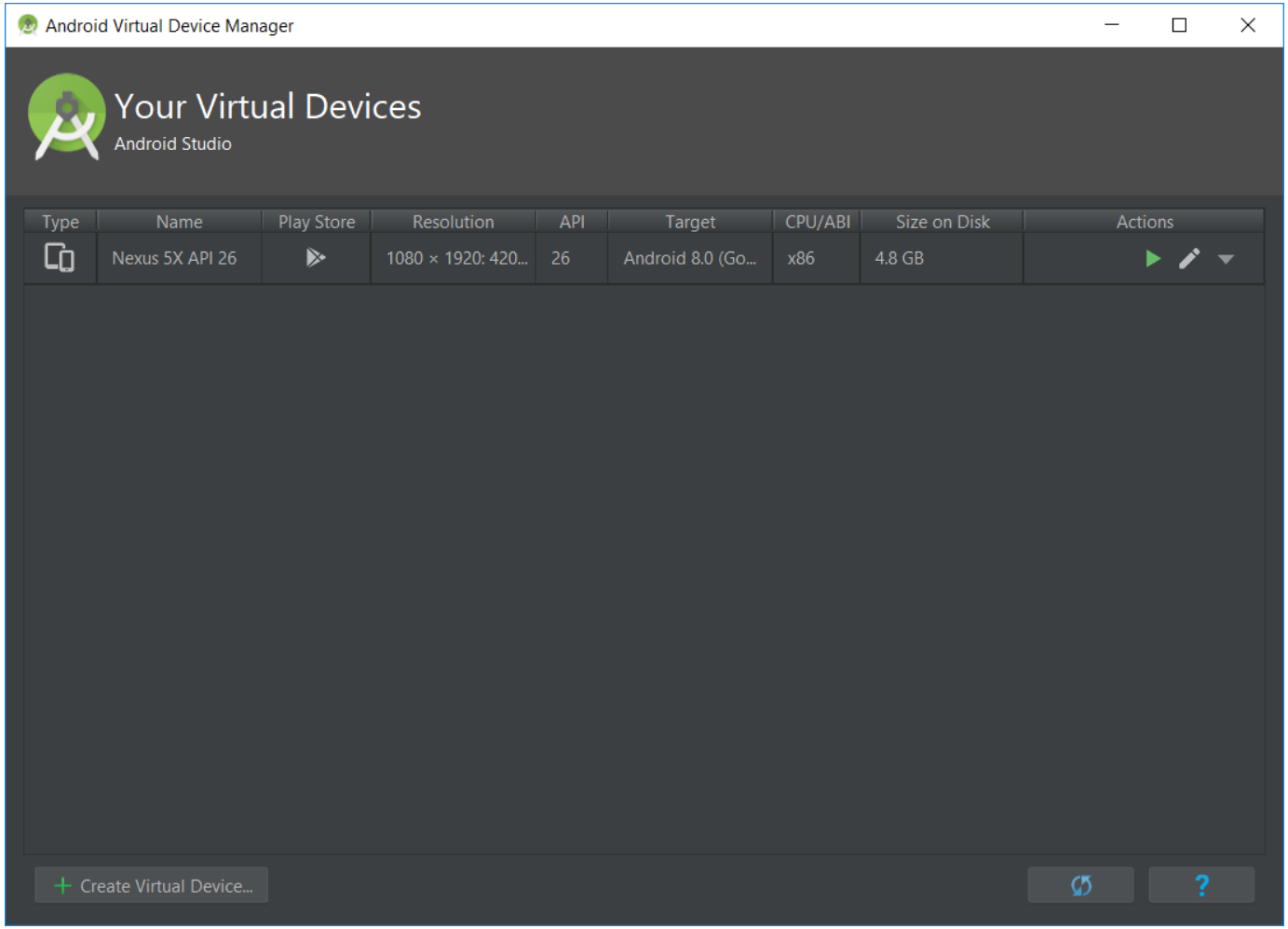
- **Create the 1st project**
- **A Tour of the Android Studio User Interface**

Creating AVD

- What is AVD (Android Virtual Device)



Creating AVD



Debug on real device

- Android Debug Bridge (ADB)

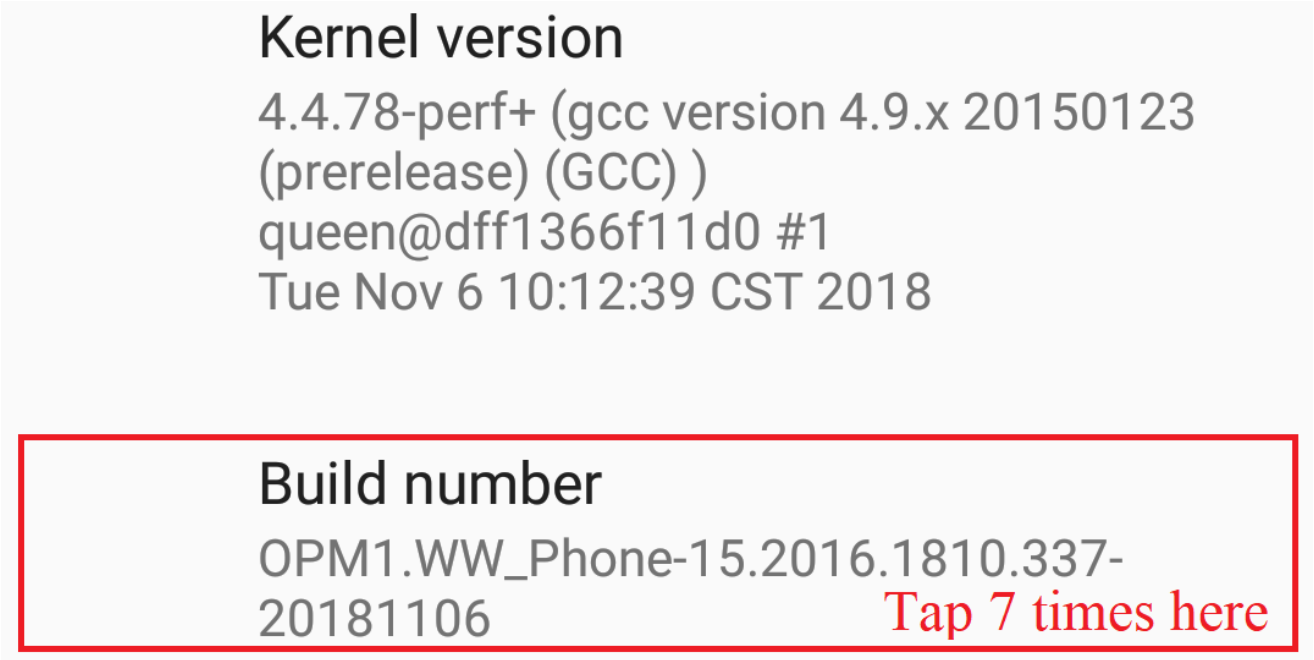
  Facilitate interaction between Android Studio and both AVD emulators and physical Android devices for the purposes of running and debugging applications

- Where's the ADB locate?

  Android SDK *platform-tools* sub-directory

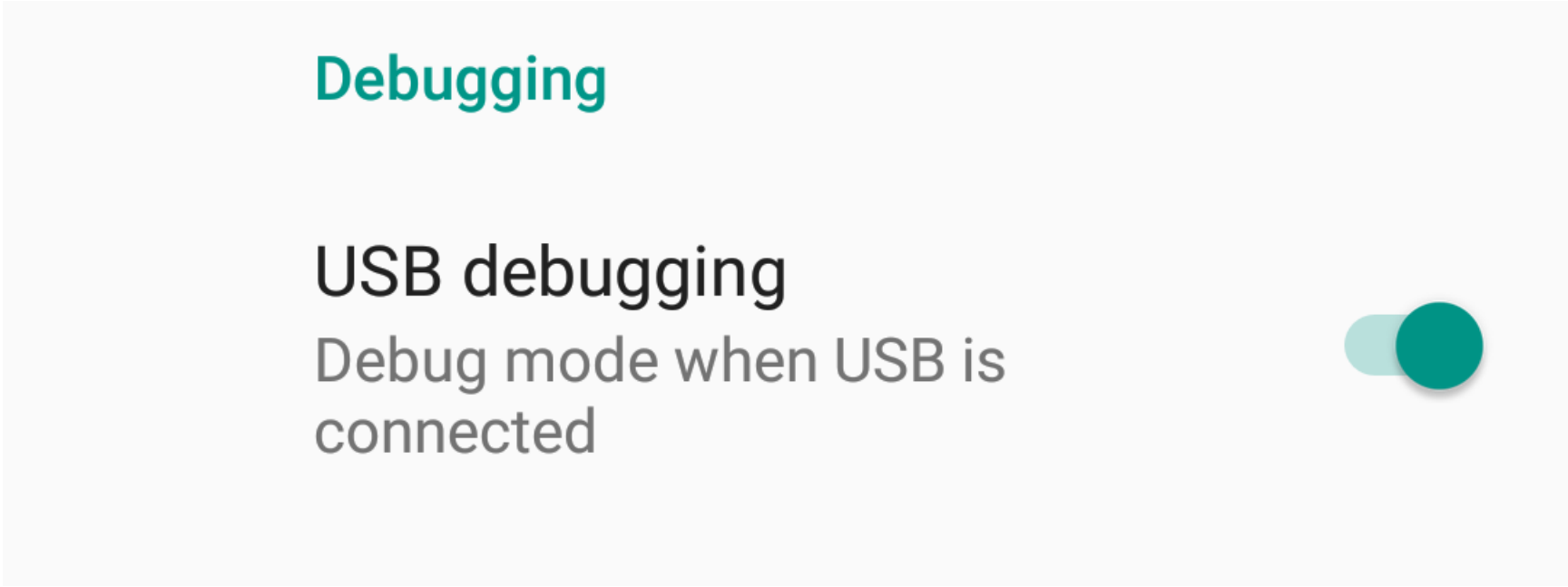
Debug on real device

- Enable Developer Options



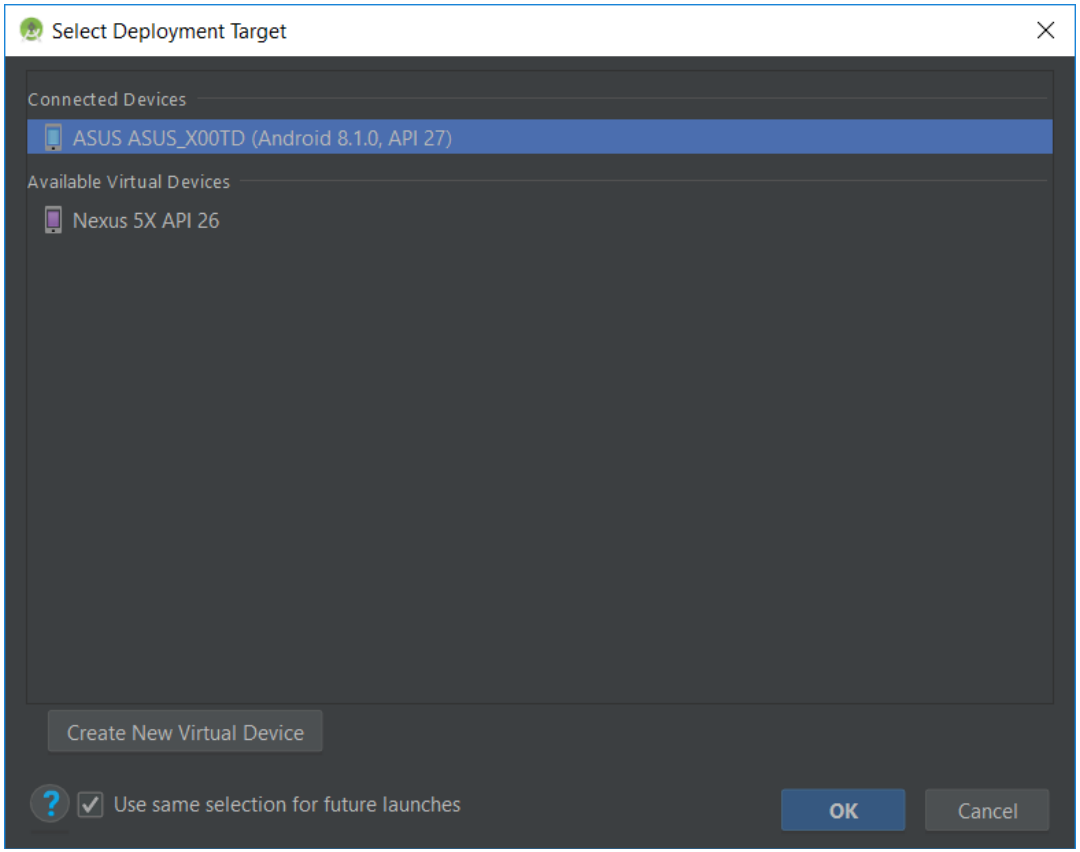
Debug on real device

- Enable debugging mode

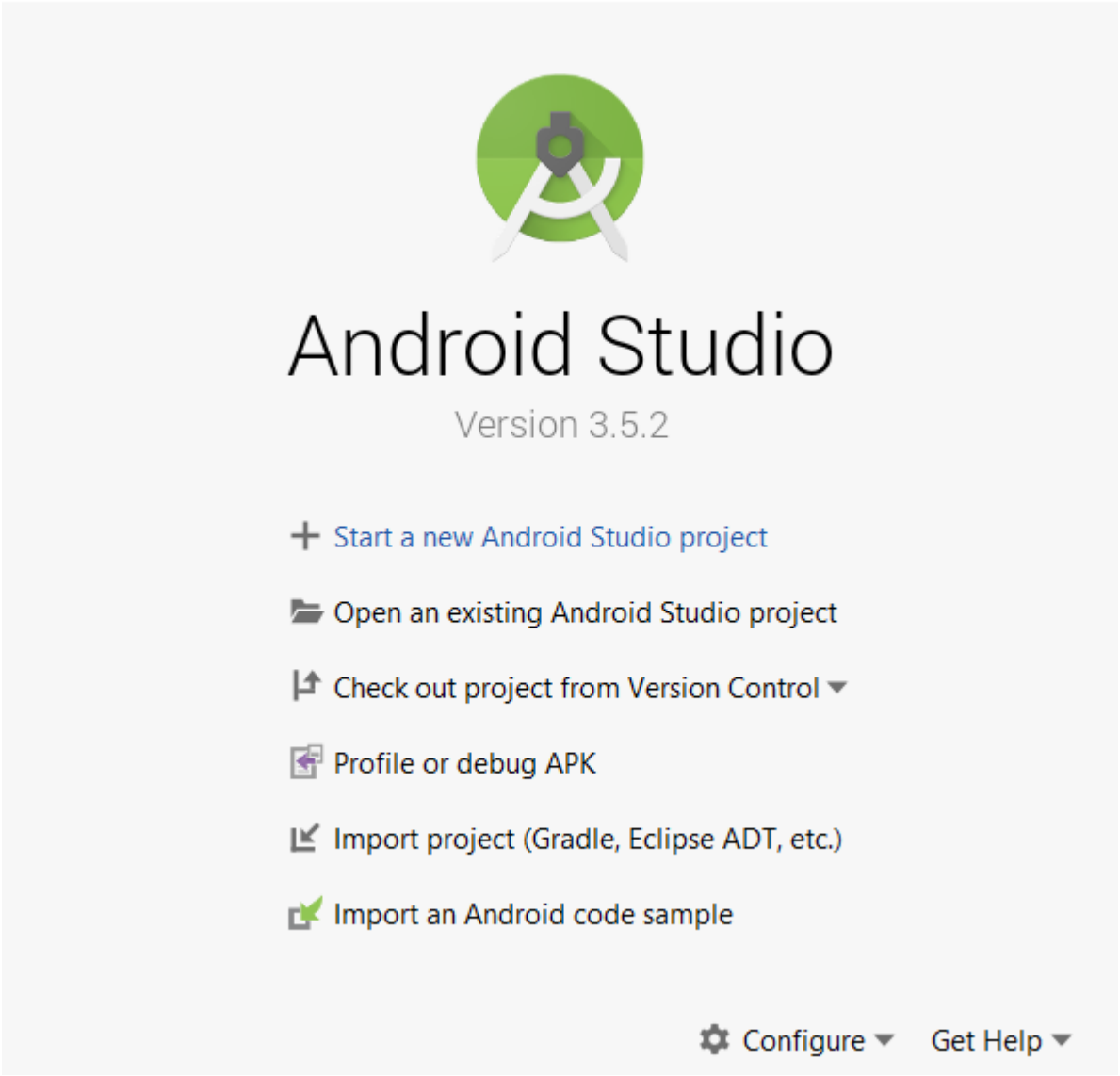


Debug on real device

- Plugging and Testing

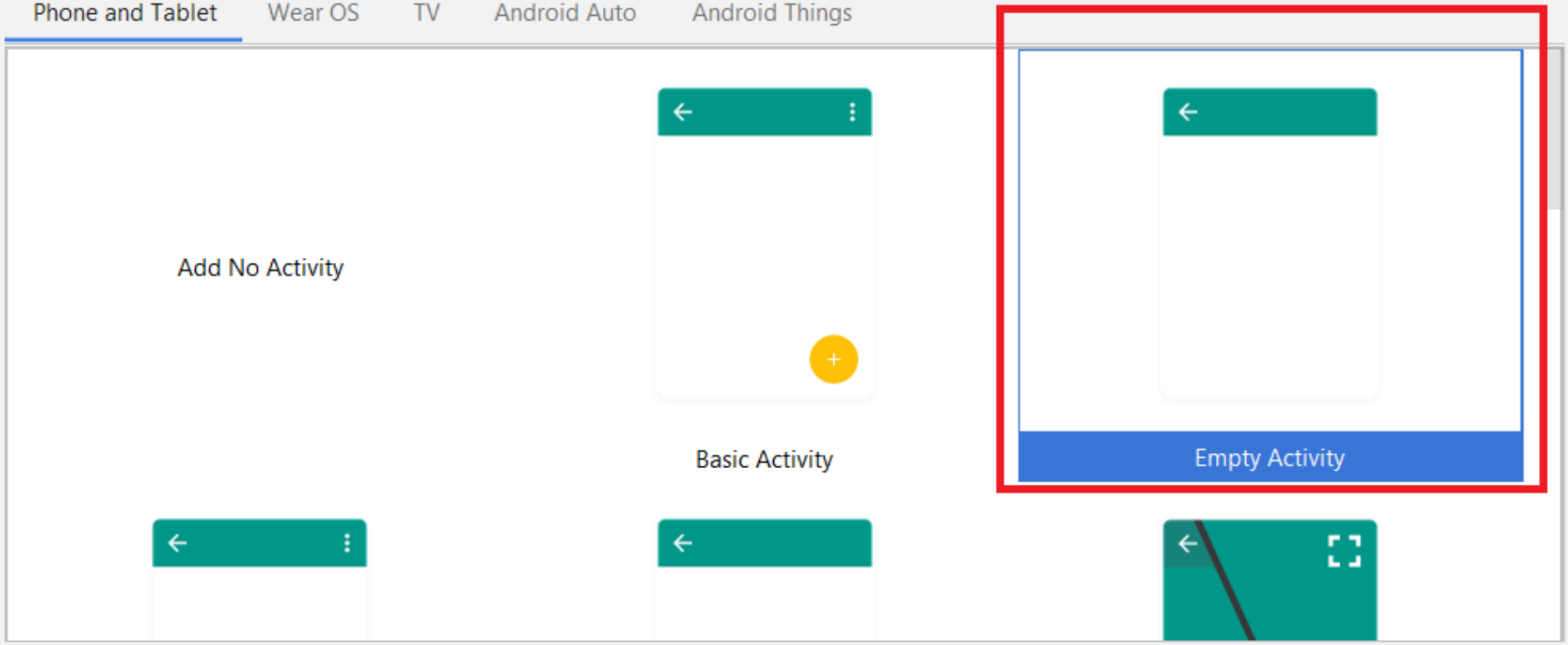


Hello world Demo



Choose your project

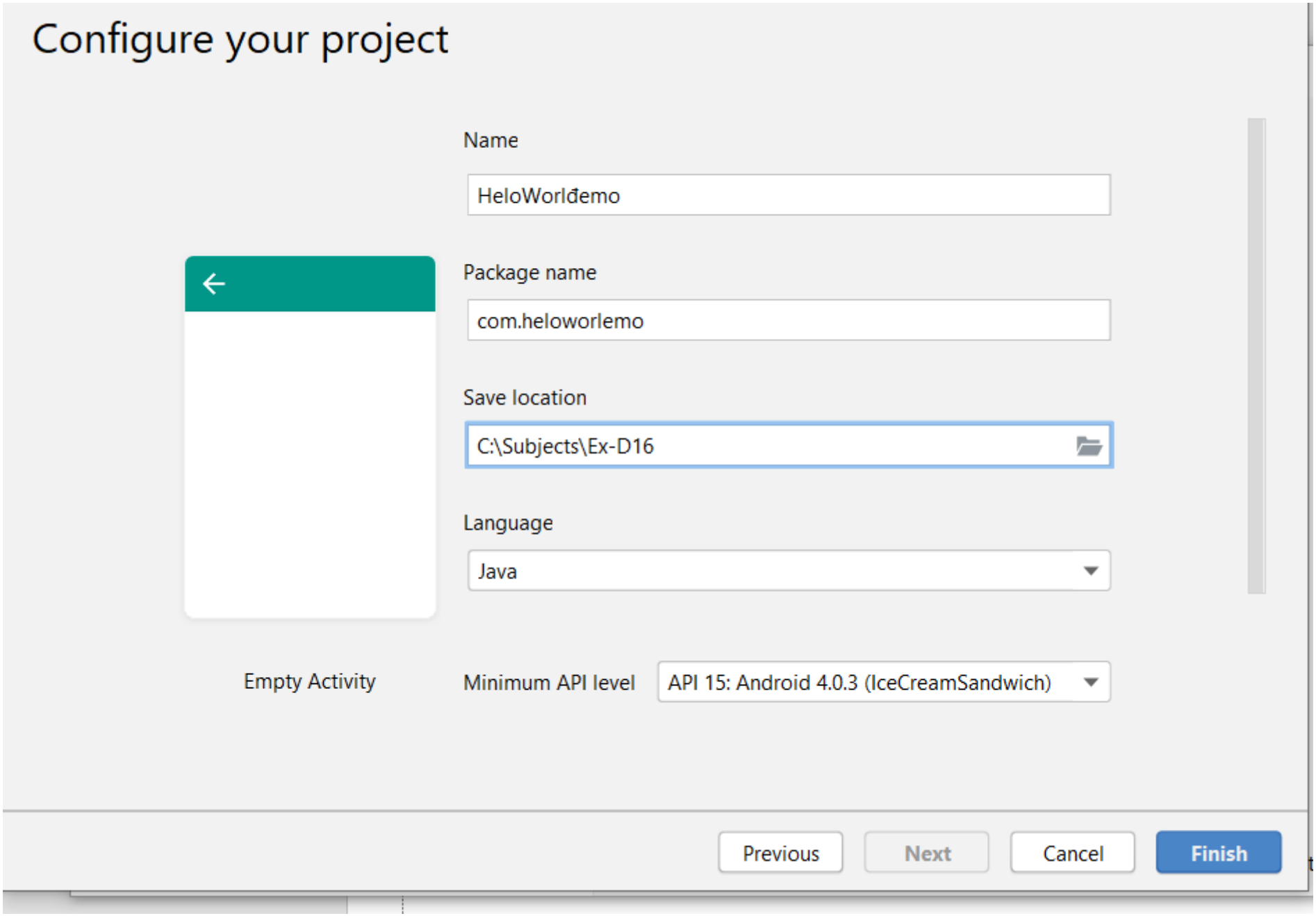
Phone and Tablet | Wear OS | TV | Android Auto | Android Things

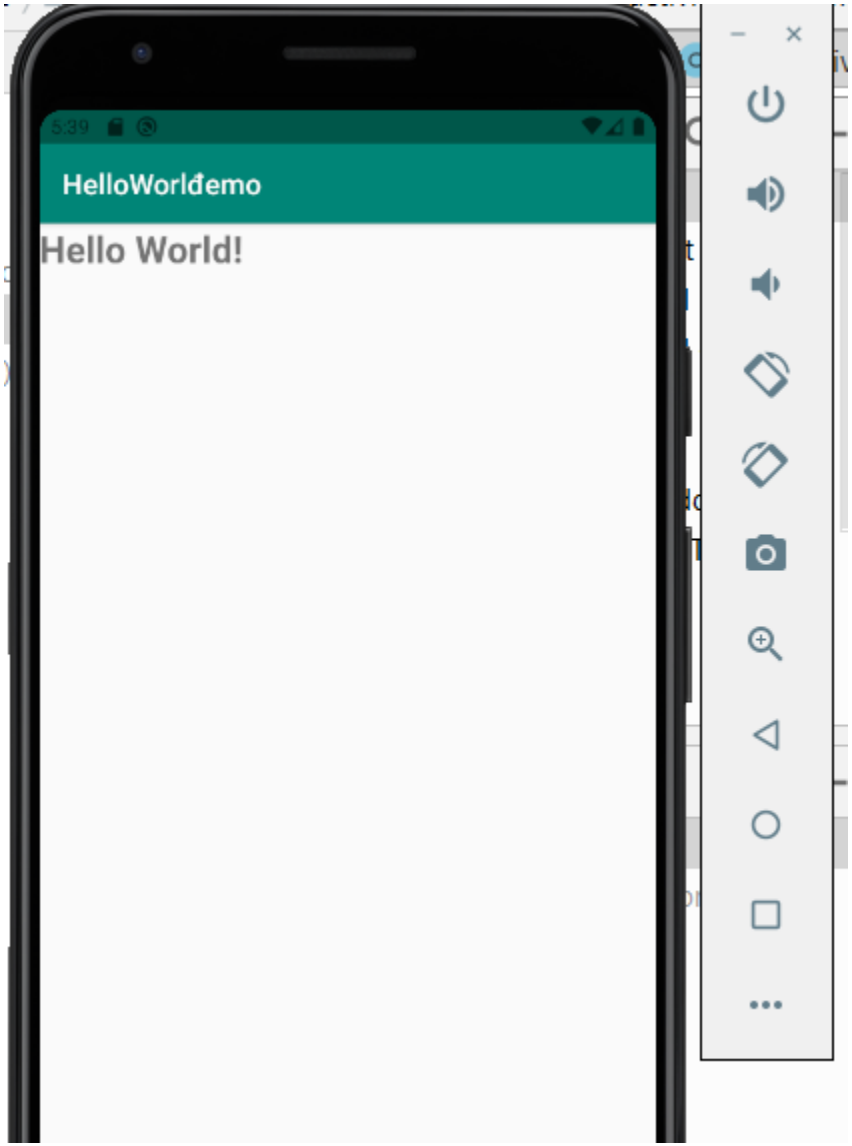


Empty Activity

Creates a new empty activity

Previous | Next | Cancel | Finish


Configure your project
Name
HeloWorlđemo
Package name
com.heloworlemo
Save location
C:\Subjects\Ex-D16
Language
Java
Empty Activity
Minimum API level
API 15: Android 4.0.3 (IceCreamSandwich)
Previous
Next
Cancel
Finish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HelloWorldDemo
Hello World!

- End of Lesson 1

Thank you!