

# Mobile Programming

## Lab-6

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### Installing Android Studio on Fedora

#### Step 1: Pre-Installation CheckList

Before installing Android SDK, you need to install Java Development Kit (JDK). Ensure that your JDK is at or above

1.8. You can check your JDK version with command `javac -version`.

#### We need to install:

1. Android Studio IDE, which is an Integrated Development Environment (IDE) based on IntelliJ (a popular

Java IDE); and

2. Android Software Development Kit (SDK).

#### Step 2: Pre-Installation CheckList

Adding too many SDK packages, especially the so-called system images for emulating different device (e.g., various

phone/tablet), will take an extremely LONG time, especially if everyone is downloading and jamming up the network.

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The system images also take up a lot of disk space - a few GBytes per API level!!! For our toy project, we only need a small set of SDK packages.

### **Step 3: Create a New Android Project**

1. Launch Android Studio.
2. Choose "Start a new Android Studio Project".
3. In "Create Android Project" dialog ⇒ Set "Application Name" to "Hello Android" (this will be the "Title" in your phone's App menu) ⇒ Set your "Company Domain" to "example.com" ⇒ In "Project Location", choose your project directory, e.g., d:\myProject or use the default location ⇒ Do NOT check the "Include C++ Support" ⇒ Next.
4. In "Target Android Devices: Select the form factor and minimum SDK" ⇒ Check "Phone and Tablet" (default) ⇒ In "Minimum SDK", choose "API 15: Android 4.0.3 (IceCreamSandwich)" (default) ⇒ Leave all of the other options (TV, Wear, and Glass) unchecked (default) ⇒ Next.
5. In "Add an activity to Mobile" dialog ⇒ Select "Empty Activity" (default) ⇒ Next.
6. In "Configure Activity" dialog ⇒ Set "Activity Name" to "MainActivity" (default) ⇒ Set "Layout Name" to "activity\_main" (default) ⇒ Next ⇒ Finish.

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7. Be patient! It could take a while to set up your first app. Watch the "progress bar" at the bottom status bar.

8. Once the progress bar indicates completion, a hello-world app is created by default.

#### **Step 4 : Setup Emulator (aka Android Virtual Device (AVD))**

To run your Android app under the emulator, you need to first create an Android Virtual Devices (AVD). An AVD

models a specific device (e.g., your iPhone or Taimi). You can create AVDs to emulate different android devices (e.g.,

phone/tablet, android version, screen size, and etc.).

1. In Android studio, select "Tools" ⇒ Android ⇒ AVD Manager. See "Common Errors" below if you cannot

find "AVD manager".

2. Click "Create Virtual Device".

3. In "Select Hardware: Choose a device definition" dialog ⇒ In "Category", choose "Phone" ⇒ In "Name",

choose "2.7 QVGA" (the smallest device available - you can try a bigger device later) ⇒ Next.

4. In "System Image: Recommended" ⇒ Select the version with the highest API level ⇒ Click "Download" ⇒

Next.

5. In "AVD Name", enter "2.7 QVGA API 27" (default) ⇒ Finish.

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6. If you see "VT-x is disabled in BIOS": Check your BIOS setting to ensure that "Virtualization Technology" is

enabled. Shutdown and re-boot your PC to enter the BIOS setup. This is machine dependent. Google

"Your-PC-brand-and-model enter BIOS setup". For example, for my HP computer ⇒ Boot ⇒ "ESC" to enter

BIOS setup ⇒ Advanced ⇒ System Options ⇒ Check "Virtualization Technology (VTx)" ⇒ Save ⇒ Exit.