

## **LAB#01**

### **INSTALLATION GUIDE AND INTRODUCTION TO BASIC COMPONENTS IN ANDROID STUDIO**

#### **System Requirements**

The sections below describe the system and software requirements for developing Android applications using the Android SDK.

#### **Supported Operating Systems**

- Windows XP (32-bit), Vista (32- or 64-bit), or Windows 7 (32- or 64-bit), Windows 8 or higher.
- Mac OS X 10.5.8 or later (x86 only)
- Linux (tested on Ubuntu Linux, Lucid Lynx)
  - GNU C Library (glibc) 2.7 or later is required.
  - On Ubuntu Linux, version 8.04 or later is required.
- 64-bit distributions must be capable of running 32-bit applications. For information about how to add support for 32-bit applications, see the Ubuntu Linux installation notes

#### **Space Requirement**

- 3 GB RAM minimum, 8 GB RAM recommended; plus 1 GB for the Android Emulator
- 2 GB of available disk space minimum,  
4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)

#### **Download and Install the Android SDK**

Here's an overview of the steps you must follow to set up the Android SDK:

1. Prepare your development computer and ensure it meets the system requirements.
2. Before installing the SDK, the latest Java JDK needs to be installed.
3. Get the latest version of the SDK Manager from the [SDK download page](#).
4. Run the setup of latest Android Studio version.

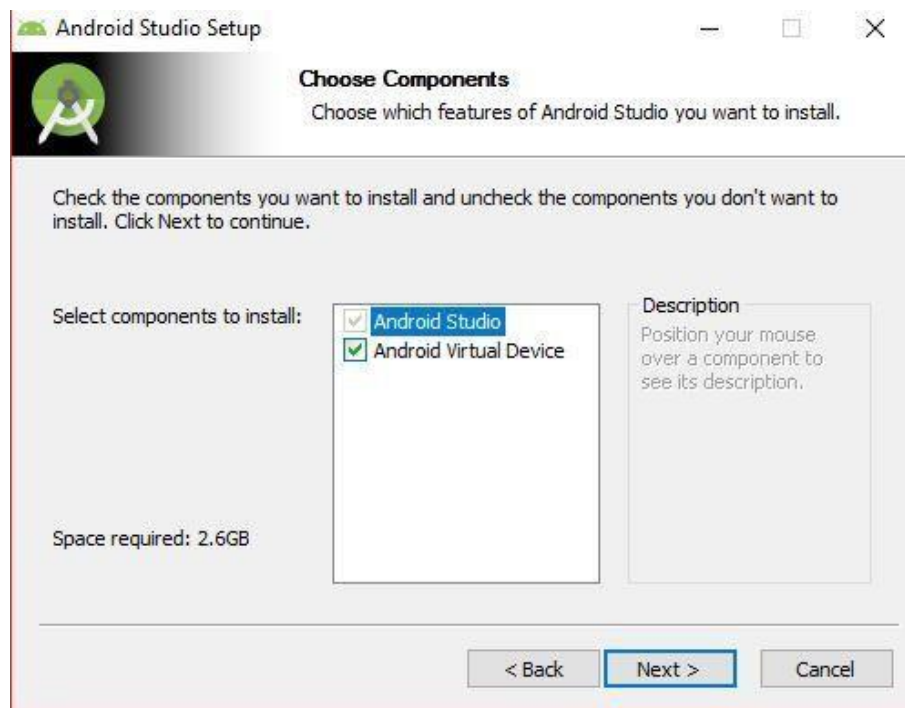


Fig. 1. Showing the installation components



Fig. 2. Showing the android studio setup

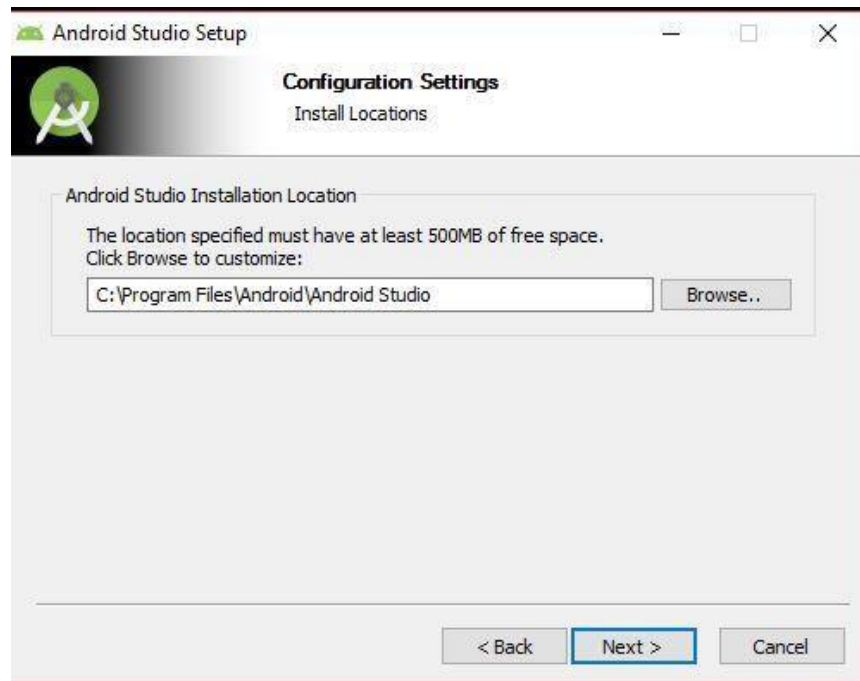


Fig. 3. Showing the configuration settings

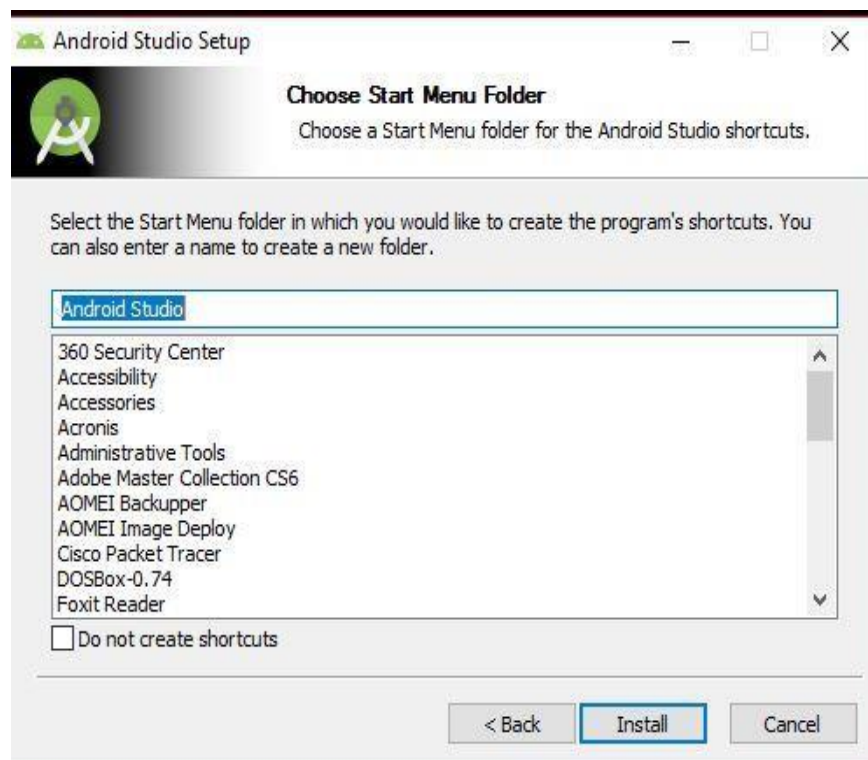


Fig. 4. Showing the start menu folder

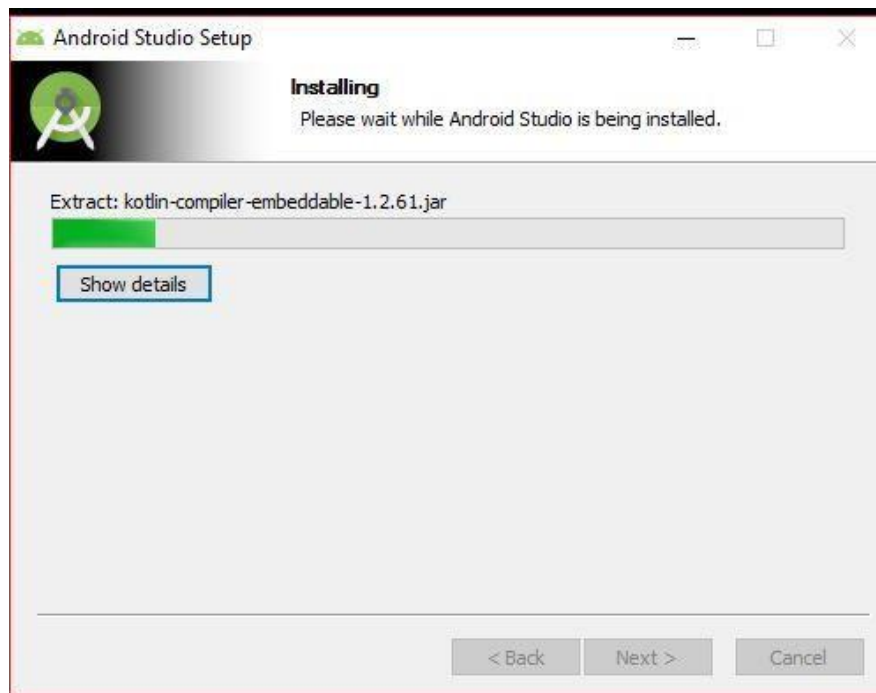


Fig. 5. Showing the installation progress



Fig. 6. Showing the completing android studio setup



Fig. 7. Showing the android studio loading window

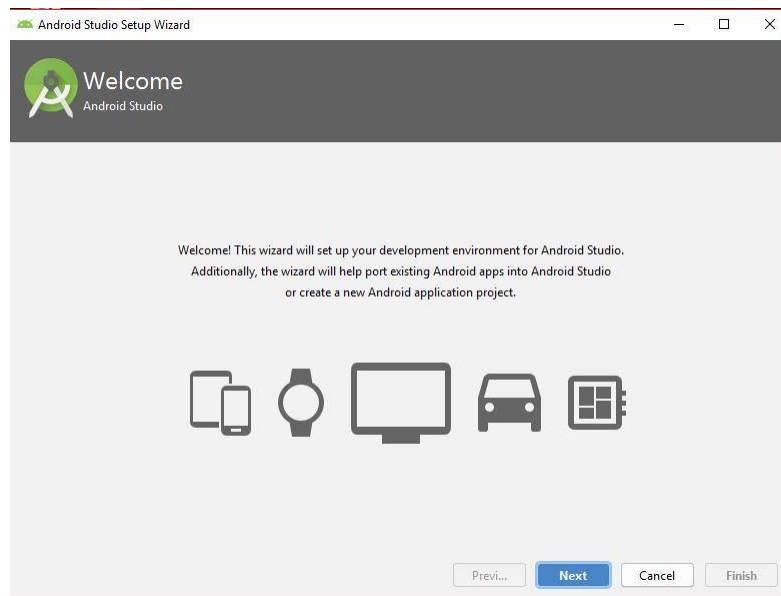


Fig. 8. Showing the welcome screen

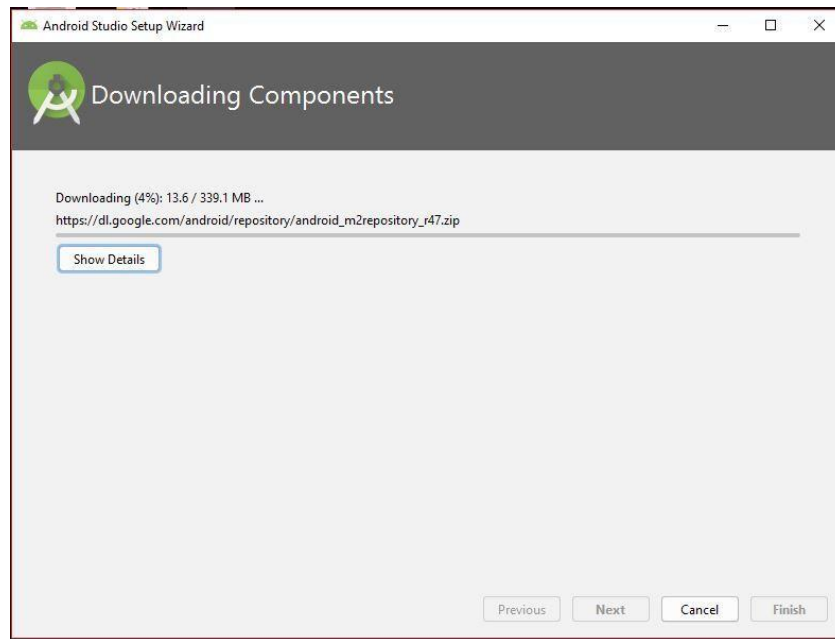


Fig. 9. Showing the downloading components

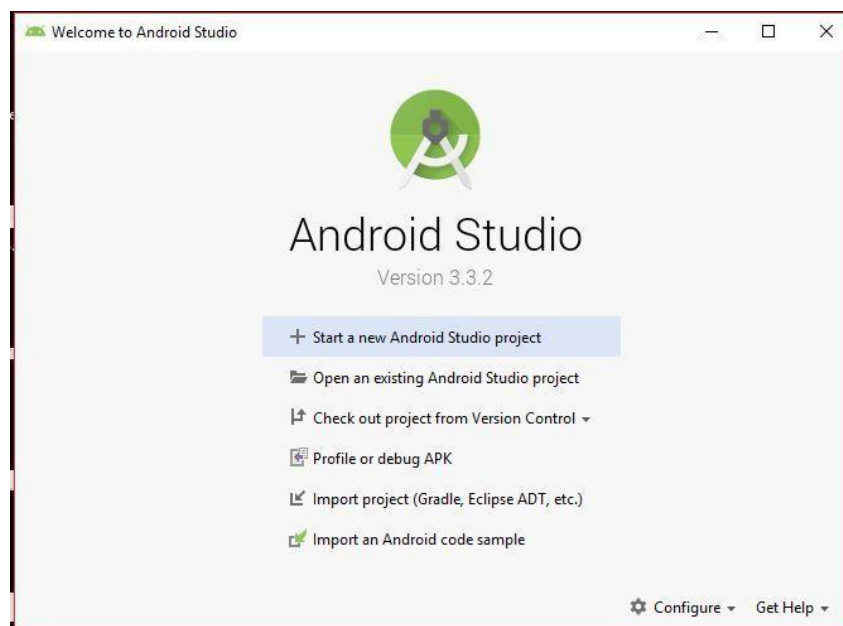
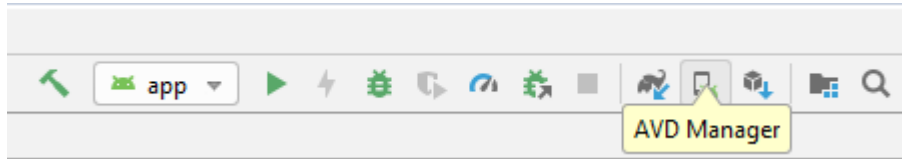


Fig. 10. Showing the window of new project

## Creating an Android Virtual Device (AVD)

Your application will run in the Android Emulator. Before you can launch the emulator, you must create an Android Virtual Device (AVD). An AVD defines the system image and device settings used by the emulator. You will see the icon of Device on top right corner of Android Studio.



The **Create New AVD** dialog appears.

1. Choose a target. The target is the platform (that is, the version of the Android SDK, such as 2.1) you want to run on the emulator.  
You can ignore the rest of the fields for now.
2. Click **Create AVD**.

## Understanding Android Studio Component

There are three main folders in Android Application

1. Manifests
2. Java
3. Res

### Manifest

Manifest contains **AndroidManifest.xml** file in which the necessary information of your project and launcher is mentioned.

### Java

It provides .java files, which is **backend** used for coding in Java.

### Res

Contains all resources including drawable, layout, values and mipmap which we will explore later. Layout is the **front-end** of your project.

## Gradle:

In **Android Studio**, **Gradle** is a custom build tool used to generate **android** packages (apk files) by managing dependencies and providing custom build logic.

## Lab Task

## 1) Open Android Studio and Run your first Mobile Application.

