**ANDROID INTERVIEW QUESTIONS AND ANSWERS FOR FRESHERS**

**Q1. Briefly explain Android Arcitecture.**

Following are the different layers in the Android stack:

* Linux Kernel Layer
* Native Layer
* Application Framework Layer
* Applications layer

## ****Kernel Layer****

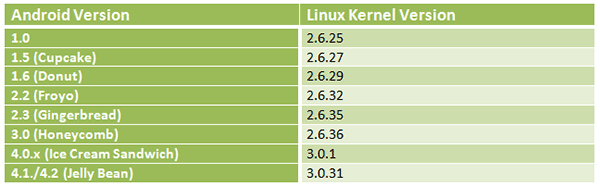
**[](https://cdn.edureka.co/blog/wp-content/uploads/2013/01/Linux-Kernel-1.png)**

At the bottom of the Android stack is the Linux Kernel. It never really interacts with the users and developers, but is at the heart of the whole system. Its importance stems from the fact that it provides the following functions in the Android system:

* Hardware Abstraction
* Memory Management Programs
* Security Settings
* Power Management Software
* Other Hardware Drivers (Drivers are programs that control hardware devices.)
* Support for Shared Libraries
* Network Stack

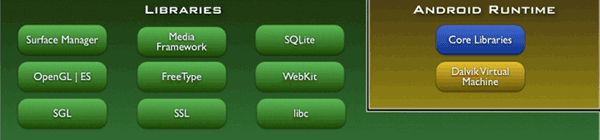
**With the evolution of Android, the Linux kernels it runs on have evolved too.**

#### ****Here is a Table highlighting the different Kernel versions.****

[](https://cdn.edureka.co/blog/wp-content/uploads/2013/01/Android-evolution-Linex-Kernel-versions-1.png)

The Android system uses a binder framework for its Inter-Process Communication (IPC) mechanism. The binder framework was originally developed as OpenBinder and was used for IPC in BeOS.

## Native Libraries Layer

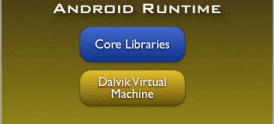
[](https://cdn.edureka.co/blog/wp-content/uploads/2013/01/Native-Android-Libraries-1.png)

The next layer in the Android architecture includes **Android’s native libraries**. Libraries carry a set of instructions to guide the device in handling different types of data. For instance, the playback and recording of various audio and video formats is guided by the Media Framework Library.

## Open Source Libraries:

* Surface Manager: composing windows on the screen
* SGL: 2D Graphics
* Open GL|ES: 3D Library
* Media Framework: Supports playbacks and recording of various audio, video and picture formats.
* Free Type: Font Rendering
* WebKit: Browser Engine
* libc (System C libraries)
* SQLite
* Open SSL

Located on the same level as the libraries layer, the Android runtime layer includes a set of core Java libraries as well. Android application programmers build their apps using the Java programming language. It also includes the Dalvik Virtual Machine.

[](https://cdn.edureka.co/blog/wp-content/uploads/2013/01/Android-Runtime-layer-1.png)

## What is Dalvik VM?

Dalvik is open-source software. Dan Bornstein, who named it after the fishing village of Dalvík in Eyjafjörður, Iceland, where some of his ancestors lived, originally wrote Dalvic VM. It is the software responsible for running apps on Android devices.

* It is a Register based Virtual Machine.
* It is optimized for low memory requirements.
* It has been designed to allow multiple VM instances to run at once.
* Relies on the underlying OS for process isolation, memory management and threading support.
* Operates on DEX files.

## ****Application Framework Layer****

[](https://cdn.edureka.co/blog/wp-content/uploads/2013/01/Applications-framework-1.png)

Our applications directly interact with these blocks of the Android architecture. These programs manage the basic functions of phone like resource management, voice call management etc.

**Important blocks of Application Framework:**

* **Activity Manager:** Manages the activity life cycle of applications. To understand the Activity component in Android in detail [click here](https://www.edureka.co/blog/android-tutorials-for-beginners-activity-component/).
* **Content Providers:** Manage the data sharing between applications. Our Post on [Content Provider component](https://www.edureka.co/blog/beginner-android-tutorials-content-provider/) describes this in greater detail
* **Telephony Manager:**Manages all voice calls. We use telephony manager if we want to access voice calls in our application.
* **Location Manager:** Location management, using GPS or cell tower
* **Resource Manager:** Manage the various types of resources we use in our Application

## ****Application Layer****

**The applications are at the topmost layer of the Android stack**. An average user of the Android device would mostly interact with this layer (for **basic functions, such as making phone calls, accessing the Web browser** etc.). **The layers further down are accessed mostly by developers, programmers** and the likes.

Several standard applications come installed with every device, such as:

* SMS client app
* Dialer
* Web browser
* Contact manager

**Q2. Is it true that android applications can only be programmed in Java?**

No. You can write your code in C or C++ using the NDK development tools.

Q3. Explain different phases of Activity Life Cycle.

For better explanation about Activity Life Cycle join our famous Demo Class on Android.

**Q4. Which database is used for Android?**

* We use SQLite database in Android.
* Some points about SQLite:
  + **Open** **Source***Database*
  + *SQLite is***available***on every Android device*
  + *It supports standard***relational** **database***features like*
    - *SQL syntax*
    - *transactions*
    - *SQL statements*
* *Very***light weight***database*
* *Requires very little memory*
* *Approx.***250KB**
* *SQLite Database is***automatically** **managed***by Android Platform*

**Q5. What is ViewGroup?**

A ViewGroup is a special view that can contain other views. Ex – LinearLayout, RelativeLayout etc. For more details about layouts [click here](http://developer.android.com/guide/topics/ui/declaring-layout.html).

**Q6. How do you handle multiple resolution screens in android?**

The following five properties help you to achieve multiple resolution screens in android:

* **Screen size** – Screen sizes are divided into four generalized sizes: small, normal, large, and extra-large.
* **Screen density** – Screen densities are also divided into four generalized densities: low, medium, high, and extra-high.
* **Orientation**– When user rotates the device the orientation of the device also gets changed.
* **Resolution** – The total number of physical pixels on a screen.
* **Density** – independent pixel (dp) – Provides you a density-independent way to define your layouts.

**Q7. What is the importance of declaring permissions in android application development?**

The limitation is imposed to protect critical data and code that could be misused to distort or damage the user experience. If an application needs access to a feature protected by a permission, it must declare that it requires that permission with a <uses-permission> element in the manifest. Then, when the application is installed on the device, the user determines whether or not to grant the requested permission by checking the authorities that signed the application’s certificates and, in some cases, asking the user. – reference [Android Developers.](http://developer.android.com/guide/topics/security/permissions.html)

**Q8. If I have all the drawable folders like xhdpi, hdpi, mdpi and ldpi and I am running my application on xhdpi devices,the images will be picked up from which folder.(I have not placed any image in xhdpi).**

The system will first look for the image in drawable-xhdpi/ folder. If no matching resource is found then it will pick the image from the default folder i.e. drawable/ folder

**Q9. Which is the latest version of Android? What upgrades does it have over the previous version?**

The latest version is **Android Lollipop,** Kitkat is its predecessor. The upgrade was aimed at improving the **User Interface functionality and performance**.

Knowledge of the different versions of Android would help you answer such questions. You have already read about the Evolution of Android in one of our [previous Android for beginners posts](http://edureka.in/blog/android-development-the-evolution-of-android/). Stay tuned for more details on that.

**Q10. What type of listener is used to get the ratings from the RatingBar Widgets?**

onRatingBarChangeListener() is used. Click to get more details about [RatingBar](https://www.edureka.co/blog/interview-questions/top-5-android-interview-questions-for-freshers/www.edureka.in/blog/how-to-create-android-widgets-ratingbar/" \o "Rating Bar" \t "_blank)and [SeekBar](https://www.edureka.co/blog/interview-questions/top-5-android-interview-questions-for-freshers/www.edureka.in/blog/how-to-create-android-widgets-seekbar-in-android/" \o "Seekbar).

**Code based Questions:**

**Q1. How will you pass data to other activities? Write code?**

|  |  |
| --- | --- |
| 1  2  3 | Intent intent = new Intent(CurrentActivity.this, OtherActivity.class);  intent.putExtras(“key”, “value”);  startActivity(intent); |

**Q2. Write code for a Toast that will display the message “I am a Toast”?**

|  |  |
| --- | --- |
| 1  2  3 | Toast.makeText(getApplicationContext(), “I am a Toast”,                   Toast.LENGTH\_LONG).show(); |

**Q3. Write a code snippet to generate a Button dynamically.**

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13 | @Override    protected void onCreate(Bundle savedInstanceState) {    super.onCreate(savedInstanceState);    Button button = new Button(this);    button.setText("Button");    setContentView(button);    }); |

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**1)**What is Android?

Android is a stack of software for mobile devices which includes an Operating System, middleware and some key applications. The application executes within its own process and its own instance of Dalvik Virtual Machine.

2)Describe Android application Architecture?

Android application architecture has the following components.They are as follows −

Services − It will perform background functionalities

Intent − It will perform the inter connection between activities and the data passing mechanism

Resource Externalization − strings and graphics

Notification − light,sound,icon,notification,dialog box,and toast

Content Providers − It will share the data between applications

3)What is An Activity?

Activity performs actions on the screen.If you want to do any operations, we can do with activity

4)What is the APK format?

The Android packaging key is compressed with classes,UI's, supportive assets and manifest.All files are compressed to a single file is called APK.

5)What is An Intent?

It is connected to either the external world of application or internal world of application ,Such as, opening a pdf is an intent and connect to the web browser.etc.

6)What is an explicit Intent?

Android Explicit intent specifies the component to be invoked from activity. In other words, we can call another activity in android by explicit intent.

7)What is an implicit Intent?

Implicit Intent doesn't specifiy the component. In such case, intent provides information of available components provided by the system that is to be invoked.

8)What is An android manifest file?

Every application must have an AndroidManifest.xml file (with precisely that name) in its root directory. The manifest file presents essential information about your app to the Android system, information the system must have before it can run any of the app's code.

9)What language does android support to develop an application?

Android applications has written using the java(Android SDK) and C/C++(Android NDK).

10)What do ADT stands for?

ADT stands for Android development tool,This is useful to develop the applications and test the applications.

11)What are the tools are placed in An Android SDK?

Android SDK collaborated with Android Emulator,DDMS(Dalvik Debug Monitoring Services),AAPT(Android Asset Packaging tool) and ADB(Android debug bridge)

12)What is viewGroup in android?

View group is a collection of views and other child views, it is an invisible part and the base class for layouts.

13)What is a service in android?

The Service is like as an activity to do background functionalities without UI interaction.

14)What is a content provider in android?

A content provider component supplies data from one application to others on request. Such requests are handled by the methods of the ContentResolver class. A content provider can use different ways to store its data and the data can be stored in a database, in files, or even over a network.

15)What are the notifications available in android?

Toast Notification − It will show a pop up message on the surface of the window

Status Bar Notification − It will show notifications on status bar

Dialogue Notification − It is an activity related notification.

16)What is container in android?

The container holds objects,widgets,labels,fields,icons,buttons.etc.

17)What is ADB in android?

It is acts as bridge between emulator and IDE, it executes remote shell commands to run applications on an emulator

18)What is ANR in android?

ANR stands for application is not responding, basically it is a dialog box that appears when the application is not responding.

19)What is an Adapter in android?

The Adapter is used to create child views to represent the parent view items.

20)What is shared preferences in android?

Shared preferences are the simplest mechanism to store the data in XML documents.

21)What are the key components in android architecture?

* Linux Kernel
* Libraries
* Android Framework
* Android applications.

22)What does the intent filter do in android?

Intent filters are filter out the intents.

23)Where layouts are placed in android?

In The Layout folder, layouts are placed as XML files

24)What is nine-patch images tool in android?

We can change bitmap images in nine sections as four corners,four edges and an axis

25)How many dialog boxes do support in android?

AlertDialog, ProgressDialog,DatePickerDialog, and TimePickerDialog

26)What are the exceptions available in android?

InflateException,Surface.OutOfResourceException,SurfaceHolder.BadSurfaceTypeException,and WindowManager.BadTokenException

27)What is the order of dialog-box in android?

Positive, Neutral, Negative.

28)What are the different storages available in android?

Shared Preferences,Internal Storage,External Storage,SQLite Databases and Network Connection

29)What is a Sticky Intent in android?

Sticky Intent is also a type of intent which allows the communication between a function and a service for example,sendStickyBroadcast() is perform the operations after completion of intent also.

30)How to Translate in Android?

Android uses Google translator to translate data from one language into another language and placed as a string while development

31)How is the use of web view in Android?

WebView is UI component that can display either remote web-pages or static HTML

32)Why can't you run java byte code on Android?

Android uses DVM (Dalvik Virtual Machine ) rather using JVM(Java Virtual Machine), if we want, we can get access to .jar file as a library.

33)How does android track the application on process?

Android provides a Unique ID to all applications is called as Linux ID,this ID is used to track each application.

34)How to change application name after its deployment?

It's not truly recommended to change application name after it's deployment, if we change, it will impact on all other internal components.

35)Define the application resource file in android?

JSON,XML bitmap.etc are application resources.You can injected these files to build process and can load them from the code.

36)How to launch an activity in android?

Using with intent, we can launch an activity.

Intent intent = new Intent(this, MyTestActivity.class);

startActivity(intent);

37)How do you pass the data to sub-activities android?

Using with Bundle, we can pass the data to sub activities.

Bundle bun = new Bundle();

bun.putString("EMAIL", "contact@tutorials.com");

38)What is singleton class in android?

A class which can create only an object, that object can be share able to all other classes.

39)What is fragment in android?

Fragment is a piece of activity, if you want to do turn your application 360 degrees, you can do this by fragment.

40)What is sleep mode in android?

Sleep mode mean CPU will be sleeping and it doesn't accept any commands from android device except Radio interface layer and alarm.

41)Which kernal is used in android?

Android is customized Linux 3.6 kernel.

42)How to update UI from a service in android?

Use a dynamic broadcast receiver in the activity, and send a broadcast from the service. Once the dynamic receiver is triggered update UI from that receiver.

43)What folders are impotent in android project?

AndroidManifest.xml

build.xml

bin/

src/

res/

assets/

44)What are application Widgets in android?

App Widgets are miniature application views that can embedded in other applications (such as the Home screen) and receive periodic updates. These views has referred to as Widgets in the user interface, and you can publish one with an App Widget provider.

45)How do you find any view element into your program?

Using with findViewById we can find view element.

46)What is drawable folder in android?

A compiled visual resource that can used as a backgrounds,banners, icons,splash screen etc.

47)What are the type of flags to run an application in android?

FLAG\_ACTIVITY\_NEW\_TASK

FLAG\_ACTIVITY\_CLEAR\_TOP.