## [Drawable Resource – tài nguyên ảnh](http://luunghiatran.my-style.in/2015/12/14/drawable-resource-tai-nguyen-anh/)

### Định nghĩa:

Là ngồn ảnh dùng trực tiếp trong Android.

### Vị trí file: res/drawable/filename.png

### Gọi sử dụng:

* In Java: R.drawable.filename
  + ví dụ:
  + // Chuyển thành ảnh để sử dụng
  + Bitmap icon = BitmapFactory.decodeResource(getResources(),
  + R.drawable.ic\_add\_48dp);
  + BitmapDrawable bd = new BitmapDrawable(getResources(), icon);
  + // Chèn vào Image
  + imageView\_WorkStatus.setImageDrawable(ContextCompat.getDrawable(mContext,

R.drawable.ic\_add\_48dp));

* In XML: @[package:]drawable/filename
  + Ví dụ:

android:src="@drawable/ic\_outlet\_32dp"

### Phân loại: [Bitmap File](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "Bitmap)

* Chứa file ảnh thuần (png, jpg, gif)
* Hàm liên quan: [BitmapDrawable](http://developer.android.com/reference/android/graphics/drawable/BitmapDrawable.html)

### [Nine-Patch File](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "NinePatch)

* Ảnh co giãn theo nội dung
* File name: filename.9.png
* Hàm liên quan: [NinePatchDrawable](http://developer.android.com/reference/android/graphics/drawable/NinePatchDrawable.html)
* Stretchable: Vùng giãn nở.
* PaddingBox: Vùng chứa dữ liệu (padding có thể thay đổi = code)
* 9 patch XML:
* <nine-patch
* xmlns:android="http://schemas.android.com/apk/res/android"
* android:src="@[package:]drawable/drawable\_resource"
* android:dither=["true" | "false"] />

### [Layer List](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "LayerList)

* Chèn Nhiều hình ảnh, thành 1 ảnh
* Hàm liên quan: [LayerDrawable](http://developer.android.com/reference/android/graphics/drawable/LayerDrawable.html)
* Cú pháp:
* <layer-list
* xmlns:android="http://schemas.android.com/apk/res/android" >
* <item
* android:drawable="@[package:]drawable/drawable\_resource"
* android:id="@[+][package:]id/resource\_name"
* android:top="dimension"
* android:right="dimension"
* android:bottom="dimension"
* android:left="dimension" />
* </layer-list>

### [State List](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "StateList)

* Ảnh theo trạng thái (hover, press)
* Hàm liên quan:   
  [StateListDrawable](http://developer.android.com/reference/android/graphics/drawable/StateListDrawable.html)
* Cú pháp:
* <selector xmlns:android="http://schemas.android.com/apk/res/android"
* android:constantSize=["true" | "false"]
* android:dither=["true" | "false"]
* android:variablePadding=["true" | "false"] >
* <item
* android:drawable="@[package:]drawable/drawable\_resource"
* android:state\_pressed=["true" | "false"]
* android:state\_focused=["true" | "false"]
* android:state\_hovered=["true" | "false"]
* android:state\_selected=["true" | "false"]
* android:state\_checkable=["true" | "false"]
* android:state\_checked=["true" | "false"]
* android:state\_enabled=["true" | "false"]
* android:state\_activated=["true" | "false"]
* android:state\_window\_focused=["true" | "false"] />
* </selector>

### [Level List](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "LevelList)

* Ảnh theo số (ví dụ: set số 1 => ảnh 1, số 2 => ảnh 2)
* Hàm liên quan:   
  [LevelListDrawable](http://developer.android.com/reference/android/graphics/drawable/LevelListDrawable.html)
* Cú pháp:
* <level-list xmlns:android="http://schemas.android.com/apk/res/android" >
* <item
* android:drawable="@drawable/status\_off"
* android:maxLevel="0" />
* <item
* android:drawable="@drawable/status\_on"
* android:maxLevel="1" />
* </level-list>
* Sử dụng trong Java: đặt background View, đổi Level bằng hàm **setLevel()**  
  hay **setImageLevel()**

### [Transition Drawable](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "Transition)

* Đổi 2 ảnh qua lại (kiểu cross-fade mờ dần)
* Hàm:   
  [TransitionDrawable](http://developer.android.com/reference/android/graphics/drawable/TransitionDrawable.html)
* Cú pháp:
* <transition
* xmlns:android="http://schemas.android.com/apk/res/android" >
* <item
* android:drawable="@[package:]drawable/drawable\_resource"
* android:id="@[+][package:]id/resource\_name"
* android:top="dimension"
* android:right="dimension"
* android:bottom="dimension"
* android:left="dimension" />

</transition>

* Trong đó:  
  android:topInteger – The top offset in pixels.
* Áp dụng:
  + XML:
  + <transition xmlns:android="http://schemas.android.com/apk/res/android">
  + <item android:drawable="@drawable/on" />
  + <item android:drawable="@drawable/off" />
  + </transition>
  + <ImageButton
  + android:id="@+id/button"
  + android:layout\_height="wrap\_content"
  + android:layout\_width="wrap\_content"

android:src="@drawable/transition" />

* + Java:
  + TransitionDrawable drawable = (TransitionDrawable) button.getDrawable();
  + drawable.startTransition(500);

### [Inset Drawable](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "Inset)

* Định nghĩa ảnh ở trong ảnh. Dùng khi dùng ảnh nền mà ảnh thật nhỏ hơn ảnh nền (làm ảnh  
  to ra thêm tí :D).
* Cú pháp:
* <inset
* xmlns:android="http://schemas.android.com/apk/res/android"
* android:drawable="@drawable/drawable\_resource"
* android:insetTop="dimension"
* android:insetRight="dimension"
* android:insetBottom="dimension"

android:insetLeft="dimension" />

### [Clip Drawable](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "Clip)

* Định nghĩa ảnh, là 1 phần của ảnh khác (bị cắt ra)
* Hàm:   
  [ClipDrawable](http://developer.android.com/reference/android/graphics/drawable/ClipDrawable.html)
* Cú pháp:
* <clip
* xmlns:android="http://schemas.android.com/apk/res/android"
* android:drawable="@drawable/drawable\_resource"
* android:clipOrientation=["horizontal" | "vertical"]
* android:gravity=["top" | "bottom" | "left" | "right" | "center\_vertical" |
* "fill\_vertical" | "center\_horizontal" | "fill\_horizontal" |

"center" | "fill" | "clip\_vertical" | "clip\_horizontal"] />

* Java sử dụng:
* // Level từ 0 -> 10.000 (biến mất hình)
* ClipDrawable drawable = (ClipDrawable) imageview.getDrawable();

drawable.setLevel(drawable.getLevel() + 1000);

### [Scale Drawable](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "Scale)

* Định nghĩa ảnh, đổi size ảnh khác dựa vào giá trị level.
* Hàm:   
  [ScaleDrawable](http://developer.android.com/reference/android/graphics/drawable/ScaleDrawable.html)
* Cú pháp:
* <scale
* xmlns:android="http://schemas.android.com/apk/res/android"
* android:drawable="@drawable/drawable\_resource"
* android:scaleGravity=["top" | "bottom" | "left" | "right" | "center\_vertical" |
* "fill\_vertical" | "center\_horizontal" | "fill\_horizontal" |
* "center" | "fill" | "clip\_vertical" | "clip\_horizontal"]
* android:scaleHeight="percentage"

android:scaleWidth="percentage" />

* Thành phần: x

### [Shape Drawable](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "Shape)

* Tạo ảnh qua các đường = xml, màu, gradients.
* Hàm:   
  [ShapeDrawable](http://developer.android.com/reference/android/graphics/drawable/ShapeDrawable.html)
* Cú pháp:
* <shape
* xmlns:android="http://schemas.android.com/apk/res/android"
* android:shape=["rectangle" | "oval" | "line" | "ring"] >
* <corners
* android:radius="integer"
* android:topLeftRadius="integer"
* android:topRightRadius="integer"
* android:bottomLeftRadius="integer"
* android:bottomRightRadius="integer" />
* <gradient
* android:angle="integer"
* android:centerX="integer"
* android:centerY="integer"
* android:centerColor="integer"
* android:endColor="color"
* android:gradientRadius="integer"
* android:startColor="color"
* android:type=["linear" | "radial" | "sweep"]
* android:useLevel=["true" | "false"] />
* <padding
* android:left="integer"
* android:top="integer"
* android:right="integer"
* android:bottom="integer" />
* <size
* android:width="integer"
* android:height="integer" />
* <solid
* android:color="color" />
* <stroke
* android:width="integer"
* android:color="color"
* android:dashWidth="integer"
* android:dashGap="integer" />

</shape>

* Thành phần: x

Ngồn:

[http://developer.android.com/guide/topics/resources/drawable-resource.html#Transition](http://developer.android.com/guide/topics/resources/drawable-resource.html" \l "Transition)