



# Glide Library 활용

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# Glide Library



- <https://github.com/bumptech/glide>
- Glide는 bumptech이 개발한 Android용 Image Loader Library로 Google이 추천함
- Google I/O 2014 official application에 포함하여 많은 Google Open Source Project에 사용
- Bump App을 Google이 인수하면서 Bump App에서 사용하던 Image Library를 공개한 것
- 기존의 Picasso에서 사용하는 함수 방식과 거의 비슷함 (일부 함수를 빼고는 거의 똑같다고 봐도 좋음)



glide



# Glide Library



- Google에서 개발해서 밀고있던 volley 이후에 2014년에 공개된 Library
- Glide는 Android에서 Image를 빠르고 효율적으로 불러올 수 있게 도와주는 Library
- 사용 방법도 간단하고 확장성도 넓어서 이미 가장 많이 사용되고 있는 Library
- 다른 Image Loading Library에는 없는 Thumbnail 보기, GIF Loading, 동영상 스틸 보기 기능까지 지원
- 기본적으로는 커스텀하게 만들어진 HttpURLConnection 기반이지만, Volley나 OkHttp Library를 사용할 수 있는 플러그인도 지원



# Glide Library



- 사용 준비(library 추가)

- build.gradle(app) 파일의 'dependencies' 섹션에 라이브러리 경로를 추가

```
dependencies {  
    .....  
    implementation 'com.github.bumptech.glide:glide:4.12.0'  
    annotationProcessor 'com.github.bumptech.glide:compiler:4.12.0'
```

- Glide 라이브러리로 이미지를 표시할 때의 장점은 웹 상에 있는 이미지를 URL로 바로 불러와 사용할 수 있다는 점
- 물론 파일이나 리소스 이미지도 사용할 수 있음



# Glide Library



## ■ Permission 추가

```
<uses-permission android:name="android.permission.INTERNET" />
```

## ■ 사용법

```
Glide.with(this)  
.load("http://www.selphone.co.kr/homepage/img/team/3.jpg")  
.into(imageView);
```

- with() : View, Fragment 혹은 Activity로부터 Context를 가져옴
- load() : 이미지를 로드. 다양한 방법으로 이미지를 불러올 수 있음 (Bitmap, Drawable, String, Uri, File, Resourld(Int), ByteArray)
- into() : 이미지를 보여줄 View를 지정



# Glide Library



- Glide는 Image에 대한 새 요청을 시작하기 전에 여러 계층의 Cache를 검사
  - 활성 리소스(Active resources)
    - 이 이미지가 현재 다른 보기에 표시되어 있는가 ?
  - 메모리 캐시(Memory cache)
    - 이 이미지가 최근에 로드되어 메모리에 남아 있는가 ?
  - 리소스(Resource)
    - 이 이미지가 이전에 디스크 캐시에 디코딩, 변환 및 기록되었는가?
  - 데이터(Data)
    - 이 이미지가 이전에 디스크 캐시에 기록된 데이터에서 얻은 데이터였는가?



# Glide Library



## ■ 메소드

### ■ with(Context context)

- Android 시스템 서비스에서 제공하는 API를 호출

### ■ load(String url)

- 웹 상에서의 이미지 경로

### ■ into(ImageView imageView)

- 다운로드 받은 이미지를 보여줄 이미지 뷰

### ■ placeholder()

- 이미지를 로딩하는 동안 처음에 보여줄 placeholder 이미지를 지정할 수 있음

### ■ error()

- 이미지로딩에 실패했을 경우 실패 이미지를 지정할 수 있음



# Glide Library



## ■ 메소드

### ■ override()

- 지정한 이미지의 크기만큼만 불러올 수 있음
- 이를 통해 이미지 로딩 속도를 최적화 할 수 있음

### ■ thumbnail()

- 지정한 %비율 만큼 미리 이미지를 가져와서 보여줌
- 0.1f로 지정했다면 실제 이미지 크기 중 10%만 먼저 가져와서 흐릿하게 보여줌

### ■ asGif()

- 정적인 이미지 뿐만 아니라 GIF도 로딩 할 수 있음





# Glide Library



## ■ 메소드

### ■ centerCrop()

- 이미지가 ImageView의 사이즈보다 클 때, Imageview의 크기에 맞춰 이미지 크기를 조정 후 자름
- ImageView가 완전히 채워지지만 전체 이미지가 표시되지 않을 수 있음

### ■ fitCenter()

- 이미지가 ImageView의 사이즈와 다를 때, ImageView 크기와 같거나 작도록 이미지의 크기를 조정
- 이미지가 완전히 표시되지만 전체 ImageView를 채우지 않을 수 있음

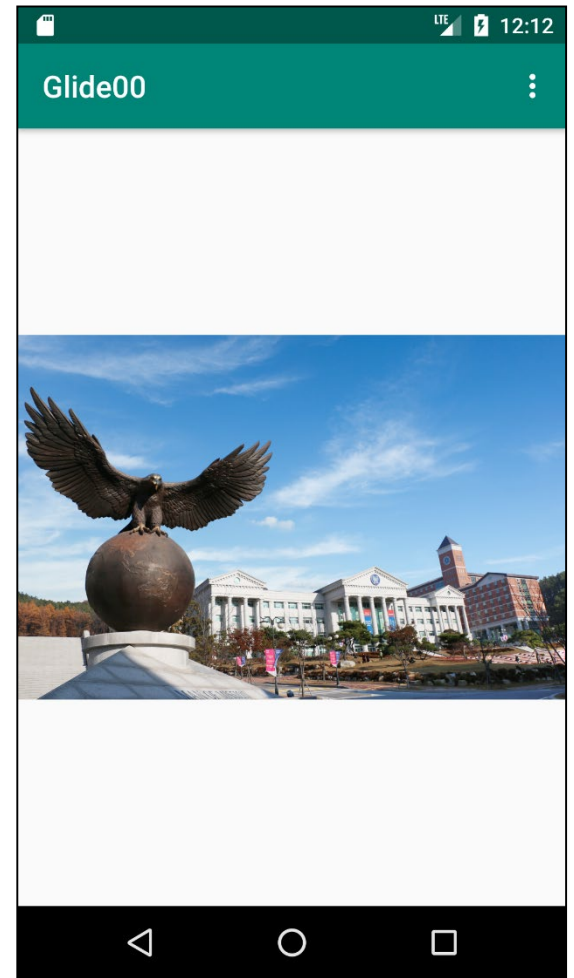
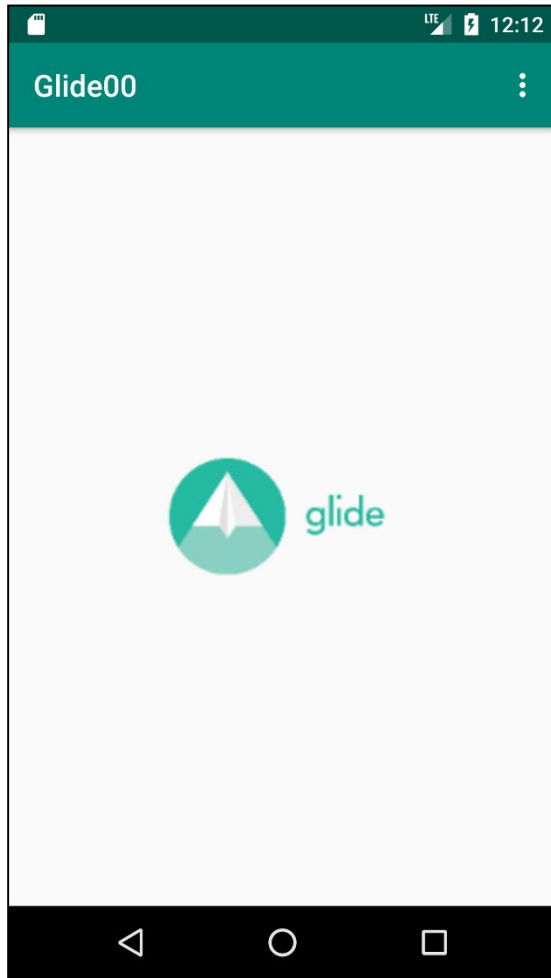
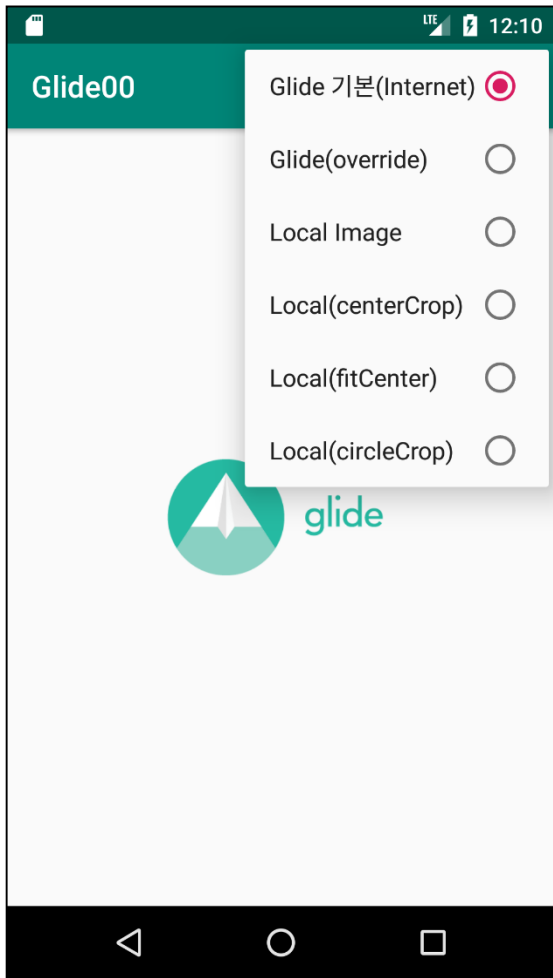
### ■ circleCrop()

- 이미지가 원으로 변경됨



# Glide 예제 00

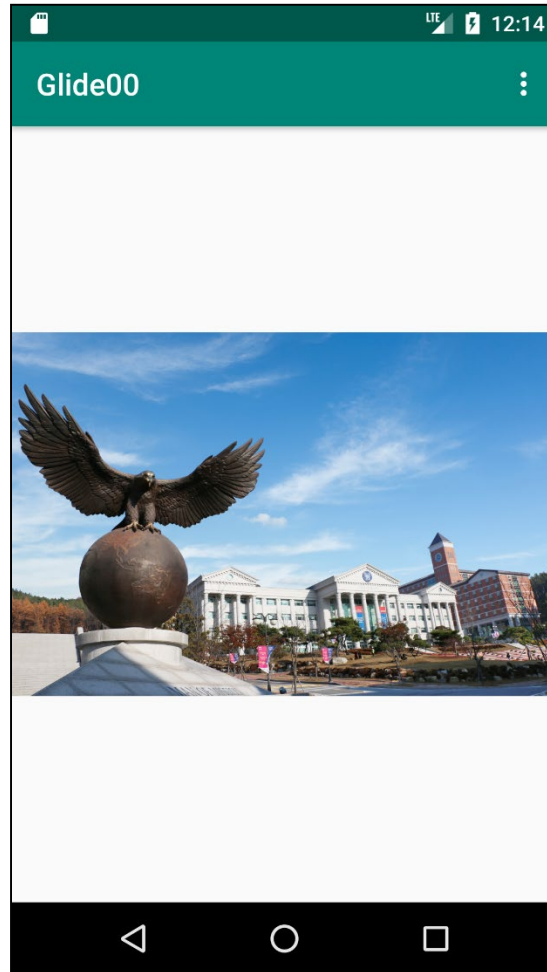
## ■ Glide를 이용한 프로그램을 작성해보자





# Glide 예제 00

## ■ 실행 결과





# Glide 예제 00



## ■ Library 추가

```
dependencies {  
    implementation 'com.github.bumptech.glide:glide:4.11.0'  
    annotationProcessor 'com.github.bumptech.glide:compiler:4.11.0'  
  
    implementation fileTree(dir: 'libs', include: ['*.jar'])  
    implementation 'androidx.appcompat:appcompat:1.3.1'  
    implementation 'androidx.constraintlayout:constraintlayout:2.1.0'  
    testImplementation 'junit:junit:4.13.2'  
    androidTestImplementation 'androidx.test:runner:1.4.0'  
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.4.0'  
}
```



# Glide 예제 00



## ■ 사용자 인터페이스

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/view"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>
</LinearLayout>
```



# Glide 예제 00



## ■ menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <group
        android:checkableBehavior="single"
        android:enabled="true">
        <item
            android:id="@+id/item1"
            android:checked="true"
            android:enabled="true"
            android:title="Glide 기본(Internet)" />
        <item
            android:id="@+id/item2"
            android:enabled="true"
            android:title="Glide(override)" />
        <item
            android:id="@+id/item3"
            android:enabled="true"
            android:title="Local Image" />
    </group>
</menu>
```



# Glide 예제 00



## ■ menu.xml

```
<item
    android:id="@+id/item4"
    android:enabled="true"
    android:title="Local(centerCrop)" />
<item
    android:id="@+id/item5"
    android:enabled="true"
    android:title="Local(fitCenter)" />
<item
    android:id="@+id/item6"
    android:enabled="true"
    android:title="Local(circleCrop)" />
</group>
</menu>
```



# Glide 예제 00



## ■ MainActivity.JAVA

```
public class MainActivity extends AppCompatActivity {  
    final String url = "https://github.com/bumptech/glide/raw/  
                        master/static/glide_logo.png";  
  
    ImageView imageView;  
    int index = 1;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
  
        imageView = findViewById(R.id.view);  
    }  
}
```





# Glide 예제 00



## ■ MainActivity.JAVA

@Override

```
protected void onStart() {  
    super.onStart();  
    if (index == 1) {  
        Glide.with(this)  
            .load(url)  
            .into(imageView);  
    } else if (index == 2) {  
        Glide.with(this)  
            .load(url)  
            .override(300,300)  
            .into(imageView);  
    } else if (index == 3) {  
        Glide.with(this)  
            .load(R.drawable.kbu)  
            .into(imageView);  
    }  
}
```



# Glide 예제 00

## ■ MainActivity.JAVA

```
} else if (index == 4) {  
    Glide.with(this)  
        .load(R.drawable.kbu)  
        .centerCrop()  
        .into(imageView);  
} else if (index == 5) {  
    Glide.with(this)  
        .load(R.drawable.kbu)  
        .fitCenter()  
        .into(imageView);  
} else {  
    Glide.with(this)  
        .load(R.drawable.kbu)  
        .circleCrop()  
        .into(imageView);  
}  
}
```



# Glide 예제 00



## ■ MainActivity.JAVA

@Override

```
public boolean onCreateOptionsMenu(Menu menu) {  
    getMenuInflater().inflate(R.menu.menu, menu);  
    return super.onCreateOptionsMenu(menu);  
}
```

@Override

```
public boolean onOptionsItemSelected(MenuItem item) {  
    switch (item.getItemId()) {  
        case R.id.item1:  
            index = 1;  
            item.setChecked(true);  
            break;  
        case R.id.item2:  
            index = 2;  
            item.setChecked(true);  
            break;  
    }
```



# Glide 예제 00

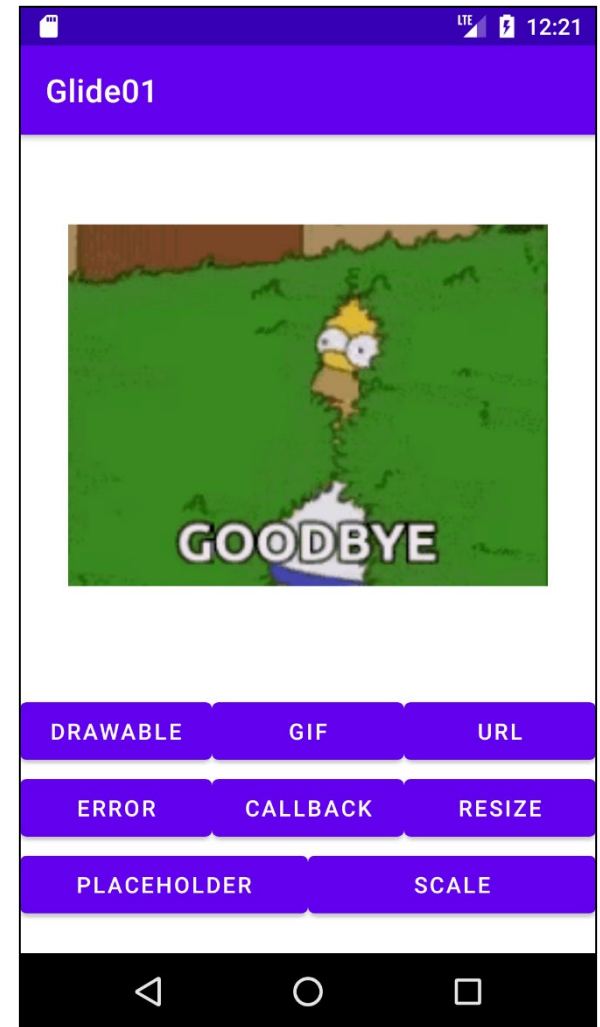
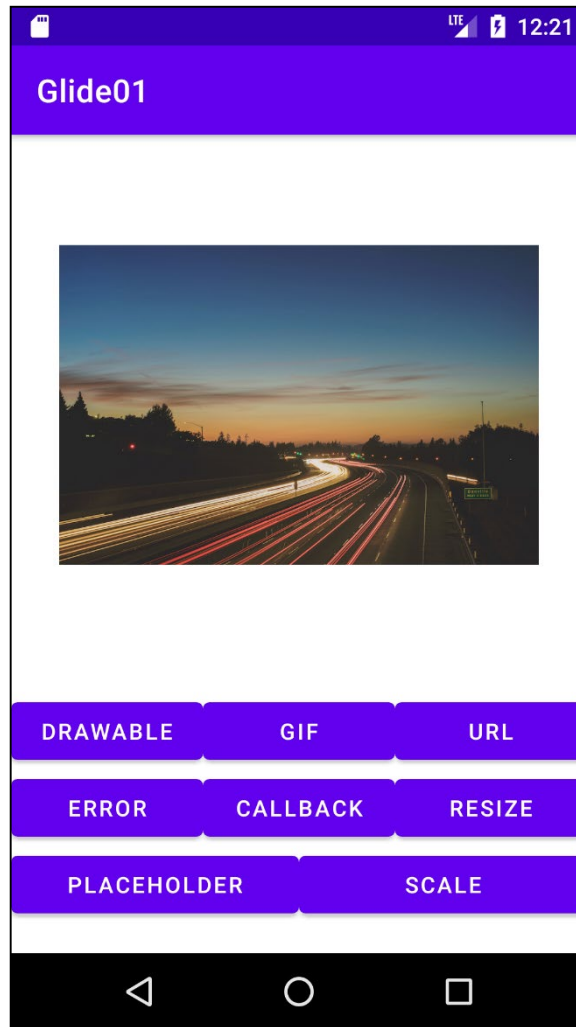
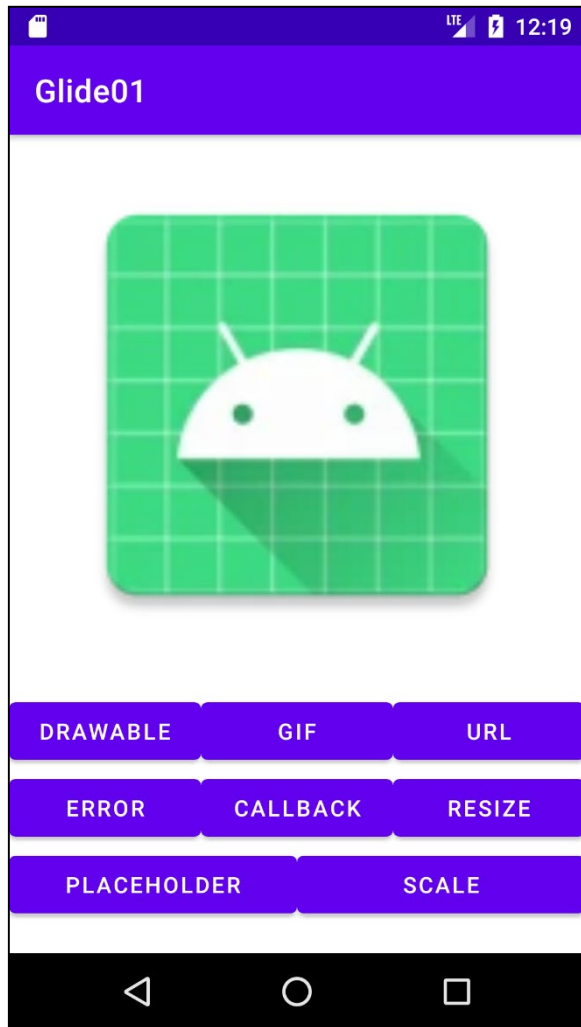


```
case R.id.item3:  
    index = 3;  
    item.setChecked(true);  
    break;  
case R.id.item4:  
    index = 4;  
    item.setChecked(true);  
    break;  
case R.id.item5:  
    index = 5;  
    item.setChecked(true);  
    break;  
case R.id.item6:  
    index = 6;  
    item.setChecked(true);  
}  
onStart();  
return true;  
}  
}
```



# Glide 예제 01

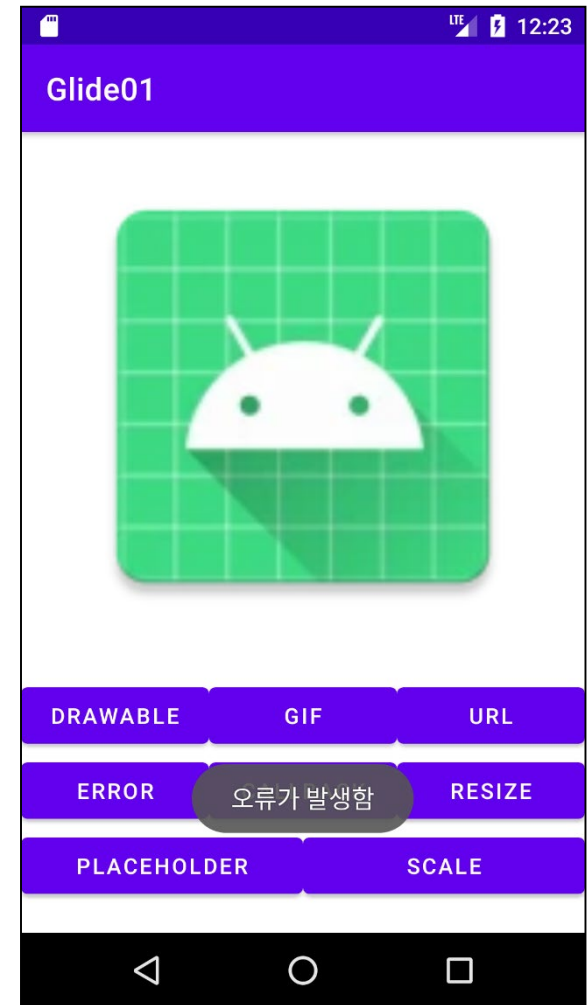
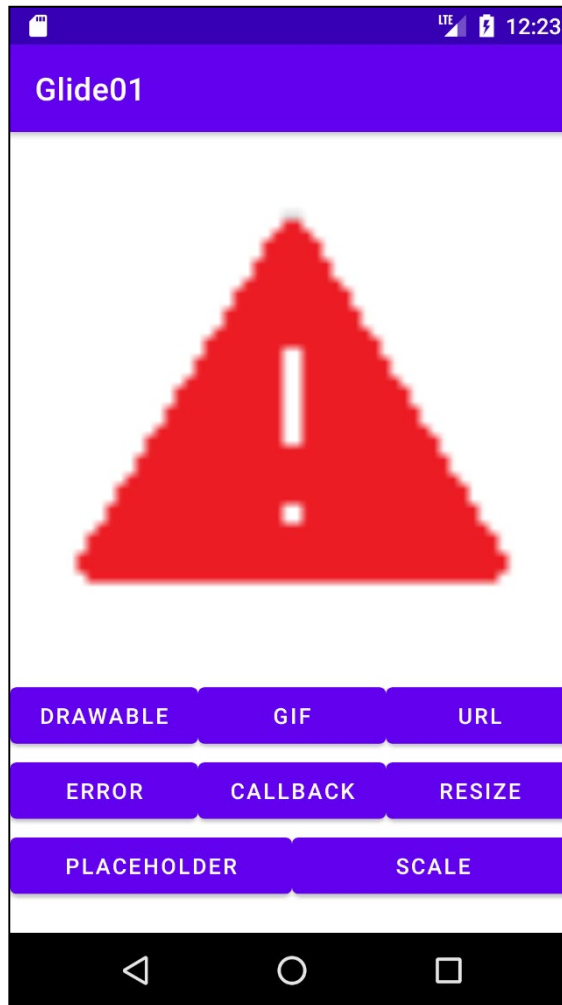
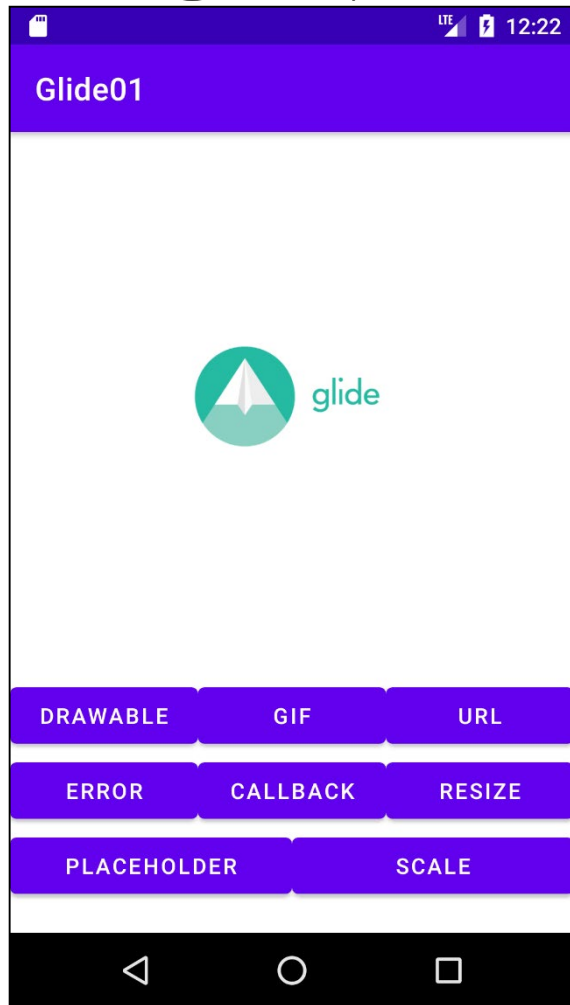
## ■ 실행 결과





# Glide 예제 01

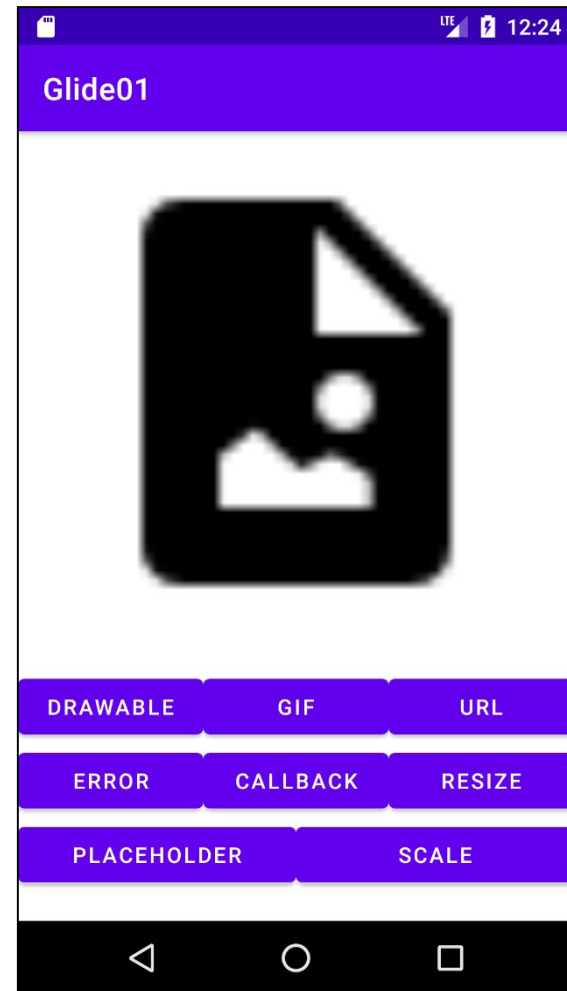
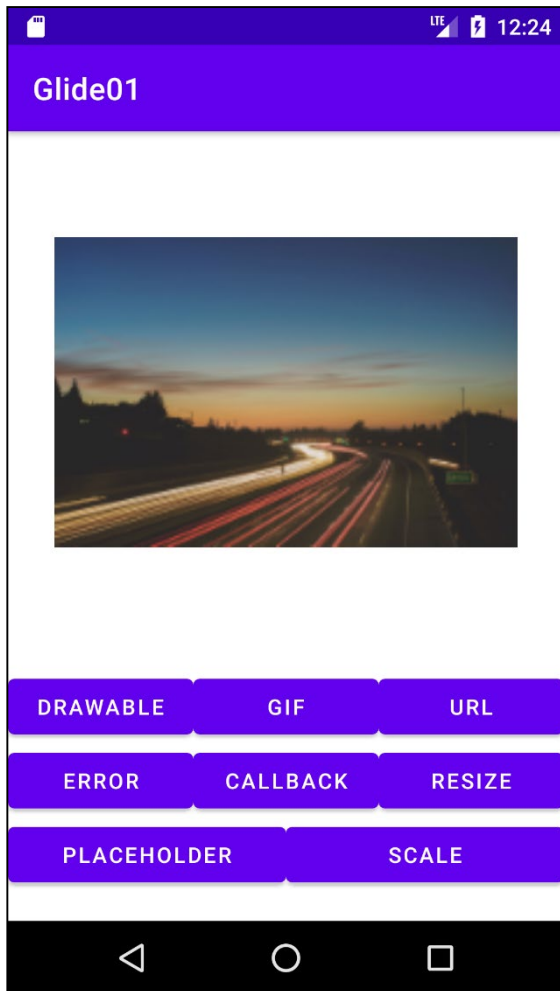
## ■ 실행 결과





# Glide 예제 01

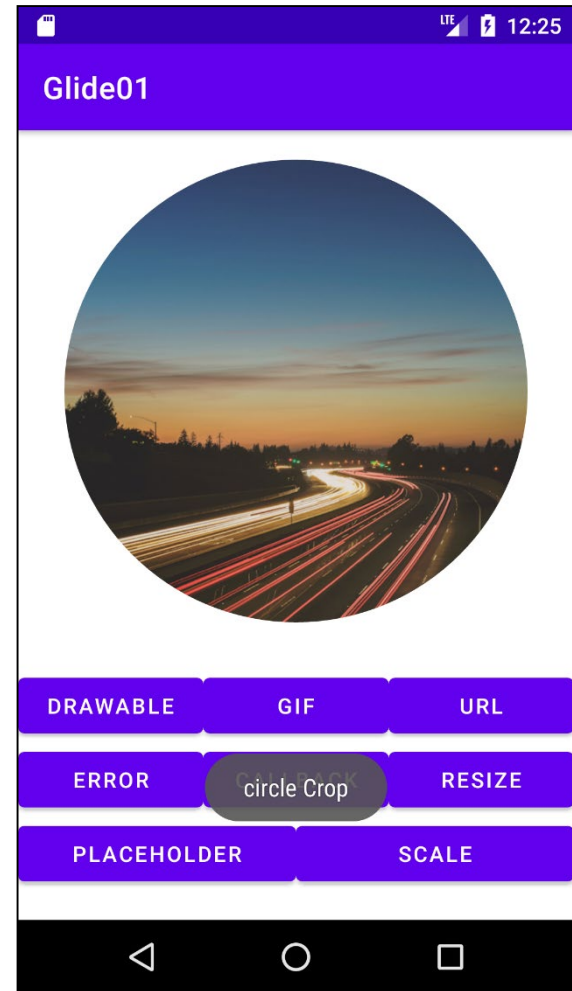
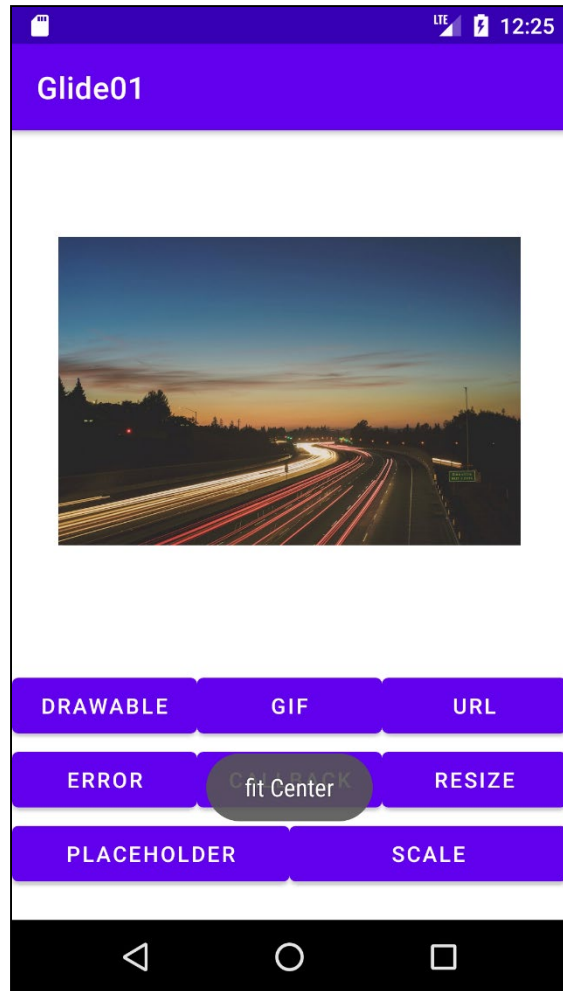
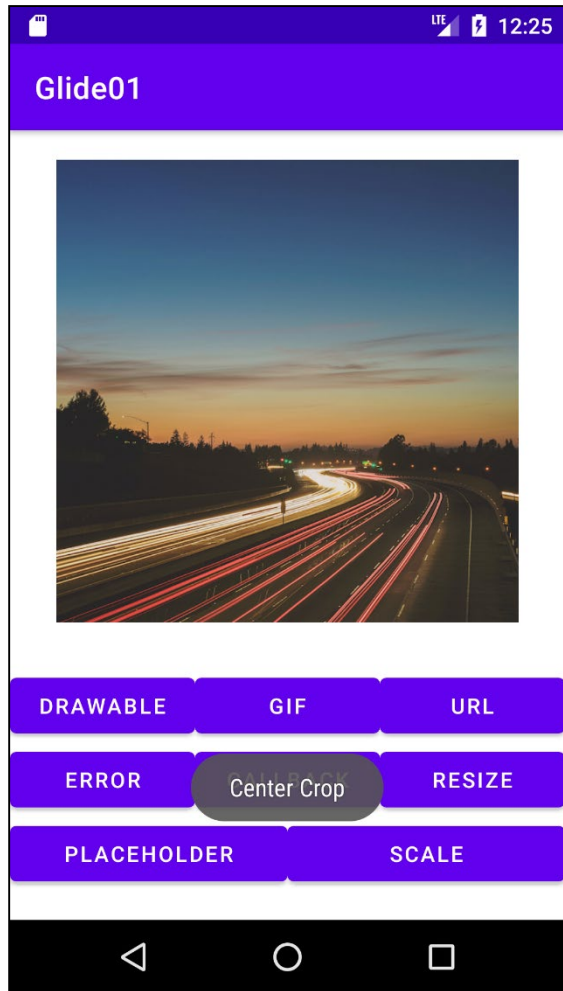
## ■ 실행 결과





# Glide 예제 01

## ■ 실행 결과







# Glide 예제 01

## ■ 사용자 인터페이스

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="300dp"
        android:layout_height="300dp"
        android:src="@mipmap/ic_launcher" />
```



# Glide 예제 01



## ■ 사용자 인터페이스

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="30dp">
    <Button
        android:id="@+id/btnDrawable"
        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:text="Drawable" />

    <Button
        android:id="@+id/gif"
        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:text="GIF" />
```



# Glide 예제 01

## ■ 사용자 인터페이스

```
<Button  
    android:id="@+id/btnUrl"  
    android:layout_width="0dp"  
    android:layout_weight="1"  
    android:layout_height="wrap_content"  
    android:text="URL" />
```

```
</LinearLayout>
```

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content">  
    <Button  
        android:id="@+id/btnError"  
        android:layout_width="0dp"  
        android:layout_weight="1"  
        android:layout_height="wrap_content"  
        android:text="Error" />
```



# Glide 예제 01



## ■ 사용자 인터페이스

```
<Button
    android:id="@+id/btnCallBack"
    android:layout_width="0dp"
    android:layout_weight="1"
    android:layout_height="wrap_content"
    android:text="Callback" />
```

```
<Button
    android:id="@+id/btnResize"
    android:layout_width="0dp"
    android:layout_weight="1"
    android:layout_height="wrap_content"
    android:text="Resize" />
```

```
</LinearLayout>
```



# Glide 예제 01

## ■ 사용자 인터페이스

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <Button
        android:id="@+id/btnPlaceholder"
        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:text="Placeholder" />
    <Button
        android:id="@+id/btnScale"
        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:text="Scale" />
</LinearLayout>
</LinearLayout>
```



# Glide 예제 01

## ■ MainActivity.JAVA

```
public class MainActivity extends AppCompatActivity
                                implements View.OnClickListener {

    ImageView imageView;
    int i = 0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        imageView = findViewById(R.id.imageView);
        Button drawableImage = findViewById(R.id.btnDrawable);
        Button gifImage = findViewById(R.id.gif);
        Button urlImage = findViewById(R.id.btnUrl);
        Button placeholderImage = findViewById(R.id.btnPlaceholder);
        Button errorImage = findViewById(R.id.btnError);
        Button callback = findViewById(R.id.btnCallBack);
        Button resizeMode = findViewById(R.id.btnResize);
        Button scaleImage = findViewById(R.id.btnScale);
```



# Glide 예제 01

## ■ MainActivity.JAVA

```
drawableImage.setOnClickListener(this);  
gifImage.setOnClickListener(this);  
placeholderImage.setOnClickListener(this);  
urlImage.setOnClickListener(this);  
callback.setOnClickListener(this);  
resizeImage.setOnClickListener(this);  
errorImage.setOnClickListener(this);  
scaleImage.setOnClickListener(this);  
}
```

### @Override

```
public void onClick(View view) {  
    switch (view.getId()) {  
        case R.id.btnDrawable:  
            Glide.with(this).load(R.drawable.image)  
                .format(DecodeFormat.PREFER_ARGB_8888).into(imageView);  
            break;
```



# Glide 예제 01

## ■ MainActivity.JAVA

```
case R.id.gif:
    Glide.with(this).load(R.drawable.goodbye).into(imageView);
    break;
case R.id.btnPlaceholder:
    Glide.with(this).load("github.com")
        .placeholder(R.drawable.placeholder).into(imageView);
    break;
case R.id.btnUrl:
    Glide.with(this).load("https://github.com/bumptech/glide/raw/
        master/static/glide_logo.png")
        .placeholder(R.drawable.placeholder).into(imageView);
    break;
case R.id.btnError:
    Glide.with(this).load("github.com")
        .placeholder(R.drawable.placeholder).error(R.drawable.error)
        .into(imageView);
    break;
```





# Glide 예제 01

## ■ MainActivity.JAVA

```
case R.id.btnCallBack:
```

```
    Glide.with(this).load("github.com").error(R.mipmap.ic_launcher)  
        .listener(new RequestListener<Drawable>() {
```

```
        @Override
```

```
        public boolean onLoadFailed(@Nullable GlideException e,  
            Object model, Target<Drawable> target,
```

```
            boolean isFirstResource) {
```

```
            Toast.makeText(getBaseContext(), "오류가 발생함",  
                Toast.LENGTH_SHORT).show();
```

```
            return false;
```

```
        }
```

```
        @Override
```

```
        public boolean onResourceReady(Drawable resource, Object model,  
            Target<Drawable> target, DataSource dataSource,
```

```
            boolean isFirstResource) {
```

```
            return false;
```

```
        }
```

```
    }).into(imageView);
```

```
    break;
```



# Glide 예제 01

## ■ MainActivity.JAVA

```
case R.id.btnResize:
    Glide.with(this).load(R.drawable.image).override(200, 200)
        .into(imageView);

    break;
case R.id.btnScale:
    if (i == 3)
        i = 0;
    if (i == 0) {
        Glide.with(this).load(R.drawable.image).centerCrop()
            .into(imageView);

        Toast.makeText(getBaseContext(), "Center Crop",
            Toast.LENGTH_SHORT).show();
    } else if (i == 1) {
        Glide.with(this).load(R.drawable.image).fitCenter().into(imageView);
        Toast.makeText(getBaseContext(), "fit Center",
            Toast.LENGTH_SHORT).show();
    }
```



# Glide 예제 01

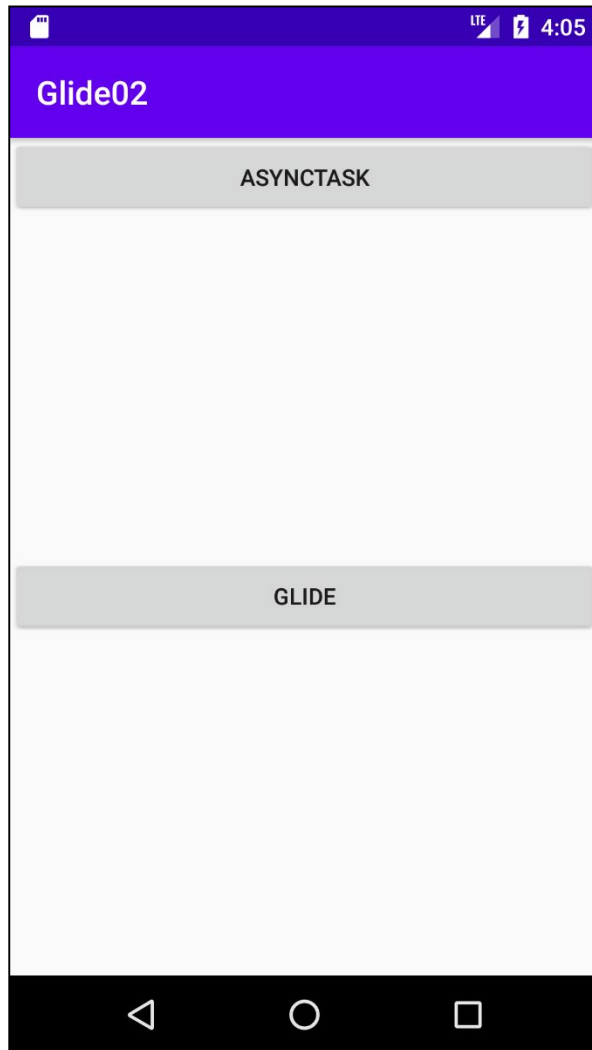
## ■ MainActivity.JAVA

```
    } else {  
        Glide.with(this).load(R.drawable.image).circleCrop().into(imageView);  
        Toast.makeText(getBaseContext(), "circle Crop",  
                        Toast.LENGTH_SHORT).show();  
    }  
    i++;  
    break;  
}  
}  
}
```



# Glide 예제 02

## ■ AsyncTask와 Glide의 비교





# Glide 예제 02



## ■ 사용자 인터페이스

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
```



# Glide 예제 02



## ■ 사용자 인터페이스

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1"
    android:orientation="vertical">
    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="AsyncTask"/>
    <ImageView
        android:id="@+id/image1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal" />
</LinearLayout>
```



# Glide 예제 02



## ■ 사용자 인터페이스

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1"
    android:orientation="vertical">
    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Glide"/>
    <ImageView
        android:id="@+id/image2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"/>
</LinearLayout>
</LinearLayout>
```



# Glide 예제 02



## ■ MainActivity.JAVA

```
public class MainActivity extends AppCompatActivity {  
    String url ="http://news.kyungbok.ac.kr/images/0002987465_041/  
                                                    2017.08.22.jpg";  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
  
        final ImageView imageView1 = findViewById(R.id.image1);  
        final ImageView imageView2 = findViewById(R.id.image2);  
        Button button1 = findViewById(R.id.button1);  
        button1.setOnClickListener(new View.OnClickListener() {  
            @Override  
            public void onClick(View v) {  
                ImageLoadTask task = new ImageLoadTask(url, imageView1);  
                task.execute();  
            }  
        });  
    }  
};
```





# Glide 예제 02

## ■ MainActivity.JAVA

```
Button button2 = findViewById(R.id.button2);
button2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Glide.with(v).load(url).into(imageView2);
    }
});
}
```



# Glide 예제 01



## ■ ImageLoadTask.JAVA

```
public class ImageLoadTask extends AsyncTask<Void, Void, Bitmap> {  
    private String urlStr;  
    private ImageView imageView;  
  
    private static HashMap<String, Bitmap> bitmapHashMap = new HashMap<>();  
  
    public ImageLoadTask(String urlStr ,ImageView imageView){  
        this.urlStr = urlStr;  
        this.imageView = imageView;  
    }  
  
    @Override  
    protected void onPreExecute() {  
        super.onPreExecute();  
    }  
}
```



# Glide 예제 01



## ■ ImageLoadTask.JAVA

@Override

```
protected Bitmap doInBackground(Void... voids) {  
    Bitmap bitmap = null;  
    try {  
        if(bitmapHashMap.containsKey(urlStr)){  
            Bitmap oldBitmap = bitmapHashMap.remove(urlStr);  
            if(oldBitmap != null){  
                oldBitmap.recycle();  
            }  
        }  
        URL url = new URL(urlStr);  
        bitmap = BitmapFactory.decodeStream(url.openConnection().  
                                            getInputStream());  
        bitmapHashMap.put(urlStr, bitmap);  
    } catch (Exception e){  
        e.printStackTrace();  
    }  
    return bitmap;  
}
```



# Glide 예제 01



## ■ ImageLoadTask.JAVA

@Override

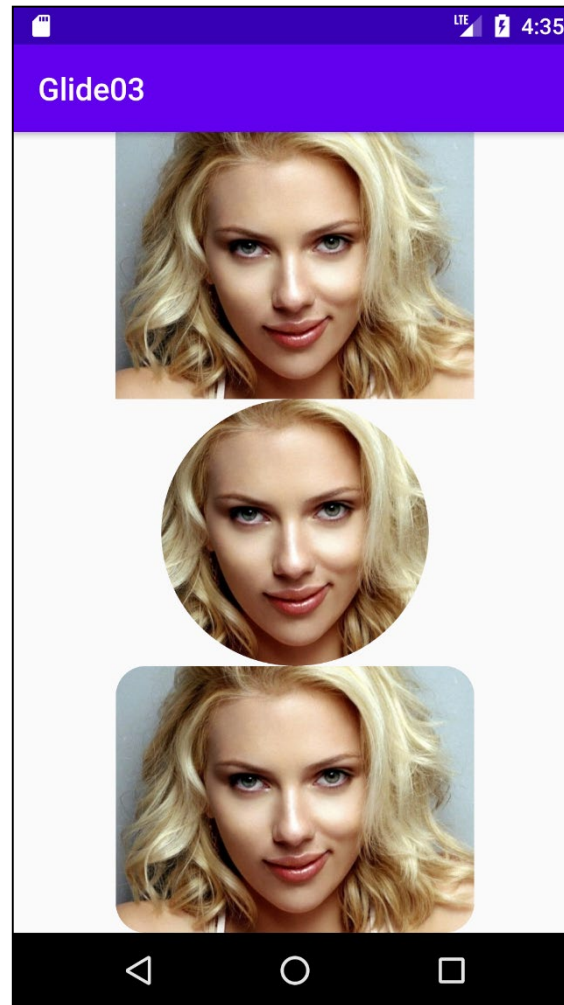
```
protected void onProgressUpdate(Void... values) {  
    super.onProgressUpdate(values);  
}
```

@Override

```
protected void onPostExecute(Bitmap bitmap) {  
    super.onPostExecute(bitmap);  
    imageView.setImageBitmap(bitmap);  
    imageView.invalidate();  
}  
}
```



# Glide 예제 03





# Glide 예제 03

## ■ 사용자 인터페이스

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/image1"
        android:layout_gravity="center"
        android:layout_width="wrap_content"
        android:layout_height="0dp"
        android:layout_weight="1"/>
```



# Glide 예제 03



## ■ 사용자 인터페이스

```
<ImageView  
    android:id="@+id/image2"  
    android:layout_gravity="center"  
    android:layout_width="wrap_content"  
    android:layout_height="0dp"  
    android:layout_weight="1"/>
```

```
<ImageView  
    android:id="@+id/image3"  
    android:layout_width="wrap_content"  
    android:layout_height="0dp"  
    android:layout_weight="1"/>
```

```
</LinearLayout>
```



# Glide 예제 03



## ■ MainActivity.JAVA

```
public class MainActivity extends AppCompatActivity {
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);
```

```
        ImageView imageView1 = findViewById(R.id.image1);  
        ImageView imageView2 = findViewById(R.id.image2);  
        ImageView imageView3 = findViewById(R.id.image3);
```

```
        Glide.with(this).load(R.drawable.scalet)  
            .transition(DrawableTransitionOptions.withCrossFade())  
            .into(imageView1);  
        Glide.with(this).load(R.drawable.scalet).circleCrop().into(imageView2);  
        Glide.with(this).load(R.drawable.scalet)  
            .apply(new RequestOptions().transform(new RoundedCorners(150)))  
            .into(imageView3);
```

```
    }
```

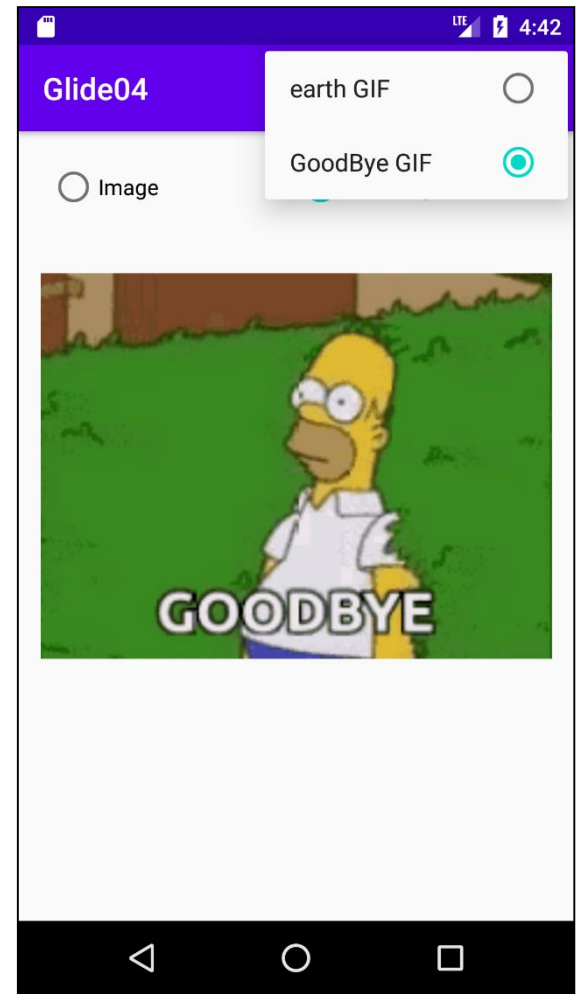
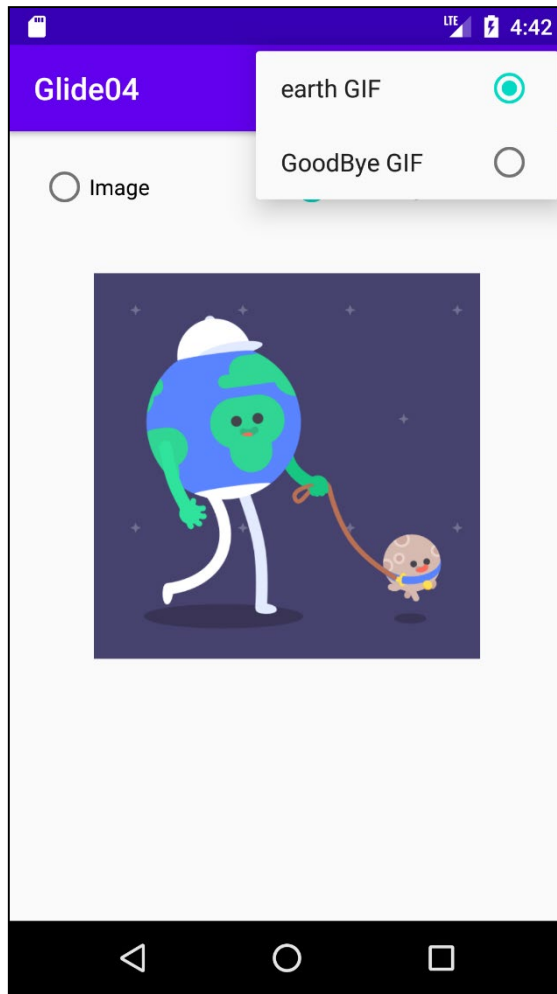
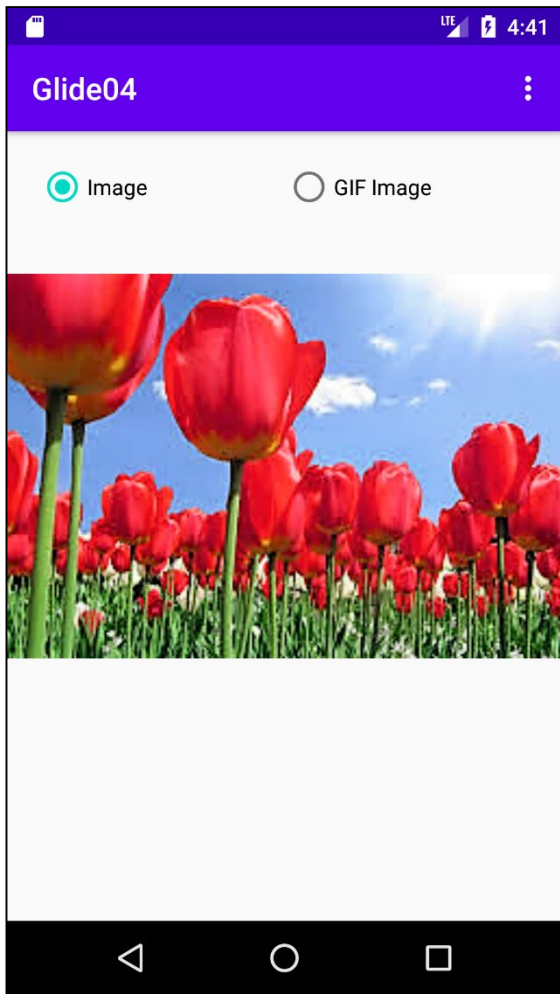
```
}
```





# Glide 예제 04

■ Image와 GIF image를 선택해서 보여주자





# Glide 예제 04



```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <RadioGroup
        android:id="@+id/group"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:checkedButton="@id/image"
        android:orientation="horizontal"
        android:padding="20dp">
        <RadioButton
            android:id="@+id/image"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="Image" />
```



# Glide 예제 04



## ■ 사용자 인터페이스

```
<RadioButton  
    android:id="@+id/gif"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_weight="1"  
    android:text="GIF Image" />
```

```
</RadioGroup>
```

```
<ImageView  
    android:id="@+id/imageView"  
    android:layout_marginTop="20dp"  
    android:layout_width="400dp"  
    android:layout_height="250dp"  
    android:contentDescription="TODO"  
    android:layout_gravity="center" />
```

```
</LinearLayout>
```



# Glide 예제 04

## ■ Menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
      xmlns:app="http://schemas.android.com/apk/res-auto">
  <group
    android:checkableBehavior="single"
    android:enabled="true">
    <item
      android:id="@+id/menu1"
      app:showAsAction="never"
      android:checked="true"
      android:title="earth GIF" />
    <item
      android:id="@+id/menu2"
      app:showAsAction="never"
      android:title="GoodBye GIF" />
  </group>
</menu>
```



# Glide 예제 04



## ■ MainActivity.JAVA

```
public class MainActivity extends AppCompatActivity {  
    boolean type = true;  
    RadioGroup group;  
    ImageView imageView;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
        group = findViewById(R.id.group);  
        imageView = findViewById(R.id.imageView);  
        Glide.with(this).load(R.drawable.tulip).into(imageView);  
        RadioButton button1 = findViewById(R.id.image);  
        button1.setOnClickListener(new View.OnClickListener() {  
            @Override  
            public void onClick(View v) {  
                Glide.with(v).load(R.drawable.tulip).into(imageView);  
            }  
        });  
    }  
};
```



# Glide 예제 03



## ■ MainActivity.JAVA

```
RadioButton button2 = findViewById(R.id.gif);
button2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (type) {
            Glide.with(v).load(R.drawable.earth).into(imageView);
        } else {
            Glide.with(v).load(R.drawable.goodbye).into(imageView);
        }
    }
});
}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    getMenuInflater().inflate(R.menu.menu, menu);
    return true;
}
```



# Glide 예제 04



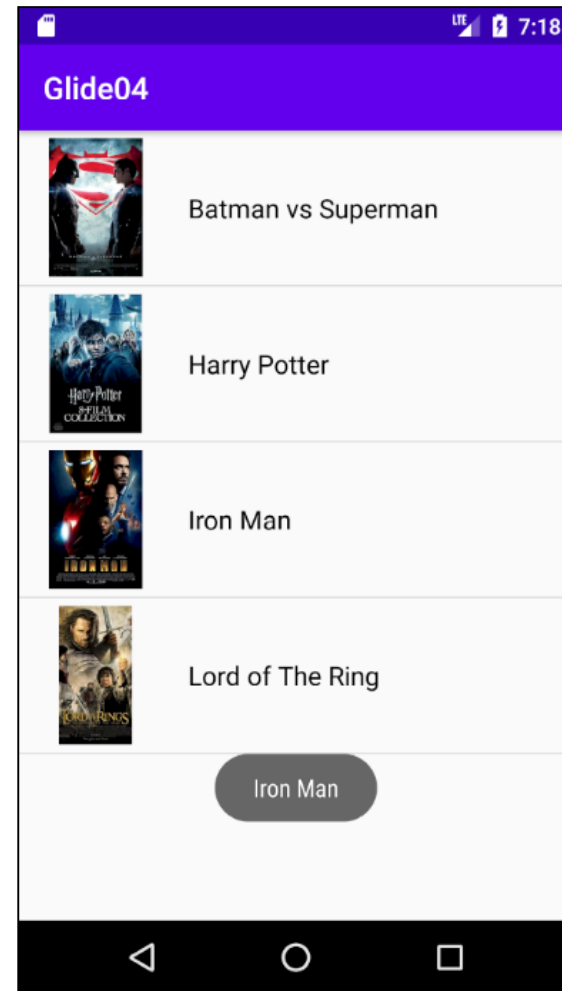
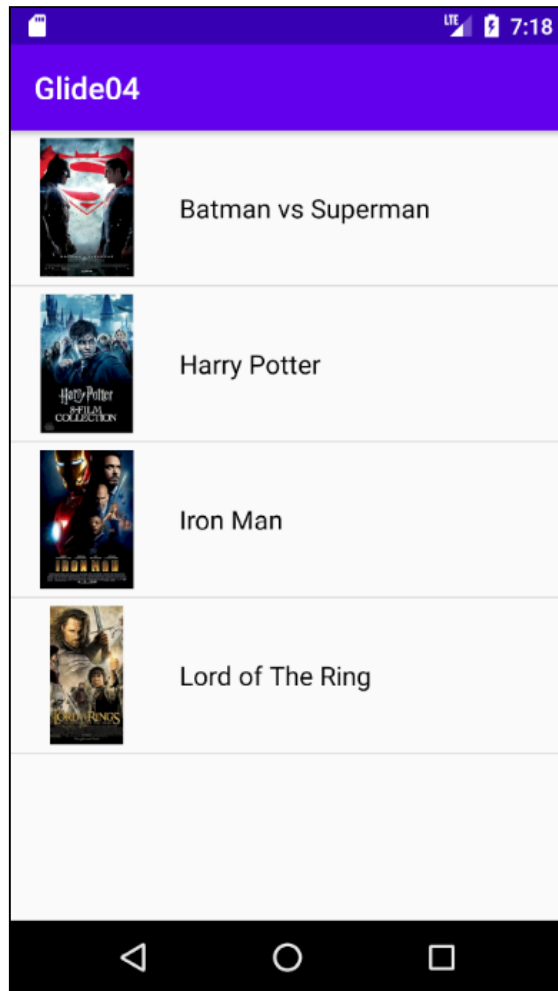
## ■ MainActivity.JAVA

@Override

```
public boolean onOptionsItemSelected(MenuItem item) {  
    int id = item.getItemId();  
    if (id == R.id.menu1) {  
        item.setChecked(true);  
        type = true;  
        if (group.getCheckedRadioButtonId() == R.id.gif) {  
            Glide.with(this).load(R.drawable.earth).into(imageView);  
        }  
    } else if (id == R.id.menu2) {  
        item.setChecked(true);  
        type = false;  
        if (group.getCheckedRadioButtonId() == R.id.gif) {  
            Glide.with(this).load(R.drawable.goodbye).into(imageView);  
        }  
    }  
    return super.onOptionsItemSelected(item);  
}
```



# Glide 예제 05







# Glide 예제 05



## ■ 사용자 인터페이스

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:visibility="gone"/>
    <ProgressBar
        android:id="@+id/progressBar"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="center"/>
</LinearLayout>
```



# Glide 예제 05



## ■ MainActivity.JAVA

```
public class MainActivity extends AppCompatActivity {
    private ProgressBar progressBar;
    private ListView listView;
    private List<Movie> movieList;
    RequestQueue requestQueue;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        listView = findViewById(R.id.listView);
        listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view,
                                    int position, long id) {
                Toast.makeText(getApplicationContext(), movieList.get(position).getName(),
                                Toast.LENGTH_LONG).show();
            }
        });
    }
}
```



# Glide 예제 05

## ■ MainActivity.JAVA

```
progressBar = findViewById(R.id.progressBar);
movieList = new ArrayList<>();
requestQueue = Volley.newRequestQueue(getApplicationContext());
loadList();
}

private void loadList() {
//  String JSON_URL = "https://cloud.snowcorp.org/demo/json-sample.php";
String JSON_URL = "http://192.168.219.104:8080/movie.json";

JsonObjectRequest jsonObjectRequest = new JsonObjectRequest(
    Request.Method.GET, JSON_URL, null,
    new Response.Listener<JSONObject>() {
        @Override
        public void onResponse(JSONObject response) {
            progressBar.setVisibility(View.GONE);
            listView.setVisibility(View.VISIBLE);
        }
    }
);
```



# Glide 예제 05

## ■ MainActivity.JAVA

```
try {
    JSONArray jsonArray = response.getJSONArray("movies");
    for (int i = 0; i < jsonArray.length(); i++) {
        JSONObject jsonObject = jsonArray.getJSONObject(i);
        Movie item = new Movie();
        item.setImage(jsonObject.getString("imageUrl"));
        item.setName(jsonObject.getString("name"));
        movieList.add(item);
    }
    MoviesAdapter mAdapter = new MoviesAdapter(movieList,
                                                getApplicationContext());
    listView.setAdapter(mAdapter);
    mAdapter.notifyDataSetChanged();
} catch (JSONException e) {
    e.printStackTrace();
}
},
```



# Glide 예제 05



## ■ MainActivity.JAVA

```
new Response.ErrorListener() {  
    @Override  
    public void onErrorResponse(VolleyError error) {  
        progressBar.setVisibility(View.GONE);  
        Toast.makeText(getApplicationContext(), error.getMessage(),  
                                Toast.LENGTH_SHORT).show();  
    }  
});  
requestQueue.add(jsonObjectRequest);  
}
```



# Glide 예제 05



## ■ Movie.JAVA

```
public class Movie {  
    private String name;  
    private String image;  
  
    public String getName() {  
        return name;  
    }  
    public void setName(String name) {  
        this.name = name;  
    }  
    public String getImage() {  
        return image;  
    }  
    public void setImage(String image) {  
        this.image = image;  
    }  
}
```



# Glide 예제 05



## ■ list\_items.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">

    <ImageView
        android:layout_margin="5dp"
        android:id="@+id/imageView"
        android:layout_width="90dp"
        android:layout_height="90dp"
        android:layout_gravity="center"
        android:contentDescription="image"/>
```



# Glide 예제 05



## ■ list\_items.xml

```
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:padding="10dp"
    android:textColor="#000"
    android:textSize="17dp"/>
</LinearLayout>
```





# Glide 예제 05

## ■ MoviesAdapter.JAVA

```
public class MoviesAdapter extends ArrayAdapter<Movie> {  
    private List<Movie> movieList;  
    private Context context;  
  
    public MoviesAdapter(List<Movie> movieList, Context context) {  
        super(context, R.layout.list_items, movieList);  
        this.movieList = movieList;  
        this.context = context;  
    }  
}
```



# Glide 예제 05

## ■ MoviesAdapter.JAVA

@Override

```
public View getView(int position, View convertView,
                    @NonNull ViewGroup parent) {
    LayoutInflater inflater = LayoutInflater.from(context);
    View listItem = inflater.inflate(R.layout.list_items, null, true);
    TextView textView = listItem.findViewById(R.id.textView);
    ImageView imageView = listItem.findViewById(R.id.imageView);
    Movie items = movieList.get(position);
    textView.setText(items.getName());
    Glide.with(context)
        .load(items.getImage())                // Set image url
        .diskCacheStrategy(DiskCacheStrategy.ALL) // Cache for image
        .into(imageView);

    return listItem;
}
```

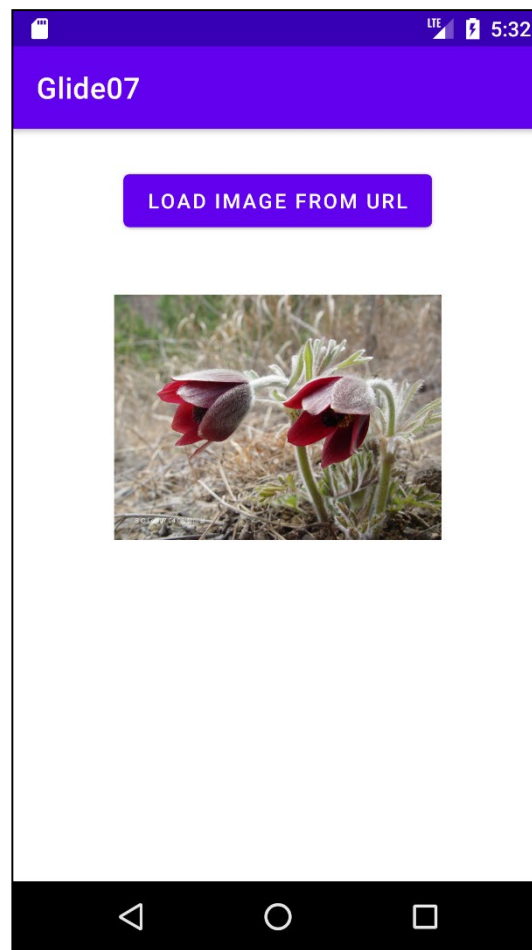


# Glide 예제 06





# Glide 예제 07





# Glide 예제 08

