

Android Databinding



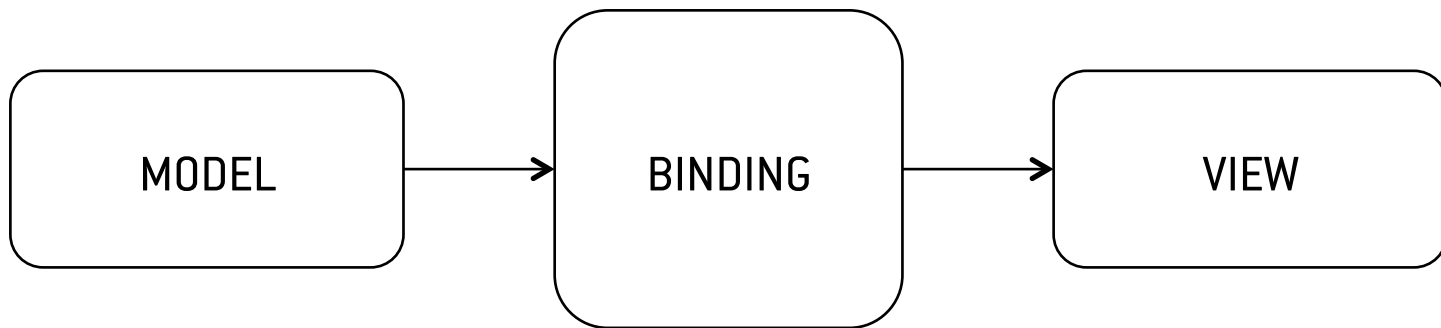
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Introduction

What is data binding?

- ▶ Data binding binds a data model object to a UI element
- ▶ Support for Android was announced at Google I/O 2015 on 28.05.2015



What do I need?

- ▶ Minimum API-Level 7 (2.1)
- ▶ Android Studio 1.3.0-beta1 or higher
- ▶ In Root build.gradle add databinding library:

```
dependencies {  
    classpath "com.android.tools.build:gradle:1.3.0-beta1"  
    classpath "com.android.databinding:dataBinder:1.0-rc0"  
}
```

- ▶ Apply databinding plugin

```
apply plugin: 'com.android.application'  
apply plugin: 'com.android.databinding'
```

DEMO

<https://github.com/kupferwerk/databinding-android-demo>

Data Model

```
public class Movie {  
  
    private String genre;  
    private String imageUrl;  
    private Date publicationDate;  
    private String title;  
  
    // Getter and setter  
  
}
```



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Simple Usage

activity_detail.xml

```
<layout xmlns:android="http://schemas.android.com/apk/res/  
android">
```

```
  <data>  
    <variable  
      name="movie"  
      type="com.kupferwerk.androiddatabinding.model.Movie"/>  
  </data>
```

```
  <TextView  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
  
    android:id="@+id/title"  
    android:text="@{movie.title}" />
```

```
</layout>
```


Activity

```
private ActivityDetailBinding binding;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);
```

```
        binding = DataBindingUtil.setContentView(this,  
            R.layout.activity_detail);  
        binding.setMovie(movie);
```

```
}
```

Usage in Lists

ListAdapter

```
@Override  
public void onBindViewHolder(ViewHolder viewHolder, final int i) {  
    viewHolder.binding.setMovie(movies.get(i));  
}
```

```
@Override  
public ViewHolder onCreateViewHolder(ViewGroup viewGroup, int i) {  
  
    // inflate view  
  
    ListItemBinding binding =  
        DataBindingUtil.inflate(layoutInflater, R.layout.list_item,  
            viewGroup, false);  
  
    return new ViewHolder(binding);  
}
```

ViewHolder

```
public static class ViewHolder extends
RecyclerView.ViewHolder {

    private final ListItemBinding binding;

    ViewHolder(final ListItemBinding binding) {
        super(binding.getRoot());
        this.binding = binding;
    }

}
```



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More Features

Imports - Formatting

```
<layout>
  <data>
    <import type="com.kupferwerk.androiddatabinding.DateUtils"/>

    <variable
      name="movie"
      type="com.kupferwerk.androiddatabinding.model.Movie"/>
  </data>

  <TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="@{DateUtils.formatDate(movie.publication)}/>
</layout>
```

Custom Setters

```
public class BindingUtils {  
  
    @BindingAdapter ({"bind:imageUrl"})  
    public static void loadImage(ImageView view, String url) {  
        Picasso.with(view.getContext()).load(url).into(view);  
    }  
}
```

```
<ImageView  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    app:imageUrl="@{movie.imageUrl}" />
```

Observables

```
public class Movie extends BaseObservable {  
    // More attributes  
    private String title;  
  
    @Bindable  
    public String getTitle() {  
        return title;  
    }  
  
    public void setTitle(String title) {  
        this.title = title;  
        notifyPropertyChanged(BR.title);  
    }  
}
```


Supporting Resources

```
android:text="@{@string/nameFormat(firstName, lastName)}"
```

```
android:text="@{@plurals/banana(bananaCount)}"
```

```
android:padding="@{@dimen/largePadding}"
```

```
android:textColor="@{@color/red}"
```

Expression Language

```
android:visibility="@{user.age < 13 ? View.GONE : View.VISIBLE}"
```

```
android:text="@{movie.genre ?? movie.title}"
```

Problems

- ▶ IDE-Support currently poor
 - ▶ Error indicated, but it compiles and works
 - ▶ No code completion in layout
- ▶ Only one way binding is currently implemented.
- ▶ API not stable

References

- ▶ Dokumentation: <https://developer.android.com/tools/data-binding/guide.html>
- ▶ Samples from Kupferwerk: <https://github.com/kupferwerk/databinding-android-demo>
- ▶ What's new in Android (from 13th min): https://www.youtube.com/watch?v=ndBdf1_o0GA

Thank you!

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