

ViewBinding and DataBinding

ViewBinding Definition:

- View binding is library that gives you the ability to replace `findViewById` with generated binding objects to simplify code. View Binding improves your program because you can catch compile errors before you ship your app unlike `findViewById`, which gives runtime errors: this means that users will experience the code errors instead of programmer.

ViewBinding Setup:

- You need to configure/change your gradle.build file to include the following code lines

```
// Android Studio 4.0
android {
    buildFeatures {
        viewBinding = true
    }
}
```

How Binding works

- Android studio creates a binding class for every layout holds the references of view in your layout.



- Note that this binding object is generated automatically with the following rules in place:
- Layout file activity_main.xml becomes ActivityMainBinding binding object
- View IDs within a layout become variables inside the binding object (i.e binding.tvLabel)

Binding code generated by Android Studio

- Android Studio auto generates this code and binds your layout Class to your variable using this statement



```
private lateinit var binding: ActivityMainBinding
```

```
[ private lateinit var binding: ActivityMainBinding ]  
  override fun onCreate(savedInstanceState: Bundle?) {  
    super.onCreate(savedInstanceState)  
    binding = ActivityMainBinding.inflate(layoutInflater)  
    setContentView(binding.root)
```

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How ViewBinding and Databinding creates the your layout view references



ViewBinding Advantages:

- **Null-safe:** with view binding, you no longer need to do null check on a view while using on it , as the Binding class generates directly from the layout file it contains the views within the layout
- **Type-safe:** Type safety is one of the most significant advantages in view binding, If you try to assign text watcher to a button, it won't accept it because the binding class contains the reference with the appropriate view type
- **Ease of use:** View Binding sole purpose is to replace the use of findViewById unlike dataBinding, the library is small and does not take much time to compile.

ViewBinding References

- Everything You Should Know About ViewBinding in Android

<https://betterprogramming.pub/everything-you-should-know-about-viewbinding-in-android-52552af9e8ba>

- Android Data Binding: Under the Hood (Part 1)

<https://proandroiddev.com/android-data-binding-under-the-hood-part-1-33b8c7adfb7c>

- Use view binding to replace findViewById

<https://medium.com/androiddevelopers/use-view-binding-to-replace-findviewbyid-c83942471fc>