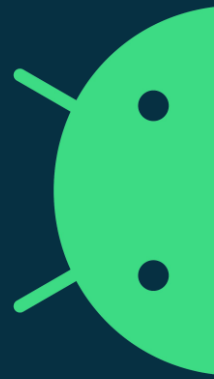
Lab.
Pemrograman Mobile



android

Pertemuan 4

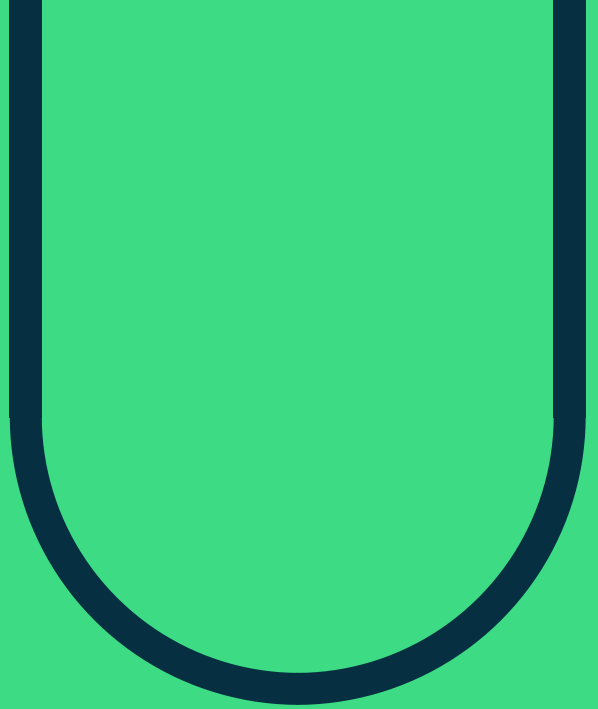
android

Learning Objectives

- Explicit Intent
  - Sending Data With Serializable
  - Sending Data With Parcelable

android

Pert. 4
Intent w/ Serializable & Parcelable



android

While developing an application in Android, the developer can create more than one activity in the application. So, there can be many activities and can be a case to transfer data from one activity to the other. In such cases, Intents are used. Intents let the user jump from one activity to the other, or go from the current activity to the next activity. While going from one activity to the other, we can pass parameters like strings, integers, etc from the current activity and fetch them in the next activity.

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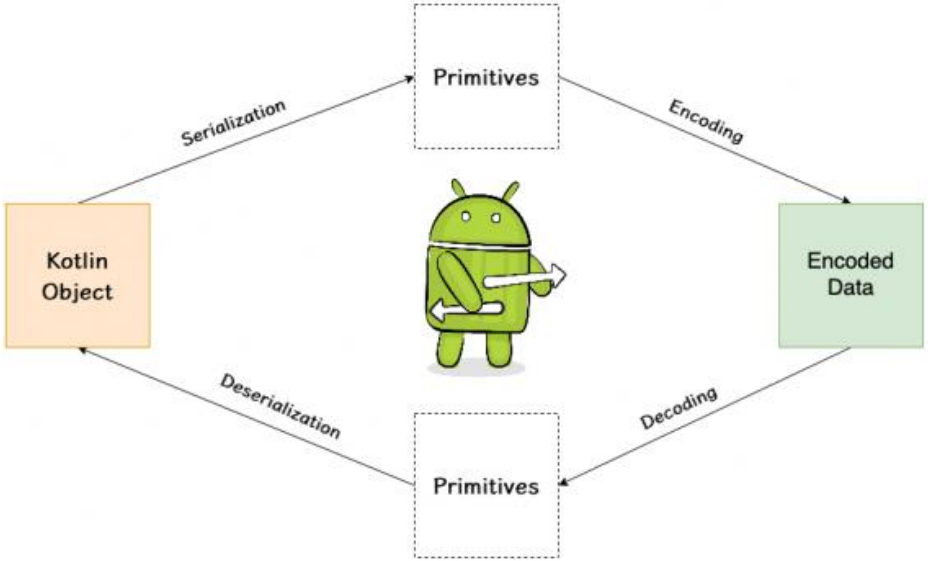
Serializable and Parcelable are crucial for Android app development because they enable the serialization of complex data structures and custom objects, facilitate communication between app components, enhance performance and efficiency, and support data persistence and interoperability. Choosing the right serialization mechanism (Serializable or Parcelable) depends on your specific use case and performance requirements.

android

Serializable

Serializable is a Java interface that enables an object to be serialized, meaning that it can be converted into a byte stream and stored in a file or transmitted over a network.

- Simple method of saving objects to a file or sending them over a network.
- When an object is serialized, it is converted into a byte stream that is easily readable by the receiving end. The receiving end can then convert the byte stream back into an object.
- Serialization is a quick and efficient way of transferring data across activities.



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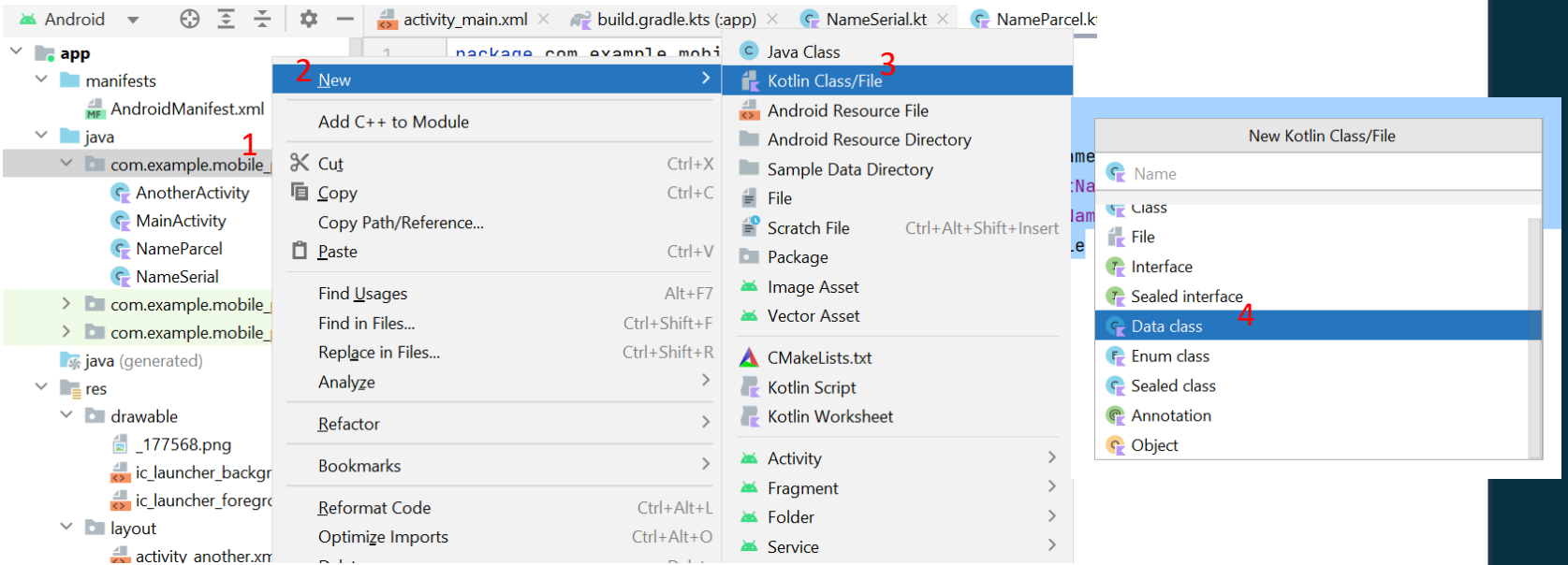
Serializable

Create a data class for our serializable object



Serializable

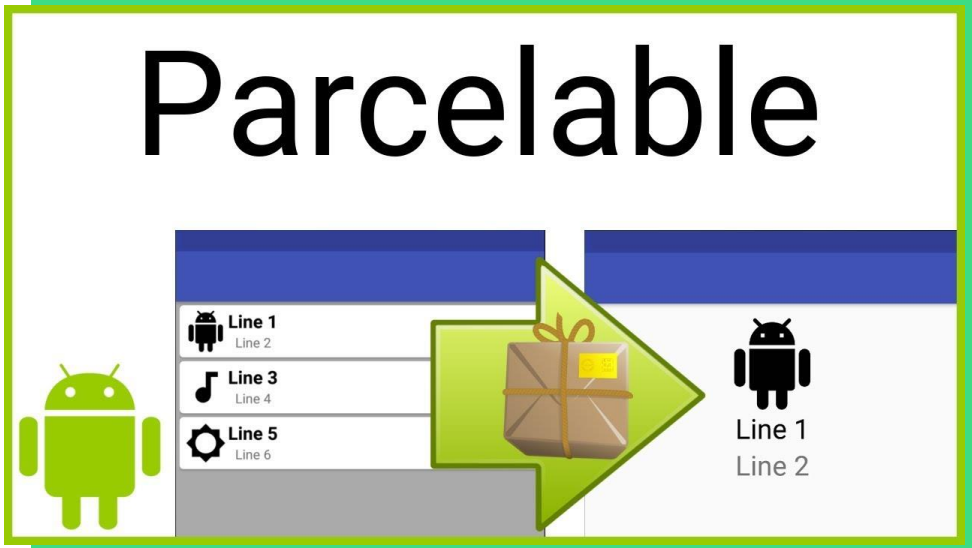
```
import java.io.Serializable

data class MyObject(
    val firstName: String,
    val lastName: String,
    val number: Int
) : Serializable
```

Parcelable

Parcelable is an Android-specific interface that enables an object to be passed as a parameter from one activity to another.

- More efficient method compared to serialization, as it doesn’t require the object to be converted into a byte stream.
- When an object is passed using parcelable, it is passed directly from one activity to another.
- Has the advantage of being able to pass a large amount of data in a single call, making it more efficient than serialization.



android

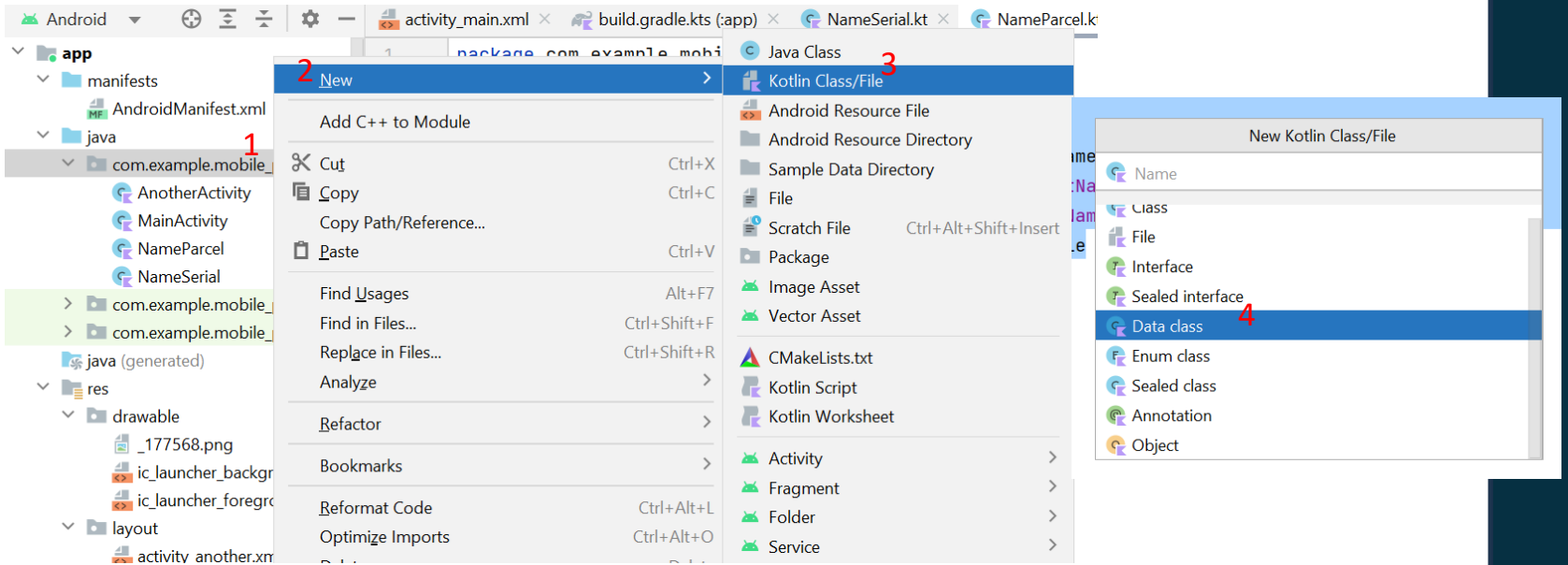
Setup View Binding

First enable parcelize in build.gradle (module) file by writing these line of codes under plugins block. Then re-sync the gradle.

```
plugins {
    ...
    id("kotlin-parcelize")
}
```

Parcelable

Create a data class for our parcelable object



Parcelable

```
import android.os.Parcelable
import kotlinx.parcelize.Parcelize

@Parcelize
data class MyObject(
    val firstName: String,
    val lastName: String,
    val weight: Float
) : Parcelable
```

Conclusion

- Parcelable is faster than Serializable interface
- Parcelable interface takes more time to implement compared to Serializable interface
- Serializable interface is easier to implement
- Serializable interface creates a lot of temporary objects and causes quite a bit of garbage collection
- Parcelable array can be passed via Intent in android

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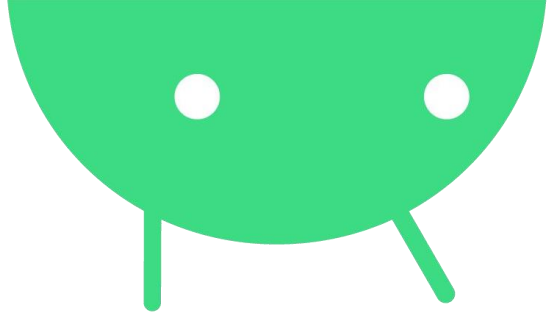

Any Question?