



**Externalizable**

By Rahul Barve



# Externalizable

- A sub-interface of `Serializable`.
- Allows to have full control over encryption and decryption while performing serialization and de-serialization respectively.



# Externalizable

- Methods:
  - `readExternal (ObjectInput) ;`
  - `writeExternal (ObjectOutput) ;`



# **Serialization Further Concepts**

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# Serialization Further Concepts

- If a variable of a class is declared as `static`, its value does not get serialized.
- It gets initialized with default values during de-serialization.



# Serialization Further Concepts

- In order to avoid serialization for an instance variable, the instance variable is to be declared as `transient`.
- Transient variables are also initialized with default values during de-serialization.



# NIO Basics

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# NIO Basics

- NIO stands for New IO
- A separate API provided by Java for Performance Optimization





# NIO Basics

- The NIO specific library mainly consists of 3 packages:
  - `java.nio`
  - `java.nio.file`
  - `java.nio.channels`



# NIO Basics

- The `java.nio` package provides several types of *buffers* which are used as containers for the data.
- E.g. `ByteBuffer`



# NIO Basics

- The `java.nio.channels` package provides several types of *channels* which are used to transfer the data from *source* to *buffer* or from *buffer* to some *destination*.
- E.g. `FileChannel`



# NIO Basics

- The `java.nio.file` package provides several utilities to handle file operations.
- E.g.
  - `Path`
  - `Paths`
  - `Files`



# NIO Basics

- The interface named as `Path` indicates the path of the resource and it can be obtained using `Paths` class.
- E.g.

```
Path currentPath =  
    Paths.get ("---somepath---") ;
```



# NIO Basics

- The class `Files` is used to handle file specific operations.
- It provides several utility methods
- E.g.

`readAllLines()`

`write()`

`exists()`



# Lets Summarize

- What are Streams
- Types of Streams
- Working with Input and Output
- Reader and Writer
- Object Serialization
- NIO Basics