



# Enums

By Rahul Barve



# Enums

- An enum type is a special data type that enables for a variable to be a set of predefined constants.
- The variable must be equal to one of the values that have been predefined for it.



# Enums

- Enums are declared using enum keyword.
- E.g.

```
public enum Nationality {  
    INDIAN,    US,    GERMAN,    BRITISH,  
    FRENCH,    JAPANESE,    OTHER  
}
```



# Enums

- Once an enum is declared, it can be used by using a dot ( . ) operator.
- E.g.

```
Nationality nt = Nationality.INDIAN;
```



# Enums

```
if (nt.equals (Nationality.INDIAN) ) {  
    ...  
}
```



# Reflection

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# Reflection

- Sometimes, it's necessary to retrieve information about the class and perform some operations at runtime.
- Java provides a Reflection API that belongs to a package `java.lang.reflect`.



# Reflection API

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# Reflection API

- Reflection API mainly consists of 4 classes:
  - `java.lang.Class`
  - `java.lang.reflect.Method`
  - `java.lang.reflect.Constructor`
  - `java.lang.reflect.Field`



# Lambda Expressions



# Lambda Expressions

- A lambda expression is a new syntax element and operator into the Java language.
- The operator `->` sometimes referred to as a *lambda operator* or an *arrow operator*.



# Lambda Expressions

- The lambda operator divides the expression into 2 parts.
- The left side indicates Lambda Parameters whereas the right side indicates Lambda Body.



# Lambda Expressions

- Lambda bodies are divided into 2 types:
  - Single Expression Lambda
  - Blocked Lambda



# **Date and Time API**



# Date and Time API

- With the release of JDK 8, Java now includes another approach to handling time and date.
- The Date and Time API of JDK 8 simplifies processing of date and time.



# Why Date and Time API





# Why Date and Time API

- The existing classes aren't thread-safe, leading to potential concurrency issues for users.
- Some of the date and time classes also exhibit quite poor API design.



# Why Date and Time API

- For example, years in `java.util.Date` start at 1900, months start at 1, and days start at 0—not very intuitive.



# **Date and Time API**



# Date and Time API

- The `java.time` package is the heart of Date / Time API.
- It mainly consists of 3 classes:
  - `LocalDate`
  - `LocalTime`
  - `LocalDateTime`