**Software Requirements:**

* Java 8
* Spring Tool Suite (STS)

**Table of Contents**

* Introduction to Collections and Generics (Quick brush up)
  + Collection Framework
    - List
    - Map
    - Set
  + Generics
* Introduction to Java 8 new features
  + Functional Programming
  + Functional interface
  + Lambda expression
  + Method reference
  + Constructor reference
  + Stream API
  + Optional class
  + Default and static methods in an interface
  + New Date Time API
  + @FunctionalInterface
* Functional Programming
* Function interfaces
  + What is functional interface?
  + @FunctionalInterface
  + New package in java 8 => java.util.function
  + Categories of functional interfaces
    - Predicate
    - Consumer
    - Supplier
    - Function
  + Demo on Functional interfaces
* Lambda Expression
  + What is lamda expression?
  + Advantages of lambda expression and where it is used?
  + Demo on Lamda Expressions
* Stream API
  + Introduction to streams
  + Streams vs Collections
  + Different ways of building streams
  + Different types of Streams
    - Stream, IntStream, LongStream, DoubleStream
  + Stream Operations
    - Intermediate Operations
    - Terminal Operations
  + Sequential streams vs Parallel Streams
  + Method reference
  + Constructor reference
  + Demo on streams
* Default and static methods in interface
  + Why default and static methods added in interface?
  + Demo on default and static methods of interface
* Optional class
  + Introduction to Optional class
  + How do you model the absence of a value?
  + Problems with null
  + Different ways of creating Optional class object
  + Different methods of Optional class
    - get(), isPresent(), orElse(), orElseThrow(), ifPresent(), orElseGet()
    - map(), filter(), flatMap(), empty(), of(), ofNullable()
  + Practical example of using Optional class.
* New Date-Time API
  + Problems with java.util.Date and java.util.Calendar class
  + Introduction to new Date Time API
  + Newly added classes
    - LocalDate
    - LocalTime
    - LocalDateTime
    - Period
    - Duration
  + Manipulation, parsing and formatting dates
  + Working with different zones and calendars
  + Practical example of using new date-time api.