

# Java Tutorial Outline

## 1. Core Java Concepts

- Language Fundamentals

## 2. Object-Oriented Programming (OOP)

- Classes and Objects
  - class structure, instance, and static members
  - constructors, *this* and *super* keywords
- Inheritance and Polymorphism
  - Types of inheritance, method overriding
  - Interfaces
  - Dynamic binding and runtime polymorphism
- Encapsulation and Abstraction
  - Access modifiers and data hiding

## 3. Exception Handling

- Exception Hierarchy
  - Checked vs. Unchecked exceptions
- Custom Exceptions
  - Creating user-defined exceptions

## 4. Collections in Java

- List, Set, Map: Interfaces and Implementation
- collection utilities and algorithms

## 5. Selected exercises in Distributed Systems and Web Applications