

## Java Learning Roadmap (70+ Days)

This roadmap outlines a 70+ day plan to learn Java programming.

### Days 1-5: Introduction to Java Language Basics

- Java Programming Language - Getting Started
- Java JVM, JRE, and JDK Explained with Diagrams
- Java Buzzwords or Features of Java
- Java First Hello World Program
- Variables in Java
- Java main() Method
- Java Access Modifiers
- Arithmetic Operators
- Bitwise Operators
- Equality, Relational, and Conditional Operators
- Primitive Data Types in Java
- Java if Statement
- Java Switch Case Statement
- Java for Loop
- Java while Loop
- Java do-while Loop
- Java continue Statement
- Java break Statement

### Days 6-10: Learn Arrays

- Java Array Basics Guide
- Two-Dimensional Array in Java
- Copying Arrays in Java
- Convert Array to ArrayList
- Convert ArrayList to Array
- java.util.Arrays Class API Guide

### Days 11-15: String Handling

- Java String Class API Tutorial
- Java StringBuffer Class API Tutorial
- Java StringBuilder Class API Tutorial
- Guide to Java String Constant Pool
- Guide to String Best Practices in Java (Best Practice)
- String Special Operations with Examples
- String Comparison Methods with Examples
- String Methods for Character Extraction
- String Searching Methods with Examples
- String Modifying Methods with Examples

### Days 16-20: Learn Object-Oriented Programming in Java

- What Is Object in Java with Programming Examples
- What is Class in Java with Programming Examples
- What Are All the Different Ways to Create an Object in Java?
- java.lang.Object Class Methods with Examples
- Java Interface
- Java Abstract Class
- Abstraction in Java with Example

## Java Learning Roadmap (70+ Days) - Page 1

Continuation of the Java learning roadmap.

- Encapsulation in Java with Example
- Inheritance in Java with Example
- Polymorphism in Java with Example
- Composition in Java with Example
- Aggregation in Java with Example
- Association in Java with Example
- Cohesion in Java with Example
- Coupling in Java with Example
- Delegation in Java with Example
- OOps Concepts in Java
- How to Make Immutable Class in Java
- Packages in Java with Examples
- Overloading Constructors in Java with Examples
- Method Overloading in Java with Examples
- Nested Classes in Java

Days 21-25: Learn Collections Framework

- Collections Framework in Java
- Collections Framework - The Collection Interface
- Collections Framework - The Set Interface
- Collections Framework - The SortedSet Interface
- Collections Framework - The List Interface
- Collections Framework - The Queue Interface
- Collections Framework - The Deque Interface
- Collections Framework - The Map Interface
- Collections Framework - The SortedMap Interface
- Collections Framework - ArrayList Class
- Collections Framework - LinkedList Class
- Collections Framework - CopyOnWriteArrayList
- Collections Framework - HashSet Class
- Collections Framework - LinkedHashSet Class
- Collections Framework - TreeSet Class
- Collections Framework - CopyOnWriteArraySet
- Collections Framework - EnumSet
- Collections Framework - HashMap Class
- Collections Framework - LinkedHashMap Class
- Collections Framework - TreeMap class
- Collections Framework - EnumMap
- Collections Framework - WeakHashMap
- Collections Framework - IdentityHashMap

Days 26-30: Java Generics

- Java Generics - Generics Basics
- Java Generics - Benefits of Generics
- Java Generics - Generic Types
- Java Generics - Generic Methods in Java
- Java Generics - Bounded Type Parameters

## Java Learning Roadmap (70+ Days) - Page 2

Continuation of the Java learning roadmap.

- Java Generics - Wildcards
- Java Generic Methods Examples
- Java Generic Interface Examples
- Java Generic Class Examples
- Java Generics Multiple Type Parameters Example

Days 31-35: Learn Exception Handling in Java

- Java Exception Handling Guide
- How the Exception Handling Works in Java
- Three Types of Exceptions in Java
- Exceptions Hierarchy in Java
- Java Chained Exceptions
- java.lang.Throwable Class in Java
- Exception Handling Keywords in Java
- Java try/catch block
- Java throw Keyword
- Java throws Keyword
- Java finally Block
- The try-with-resources Statement
- Advantages of Java Exceptions
- Java Exception Handling Best Practices

Days 36-40: Learn Java Multithreading

- How to Create and Start a Thread in Java
- Java Thread Sleep Example
- Java Thread Join Example
- Java Thread Set Name Example
- Java Thread interrupt Example
- Java Thread Priority Example
- Java Thread isAlive Example
- ThreadGroup class in Java
- Thread Class in Java
- Runnable Interface in Java
- Synchronization in Multithreading Java
- ThreadLocal class in Java
- To know in-depth about Java multi-threading on Java Multithreading Tutorial

Days 41-45: Functional Programming (Java 8 Main Features)

- Java 8 Lambda Expressions
- Java 8 Functional Interfaces
- Java 8 Method References
- Java 8 Stream API
- Java 8 Optional Class
- Java 8 Collectors Class
- Java 8 StringJoiner Class
- Java 8 Static and Default Methods in Interface

Days 46-50: Java Input/Output

- Create File

Continuation of the Java learning roadmap.

- Write File
- Delete File
- Copy File
- Move File
- Rename File
- Append to File
- Read the File using BufferedReader
- Read File using BufferedInputStream
- Read File using DataInputStream
- Get File Size in Bytes KB MB GB TB
- How to write an Object to file in Java
- How to Read Object from File
- Compress Files in ZIP format in Java
- Decompress Files from a ZIP file in Java
- Get the current working directory
- Create a directory
- Delete directory
- Copy directory
- Traverse /List a directory structure
- Check if the directory is empty
- To know in-depth about File handling on Java I/O Tutorial

Days 51-55: Learn Data Structures and Algorithms

- DS Stack
- Stack Data Structure in Java
- Stack Implementation using Array in Java
- Dynamic Stack Implementation using Array in Java
- Stack Implementation using Linked List in Java
- Stack Implementation using Array List
- Generic Stack Implementation in Java
- Reverse a String using Stack Data Structure in Java
- How to Reverse a Stack in Java
- DS Queue
- Queue Data Structure in Java
- Queue Implementation using Linked List in Java
- Queue Implementation using Circular Array in Java
- Dynamic Queue Implementation using Array
- DS Linked List
- Linked List Data Structure in Java
- Singly Linked List Implementation in Java
- DS Searching Algorithms
- Binary Search Algorithm in Java
- Linear Search Algorithm in Java
- Interpolation Search Algorithm in Java
- DS Sorting Algorithms
- Bubble Sort Algorithm in Java

Continuation of the Java learning roadmap.

- Selection Sort Algorithm in Java
- Insertion Sort Algorithm in Java
- Merge Sort Algorithm in Java
- Quick Sort Algorithm in Java

Days 56-60: Advanced Java

- Learn JDBC
- Learn Servlets
- Learn JPA
- Learn JAX-RS
- Learn Design Patterns
- Learn Thymeleaf

Days 61-65: Build Tools

- Maven
- Gradle

Days 66-70: Spring Framework

- Learn Spring Core
- Learn Spring Security
- Learn Spring Data JPA
- Learn Spring MVC
- Learn Spring Boot

Congratulations! You've completed a 70+ day Java learning roadmap!