

Java Developer Learning Path – A Complete Roadmap

Last Updated : 20 Sep, 2024



Java is one of the most widely used programming languages in the world. Talking about its popularity, more than **nine million developers** considered the Java Programming language as their mother tongue. So there is no doubt about Java's popularity worldwide. Java is a general-purpose, object-oriented programming language that first appeared in 1995. Despite being released over 25 years ago, **Java maintains its position among the top 3 programming languages** according to the TIOBE Index for February 2022. In the current era, Java is one of the most famous programming languages as it can be utilized to design highly scalable applications that are light & fast and serve a variety of purposes.



The demand for **Java Developers** remains strong, even with competition from new languages. **Java** is one of the most in-demand programming languages on the job market, relying on whose numbers you look at. From selecting your first programming language to building highly scalable applications, **Java** has been everyone's favorite. But the first question appears who is a Java Developer?

Who is a Java Developer?

A **Java developer** is a specialized programmer or you can say coder who teams up with software engineers to combine Java into business software, applications, and

websites. A Java developer is responsible for multiple responsibilities during the development cycle of applications. Following are some of the major responsibilities they serve:

- *Design, Implement and Maintain Java Application*
- *Involved in software analysis, testing, coding, and debugging*
- *Transform requirements into stipulations*
- *Recommending modifications to advance established Java application*
- *Develop technical designs for app development, etc.*

The average Java developer salary in India is **Rs 443,568** per annum. The salary could differ from INR **202,602 to about INR 1,102,825** per annum relying on factors like experience level, location, company profile, etc. So now it is clear why one should become a **Java Developer**. Now the questions that arise are, how to start? Where to start? What topics one should cover? The answer to these questions is the [Java Backend Development Live Course](#) which provides you with the best Placement Assistance. There are numerous services that are included in this course, such as resume building services, priority resume selection, and assistance in interview selection. Apart from this, if you need to learn all the concepts from a book or you should go with some online tutorials or you should learn **Java Development** by doing some projects on it? In this article, let's discuss all these things in detail.

Roadmap to Learn Java

Start with the Overview of **Java**. Read some **Java Development-related blogs** and also research some Java Development-related things. If you wish to learn basic java before moving to development then you should enrol in our [java basic programming course](#). For example read blogs on **Introduction to Java, History of Java, and also topics like Is it Worth to Become a Java Developer in 2022, etc., etc.**, and make a complete mind makeup to start your journey on **Java Development**. Make yourself self-motivated to learn Java Development and build some awesome projects using Java. Do it regularly and also start learning one by one new concepts. It will be great to join some workshops or conferences on **Java Development** before you start your journey.

The best way to become a Java Developer is by developing some mini projects to some advanced projects. These [Top 7 Java Project Ideas To Enhance Programming Skills](#) will definitely help you.

1) Core Java

In this particular **Java Developer roadmap**, the first thing you need to learn is **Core Java**. So in the **core java**, you need to learn the following major topics:

- *Data Types and Variables*
- *Features and Architecture*
- *Operator and Expressions*
- *String Class*
- *Conditional Statements and Loops*
- *OOPs Concept in Depth*
- *Multithreading*
- *JAVA IO Streams*
- *Collection Framework*
- *Java 8*

2) Advanced Java

After learning Core Java you need to learn the Advanced Java concepts. In this particular **Advanced Java**, you need to learn the following topics

- [*Design Pattern*](#)
- [*JVM*](#)
- [*Threads*](#)
- [*Servlet and JSP*](#)
- [*Concurrent Programming*](#)
- [*Garbage Collection*](#)
- *Best Practice and Code Structure*

In **Advanced Java**, you don't need to learn everything in detail but you just be aware of all the above things and how those are working. And whenever you are working on these particular things you can read about them and you can implement them in your project.

3) IDE's

Once you are well versed with the **core and advanced java** you should be able to code java applications. So for that, you should know any of the following IDE's

- *IntelliJ IDEA*
- *Eclipse*
- *Spring Tool Suite*
- *VS Code*

You must be aware of the different shortcuts for your IDE whichever you are preferring so that it will optimize your workflow and increase your productivity for developing applications.

4) Build Tools

Now all your **java code** should be built. So for building your Java project you must be aware of the different build tools. Some of the amazing tools that you can use for building your **Java project** are:

- *Maven*
- *Gradle*
- *Ant*

5) Servers

Once you have created your web application it's time to deploy it. So you will be deploying your web application on the server **so you must be aware of at least one server that you can work with**. Tomcat is the most widely used server. Apart from that JBOSS is also used in many places.

- *Tomcat*

- *Weblogic*
- *JBOSS*
- *WebSphere*
- *Jetty*

6) Database

Database plays an integral role in creating a Java application as storing data is a crucial aspect. So if you work in any organization you have to work with **databases**. You have to write the queries to execute different operations on a database. So some of the topics that you need to learn are:

- [SQL](#)
 - *ACID*
 - *Joins*
 - *Indexes*
 - *Constraints*
- **Advanced SQL**
 - *Procedures*
 - *Packages*
 - *Functions*
 - *DBA*
- **NoSQL**
 - [MongoDB](#)
- **ORM (Object-Relational Mapping) Framework**
 - *JPA (Java Persistence API)*
 - *Hibernate*
 - *iBatis*
 - *Spring Data JPA*

7) Testing

Testing is a very important phase during your development journey. So you must be aware of how to test your **Java application** to minimize error and maximize

efficiency.

- *Unit Testing*
- *Integration Testing*
- *Debugging Code (Must know)*
- *Junit*
- *Mockito*

8) Logging

There are different **logging libraries** are available in Java. So whenever you create the Java application you should log your errors or files to get information about what's happening in the system. You must be aware of any of the following

Logging libraries

- *Log4j*
- *Log4j2*
- *Log-back*

9) Frameworks

There are a lot of different **frameworks** are available in Java. These frameworks foster easy debugging, extensive code reusability, improved code efficiency, and reduce the overall development time. So mentioned below are some of the **Java Frameworks** that you can learn:


- *Spring*
- *Spring Boot*
- *Hibernate*
- *JSF*
- *GWT*
- *Micronaut*

These [10 Most Popular Java Frameworks That You Must Try](#) tells about some popular frameworks you can use in your projects.

10) Keep Practicing

“Practice makes a man perfect” this phrase manifests the importance of continuous practice and learning. So keep learning, practicing, and stay updated.

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