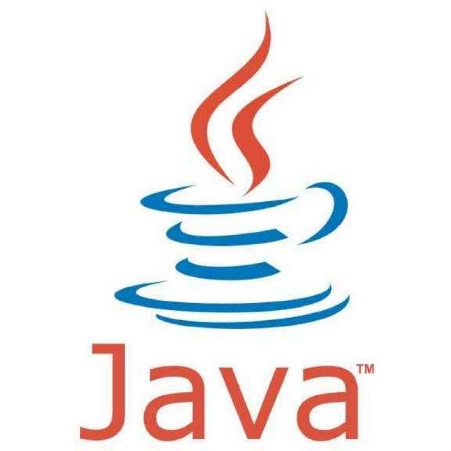


**java**

**CORE JAVA**



github\_pat\_11BEU676I0qXzPouWclnJl\_i63qliBBcqzKqotMkOrdl2XXQbsaQGKPLs2PJdT1jJYFDIKROVJFRsuTn3p

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**Java Syllabus**

1. Introduction of Languages
2. Introduction of Programming language

**Date: 30/11/2023**

**Introduction of Languages**

* we are going to learn about programming language first we have to know about the languages.
* Languages are two types

1.General Language

2. Programming Language

**What is language...?**

* Language is used by people communicate with one person to another person with their respective region. Comparing to our country each state has their own language.

**Ex:** Telugu, Hindi, Tamil, Kannada …etc

**Why do we need language...?**

* we need the language to communicate with others to solve their daily base activities.
* Now we have to go understand about the programming language.

**Introduction of Programming Language**

**What is programming language...?**

* Programming language is nothing but a set of instructions which can be able to understand by the microprocessor.
* microprocessor is a hardware it is built/ residing in your computer which knows machine understandable language (byte code). i.e., 0’s and 1’s

**Why do we need programming language...?**

* we need programming language is require to develop the software to communicate with the hardware.
* Without programming language there is no software and without software there is no hardware, so these are the mutual understand between programming language, software and hardware.
* In the world there are so many programming languages are there.

**Ex:**  C, C++, Python, .Net, java, Cobol…etc **Date: 14/12/2023**

**Introduction of java programming language**

**What is java...?**

* Java is a “class-based object-oriented programming Language”.

In the sense whatever we are going to write in our java it starts the keyword “class”

* “James Gosling” is the father of java is developed at “Sun Micro Systems” in the year of 1995.
* Later Oracle corporation acquired from Sunmicro Systems.

**Why do we need java...?**

* java helps to develop the applications with the mechanism of “Write once run anywhere (WORA) “.
* WORA means, once we compile the java source file, without re-compile we can run same compiled “.class file (byte code)” any other platforms/operating systems.

Ex: windows, Linux, IOS, macOS

**What is the use of java...?**

* By using this “class-based object-oriented programming Language” we can develop 3 types of applications. They are
* Desktop application / Stand-alone applications
* Web and Enterprise applications
* Mobile applications

**Why software industries mostly using java to develop a software compare to other programming languages...?**

* Java is very understandable language compare to the other programming languages.
* Java is very easy process to write, compilation and execution of code compare with the other programming languages.
* In java language “code reusability feature “is introduced in java.
* In java code “Code modularity / separation of the code” feature also introduced.

**NOTE:**

* In “C and C++” languages are literally failed to introduced the “Code -reusability” and “Code modularity” features. this is the reason java is most powerful programming language compare to the other programming languages.

**Versions of java**

* When introduced java in 1995 they are introduced “java Alpha and Java Beta” versions initially. But these are Unstable versions.
* In 1996 January 23 they are released first stable version JDK 1.0
* Java8 is the most useful version it is released in March 18th 2014.This code name was Spider.
* After java8 ,11 version software industries are used java 17 version.
* Now the latest version of java is JDK 21 it is released in September 19th 2023.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
| **Version** | [**Class File Format**](https://en.wikipedia.org/wiki/Java_class_file)**Version**[[6]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-6) | **Release date** | **End of Public Updates (Free)** | **End of Extended Support (Paid)** |
| JDK 1.0 | 45 | 23rd January 1996 | May 1996 | — |
| JDK 1.1 | 45 | 18th February 1997 | October 2002 | — |
| J2SE 1.2 | 46 | 4th December 1998 | November 2003 | — |
| J2SE 1.3 | 47 | 8th May 2000 | March 2006 | — |
| J2SE 1.4 | 48 | 13th February 2002 | October 2008 | — |
| J2SE 5.0 | 49 | 30th September 2004 | October 2009 | — |
| Java SE 6 | 50 | 11th December 2006 | April 2013 | December 2016 for Red Hat[[7]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-redhat-7) October 2018 for Oracle[[8]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-8) December 2027 for Azul[[9]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-azul-9) |
| Java SE 7 | 51 | 28th July 2011 | July 2015 | June 2020 for Red Hat[[7]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-redhat-7) July 2022 for Oracle[[10]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-10) December 2027 for Azul[[9]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-azul-9) |
| Java SE 8 (LTS) | 52 | 18th March 2014 | April 2019 for Oracle July 2026 for Amazon Corretto[[11]](https://en.wikipedia.org/wiki/Java_version_history" \l "cite_note-corretto-11) November 2026 for Eclipse Temurin[[12]](https://en.wikipedia.org/wiki/Java_version_history" \l "cite_note-temurin-12) November 2026 for Red Hat[[7]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-redhat-7) December 2030 for Azul[[9]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-azul-9) | December 2030 for Oracle[[13]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-oracle-paid-13) |
| Java SE 9 | 53 | 21st September 2017 | March 2018 | — |
| Java SE 10 | 54 | 20th March 2018 | September 2018 | — |
| Java SE 11 (LTS) | 55 | 25th September 2018 | April 2019 for Oracle October 2024 for Eclipse Temurin[[12]](https://en.wikipedia.org/wiki/Java_version_history" \l "cite_note-temurin-12) October 2024 for Red Hat[[7]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-redhat-7) October 2027 for Amazon Corretto[[11]](https://en.wikipedia.org/wiki/Java_version_history" \l "cite_note-corretto-11) January 2032 for Azul[[9]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-azul-9) | January 2032 for Oracle[[13]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-oracle-paid-13) |
| Java SE 12 | 56 | 19th March 2019 | September 2019 | — |
| Java SE 13 | 57 | 17th September 2019 | March 2020 | — |
| Java SE 14 | 58 | 17th March 2020 | September 2020 | — |
| Java SE 15 | 59 | 16th September 2020 | March 2021 | — |
| Java SE 16 | 60 | 16th March 2021 | September 2021 | — |
| Java SE 17 (LTS) | 61 | 14th September 2021 | September 2024 for Oracle[[14]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-oracle-free-14) October 2027 for Eclipse Temurin[[12]](https://en.wikipedia.org/wiki/Java_version_history" \l "cite_note-temurin-12) October 2027 for Red Hat[[7]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-redhat-7) October 2028 for Amazon Corretto[[11]](https://en.wikipedia.org/wiki/Java_version_history" \l "cite_note-corretto-11) September 2029 for Azul[[9]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-azul-9) | September 2029 for Oracle[[13]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-oracle-paid-13) |
| Java SE 18 | 62 | 22nd March 2022 | September 2022 | — |
| Java SE 19 | 63 | 20th September 2022 | March 2023 | — |
| Java SE 20 | 64 | 21st March 2023 | September 2023 | — |
| **Java SE 21 (LTS)** | 65 | 19th September 2023 | September 2026 for Oracle[[14]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-oracle-free-14) September 2029 for Eclipse Temurin[[12]](https://en.wikipedia.org/wiki/Java_version_history" \l "cite_note-temurin-12) September 2029 for Red Hat[[7]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-redhat-7) October 2030 for Amazon Corretto[[11]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-corretto-11) September 2031 for Azul[[9]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-azul-9) | September 2031 for Oracle[[13]](https://en.wikipedia.org/wiki/Java_version_history#cite_note-oracle-paid-13) |
| Java SE 22 | 66 | 19th March 2024 | September 2024 | — |
| **Legend:**  Old version  Older version, still maintained  **Latest version**  Future release | | | | |

**Categorization/Types of java**

* java was broadly/widely/majorly categorization into 3 types.
* J2SE (Java Standard Editon)
* J2EE (Java Enterprise Edition)
* J2ME (Java Micro/Mobile Edition)
* We can observe J2SE, J2EE and J2ME in these words 2 digit is the significant of the java number. So, they have kept 2-digit number as a trademark.

**Java Standard Edition (J2SE):**

* By using the J2SE we can develop the Stand-alone applications and Desktop applications.
* The software which we developed will be executed with in the system that we can called as Stand-alone and desktop applications.

Ex: Anti-Virus, Avastha software.

**Java Enterprise Edition (J2EE):**

* By using J2EE we can develop the Web and Enterprise / Business applications.
* The website entered URL by the user it starts with HTTP/HTTPS which we are going to develop in java those applications are called as a web / Enterprise application.
* Using this web and Enterprise applications we can access anywhere.

Ex: Amazon, Irctc, Banking applications

**Java Mobile/Micro Edition (J2ME):**

* By using J2ME Completely we can develop mobile applications only.