

SNS COLLEGE OF TECHNOLOGY



An Autonomous Institution
Coimbatore-35

Department of Computer Science & Engineering

23ITT202 – Object Oriented Programming
I B.E CSE/ II SEMESTER

UNIT I :Introduction To OOPS

Topic 2 : Java Environment Setup



Topics for Discussion

- ✓ What is Environment Setup?
- ✓ Java Software Requirements.
- ✓ JDK, JRE, JVM.
- ✓ Installation Steps.
- ✓ Environment Variables

What is Environment Setup?

- Environment setup is the process of installing and configuring Java tools
- It allows the system to compile and run Java programs
- Without setup, Java programs cannot execute



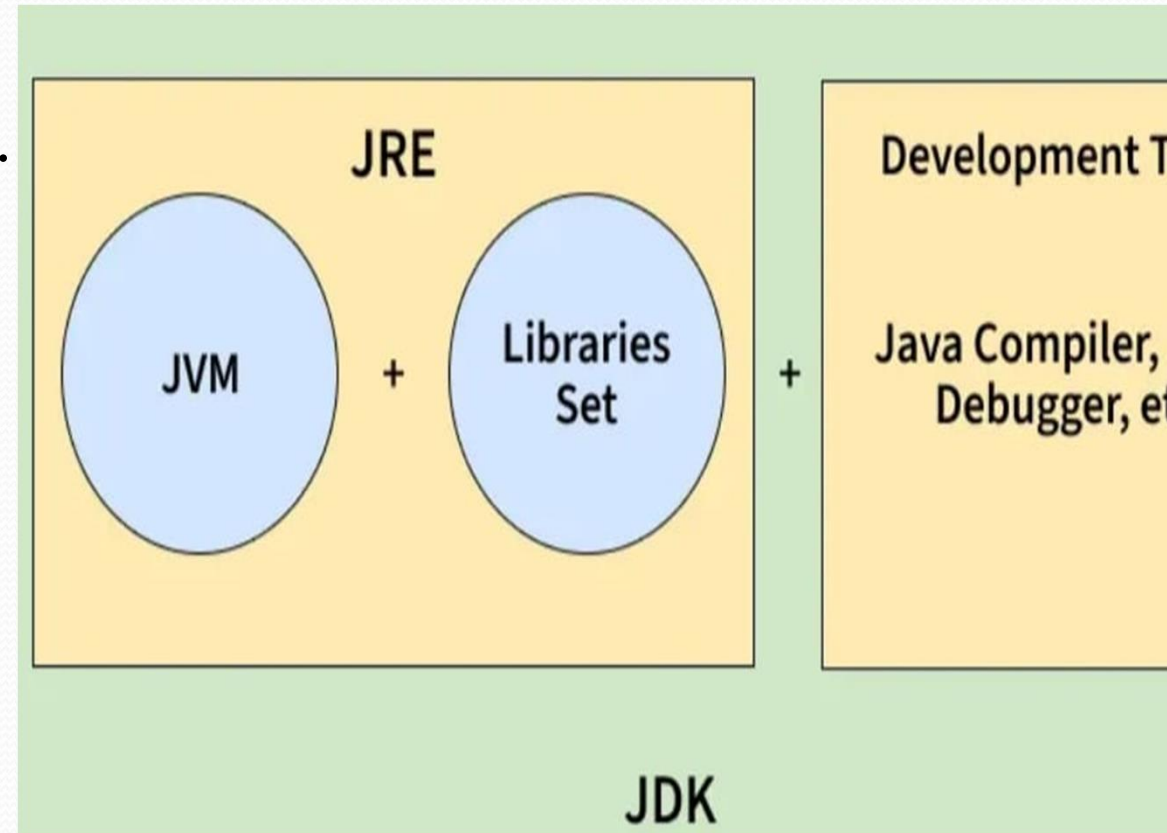
Software Required

JDK – used to develop Java programs.

JRE – used to run Java programs.

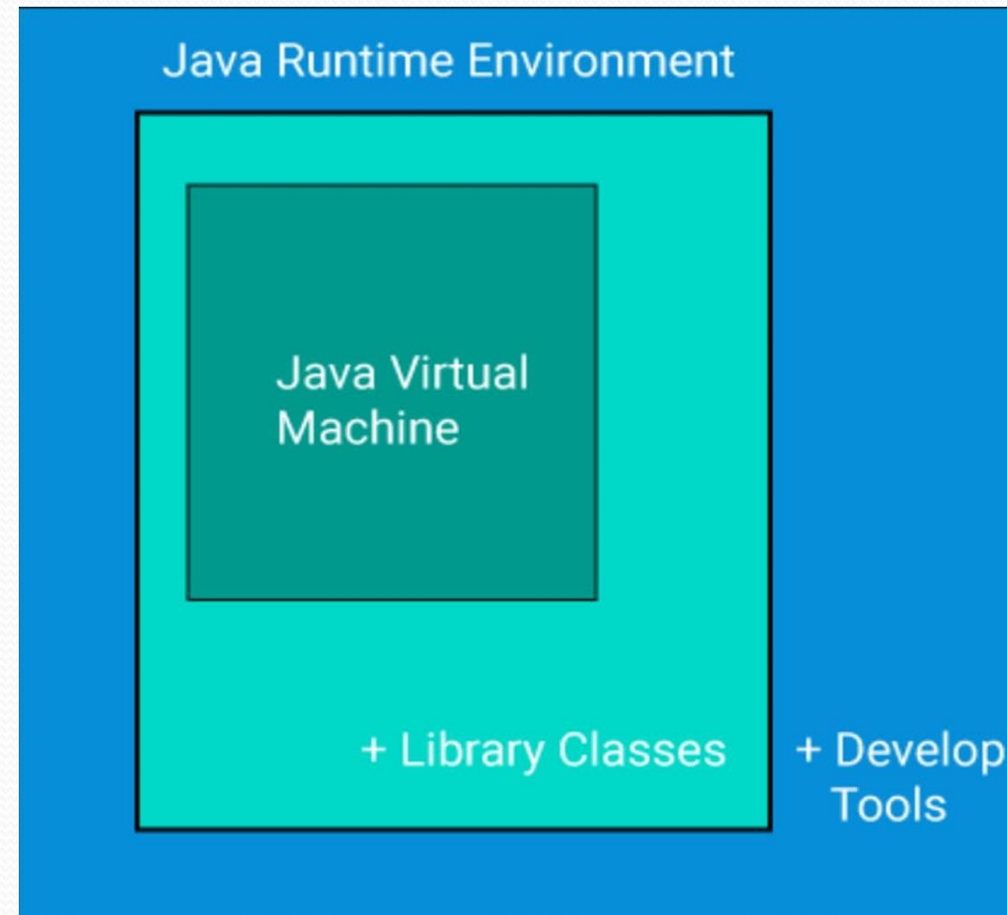
JVM – executes Java bytecode.

all three work together



JDK (Java Development Kit)

- JDK contains compiler and development tools.
- It includes JRE and JVM.
- Required for writing and compiling Java code

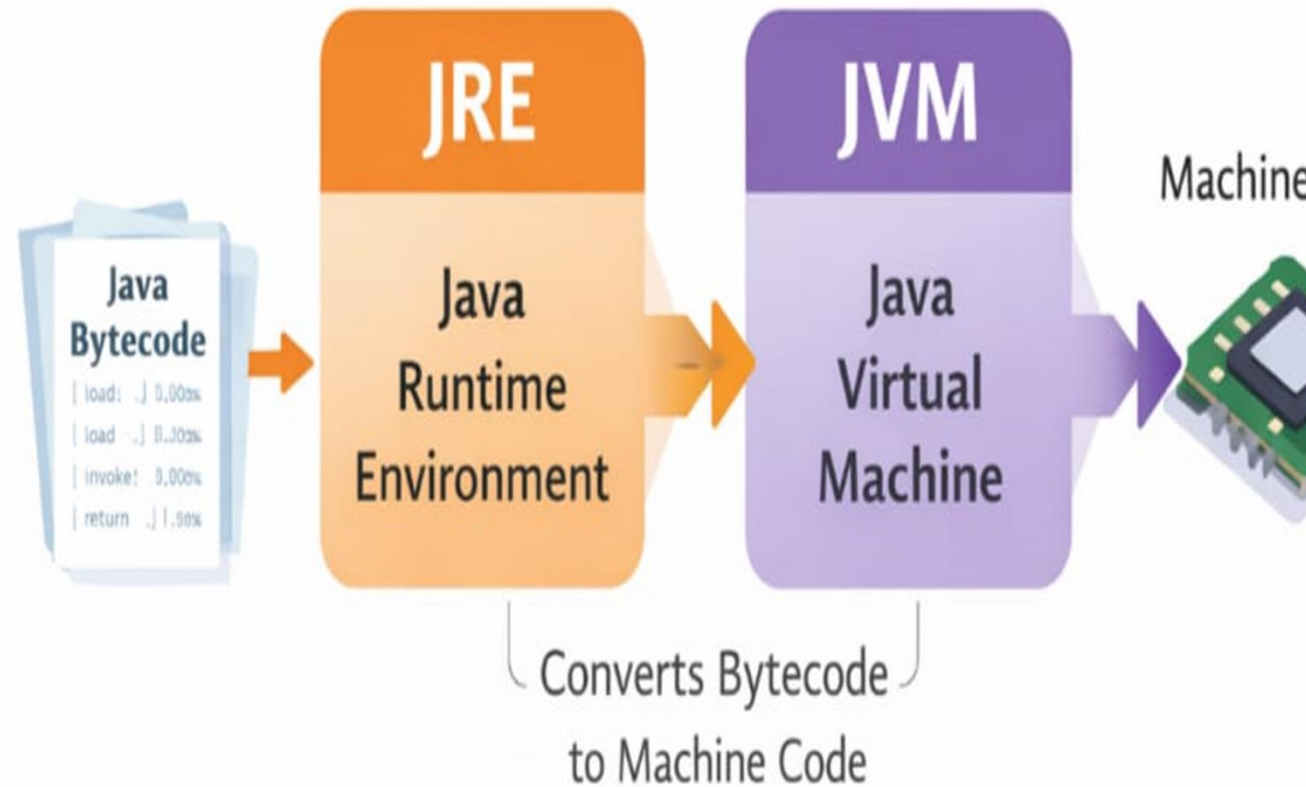


JRE & JVM

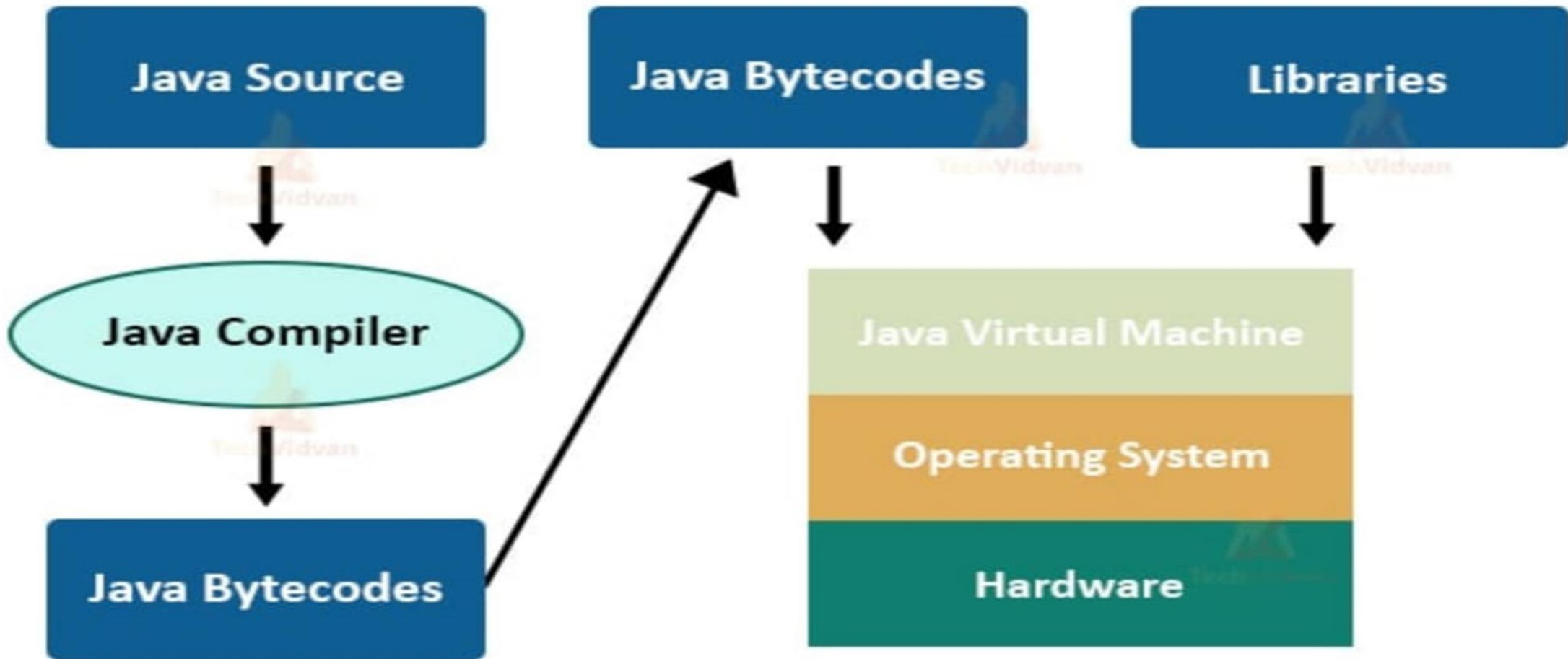
JRE provides runtime environment.

JVM converts bytecode into machine code.

JVM makes Java platform independent.



Working of JVM

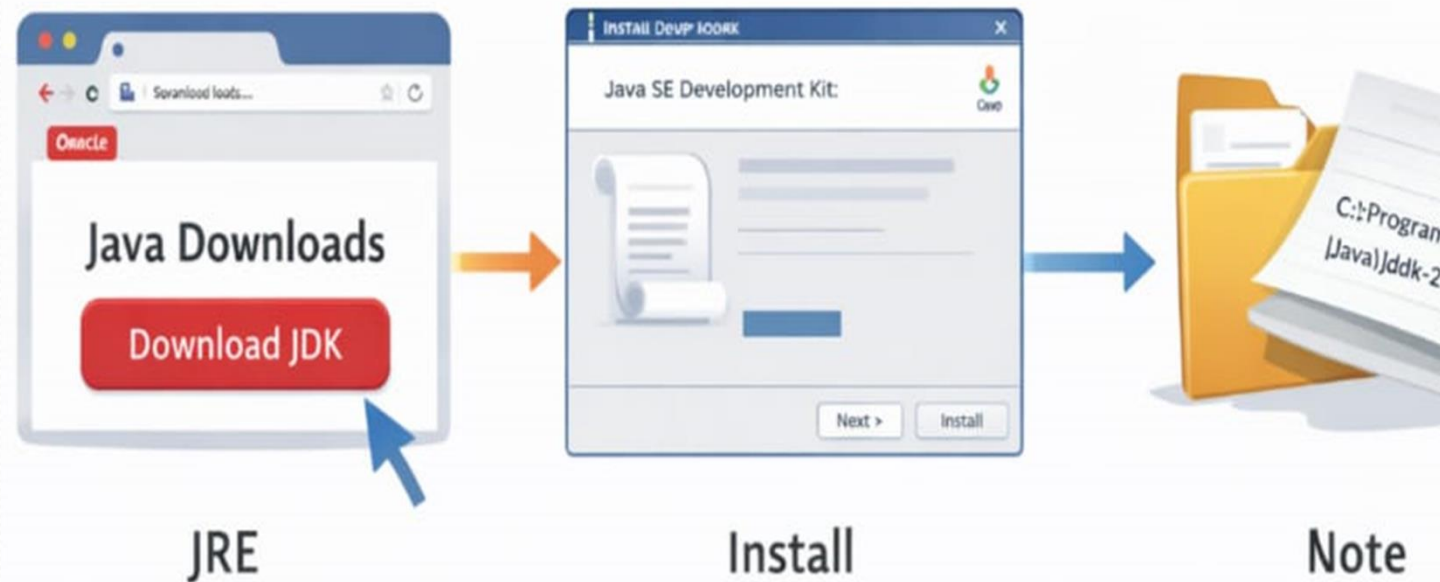


Installing Java (JDK)

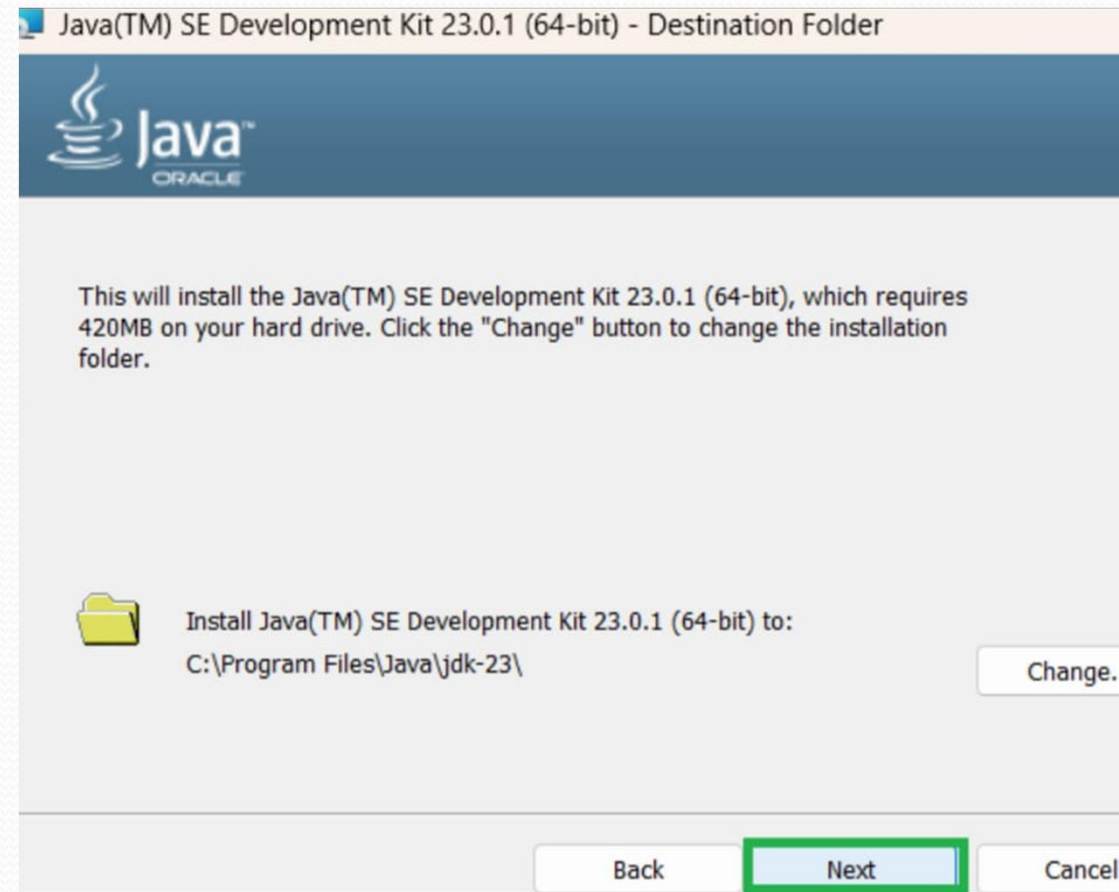
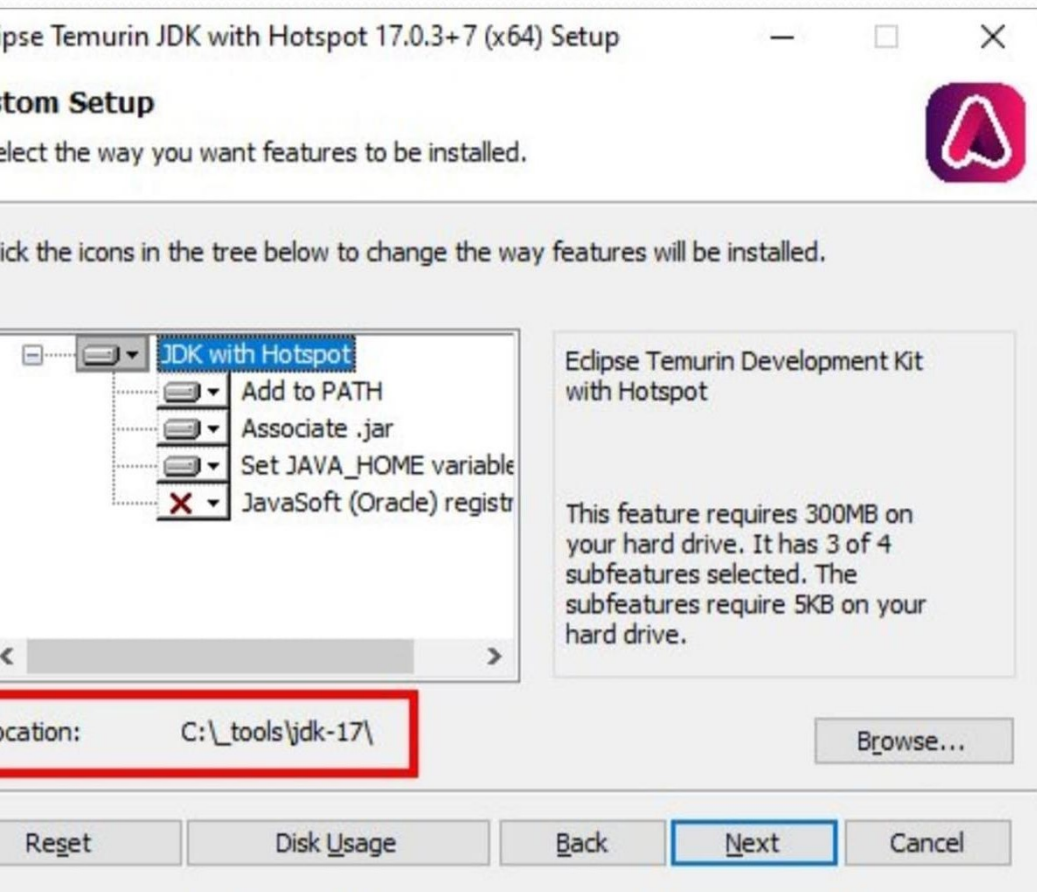
Download JDK from official website.

Run installer and complete installation.

Note the installation path.



Installing Java (JDK)

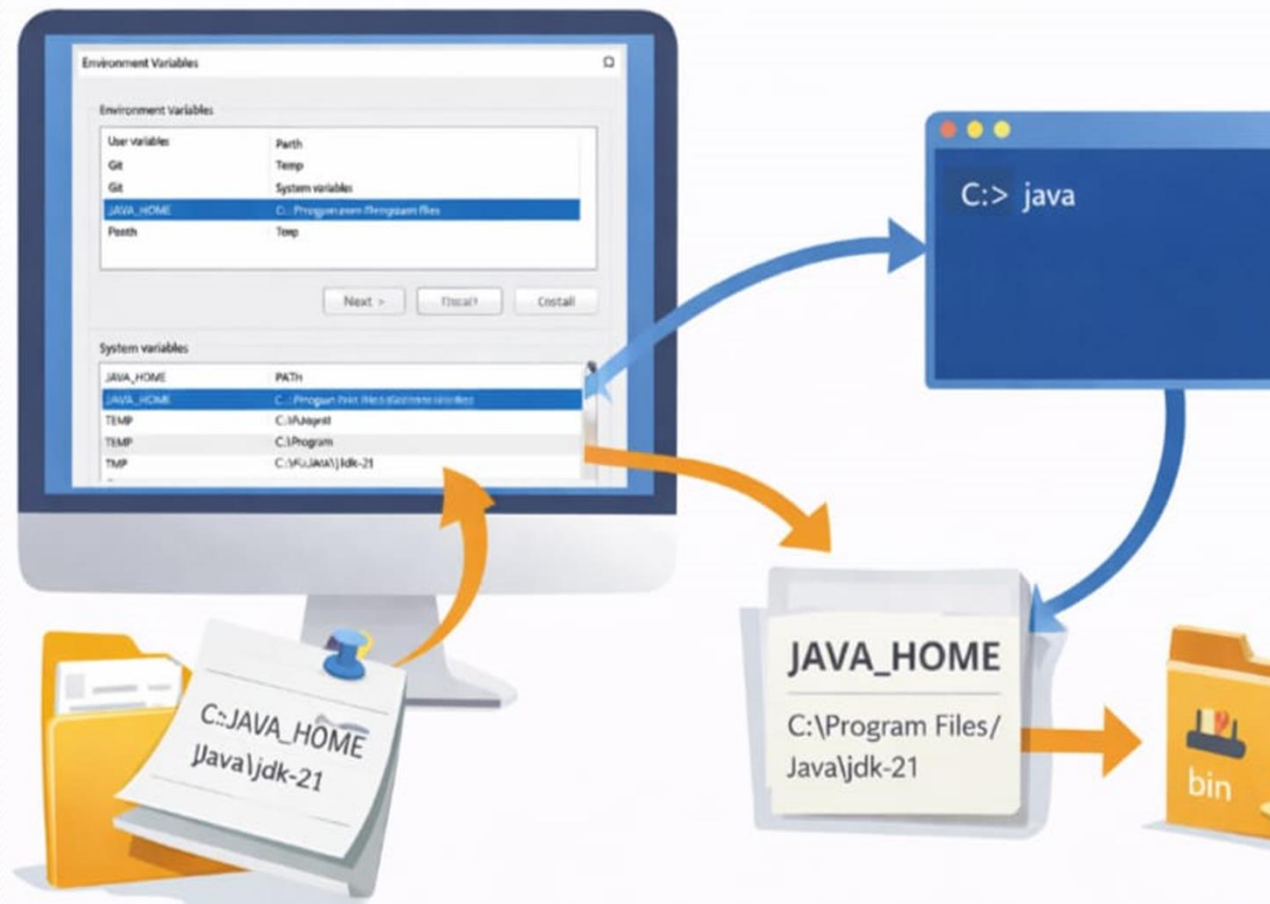


Setting Environment Variables

JAVA_HOME points to JDK location.

PATH variable includes bin folder.

Enables Java commands from anywhere.



Setting Environment Variables

System Properties

Computer Name | Hardware | **Advanced** | System Protection | Remote

Environment Variables

Edit System Variable

Variable name: JAVA_HOME

Variable value: C:\Program Files\Java\jdk1.8.0_121

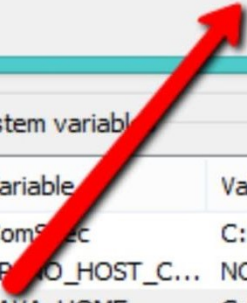
OK Cancel

System variables

Variable	Value
ComSpec	C:\Windows\system32\cmd.exe
FP_NO_HOST_C...	NO
JAVA_HOME	C:\Program Files\Java\jdk1.8.0_121
M2_HOME	c:\Apache\Maven

New... Edit... Delete

OK Cancel



System variables

Variable	Value
OS	Windows_NT
Path	C:\Program Files\Common Files\Oracle\Java\javapath;C:\Pro...
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTU...	AMD64
PROCESSOR_IDENTIFIER	Intel64 Family 6 Model 126 Stepping 5, GenuineIntel
PROCESSOR_LEVEL	6
PROCESSOR_REVISION	7e05

New... Edit... Delete

OK Cancel

Verify Java Installation

- Open Command Prompt.
- Use `java -version` command.
- If version displays, setup is successful.

```
Command Prompt
Microsoft Windows [Version 10.0.18363.1379]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Mahesh>java -version
java version "1.8.0_281"
Java(TM) SE Runtime Environment (build 1.8.0_281-b09)
Java HotSpot(TM) 64-Bit Server VM (build 25.281-b09, mixed mode)

C:\Mahesh>
```

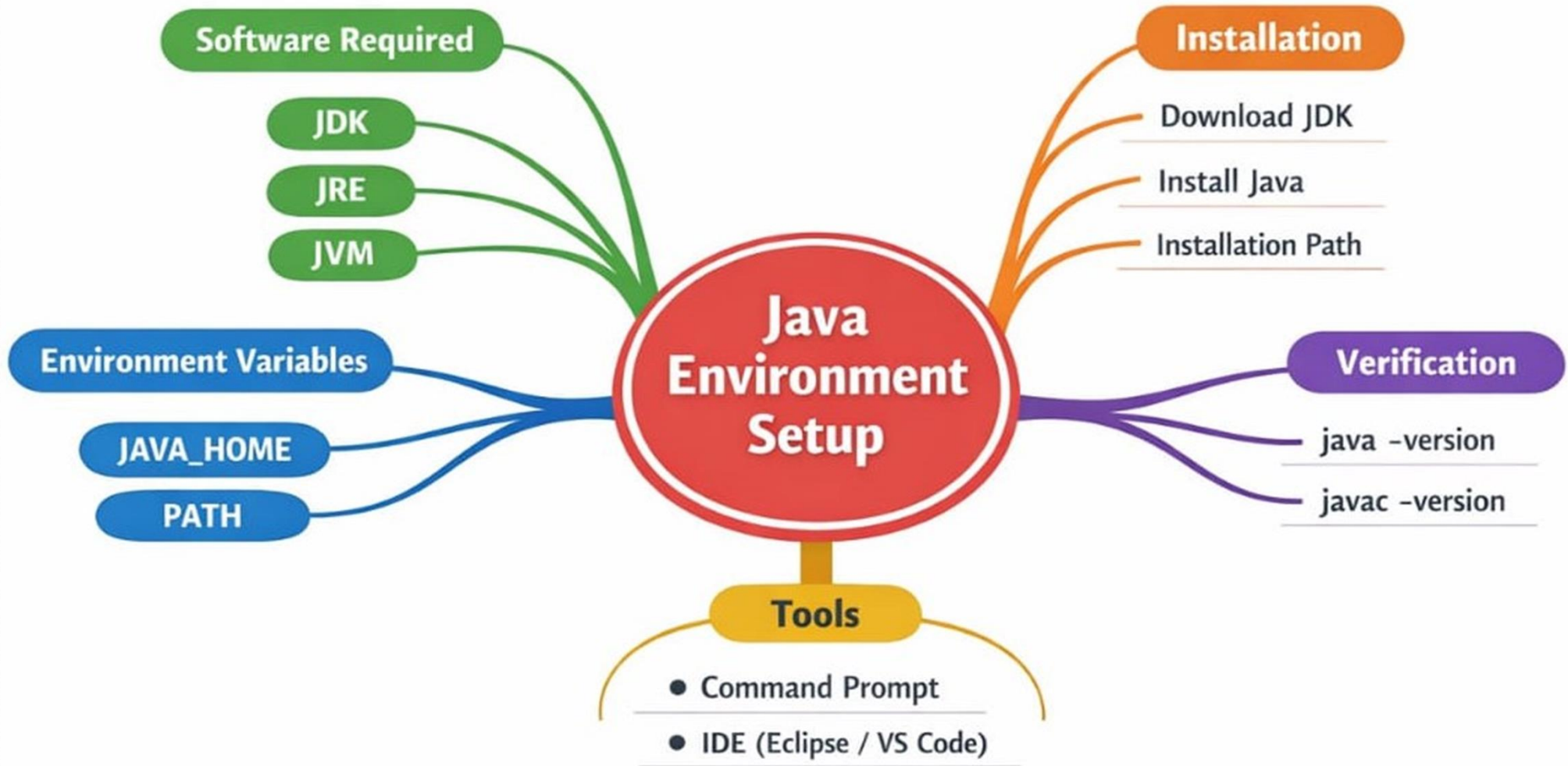
```
Command Prompt
Microsoft Windows [Version 10.0.10586]
(c) 2015 Microsoft Corporation. All rights reserved.

C:\Users\sunqingyao>java -version
java version "1.8.0_72"
Java(TM) SE Runtime Environment (build 1.8.0_72-b15)
Java HotSpot(TM) 64-Bit Server VM (build 25.72-b15, mixed mode)

C:\Users\sunqingyao>javac -version
'javac' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\sunqingyao>
```

Mind Map



Assessment

1. JDK is used to __ Java programs.

Answer: develop

2. Choose the correct answer.

JVM is responsible for:

- a) Editing code
- b) Compiling code
- c) Executing bytecode**
- d) Installing Java

3. Define Java Environment Setup.

Answer : Java Environment Setup means installing Java and setting it up so Java programs can run on a computer.

References

- <https://www.oracle.com/java>
- <https://docs.oracle.com/javase>
- <https://www.javatpoint.com>

Thank You

