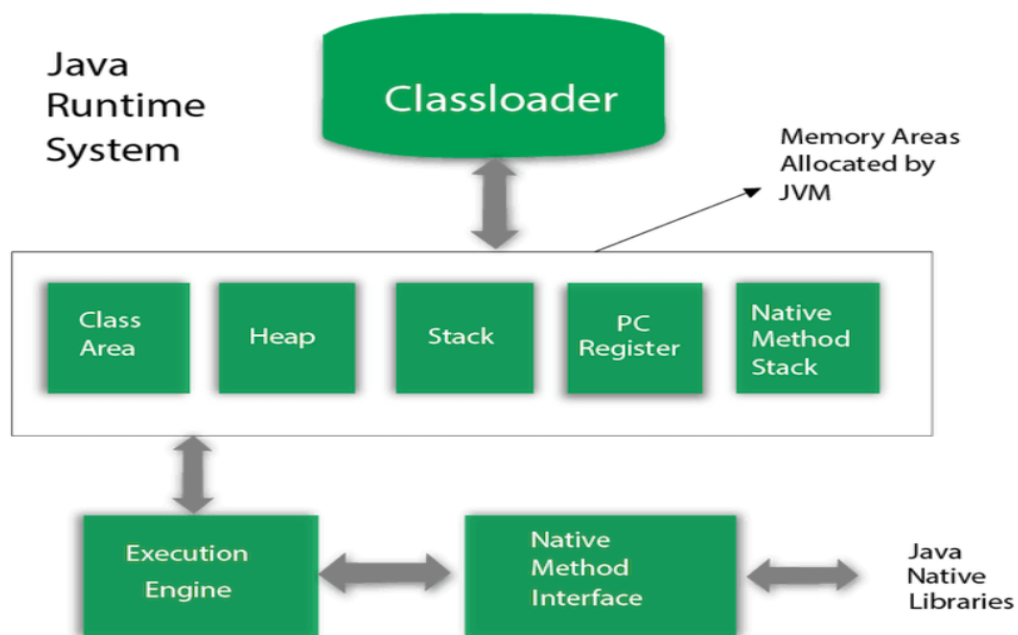


## JVM , JRE and JDK

### JVM (Java Virtual Machine):

It doesn't physically exist. It is a specification that provides a runtime environment in which Java byte code can be executed. JVM is a part of JRE(Java Runtime Environment).The JVM performs following operation:

- Loads code
- Verifies code
- Executes code
- Provides runtime environment



### Description

#### 1. Classloader-

Whenever we run java program it is first loaded by Classloader into memory. It is used to load the .class files.

#### 2. Class Area-



It is known as method area. It will store the information about method code, method name, fields, etc.

### **3. Heap Area-**

It is the run time area where objects are stored.

### **4. Stack Area-**

It is used to store the information about the local variables.

### **5. PC Register**

It includes address of java virtual machine instruction to be currently executing.

Once Instruction Execution Completes Automatically PC Register will be incremented to Hold Address of Next Instruction.

### **6. Native Method Stack-**

For Every Thread JVM will Create a Separate Native Method Stack.

All Native Method Calls invoked by the Thread will be stored in the corresponding Native Method Stack

### **7. Native Method interface-**

It is an interface that interacts with the Native Method Libraries and provides the native libraries(C, C++) required for the execution.

### **8. Execution Engine-**

It contain java compiler and interpreter information.



## **9. Java Native Libraries**

Java Native Library is the collection of Native methods which are required in java.

Native method is a method declared in java but,implemented in non java programming languages like C ,C++ etc

### **JRE:**

JRE stands for Java Runtime Environment.

The Java Runtime Environment is a set of software tools which are used for developing Java applications.

It consists of the Java Virtual Machine (JVM), core classes, and supporting files like rt.jar files.

It is used to provide the runtime environment.

### **JDK:**

JDK is stands Java Development Kit. The Java Development Kit (JDK).

It is a software development environment which is used to develop Java applications .

It includes the Java Runtime Environment (JRE), an interpreter/loader (Java), a compiler (javac), an archiver (jar), a documentation generator (Javadoc), and other tools needed in Java development.

It physically exists.

**JDK=JRE+Development Tool**



