# Client Interview Enablement: **Java**

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# Chapter 1

# Java Architecture

## 1.1 Explain the HotSpot JVM (Java Virtual Machine) Architecture in short.

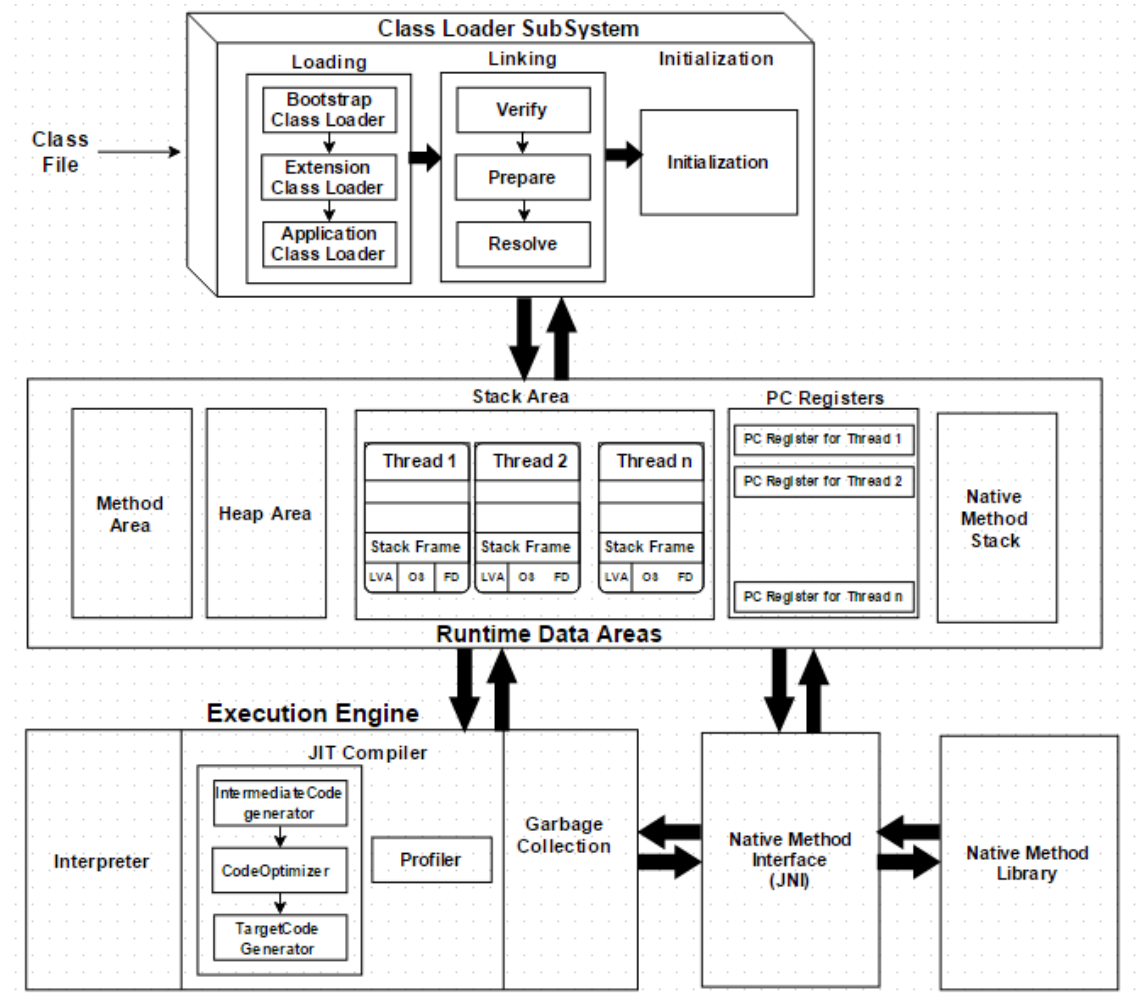


Figure 1.1: JVM-Architecture

1. Class Loader Subsystem of JVM
2. Class Loader is used to load class files.
3. Runtime Data Areas of JVM ⇒
   (a) Method Area ⇒ Method area stores data for each and every class like fields, constant pool, method's data and information
   (b) Heap ⇒ Heap is place where all objects are stored in JVM
   (c) Java Threads (Java thread Stacks) ⇒ Whenever new method is called new stack frame is created and it is pushed on top of that thread's stack
   (d) Program counter registers (PC Registers) ⇒ the address of instructions currently and next address being executed.
   (e) Native internal Threads (Native thread stack) ⇒ Native internal threads area contains all the information related to native platform.
4. Execution Engine of JVM ⇒
   (a) JIT(Just In Time) compiler ⇒ JIT compiler compiles bytecodes to machine code at run time and improves the performance of Java applications.
   (b) Garbage Collector - Garbage Collector Garbage collection is the process by which JVM clears objects (unused objects) from heap to reclaim heap space.
5. Native method libraries of JVM ⇒ Native method interface is an interface that connects JVM with the native method libraries for executing native methods.