Each release of the JDK includes enhancements that improves the performance of the Java platform. The following describes some of these enhancements in [JDK 8](http://docs.oracle.com/javase/8):

* The concurrent libraries have undergone a major revision to improve scalability.
* [Tiered Compilation](http://docs.oracle.com/javase/8/docs/technotes/guides/vm/performance-enhancements-7.html), which was introduced in JDK 7, has been enabled by default and brings server VM startup speeds close to or on par with the client VM.
* Permament generation, where the VM stored internal native data structures, such as class information, has been replaced with metaspace. Metaspace eliminatesjava.lang.OutOfMemoryError: PermGen spaceerrors. The [java](http://docs.oracle.com/javase/8/docs/technotes/tools/unix/java.html) command introduces the option-XX:MetaspaceSize, which sets the maximum amount of native memory that can be allocated for class metadata. By default, the size is not limited. In addition, the experimental option-Xsharehas been introduced, which reduces footprint and startup time by sharing loaded JDK classes between all Java processes on the same host.
* The [Nashorn JavaScript engine](http://docs.oracle.com/javase/8/docs/technotes/guides/scripting/nashorn/index.html) dramatically improves upon the performance of the JDK 7 JavaScript engine.
* The new language feature [Lambda expressions](http://docs.oracle.com/javase/tutorial/java/javaOO/lambdaexpressions.html) performs better than [inner classes](http://docs.oracle.com/javase/tutorial/java/javaOO/nested.html).
* The performance of JavaFX has been improved in JDK 8.