



Apache Maven

Beginner to Guru

Review of Java Compile and Packaging



Java Compile Process

Source Files

MyJavaClass.java

MyGroovyClass.groovy

MyScalaClass.scala

MyKotlinClass.kt

Java Compiler



Class Files

MyJavaClass.class

MyGroovyClass.class

MyScalaClass.class

MyKotlinClass.class

The JVM Runtime





Packaging Java Applications

Many Class Files

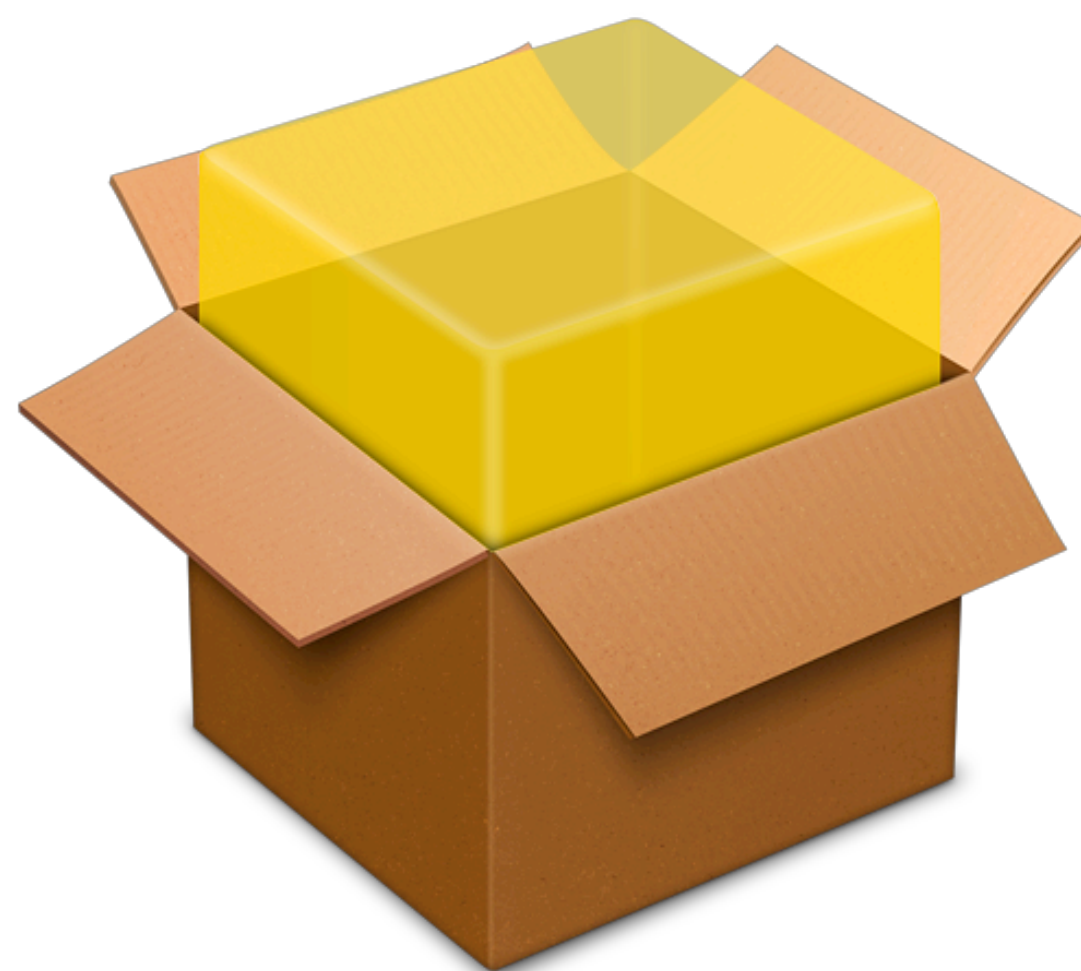
MyJavaClass.class

MyGroovyClass.class

MyScalaClass.class

MyKotlinClass.class

Zip Compression

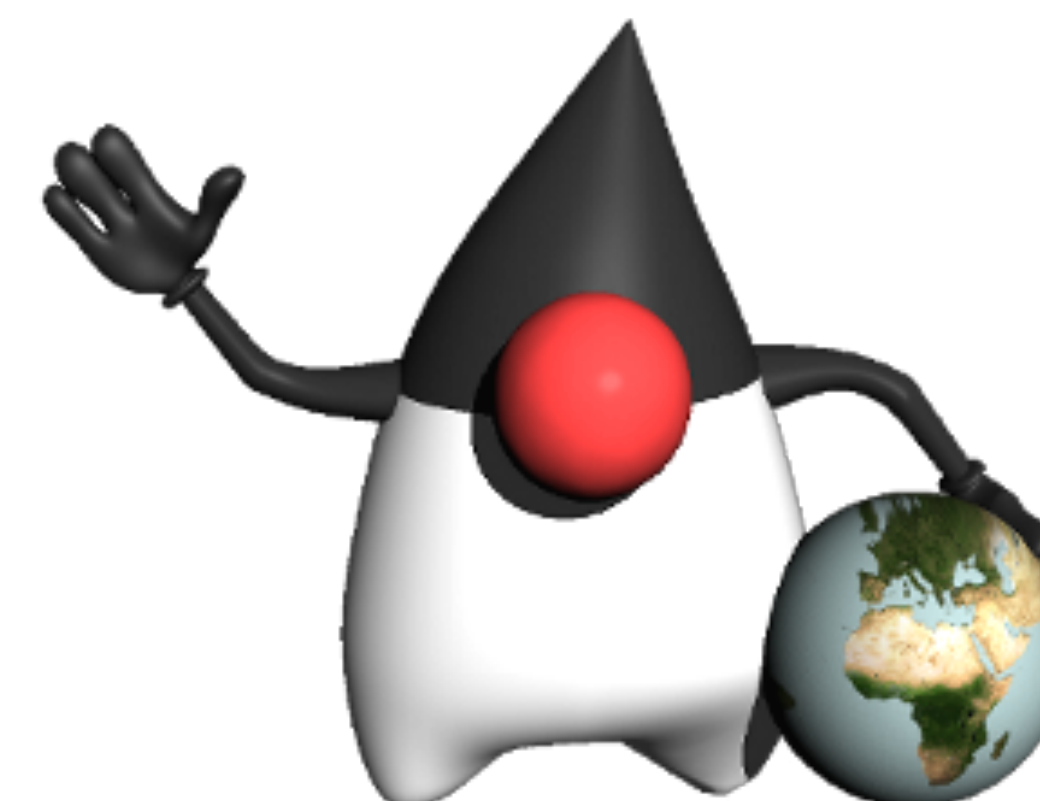


*.jar, *.war, *.ear

Unzip



JVM





Java Packaging

- *.jar - **Java ARchive** - Zip file containing one or more Java class files.
- *.war - **Web Application aRchive** - Zip file containing web application. Includes one or more jar files, Java class files, and web resources.
- *.ear - **Enterprise aRchive** - Zip file containing one more more WAR files.
- **Fat JAR** (aka Uber JAR) - Executable Jar containing all dependencies. (Used by Spring Boot)
- **Docker Container** - Docker Image containing runtime environment, JVM, and Java package





Java Deployment

- Simple JAR files are typically collection of class files used to compose applications
 - Typically not a complete application
- WAR, EAR files are typically complete applications which are deployed to application servers
 - Tomcat / Weboss, Websphere, etc
- Fat / Uber Jars are typically complete applications which contain embedded application servers
 - Can be deployed stand alone
- Docker Images are complete applications which can be deployed stand alone



