马士兵教育

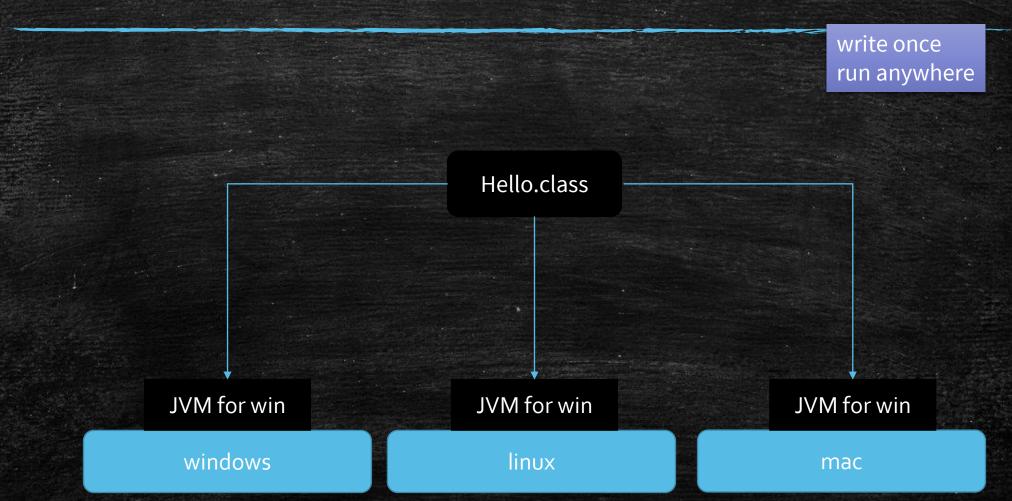
JVM基础入门

马士兵

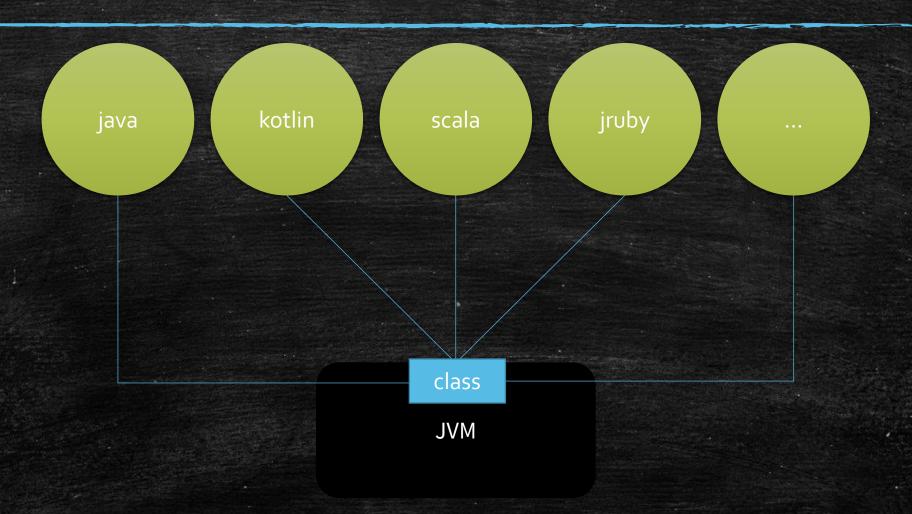
http://mashibing.com



cross platform



cross language

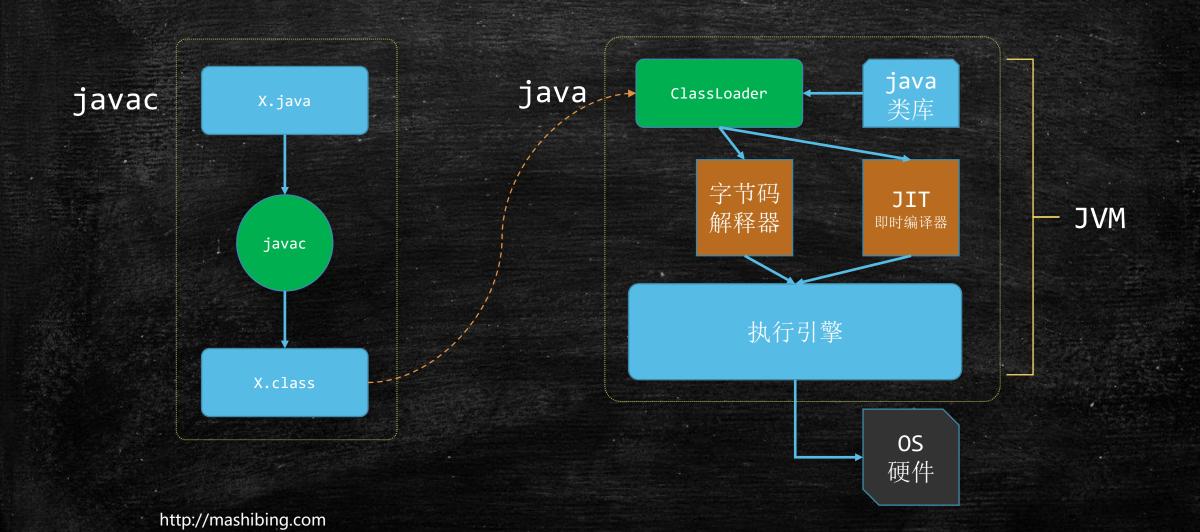


where's JVM?

	 <u>Java Language</u>		Java Language											
			java	a javac		javadoc		jar	j	avap	jdeps	Scripting		
	Tools &		Security	Monitoring		JConsole		VisualVM		JMC	JFR			
		Tool APIs		JVM TI		IDL		RMI	Ja	ava DB	Deployment			
			Internationalization		ion	Web Se		vices	Tro		ubleshooting			
		<u>Deployment</u>	Java Web Start			ı	Арр			olet / Java Plug-in				
	JRE		JavaFX											
		<u>User Interface</u> <u>Toolkits</u>	Swing		Java 2D			AWT		Accessibility		bility		
JDK		Integration Libraries	Drag and Drop		Inp	Input Methods		Image I/O		Print	Service Sound			_
JUK			IDL	JDBC		JNDI	RI	ИІ	RMI-IIOP		Scripting			
		Other Base Libraries	Beans	Sec	,	Serialization			Extension Mechanism				Java SE	
			JMX	XML	XML JAXP			vorking		Override Mechanism				
			JNI	Date and Time			Input/Output			Internationalization			Compact	<u>API</u>
		lang and util Base Libraries	lang and util										<u>Profiles</u>	
			Math Colle			ections F		Ref Objects		Regular Expressions				
			Logging Man		nagei	nagement Ir		strumentation		n Concurrency Utilities				
			Reflection Version			ning	Prefe	erences API		JA	AR	Zip		
	Java Virtual Machine Java HotSpot Client and Server VM													



java从编码到执行



JVM

• 从跨平台的语言到跨语言的平台

java scala kotlin groovy clojure jython jruby ...

Java Virtual Machine

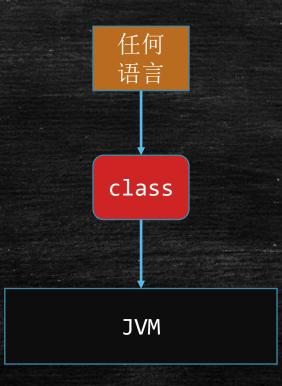
linux unix windows mac andriod

JVM

- jvm是一种规范
 - java virtual machine specifications
 - https://docs.oracle.com/en/java/javase/13/
 - https://docs.oracle.com/javase/specs/index.html
- 虚构出来的一台计算机
 - 字节码指令集 (汇编语言)
 - 内存管理: 栈堆方法区等

jvm与class文件格式

• jvm跟java无关



番外篇:

• javac的过程

源码

词法 分析器

Token流

语法 分析器 抽象 语法树

ByteCode

字节码 生成器 注解 抽象 语法树

语义 分析器

常见的JVM实现

- Hotspot
 - oracle官方,我们做实验用的 JVM
 - java –version
- Jrockit
 - BEA, 曾经号称世界上最快的 JVM
 - 被Oracle收购,合并于hotspot
- J9 IBM
- Microsoft VM

- TaobaoVM
 - hotspot深度定制版
- LiquidVM
 - 直接针对硬件
- azul zing
 - 最新垃圾回收的业界标杆
 - www.azul.com

关于java收费

• java要收钱,我该怎么办?

JDK JRE JVM

JDK = jre + development kit

JRE = jvm + core lib

JVM