

1.

---

;

Linux/Unix

## 2. Java

---

1.

2.

3.

Java

4.

5.

6.

C++

Java

7. Java

Java

8.

### 3. JVM JDK JRE

---

JVM

Java JVM Java JVM

Windows Linux macOS

? ?

Java JVM .class

Java

Java

Java

Java 3

.class-> jvm

JIT JIT JIT

Java

Java

HotSpot (Lazy Evaluation)

JIT

JVM

JDK 9

AOT(Ahead of Time Compilation)

JIT

JDK

AOT

AOT

JIT

Java

JVM

Java

JVM

Windows

Linux

macOS

JVM

Java

"

"

JDK

JRE

JDK Java Development Kit

Java SDK

JRE

javac

javadoc

jdb

JRE Java

Java

Java

JVM

Java

java

Java

JRE

Java

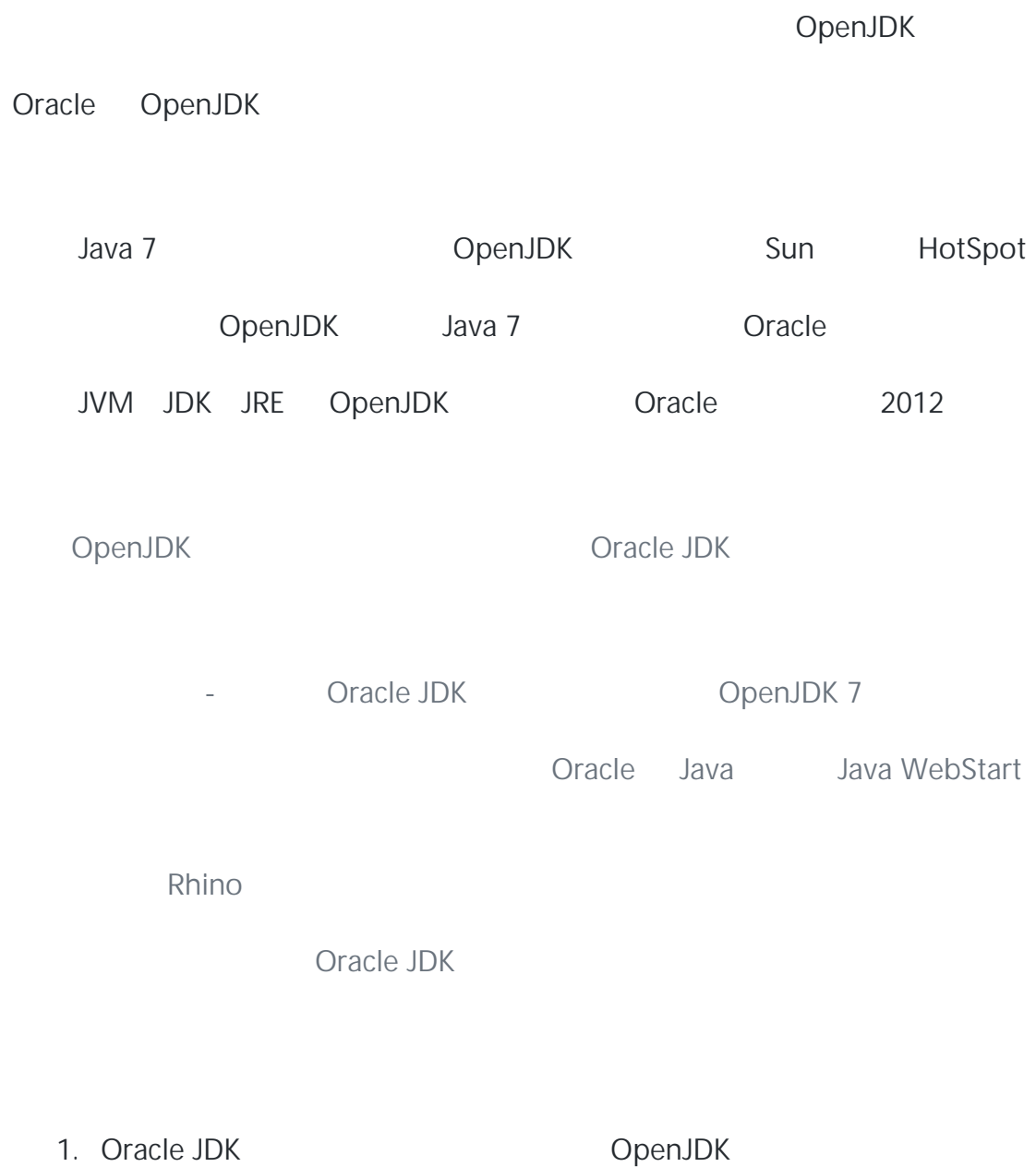
JDK

Java



## 4. Oracle JDK      OpenJDK

---



2. OpenJDK Oracle JDK

OpenJDK

3. Oracle JDK OpenJDK OpenJDK Oracle JDK

Oracle JDK

/

Oracle JDK

OpenJDK

Oracle JDK

4. Oracle JDK Android Studio Minecraft

IntelliJ IDEA

Open JDK

5. JVM Oracle JDK OpenJDK

6. Oracle JDK

7. Oracle JDK OpenJDK GPL

v2

## 5. Java C++

---

C++

Java

C++

C++

- 

- Java

- Java

C++

Java

- Java

## 6. Java

---

```

        Java
    main      Java
JApplet  Applet      public
        public      Java

```

## 7. Java

---

```

        ( main() ) applet
main      ( init() run() )
        flash

```

## 8.

---

1. :
2. : ( ASCII ),  
( )
3. 2 ( )  
( char Java )

Java要确定每种基本类型所占存储空间的大小。它们的大小并不像其他语言那样随着机器硬件架构的变化而变化。这种所占存储空间大小的不变性是Java程序员编写的程序更具可移植性的原因之一。

基本类型	大小	最小值	最大值	包装器类
boolean	—	—	—	Boolean
char	16-bit	Unicode 0	Unicode 2 <sup>16</sup> −1	Character
byte	8 bits	−128	+127	Byte
short	16 bits	−2 <sup>15</sup>	+2 <sup>15</sup> −1	Short
int	32 bits	−2 <sup>31</sup>	+2 <sup>31</sup> −1	Integer
long	64 bits	−2 <sup>63</sup>	+2 <sup>63</sup> −1	Long
float	32 bits	−3.4E+38	3.4E+38	Float
double	64 bits	−1.7E+308	1.7E+308	Double
void	—	—	—	Void

9. Constructor                      override

Constructor                      override                      ,                      overload                      ,

10.

private

# 11. Java :

---

3

- 1. private
- 2.
- 3.

Java

# 12. String StringBuffer     StringBuilder String

---



	String	final	private
final char value[]	String		StringBuilder
StringBuffer	AbstractStringBuilder		AbstractStringBuilder
	char[] value		final

StringBuilder    StringBuffer

AbstractStringBuilder

AbstractStringBuilder.java

```
abstract class AbstractStringBuilder implements Appendable, CharSequence {
    char[] value;
    int count;
    AbstractStringBuilder() {
    }
    AbstractStringBuilder(int capacity) {
        value = new char[capacity];
    }
}
```

String

AbstractStringBuilder    StringBuilder    StringBuffer

expandCapacity    append    insert    indexOf

StringBuffer

StringBuilder

String

String

String

StringBuffer

StringBuffer

StringBuilder

StringBuffer

10%~15%

1. = String

2. = StringBuilder

3. = StringBuffer

13.

---

14.

---

15. Java

---

Java

super()

"

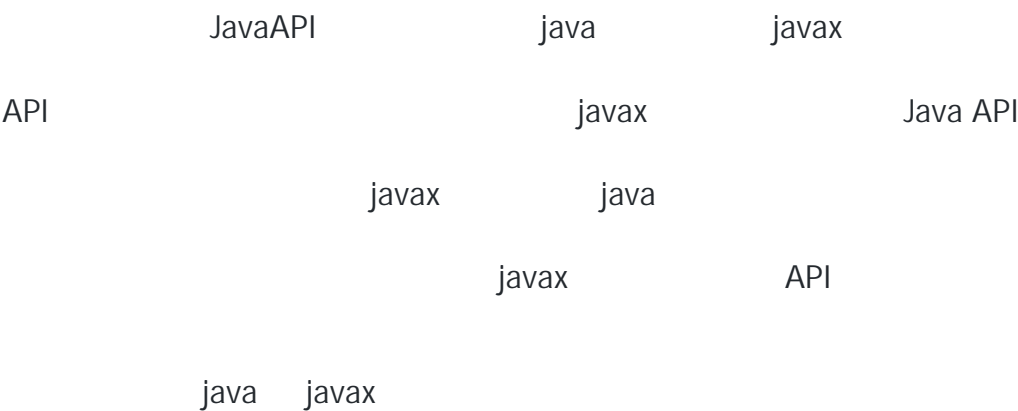
"

super()

Java

# 16. import java    javax

---



# 17.

---

1. public (Java 8)
2. final
- 3.
- 4.
5. new

# 18.

---

1. public,private,static  
static  
final
- 2.

3.

4.

final

19.

?

?

---

new

new

0

1

;

n

n

20.

?

?

---

:

21.

,

?

?

---

22.

---

1.

2. void

3.

23.

---

1. " . " "

."

2.

.

24.

---

25.

?

---

26. == equals( )

---

== :

( == == )

equals() :

- 1 equals() equals()  
"=="
- 2 equals() equals()  
true (  
)

```
public class test1 {
    public static void main(String[] args) {
        String a = new String("ab"); // a
        String b = new String("ab"); // b
        String aa = "ab"; //
        String bb = "ab"; //
        if (aa == bb) // true
            System.out.println("aa==bb");
        if (a == b) // false
            System.out.println("a==b");
        if (a.equals(b)) // true
            System.out.println("aEQb");
        if (42 == 42.0) { // true
            System.out.println("true");
        }
    }
}
```

- String equals object equals  
String equals
- String  
String

## 27. hashCode equals

---

" hashCode equals equals

hashCode "

hashCode

hashCode() int

hashCode()

JDK Object.java Java hashCode()

(key-value) " "

" "

hashCode

"HashSet " hashCode

HashSet HashSet hashCode

hashCode

hashCode HashSet

hashCode equals hashCode

HashSet

Java Head

first java equals

hashCode equals

1. hashCode
2. , equals true
3. hashCode
4. equals hashCode
5. hashCode()  
hashCode() class

## 28. Java

---

Java

## 29.

---

CPU



30. ?

---

Java 4.1.4

Java 6

Java

31 final

---

final

1. final

2. final final

final

3. final

Java

final

Java

final

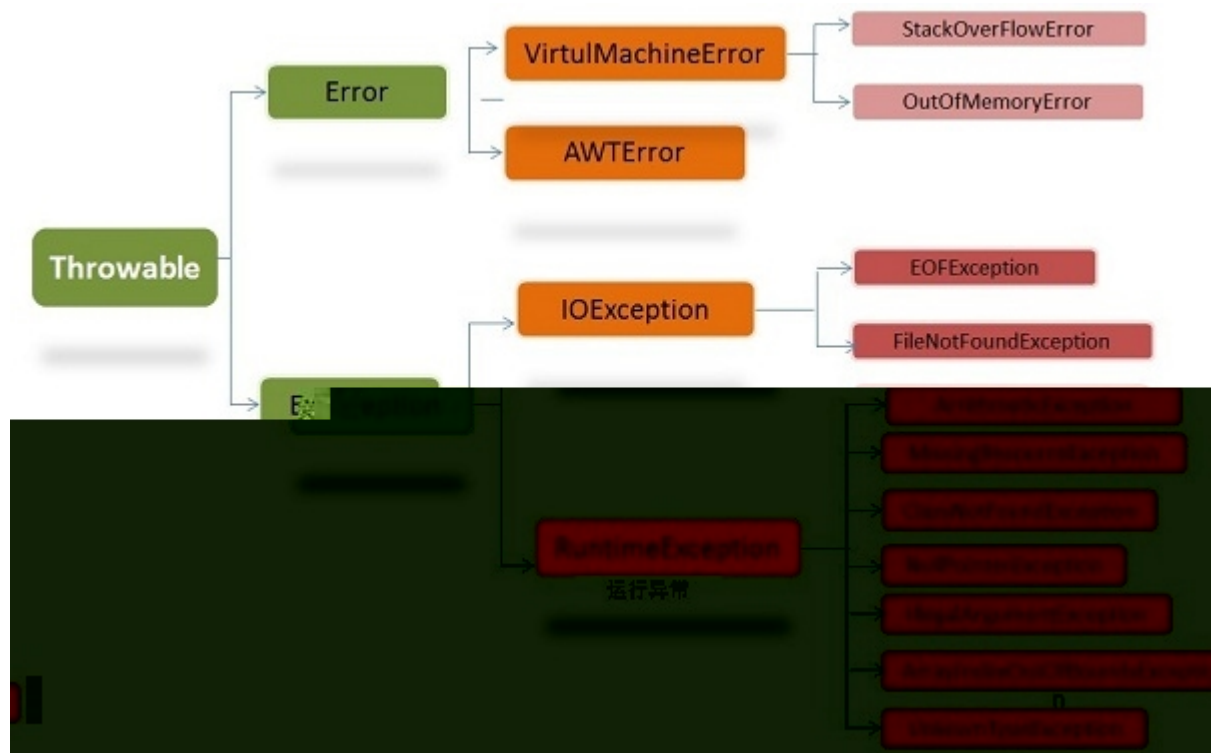
private

final

32 Java

---

# Java



Java

java.lang

Throwable

Throwable

Exception

Error

Java

Error :

JVM Java

Java

Virtual MachineError

JVM

OutOfMemoryError

Java

JVM

Java

Virtual MachineError

NoClassDefFoundError

	Java	Error	
Exception	:		Exception
RuntimeException	RuntimeException		Java
NullPointerException			
ArithmeticException			0
ArrayIndexOutOfBoundsException			

## Throwable

- public string getMessage():
- public string toString():
- public string getLocalizedMessage():

Throwable

getMessage

- public void printStackTrace(): Throwable

- try catch catch

finally

- catch try

- finally
- try catch return finally

4 finally

1. finally
2. System.exit()
- 3.
4. CPU

## 33 Java

---

transient

transient

transient

transient

## 34

---

1 Scanner

```
Scanner input = new Scanner(System.in);
String s = input.nextLine();
input.close();
```

2 BufferedReader

```
BufferedReader input = new BufferedReader(new InputStreamReader(System.in));  
String s = input.readLine();
```