

Los programas ejecutables Java. Desensamblado de codebytes y decompilación

```
HolaMundo.java
public class HolaMundo {
    public static void main(String[] args) {
        System.out.println("Hola, mundo");
    }
}
```

- J2SE 8 = 52 (0x34 hex),
- J2SE 7 = 51 (0x33 hex),
- J2SE 6.0 = 50 (0x32 hex),
- J2SE 5.0 = 49 (0x31 hex),
- JDK 1.4 = 48 (0x30 hex),
- JDK 1.3 = 47 (0x2F hex),
- JDK 1.2 = 46 (0x2E hex),
- JDK 1.1 = 45 (0x2D hex).

```
HolaMundo.class
Bp%Z^@^@4^@
^@^F^@T ^@^U^@^H^@W
^@^X^@^Y^@Z^@^G^@^A^@^F<init>^@^C^@^U^@^DCode^@^OLineNumberTable^@
^@RLocalVariableTable^@^Dthis^@^ULappTest3D/HolaMundo;^@^Dmain^@^U(
[Ljava/lang/String;)^@^Dargs^@^S[Ljava/lang/String;^@^
SourceFile^@^NHolaMundo.java^@^L^@^G^@^H^@^C^@^A^@^L^@^] ^@^A^@^KHola, mundo^G
^@^_L^@ ^@^!^@^SappTest3D/HolaMundo^@^Pjava/lang/Object^@^Pjava/lang/
System^@^Cout^@^ULjava/io/PrintStream;^@^Sjava/io/PrintStream^@^Gpr
intln^@^U(Ljava/lang/String;)^@^!^@^E^@^F^@^G^@^D^@^B^@^A^@^C^@^H^@^A^@
^@^D^@^/ ^@^A^@^A^@^E*^@^A^@^B^@
^@^E^@^F^@^A^@^E^@^L^@^K^@^E^@^L^@^A^@^E^@^E^@^L^@^H^@^E^@ ^@^H^@^O^@
A^@ ^@^E^@^7^@^B^@^A^@^E^@ ^@^B^@^R^@^C^@^D^@^E^@^B^@
^@^E^@
^@^B^@^E^@^Q^@^H^@^R^@^K^@^E^@^L^@^A^@^E^@ ^@^P^@^Q^@^E^@^A^@^R^@^E^@
B^@^S
```

	Magic number	Minor version	Mayor version	
00000000:	cafe	babe	0000	0034
00000010:	0015	0016	0000	170a
00000020:	001b	0100	063c	696e
00000030:	5601	0004	436f	6465
00000040:	756d	6265	7254	6162
00000050:	616c	5661	7269	6162
00000060:	0004	7468	6973	0100
00000070:	7433	442f	486f	6c61
00000080:	046d	6169	6e01	0016
00000090:	6c61	6e67	2f53	7472
000000a0:	0461	7267	7301	0013
000000b0:	616e	672f	5374	7269
000000c0:	7572	6365	4669	6c65
000000d0:	756e	646f	2e6a	6176
000000e0:	1c0c	001d	001e	0100
000000f0:	756e	646f	0700	1f0c
00000100:	7070	5465	7374	3344
00000110:	646f	0100	106a	6176
00000120:	626a	6563	7401	0010
00000130:	672f	5379	7374	656d
00000140:	154c	6a61	7661	2f69
00000150:	7472	6561	6d3b	0100
00000160:	2f50	7269	6e74	5374
00000170:	7269	6e74	6c6e	0100
00000180:	6c61	6e67	2f53	7472
00000190:	0005	0006	0000	0000
000001a0:	0001	0009	0000	002f
000001b0:	2ab7	0001	b100	0000
000001c0:	0100	0000	0c00	0b00
000001d0:	0500	0c00	0d00	0000
000001e0:	0900	0000	3700	0200
000001f0:	1203	b600	04b1	0000
00000200:	0002	0000	0011	0008
00000210:	0001	0000	0009	0010
00000220:	0000	0002	0013	0a0a

```
C:>javap -c HolaMundo
Compiled from "HolaMundo.java"
public class HolaMundo extends java.lang.Object{
public HolaMundo();
Code:
0:    aload_0
1:    invokespecial    #1; //Method java/lang/Object.<"init">:()V
4:    return

public static void main(java.lang.String[]);
Code:
0:    getstatic        #2; //Field java/lang/System.out:Ljava/io/PrintStream;
3:    ldc              #3; //String Hola, mundo
5:    invokevirtual    #4; //Method java/io/PrintStream.println:(Ljava/lang/String;)V
8:    return
}
```

Sobre el "Magic Number"

We used to go to lunch at a place called St Michael's Alley. According to local legend, in the deep dark past, the Grateful Dead used to perform there before they made it big. It was a pretty funky place that was definitely a Grateful Dead Kinda Place. When Jerry died, they even put up a little Buddhist-esque shrine. When we used to go there, we referred to the place as Cafe Dead. Somewhere along the line, it was noticed that this was a HEX number. I was re-vamping some file format code and needed a couple of magic numbers: one for the persistent object file, and one for classes. I used CAFEDEAD for the object file format, and in grepping for 4 character hex words that fit after "CAFE" (it seemed to be a good theme) I hit on BABE and decided to use it. At that time, it didn't seem terribly important or destined to go anywhere but the trash can of history. So CAFE BABE became the class file format, and CAFEDEAD was the persistent object format. But the persistent object facility went away, and along with it went the use of CAFEDEAD – it was eventually replaced by RMI.

James Gosling



Grateful Dead

Decompilación: p.ej. [Java Optimize and Decompile Environment \(JODE\)](#)
→ Qué es la "Ofuscación"

Comprobar el funcionamiento:

Escritura de `GeneradorDeHolaMundo.java`

En shell del SO: compilar, ejecutar, desensamblar, documentar.

Idem con package

Decompilar

Idem en Netbeans.