

**MASTER EN MODELIZACIÓN
MATEMÁTICA, ESTADÍSTICA Y
COMPUTACIÓN
2011-2012**

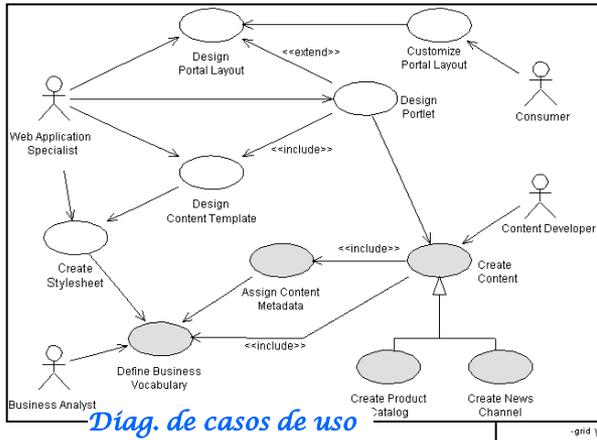
Curso: Bases de datos y programación
orientada a objetos
Parte POO

Aspectos prácticos para programar en Java (recursos)

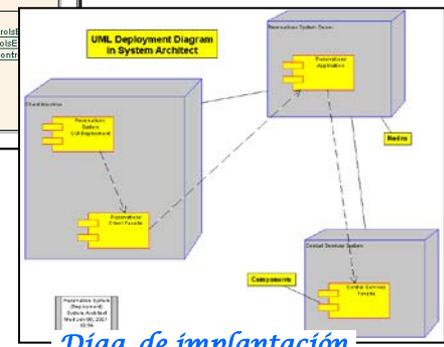
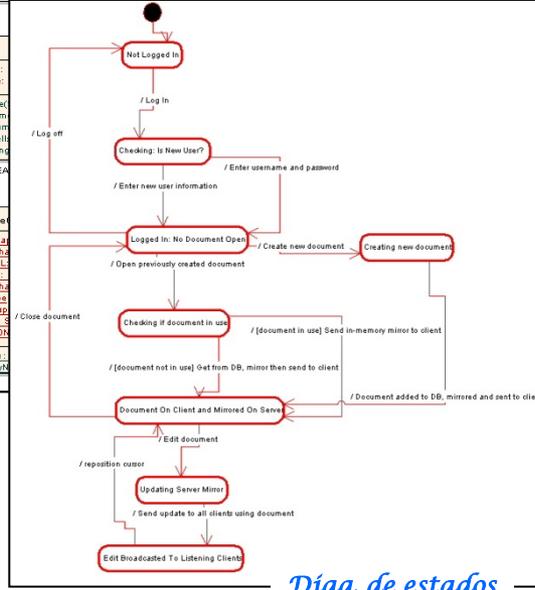
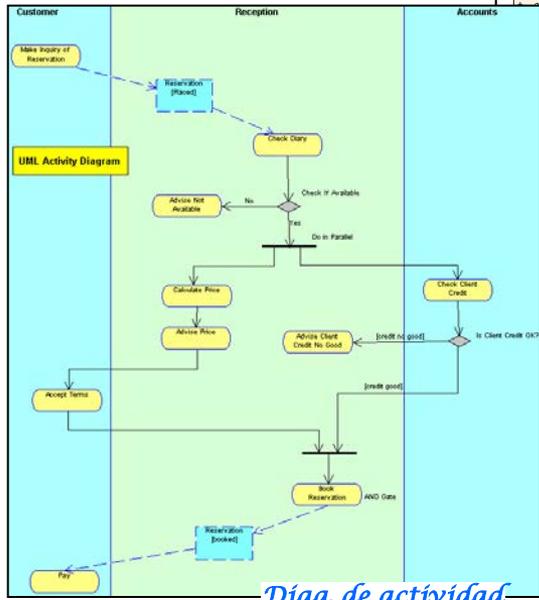
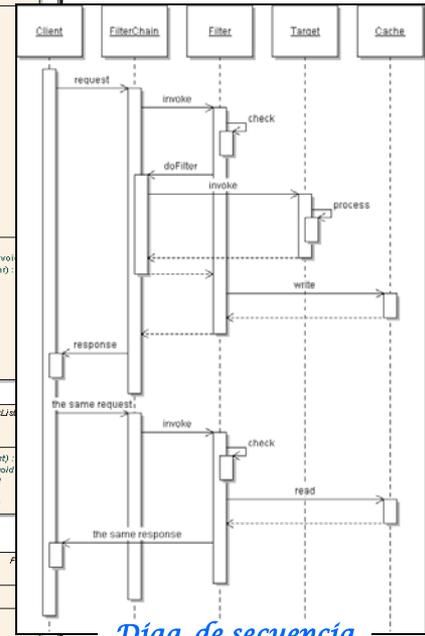
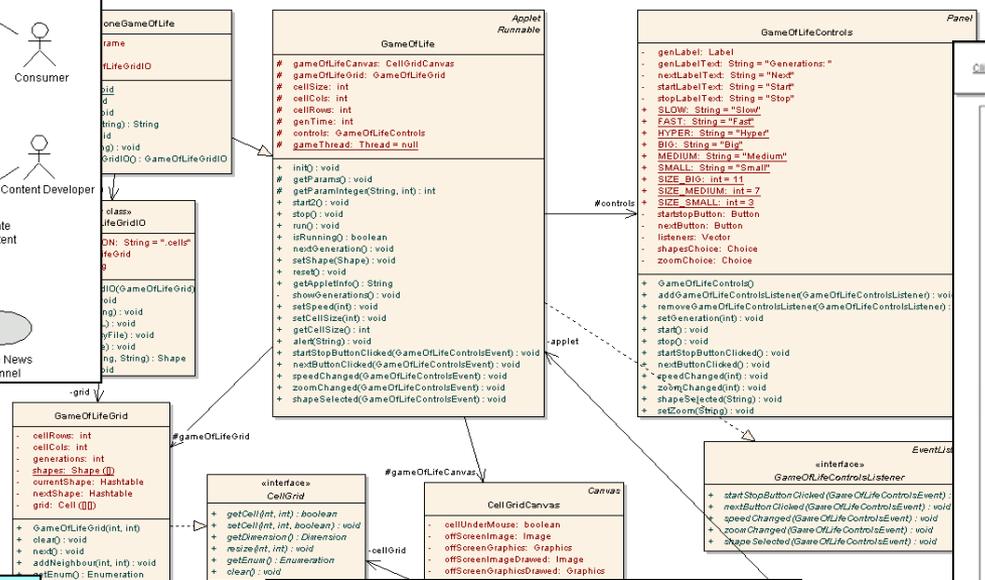


“Bundle” con java (jdk) y netbeans en moodle (versiones windows y linux)
+ documentación de java.

The screenshot shows the NetBeans IDE 6.9.1 website homepage. At the top, there is a navigation menu with links for Home, IDE, Platform, Plugins, Docs & Support, Community, and Partners. The main content area features a large banner for NetBeans IDE 6.9.1, including a download button labeled "Download FREE NetBeans IDE 6.9.1". Below the banner, there are sections for "Featured News", "Plugins", "Tutorials", "Partners", and "NetBeans Community Poll". The "Plugins" section highlights the "PHP Nette Framework" as a featured plugin. The "Tutorials" section lists a new tutorial for "Configuring PHP, Apache, MySQL, and Xdebug for PHP development in Mac OS X". The "Partners" section features "ICEsoft Technologies" as a featured partner. The "NetBeans Community Poll" section asks for opinions on developer trends and topics, with options like "Job performance reviews" and "Answers for 'Who Wants to be a Millionaire'". At the bottom, there is a footer with links for Shop, SiteMap, About Us, Contact, and Legal, along with logos for various companion projects like MySQL, PHP, and OpenJDK, and a sponsorship logo for Oracle.



Diag. de clases



Preparando el entorno

EI JDK.

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Java.sun.com

The Source for Java Developers

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Mobile Service Architecture 2-Coming Your Way
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August 21, 2008
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Developer Spotlight

DEVELOPMENT SIMPLIFIED
Download NetBeans IDE 6.5 Beta
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Java SE 6 Update 10 Beta - Itanium form
Java SE 6 Update 10 for the Itanium platform, a beta release, is available for download. This is the final release of the quad-core version of the chip in 2009.
» Try it now

Ask the Experts Transcript: JavaFX Preview
What does the 'tween' keyword do? Why did the JavaFX language designers favor multiple inheritance over interfaces? Can you mix Swing and graphics components in JavaFX? Read the answers to these

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The Java SE Development Kit (JDK) includes the Java Runtime Environment and command-line development tools that are useful for developing desktop and applications.
» Download

JDK 6 Update 7 with Java EE
This distribution of the Java SE Development Kit (JDK) is included in the Java EE 6.0 release, which provides web services, component-model, management, and other annotations APIs that make it the industry standard for implementing enterprise-class service-oriented architecture (SOA) and Web 2.0 applications.
» Download

JDK 6 Update 7 with NetBeans 6.1
This distribution of the Java SE Development Kit (JDK) includes NetBeans IDE, which is a powerful integrated development environment for developing applications on the Java platform.
» Download

Java Runtime Environment (JRE) 6 Update 7
The Java SE Runtime Environment (JRE) allows end-users to run Java applications.
Installation Instructions | ReadMe | ReleaseNotes | Sun License | Third Party Licenses

JDK DST Timezone Update Tool - 1.3.6
The tzupdater tool is provided to allow the updating of installed JDK/JRE images with more recent timezone data in order to accommodate the latest timezone changes.
ReadMe
» Download

Java SE 6 Documentation
Java SE 6 Documentation | Docs Installation Instructions | License
» Download

Java SE 6 JDK Source Code
JDK 6 source code is available for those interested in exploring the details of the JDK. This includes schools, universities, companies, and individuals who want to examine the source code for personal interest or research & development. The license does not impose restrictions upon those who wish

Java SE Site Map

Regional Downloads
Japanese
日本語版

Related Resources

- Java SE for Business
- Compatibility
- Performance
- Security
- Mobility
- Timezone Updates

Related Downloads

- XML and Web Services
- Java Media Framework

Popular Topics

- JDK 6 Adoption Guide
- Java Platform Migration Guide
- Garbage Collection Tuning
- Troubleshooting Java SE

Sun Resources

- BigAdmin (sysadmin resources)
- Sun Web Learning Center
- Java Training

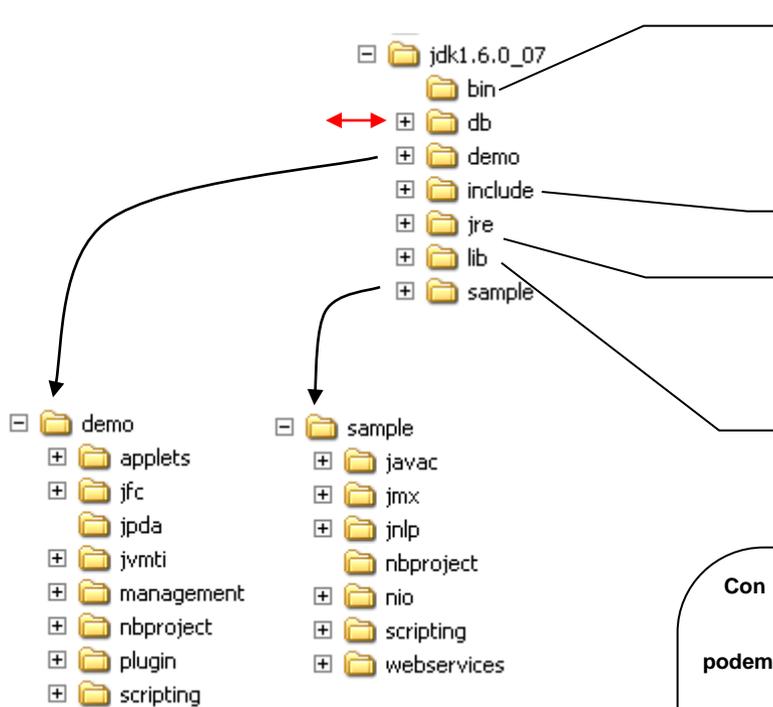
Related Sites

- java.com
- java.net
- NetBeans
- Java EE SDK
- OpenJDK Project
- Open-Source Java Project

Getting Started?

- New to Java Center
- Java Tutorial: Getting Started
- Tutorials
- Quizzes
- Java SE Training

Sun Net Talk - Java SE 6
Take a tour of the newest release, as Bill Curci highlights enhancements in Java SE 6
» Watch Now



Herramientas de desarrollo:

javac (compilador), java (máquina virtual), jdb (debugger), javadoc (documentador), jar (compactador), javap (desensamblador), extcheck (verificador de .jar), etc.



Cabeceras para métodos nativos.

Java Runtime Environment.

Máquina virtual, Biblioteca de clases y todo lo necesario para dar soporte a aplicaciones [compiladas] java.



Librerías adicionales para desarrollo.

Dentro de **jdk1.6.0_07** también encontraremos **src.zip** que contiene todos los ficheros fuente de las librerías

Así mismo, no es estrictamente necesario, pero este directorio es un buen lugar para dejar la documentación **jdk-6-doc.zip**

Con

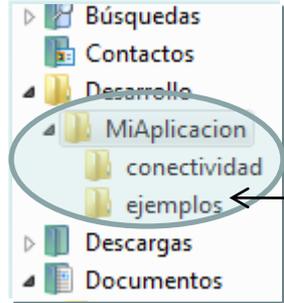
- el directorio "bin" en el PATH, y
 - la variable **JAVA-HOME=<path de jdk1.6.0_07>**
- podemos desarrollar nuestro primer programa.

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

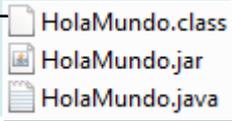
```
Prompt> javac HolaMundo.java
Prompt> java HolaMundo
Hola, Mundo
Prompt>
```

```
C:\Documents and Settings\german>javac
Usage: javac <options> <source files>
where possible options include:
-g Generate all debugging info
-g:none Generate no debugging info
-g:<lines,vars,source> Generate only some debugging info
-nowarn Generate no warnings
-verbose Output messages about what the compiler is doing
-deprecation Output source locations where deprecated APIs are used
-classpath <path> Specify where to find user class files and annotation processors
-cp <path> Specify where to find user class files and annotation processors
-sourcepath <path> Specify where to find input source files
-bootclasspath <path> Override location of bootstrap class files
-extdirs <dirs> Override location of installed extensions
-endorseddirs <dirs> Override location of endorsed standards path
-proc:<none,only> Control whether annotation processing and/or compilation
-processor <class1>[,<class2>,<class3>... Names of the annotation processors to use
-processorpath <path> Specify where to find annotation processors
-d <directory> Specify where to place generated class files
-s <directory> Specify where to place generated source files
-implicit:<none,class> Specify whether or not to generate class files for implicit dependencies
-encoding <encoding> Specify character encoding used by source files
-source <release> Provide source compatibility with specified release
-target <release> Generate class files for specific VM version
-version Version information
-help Print a synopsis of standard options
-Akey[=value] Options to pass to annotation processors
-X Print a synopsis of nonstandard options
-J<flag> Pass <flag> directly to the runtime system
```

```
C:\Documents and Settings\german>java
Usage: java [-options] class [args...]
      (to execute a class)
or java [-options] -jar jarfile [args...]
      (to execute a jar file)
where options include:
-client to select the "client" VM
-server to select the "server" VM
-hotspot is a synonym for the "client" VM (deprecated!)
The default VM is client.
-cp <class search path of directories and zip/jar files>
-classpath <class search path of directories and zip/jar files>
      A ; separated list of directories, JAR archives,
      and ZIP archives to search for class files.
-D<name>=<value> set a system property
-verbose[:class[:gc]:jnil enable verbose output
-version print product version and exit
-version:<value> require the specified version to run
-showversion print product version and continue
-jre-restrict-search | -jre-no-restrict-search include/exclude user private JREs in the version search
-? -help print this help message
-X print help on non-standard options
-ea[:<packagename>...[:<classname>]]
-enableassertions[:<packagename>...[:<classname>]] enable assertions
-da[:<packagename>...[:<classname>]]
-disableassertions[:<packagename>...[:<classname>]] disable assertions
-esa | -enablesystemassertions enable system assertions
-dsa | -disablesystemassertions disable system assertions
-agentlib:<libname>[=<options>] load native agent library <libname>, e.g. -agentlib:hprof
      see also, -agentlib:jdwp=help and -agentlib:hprof=help
-agentpath:<pathname>[=<options>] load native agent library by full pathname
-javaagent:<jarpath>[=<options>] load Java programming language agent, see java.lang.instrument
-plash:<imagepath> show splash screen with specified image
```



Un programa Java comienza por la ejecución de un fichero (una clase) que puede ir invocando la ejecución de otras dentro de uno o varios subárboles de directorios o ficheros JAR (cada subárbol o cada JAR es una "biblioteca de clases")



Compilar y ejecutar estando en "MiAplicacion"

```
>javac ejemplos/HolaMundo.java
>java ejemplos.HolaMundo
```

Compilar y ejecutar estando en otro directorio

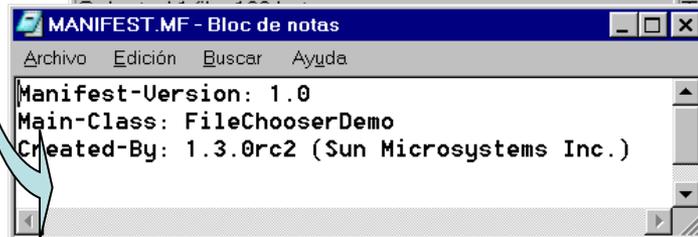
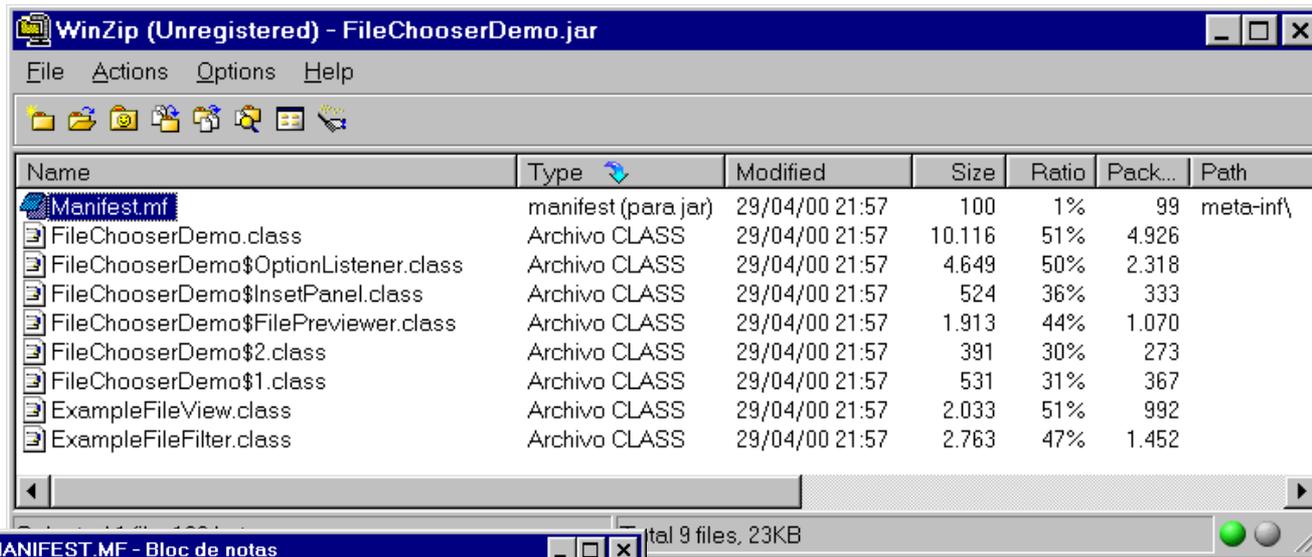
```
>javac -cp c:/Desarrollo/MiAplicacion ejemplos/HolaMundo.java
>java -cp c:/Desarrollo/MiAplicacion ejemplos.HolaMundo
```

Ejecutar mediante un JAR

```
>java -cp c:/Desarrollo/MiAplicacion/ejemplos/HolaMundo.jar HolaMundo
>java -jar c:/Desarrollo/MiAplicacion/ejemplos/HolaMundo.jar
```

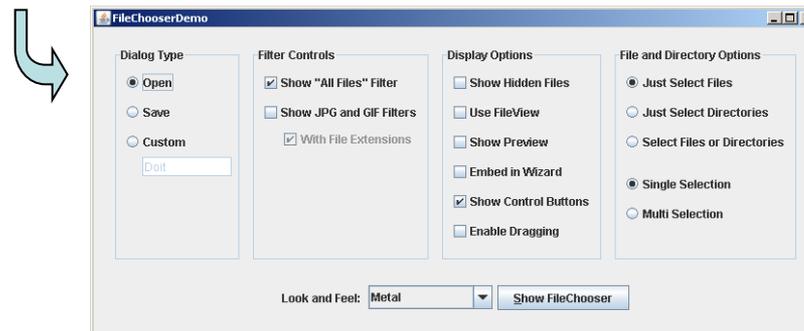
← OJO: para hacer esta prueba hay que incluir la línea **package ejemplos;** en el código fuente de HolaMundo.java

Uso de ficheros "Jar"



El "Manifest.mf" debe situarse en una sub-carpeta denominada "meta-inf"

```
C:\Archivos de programa\Java\jdk1.6.0_07\demo\jfc\FileChooserDemo>java -cp FileChooserDemo.jar FileChooserDemo
C:\Archivos de programa\Java\jdk1.6.0_07\demo\jfc\FileChooserDemo>java -jar FileChooserDemo.jar
```



 appletviewer.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 apt.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 beanreg.dll 6.0.70.6 Java(TM) Platform SE binary	 extcheck.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 HtmlConverter.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 idlj.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jar.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jarsigner.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 java.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 javac.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 javadoc.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 javah.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 javap.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 java-rmi.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 javaw.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 javaws.exe Java(TM) Web Start Launcher Sun Microsystems, Inc.
 jconsole.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jdb.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jhat.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jinfo.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 jli.dll 6.0.70.6 Java(TM) Platform SE binary	 jmap.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jps.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jrunscript.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 jstack.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jstat.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jstatd.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 jvisualvm.exe
 keytool.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 kinit.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 klist.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 ktab.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 msvcr71.dll 7.10.3052.4 Microsoft® C Runtime Library	 native2ascii.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 orbd.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 pack200.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 packager.exe JavaBeans(TM) Packager Sun Microsystems, Inc.	 policytool.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 rmic.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 rmid.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 rmiregistry.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 schemagen.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 serialver.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 servertool.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 tnameserv.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 unpack200.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 wsgen.exe Java(TM) Platform SE binary Sun Microsystems, Inc.	 wsimport.exe Java(TM) Platform SE binary Sun Microsystems, Inc.
 xjc.exe Java(TM) Platform SE binary Sun Microsystems, Inc.			

La documentación del código desarrollado esta ligada al mismo y se genera automáticamente mediante javadoc

```
G:\Documents and Settings\german>javadoc
javadoc: error - No packages or classes specified.
usage: javadoc [options] [packagenames] [sourcefiles] [files]
-overview <file>      Read overview documentation from HTML file
-public              Show only public classes and members
-protected          Show protected/public classes and members (default)
-package            Show package/protected/public classes and members
-private            Show all classes and members
-help              Display command line options and exit
-doclet <class>      Generate output via alternate doclet
-docletpath <path>   Specify where to find doclet class files
-sourcepath <pathlist> Specify where to find source files
-classpath <pathlist> Specify where to find user class files
-exclude <pkglist>  Specify a list of packages to exclude
-subpackages <subpkglist> Specify subpackages to recursively load
-breakiterator      Compute 1st sentence with BreakIterator
-bootclasspath <pathlist> Override location of class files loaded by the bootstrap class loader
-source <release>   Provide source compatibility with specified release
-extdirs <dirlist>  Override location of installed extensions
-verbose           Output messages about what Javadoc is doing
-locale <name>     Locale to be used, e.g. en_US or en_US_WIN
-encoding <name>   Source file encoding name
-quiet            Do not display status messages
-J<flag>          Pass <flag> directly to the runtime system

Provided by Standard doclet:
-d <directory>     Destination directory for output files
-use              Create class and package usage pages
-version         Include @version paragraphs
-author         Include @author paragraphs
-docfilessubdirs  Recursively copy doc-file subdirectories
-splitindex       Split index into one file per letter
-windowtitle <text> Browser window title for the documentation
-doctitle <html-code> Include title for the overview page
-header <html-code> Include header text for each page
-footer <html-code> Include footer text for each page
-top <html-code>   Include top text for each page
-bottom <html-code> Include bottom text for each page
-link <url>        Create links to javadoc output at <url>
-linkoffline <url> <url2> Link to docs at <url> using package list at <url2>
-excludodocfilessubdir <name1>:.. Exclude any doc-files subdirectories with given name.
-group <name> <p1>:<p2>..   Group specified packages together in overview page
-nocomment       Suppress description and tags, generate only declarations
-nodeprecated    Do not include @deprecated information
-noqualifier <name1>:<name2>:... Exclude the list of qualifiers from the output.
-nosince        Do not include @since information
-notimestamp     Do not include hidden time stamp
-nodeprecatedlist Do not generate deprecated list
-notree         Do not generate class hierarchy
-noindex        Do not generate index
-nohelp         Do not generate help link
-nonavbar       Do not generate navigation bar
-serialwarn     Generate warning about @serial tag
-tag <name>:<locations>:<header> Specify single argument custom tags
-taglet         The fully qualified name of Taglet to register
-tagletpath     The path to Taglets
-charset <charset> Charset for cross-platform viewing of generated documents
-helpfile <file>  Include file that help link links to
-linksource     Generate source in HTML
-sourcetab <tab length> Specify the number of spaces each tab takes up in the
-keywords       Include HTML meta tags with package, class and member
-stylesheetfile <path> File to change style of the generated documentation
-docencoding <name> Output encoding name
```

```
import java.util.*;
/**
 * Esta clase es de utilidad puntual para análisis de una evaluación manual de sis
 * de traducción. Cada objeto será una frase origen y una serie de traducciones.
 * Las traducciones tendrán el formato "n:frase" donde n es un número 1,2 ó 3.
 * Una de las traducciones no lo será en realidad, sino que se tratará de una copi
 * original y actúa como marca para la ordenación posterior
 */
public class AN1 extends Object {
private String origen;
private int ntrad;
private Vector traducciones= new Vector();
private static final String validCodes="123";

/** Crea un nuevo objeto aceptando la cadena origen.
 @param s Cadena origen
 @param n número de traducciones correcto (sin contar la repetición que actua c
 public AN1(String s, int n) {origen=s; ntrad=n;}

/** Acepta una traducción */
public void add(String s) {traducciones.addElement(s);}

/** Crea un nuevo objeto aceptando la cadena origen.
 @param s Cadena origen
 @param n número de traducciones correcto (sin contar la repetición que actua c
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public void add(String s) {traducciones.addElement(s);}
```

Package [Class](#) [Tree](#) [Deprecated](#) [Index](#) [Help](#)

PREV CLASS NEXT CLASS [FRAMES](#) [NO FRAMES](#) [All Classes](#)

SUMMARY: NESTED | FIELD | [CONSTR](#) | [METHOD](#) [DETAIL: FIELD | \[CONSTR\]\(#\) | \[METHOD\]\(#\)](#)

Class AN1

java.lang.Object
|
+--AN1

public class AN1
extends java.lang.Object

Esta clase es de utilidad puntual para análisis de una evaluación manual de sistemas de traducción. Cada objeto será una frase origen y una serie de traducciones. Las traducciones tendrán el formato "n:frase" donde n es un número 1,2 ó 3. Una de las traducciones no lo será en realidad, sino que se tratará de una copia del original y actúa como marca para la ordenación posterior

Constructor Summary

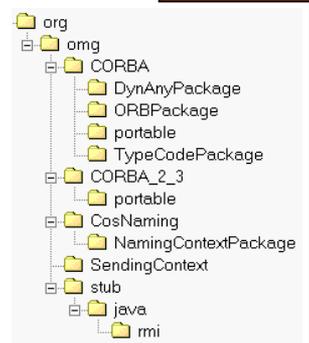
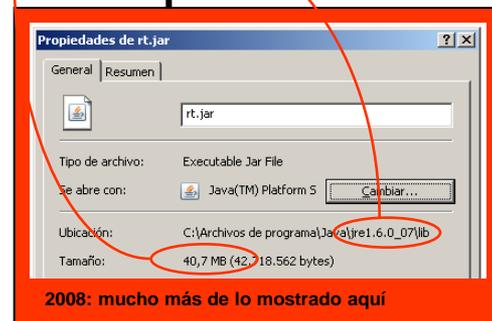
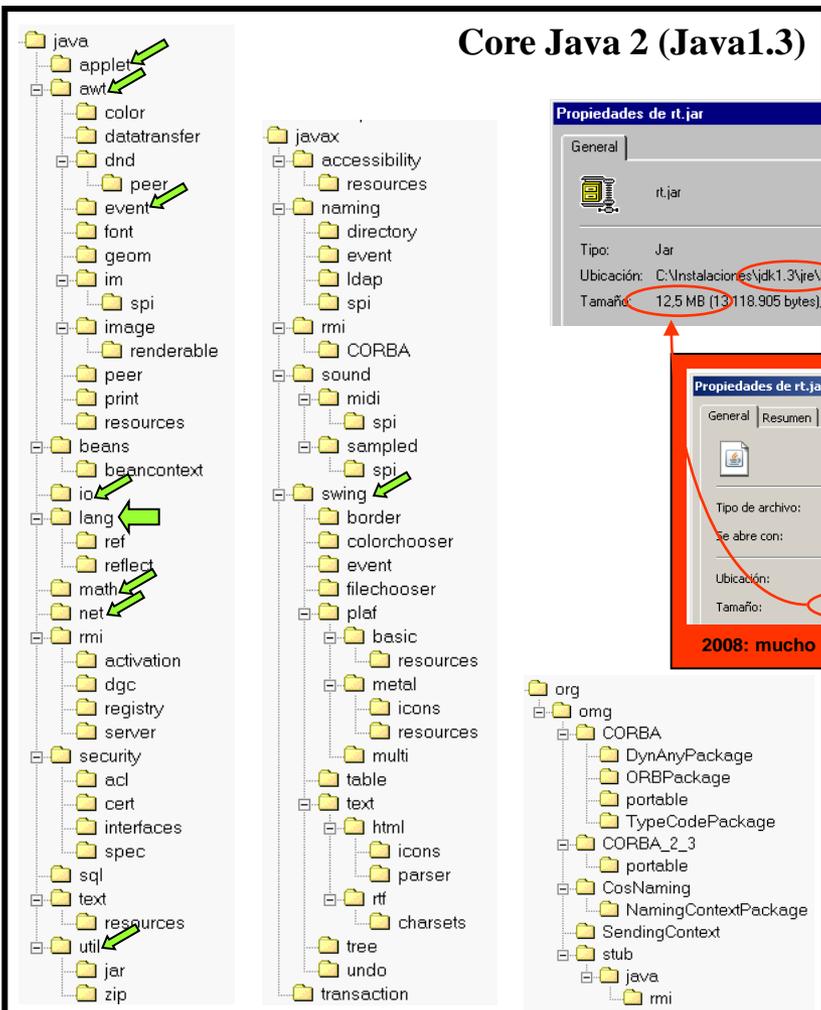
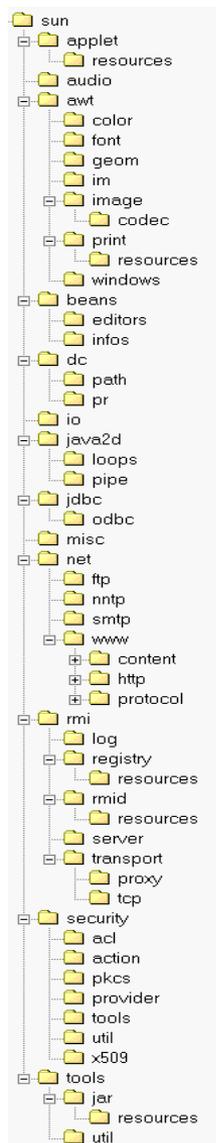
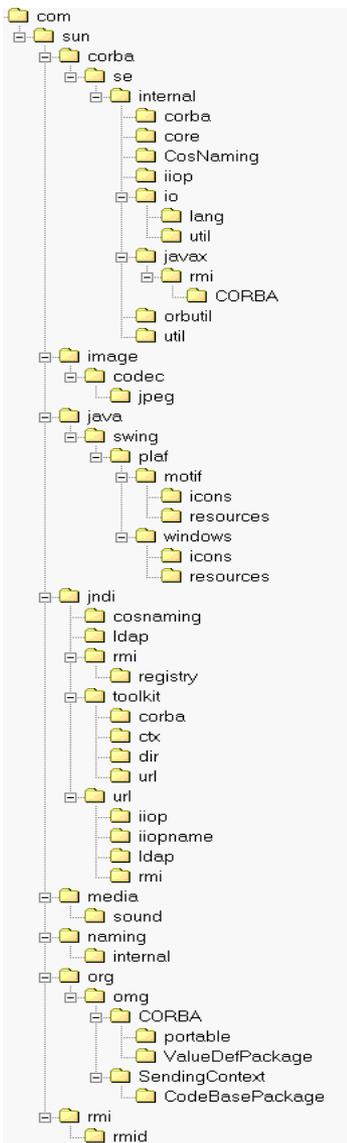
AN1(java.lang.String s, int n)
Crea un nuevo objeto aceptando la cadena origen.

Method Summary

void add(java.lang.String s)
Acepta una traducción

Contenido de C:\...\jdk1.3\jre\lib\rt.jar

Core Java 2 (Java1.3)



```
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
}
```

(Decompilación: probar con Jode y SAUTRELA)

“Ofuscacion”