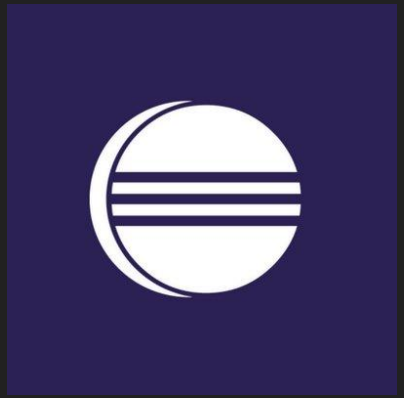
IDE Eclipse



Sergio González Guerra
Germán Alfonso Teixidó

Index

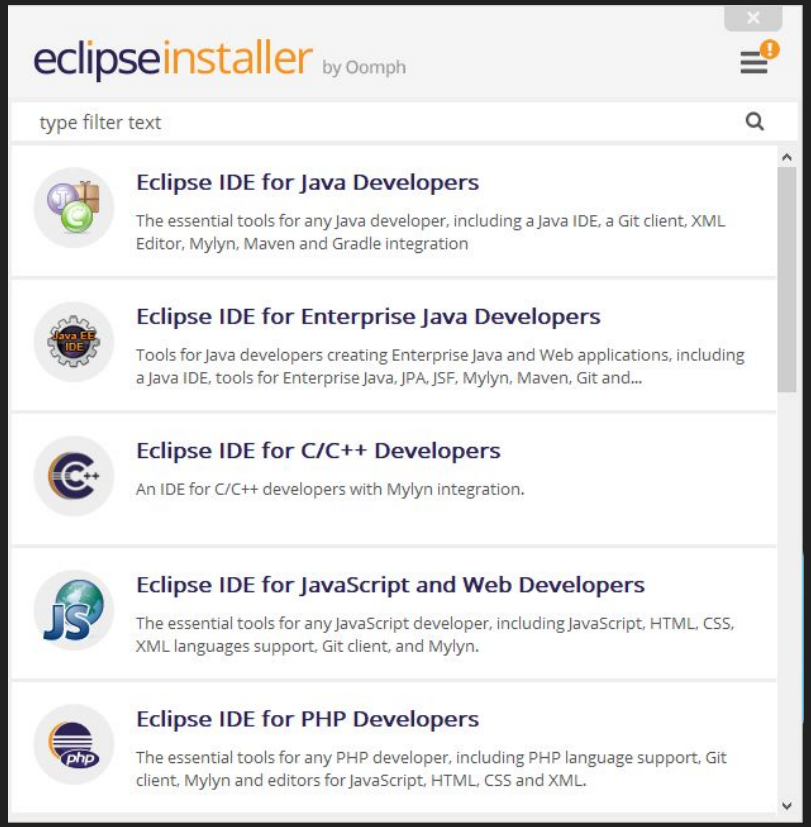
1

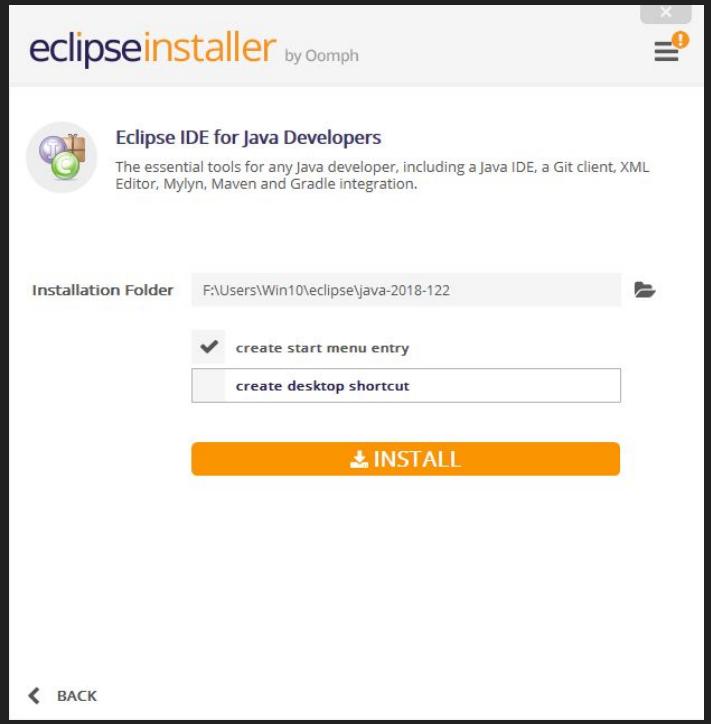
DOWNLOAD AND CONFIGURE ECLIPSE

Where can we download Eclipse?

www.eclipse.org

How do we install Eclipse?





www.eclipse.org

eclipse-workspace - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Quick Access

Package Explorer | Navigator

Eclipse Tutorial

Task List

Find | All | Activate...

Outline

An outline is not available.

Problems | Javadoc | Declaration | Console

No consoles to display at this time.

Cambiando a modo oscuro

Window>Preferences
Appearance->Themes [Dark]

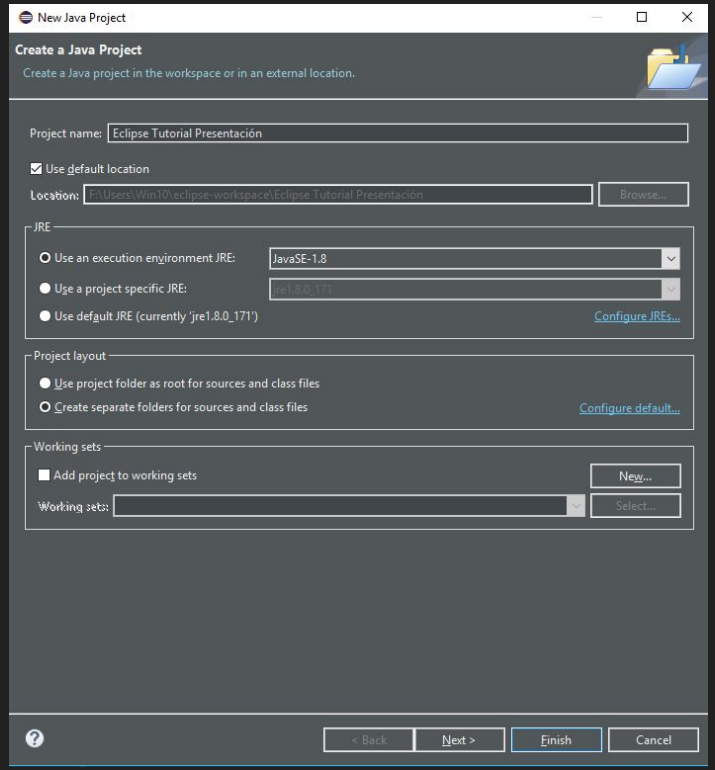
¡Recuerda aplicar los cambios!

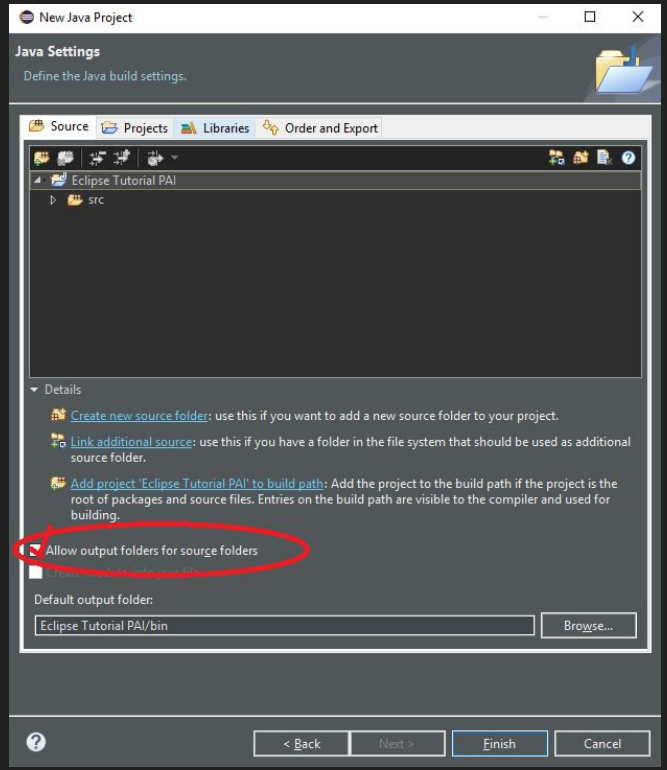
What kind of project can we do with Eclipse?

- Java Project
- Simple Project
- Plug-In Development Project

How to create a Java Project

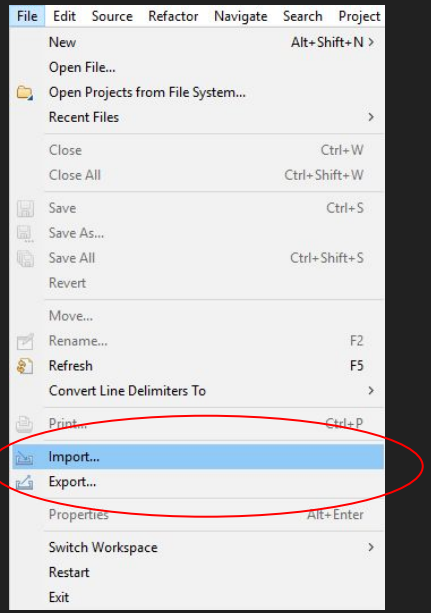
File > New > Java Project

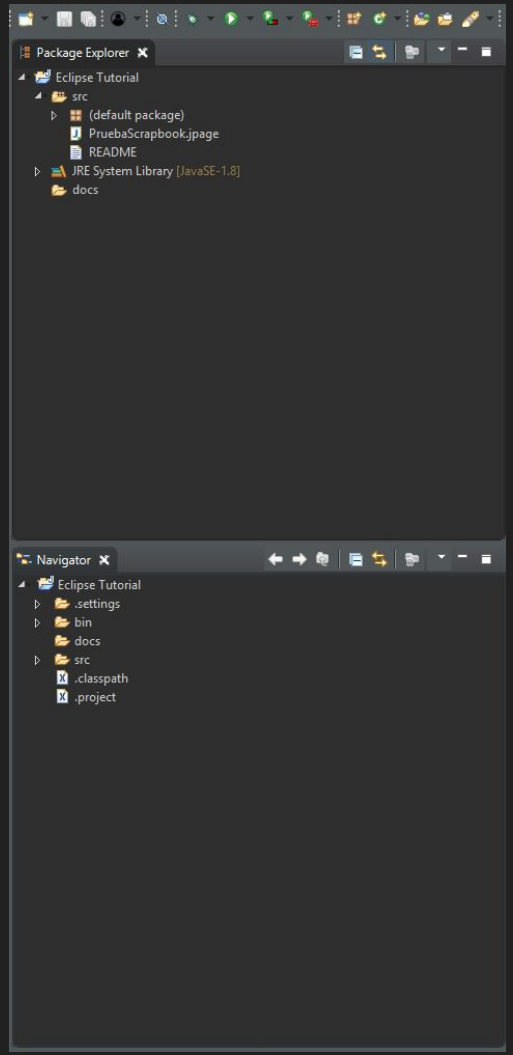




Import (and export) files with Eclipse?

- File > Import / Export
- Dragging files to the “Package Explorer”/”System Navigator”



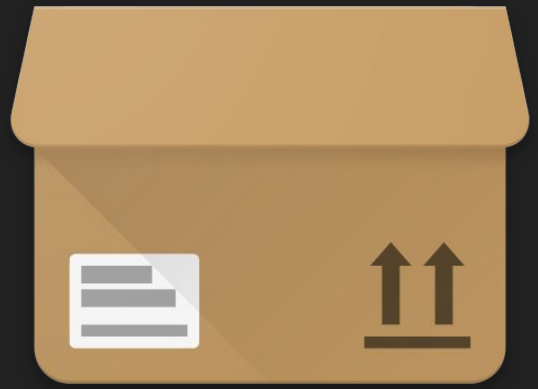


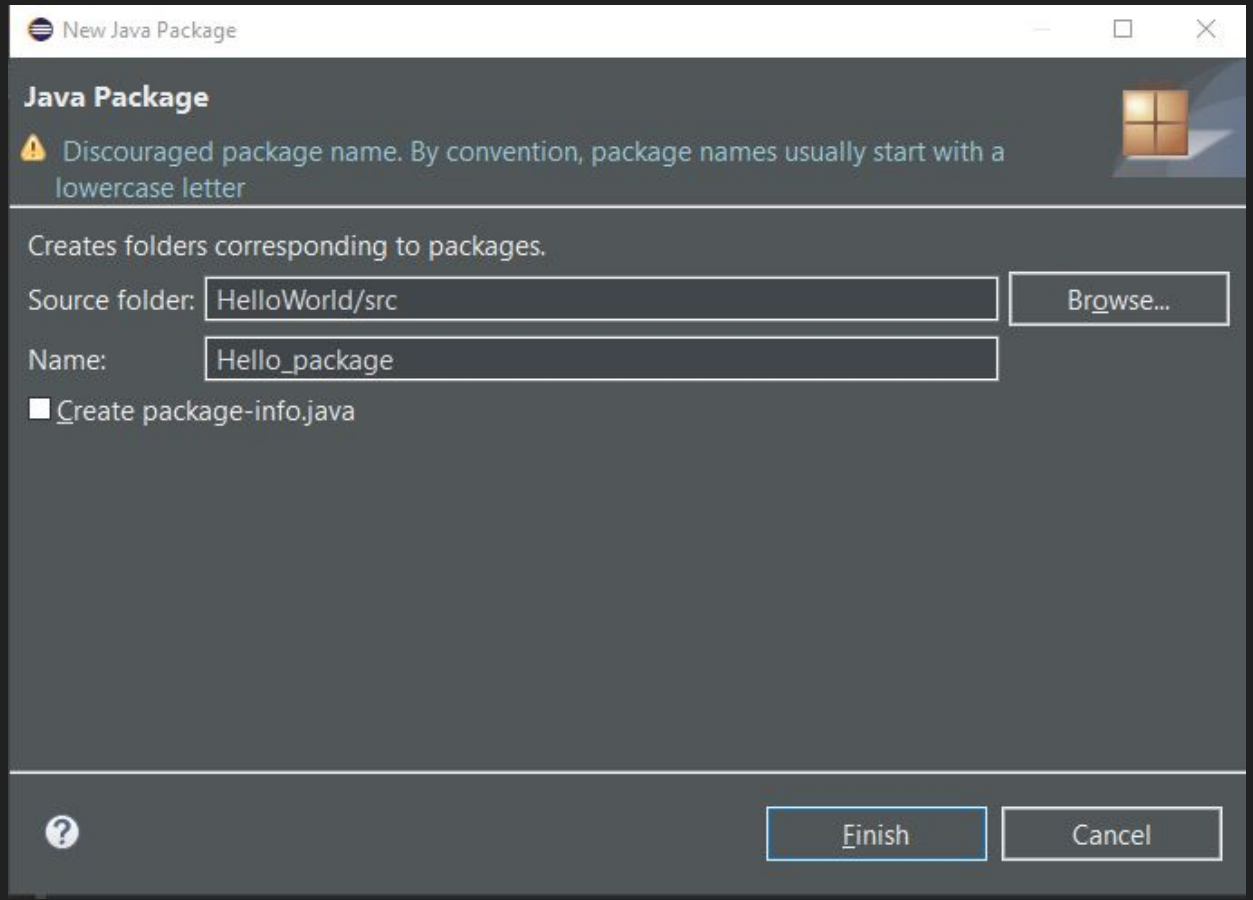
2

CREATE JAVA ELEMENTS

Add Packages

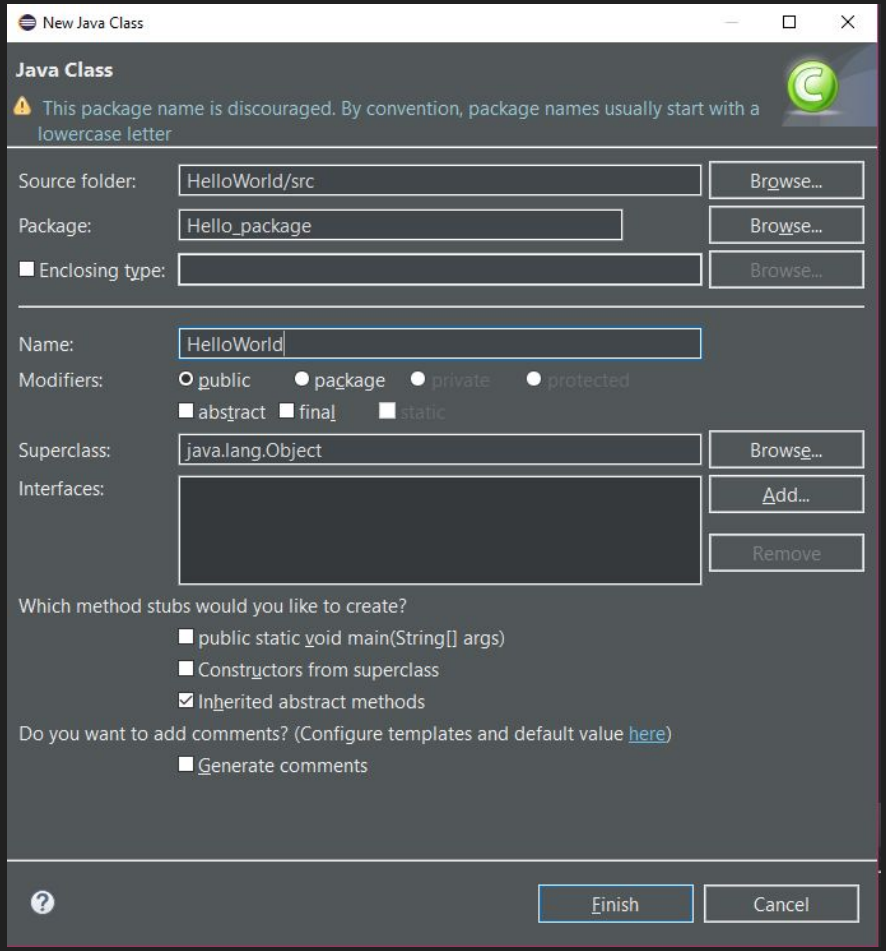
- Store and organize Java files
- Stored in /src
- Contains several parts separated by points
- Each point represent a directory
- Right click -> New -> Package



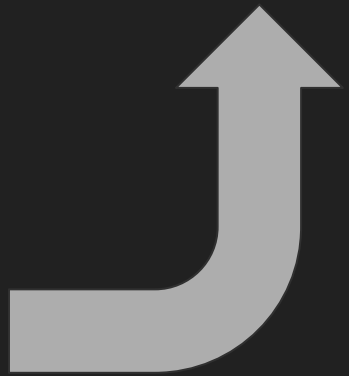

New Java Package
Java Package
Discouraged package name. By convention, package names usually start with a lowercase letter
Creates folders corresponding to packages.
Source folder:
HelloWorld/src
Browse...
Name:
Hello_package
Create package-info.java
Finish
Cancel

Java Class

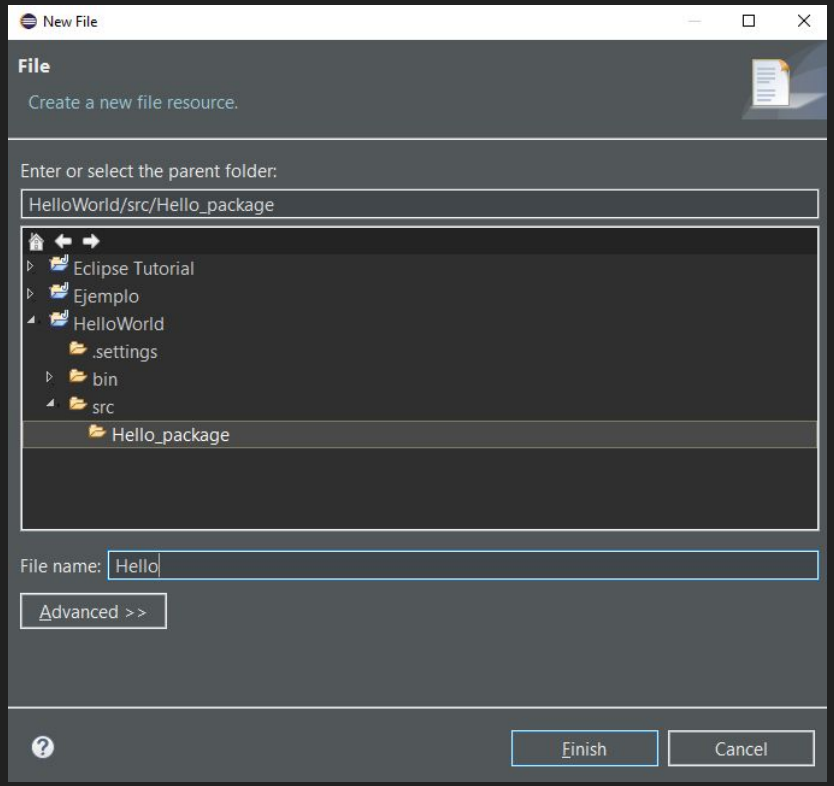
- ‘.java’ files -> Compiled on ‘.class’ files.
- Stored in /src .
- Right click -> New -> Class, to create a new class.


New Java Class
Java Class
This package name is discouraged. By convention, package names usually start with a lowercase letter
Source folder:
HelloWorld/src
Browse...
Package:
Hello_package
Browse...
Enclosing type:
Browse...
Name:
HelloWorld
Modifiers:
public
package
private
protected
abstract
final
static
Superclass:
java.lang.Object
Browse...
Interfaces:
Add...
Remove
Which method stubs would you like to create?
public static void main(String[] args)
Constructors from superclass
Inherited abstract methods
Do you want to add comments? (Configure templates and default value here)
Generate comments
Finish
Cancel

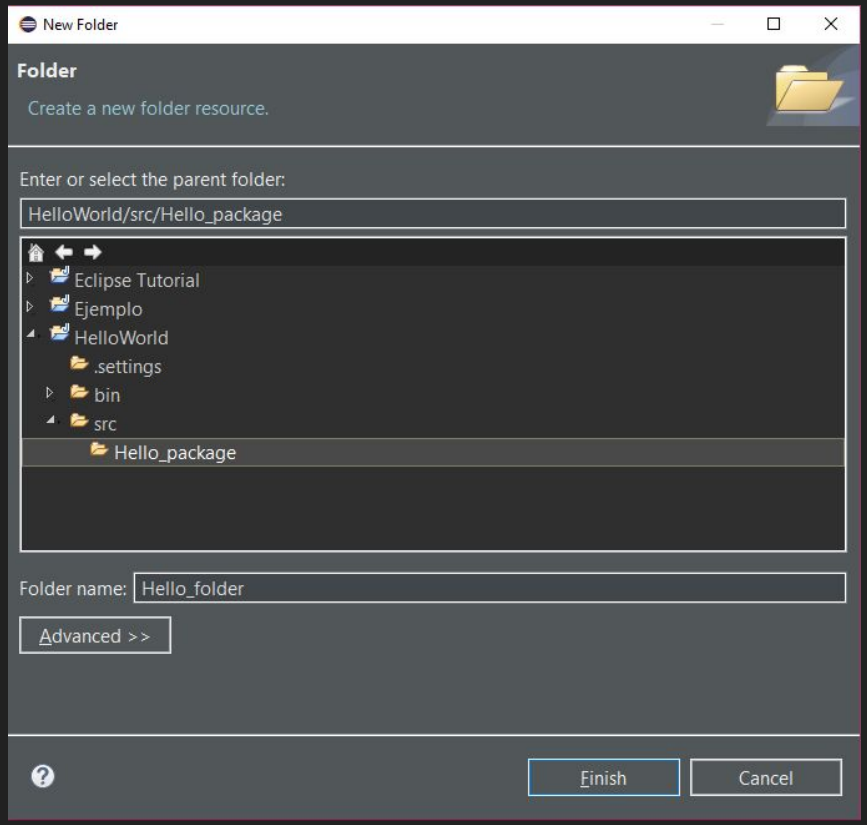

HelloWorld
JRE System Library [JavaSE-1.8]
src
Hello_package
HelloWorld.java
HelloWorld



Files

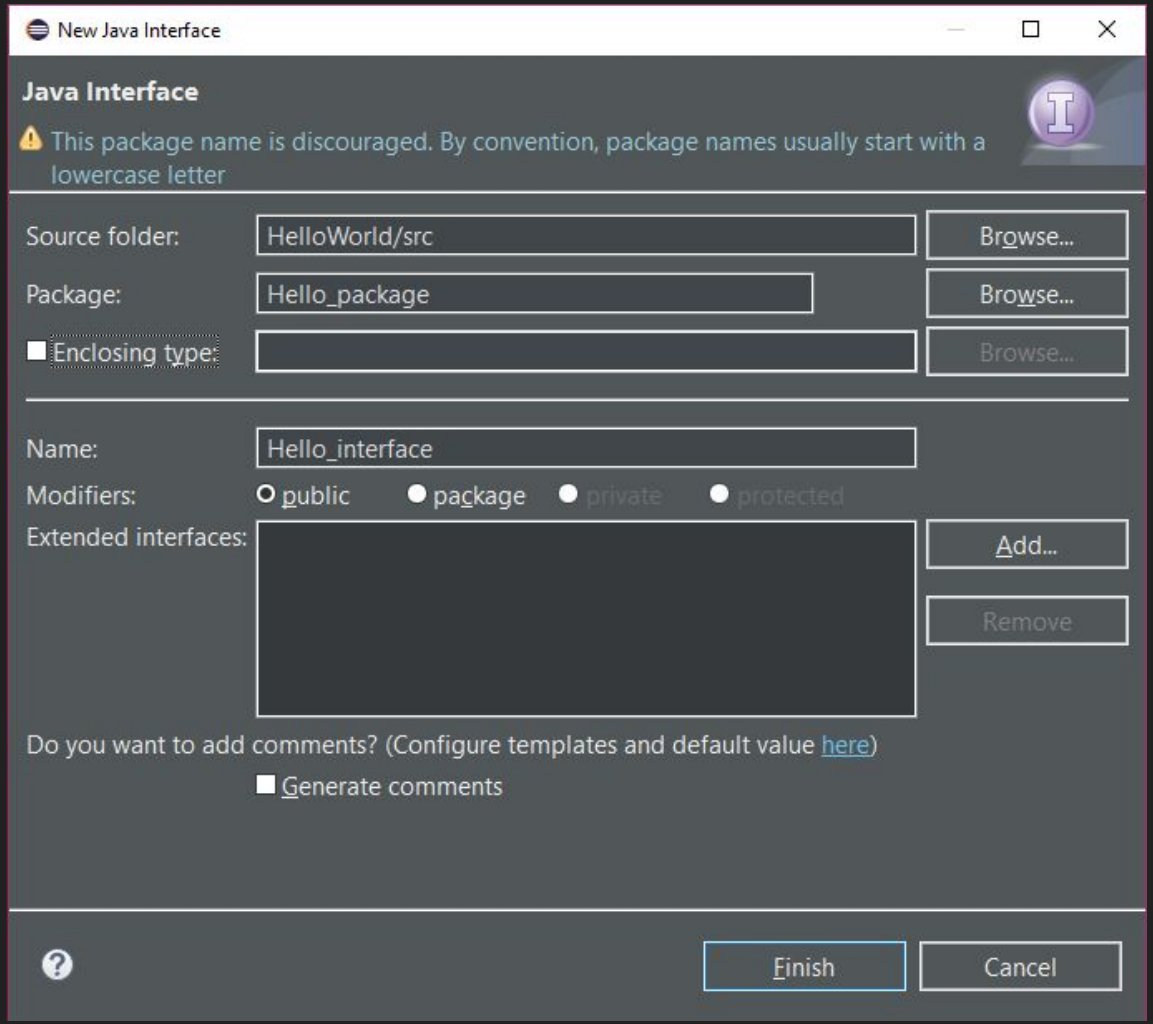


Folder



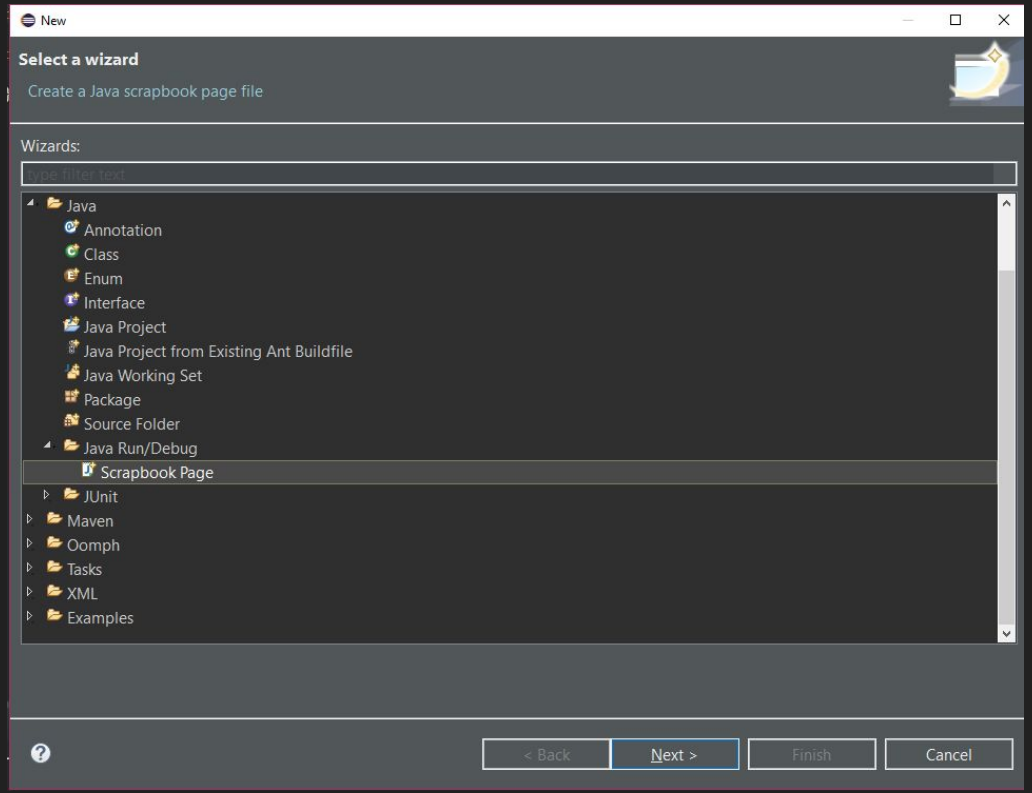
Interfaces

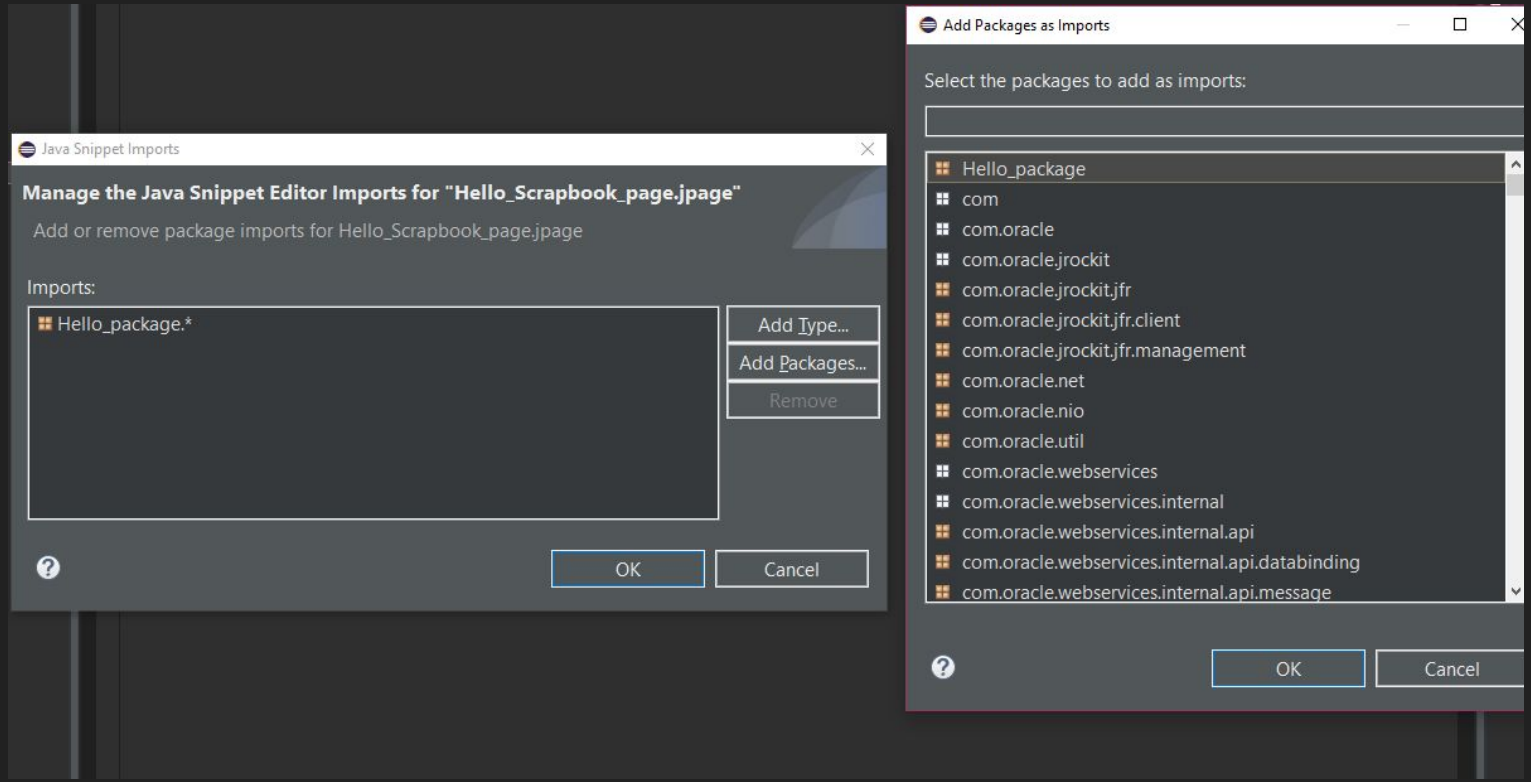
- Lack of implementation, other clases implement them.
- Tells to the implemented class, what to do.
- Can extend to another interface by inherence.


New Java Interface
Java Interface
This package name is discouraged. By convention, package names usually start with a lowercase letter
Source folder:
HelloWorld/src
Browse...
Package:
Hello_package
Browse...
Enclosing type:
Browse...
Name:
Hello_interface
Modifiers:
public
package
private
protected
Extended interfaces:
Add...
Remove
Do you want to add comments? (Configure templates and default value here)
Generate comments
Finish
Cancel

Scrapbook Page

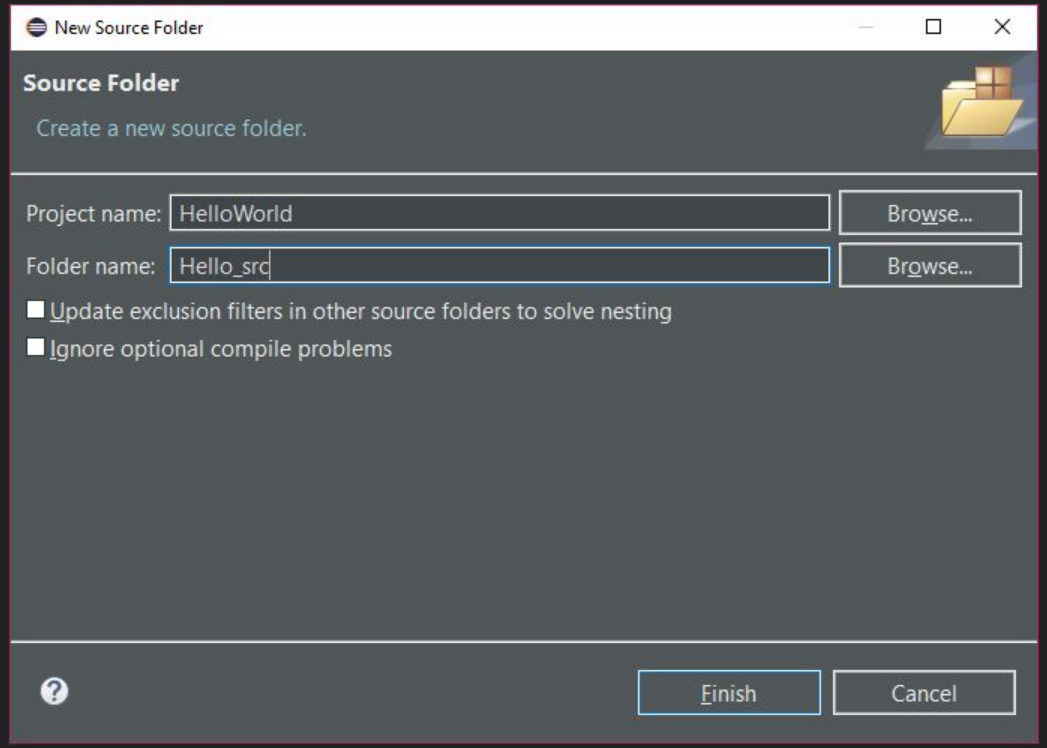
- Test code fragments.
- For creating a scrapbook page, Right click -> New -> Other…, or Ctrl+N
- For importing necesary class, Right click -> Set imports...




Java Snippet Imports
Manage the Java Snippet Editor Imports for "Hello_Scrapbook_page.jpage"
Add or remove package imports for Hello_Scrapbook_page.jpage
Imports:
Hello_package.*
Add Type...
Add Packages...
Remove
OK
Cancel
Add Packages as Imports
Select the packages to add as imports:
Hello_package
com
com.oracle
com.oracle.jrockit
com.oracle.jrockit.jfr
com.oracle.jrockit.jfr.client
com.oracle.jrockit.jfr.management
com.oracle.net
com.oracle.nio
com.oracle.util
com.oracle.webservices
com.oracle.webservices.internal
com.oracle.webservices.internal.api
com.oracle.webservices.internal.api.databinding
com.oracle.webservices.internal.api.message
OK
Cancel

Source Folder

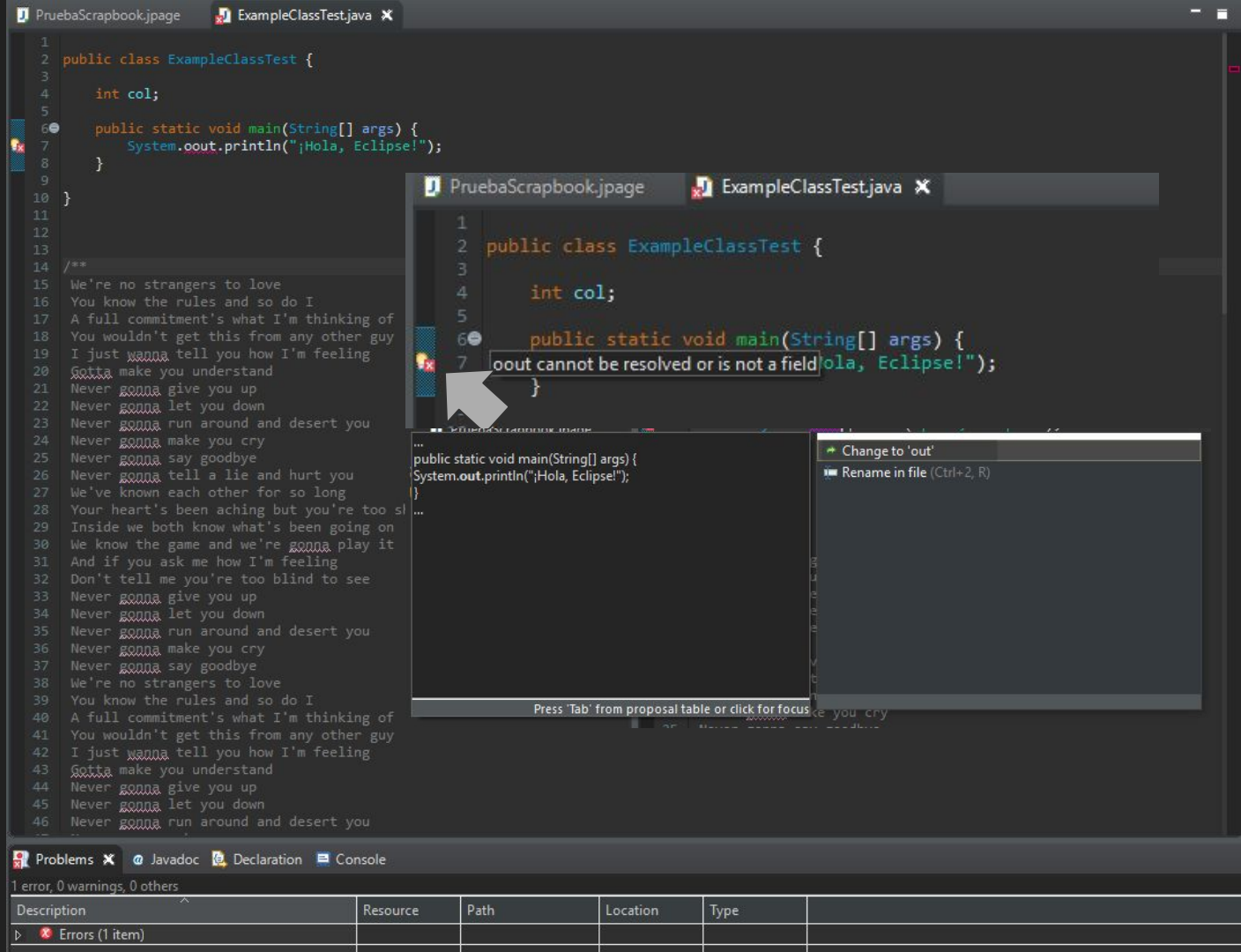
- Intended to store .java source files.
- Automatically compiled in .class



3

IDE’S PROGRAMMING TOOLS

Debugger and compiler



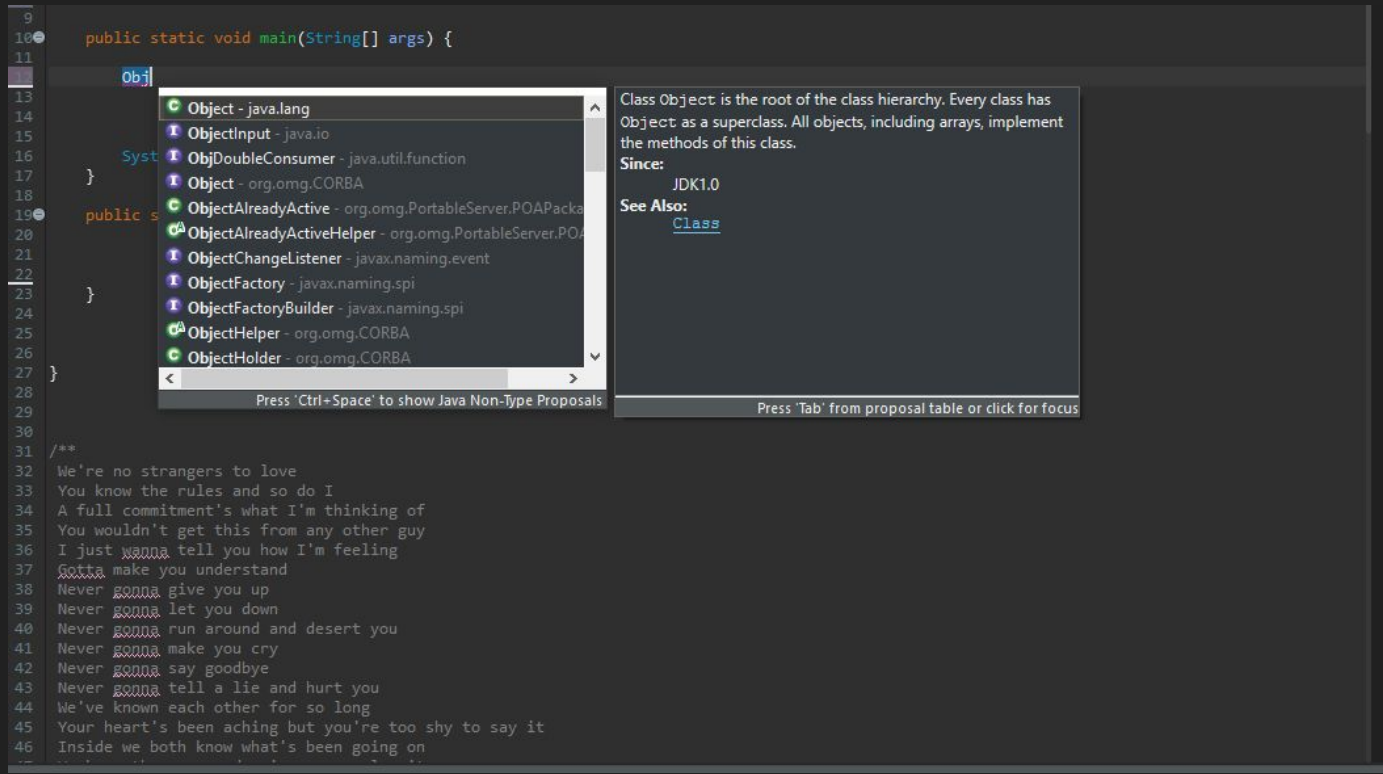
Autocomplete

Choose a lazy person to do a hard job,
because that person will find a easy way to do it.

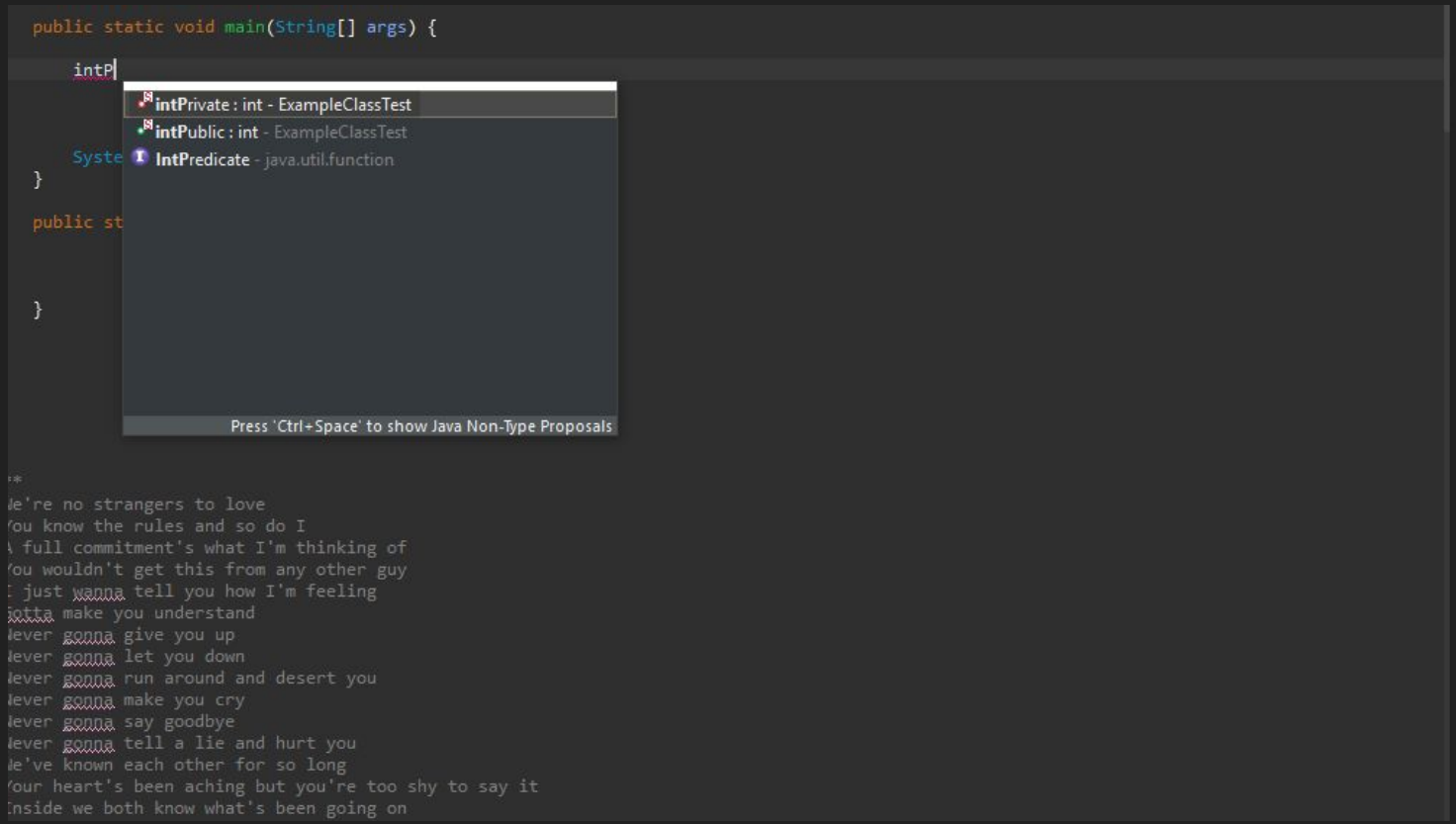
Be clever, be lazy.

CTRL + [SPACEBAR]

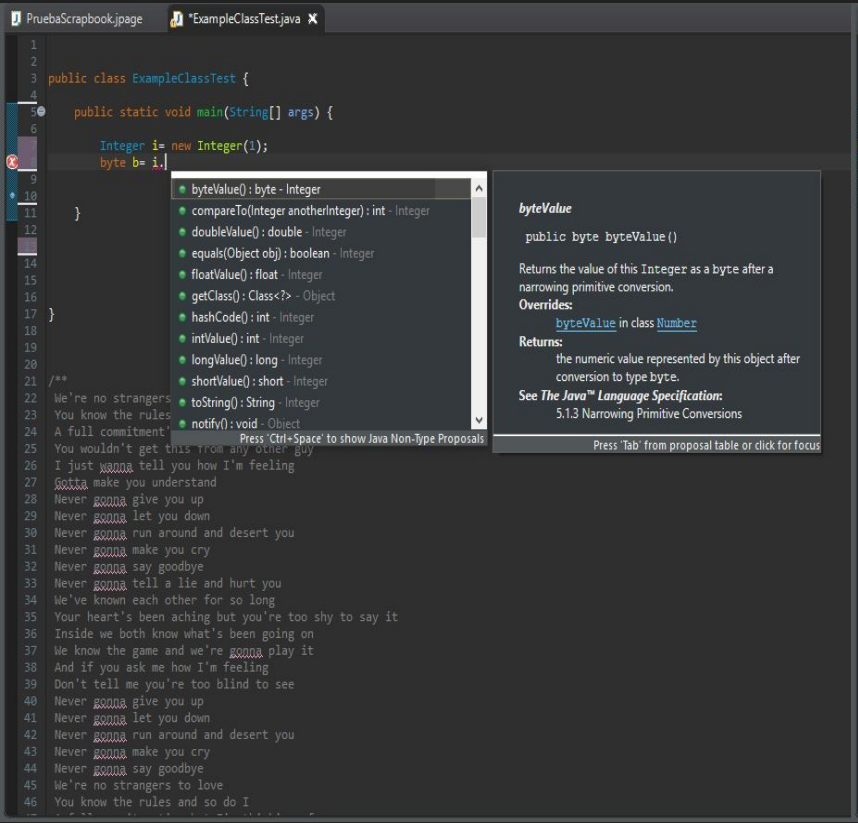
Class Names

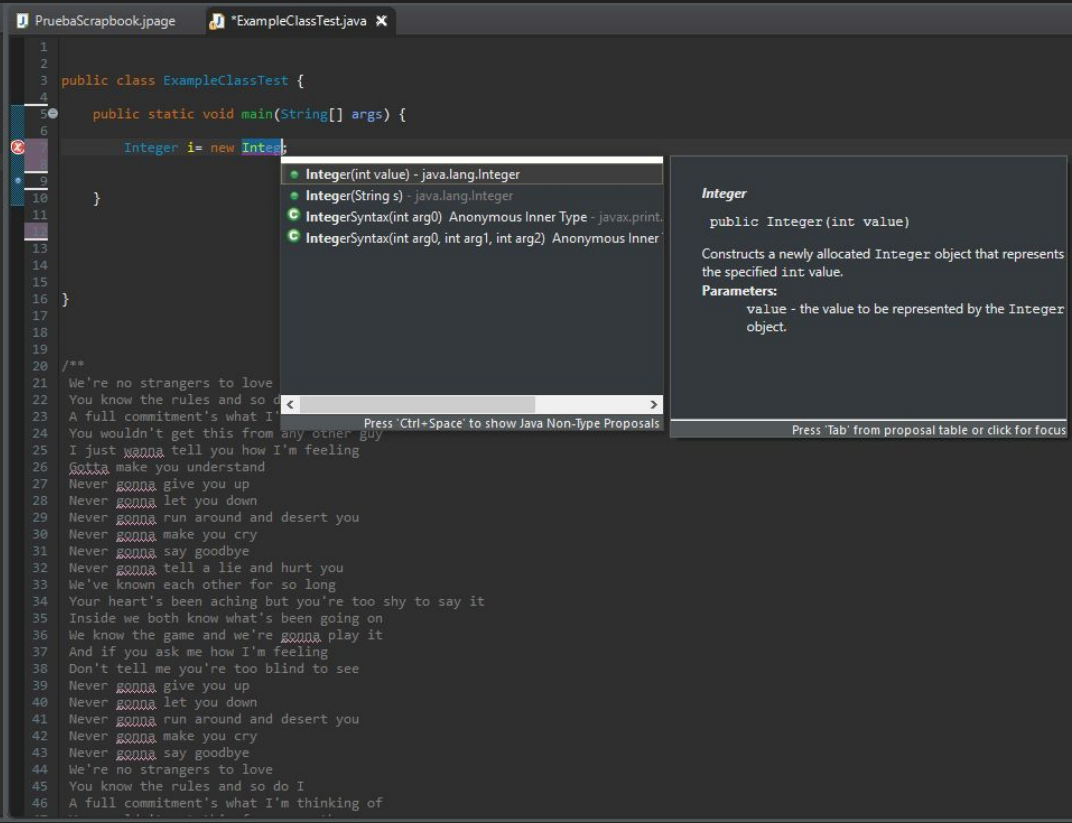

public static void main(String[] args) {
Obj
Object - java.lang
ObjectInput - java.io
ObjDoubleConsumer - java.util.function
Object - org.omg.CORBA
ObjectAlreadyActive - org.omg.PortableServer.POAPacka
ObjectAlreadyActiveHelper - org.omg.PortableServer.PO
ObjectChangeListener - javax.naming.event
ObjectFactory - javax.naming.spi
ObjectFactoryBuilder - javax.naming.spi
ObjectHelper - org.omg.CORBA
ObjectHolder - org.omg.CORBA
Press 'Ctrl+Space' to show Java Non-Type Proposals
Class Object is the root of the class hierarchy. Every class has Object as a superclass. All objects, including arrays, implement the methods of this class.
Since:
JDK1.0
See Also:
Class
Press 'Tab' from proposal table or click for focus
/**
We're no strangers to love
You know the rules and so do I
A full commitment's what I'm thinking of
You wouldn't get this from any other guy
I just wanna tell you how I'm feeling
Gotta make you understand
Never gonna give you up
Never gonna let you down
Never gonna run around and desert you
Never gonna make you cry
Never gonna say goodbye
Never gonna tell a lie and hurt you
We've known each other for so long
Your heart's been aching but you're too shy to say it
Inside we both know what's been going on

Local variables & attributes

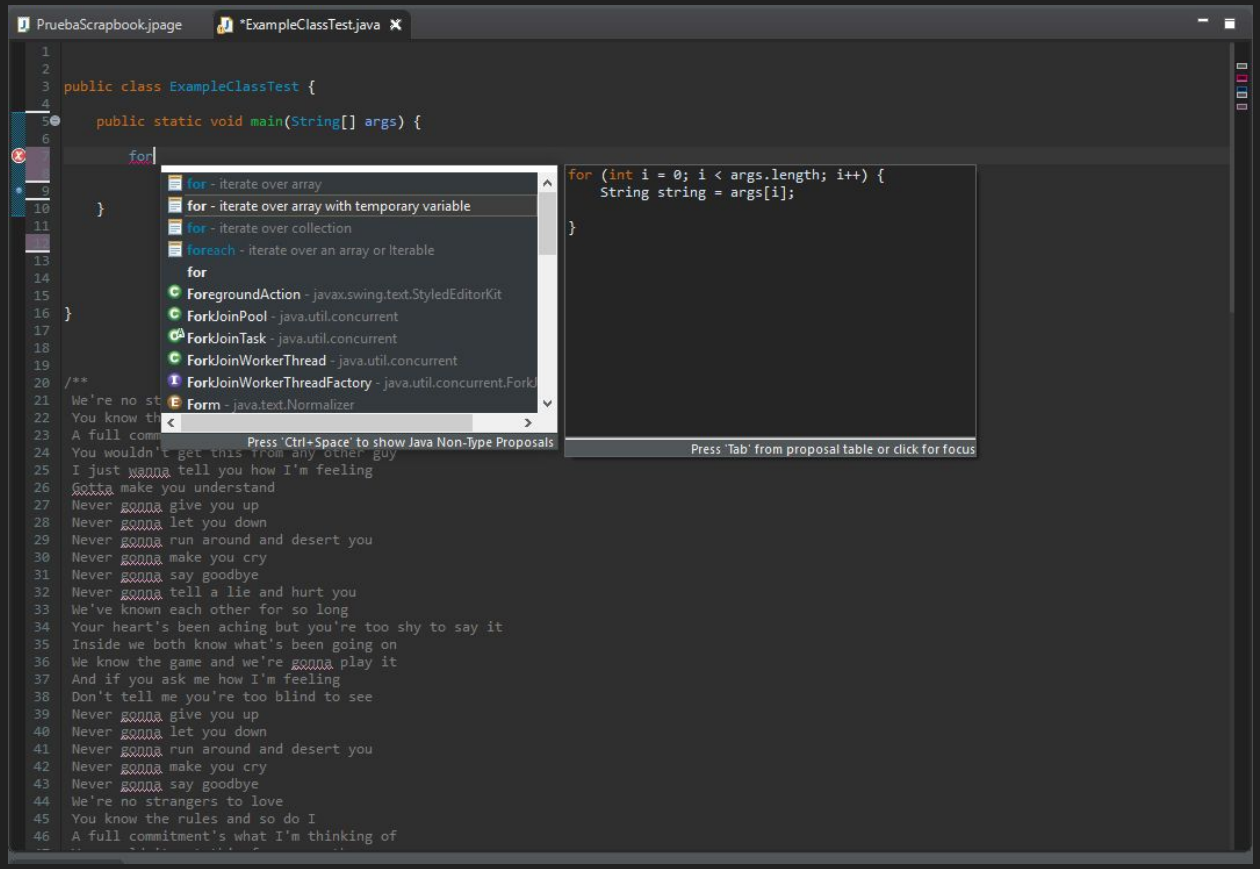


Methods & getters and setters

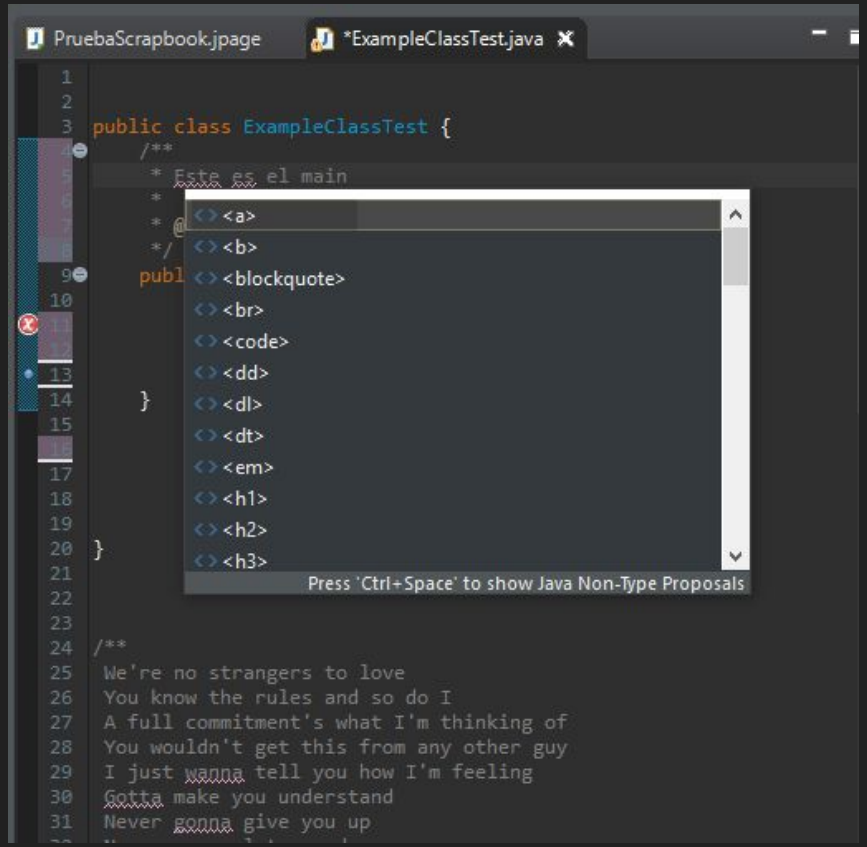




Loops


PruebaScrapbook.jpage
*ExampleClassTest.java
public class ExampleClassTest {
public static void main(String[] args) {
for
for - iterate over array
for - iterate over array with temporary variable
for - iterate over collection
foreach - iterate over an array or Iterable
for
ForegroundAction - javax.swing.text.StyledEditorKit
ForkJoinPool - java.util.concurrent
ForkJoinTask - java.util.concurrent
ForkJoinWorkerThread - java.util.concurrent
ForkJoinWorkerThreadFactory - java.util.concurrent.ForkJ
Form - java.text.Normalizer
Press 'Ctrl+Space' to show Java Non-Type Proposals
for (int i = 0; i < args.length; i++) {
String string = args[i];
}
Press 'Tab' from proposal table or click for focus
/**
We're no st
You know th
A full comm
You wouldn't get this from any other guy
I just wanna tell you how I'm feeling
Gotta make you understand
Never gonna give you up
Never gonna let you down
Never gonna run around and desert you
Never gonna make you cry
Never gonna say goodbye
Never gonna tell a lie and hurt you
We've known each other for so long
Your heart's been aching but you're too shy to say it
Inside we both know what's been going on
We know the game and we're gonna play it
And if you ask me how I'm feeling
Don't tell me you're too blind to see
Never gonna give you up
Never gonna let you down
Never gonna run around and desert you
Never gonna make you cry
Never gonna say goodbye
We're no strangers to love
You know the rules and so do I
A full commitment's what I'm thinking of

Javadoc tags

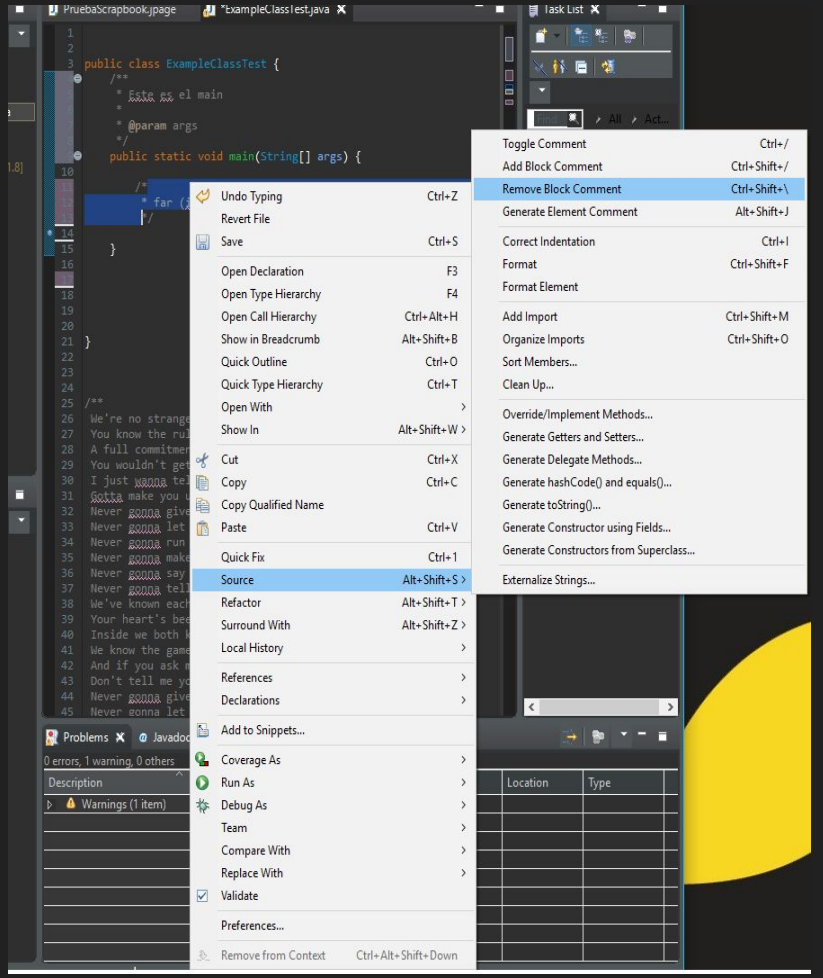


Source Menu

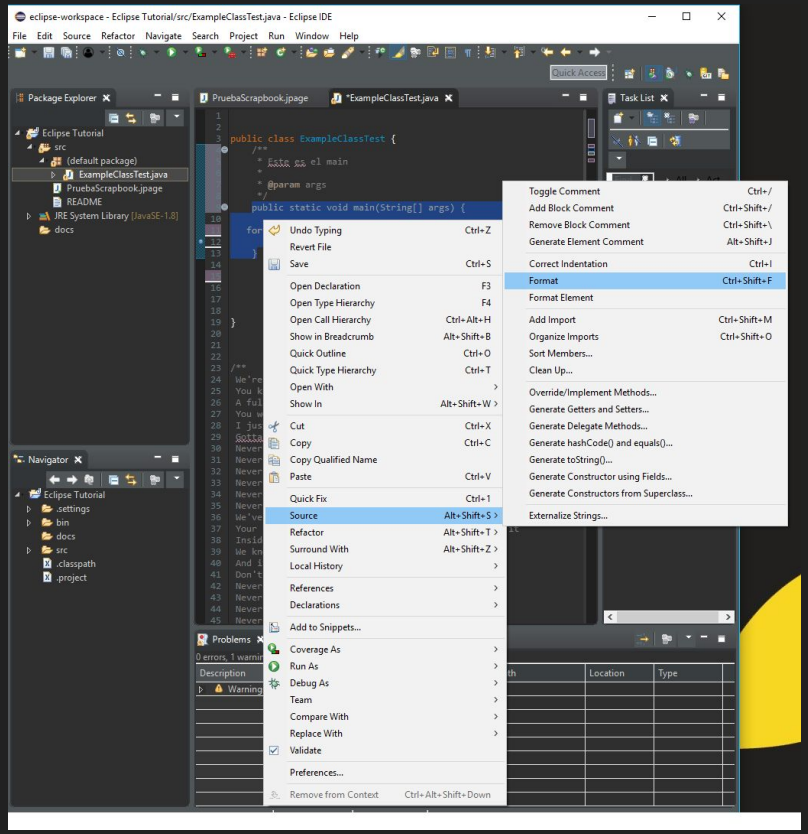
Do you have any idea how fast i am?

Comment/uncomment
CTRL+/

```
//      far (int i = 0; i < args.length; i++) {
//          //cosas
//      }
```



Format

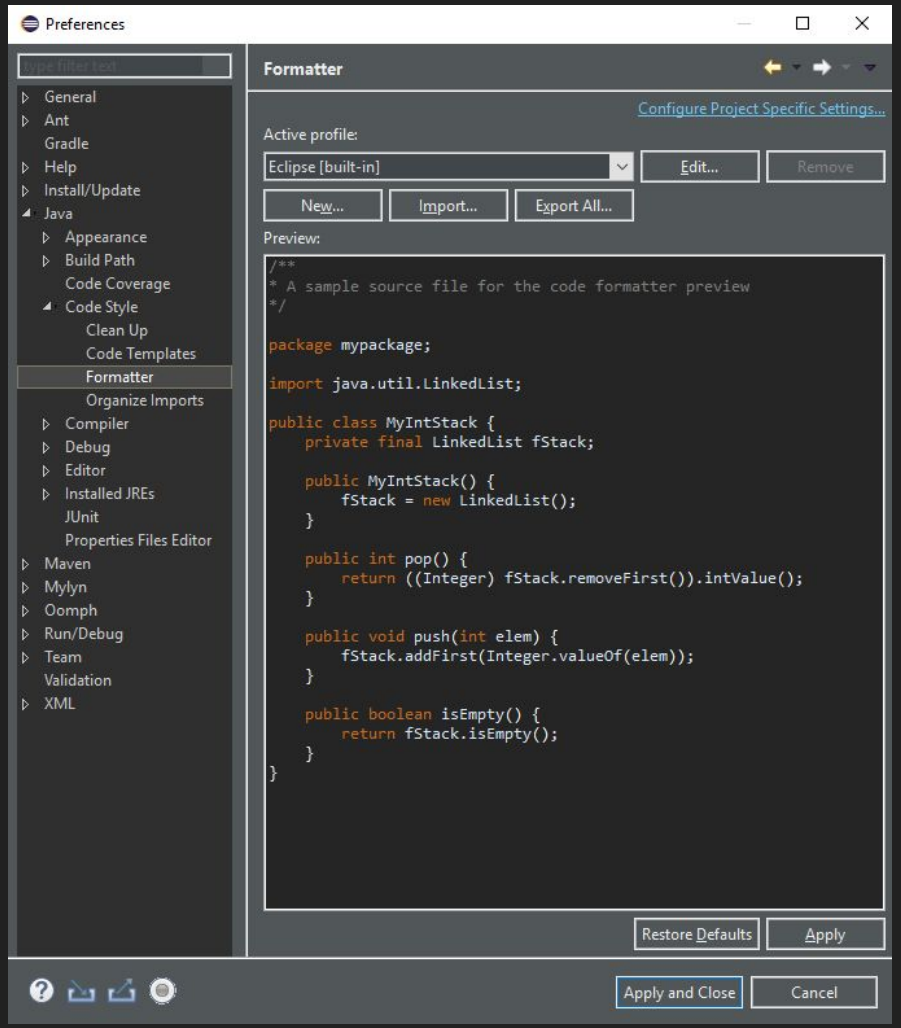



```
public static void main(String[] args) {

    for (int i = 0; i < args.length; i++) {
        /* cosas */
    }

}
```

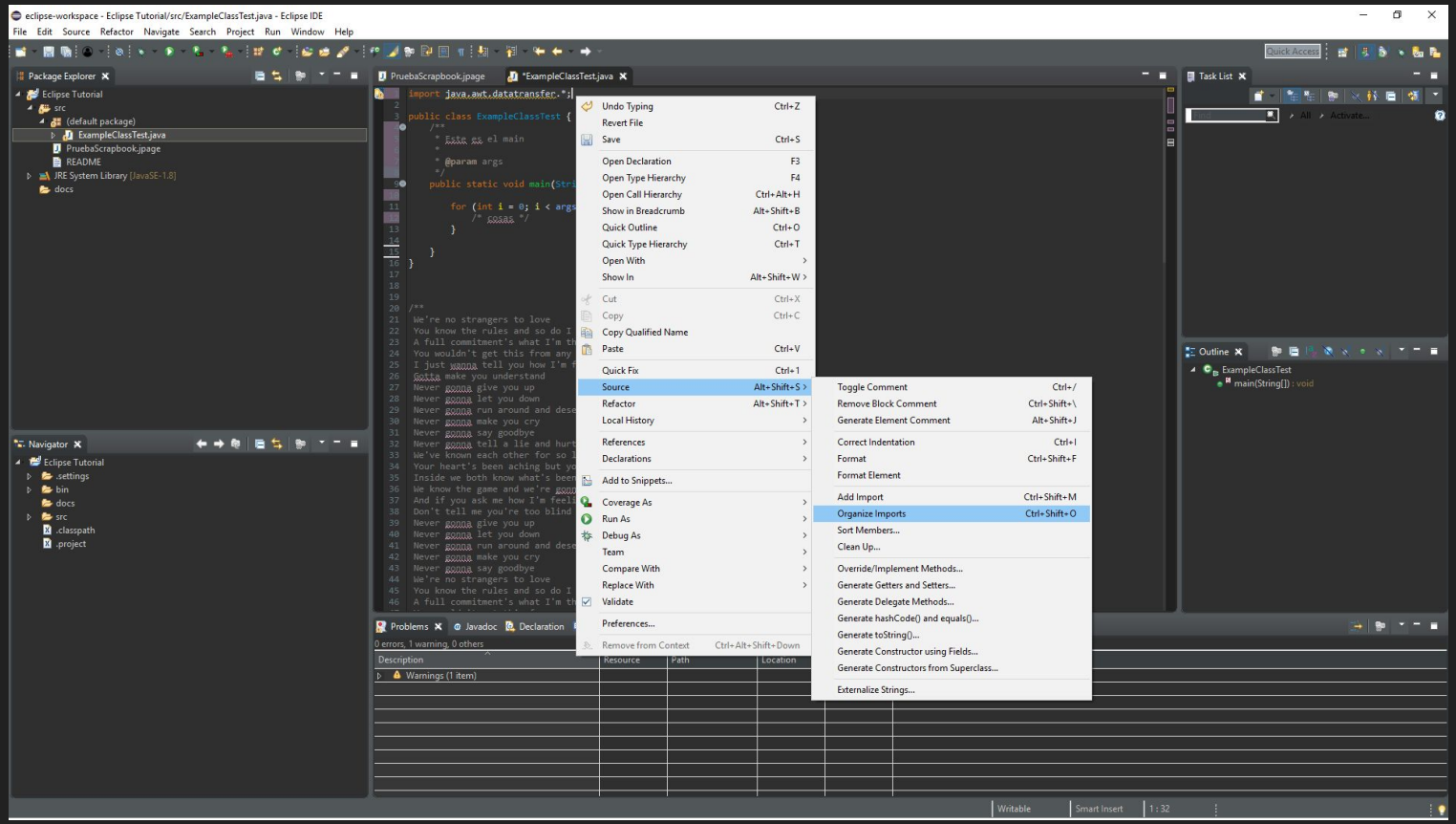
CTRL+SHIFT+F

Edit format

Window> Preferences
Java> Code Style> Formatter

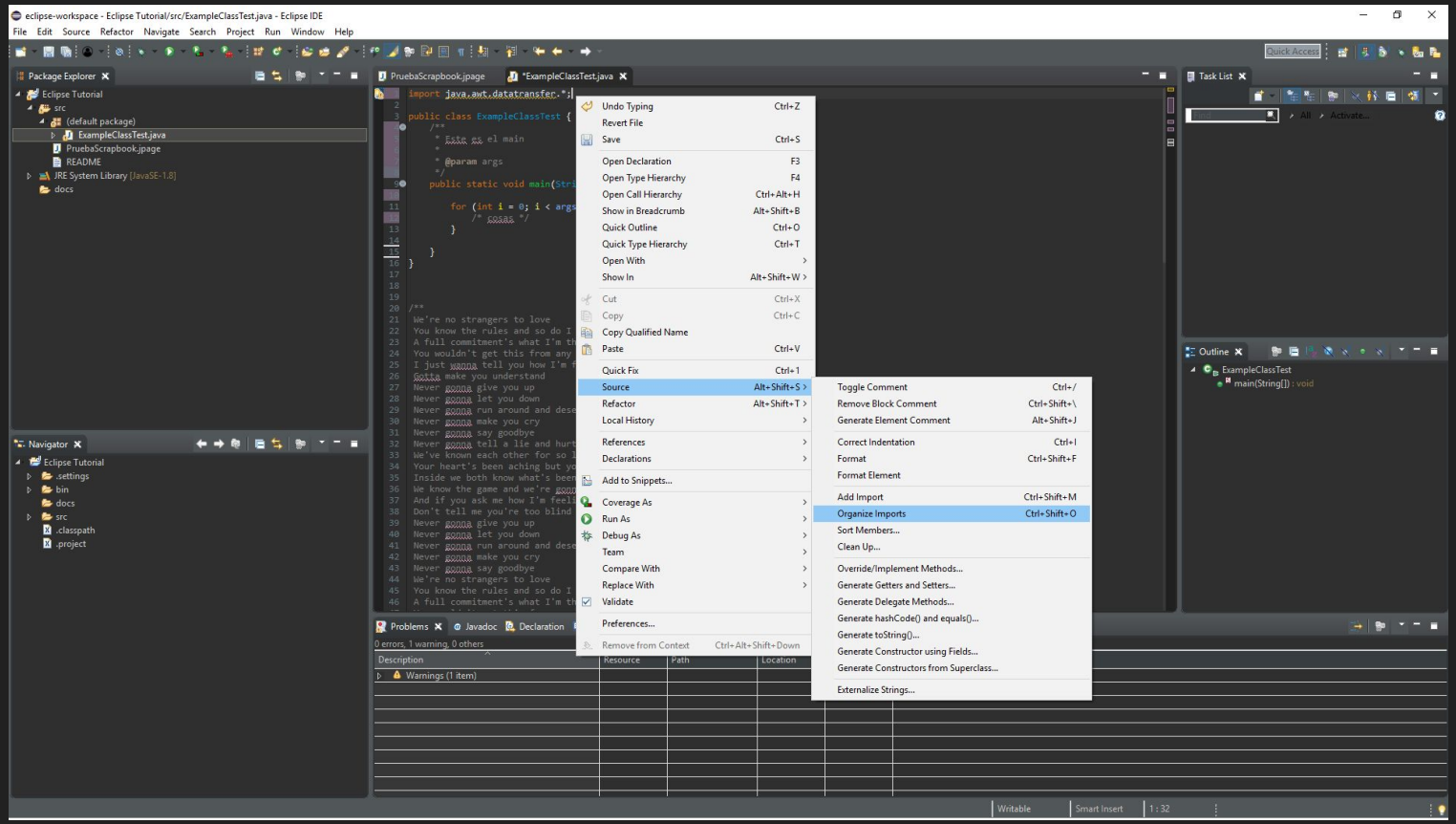


Organize imports CTRL+SHIFT+O

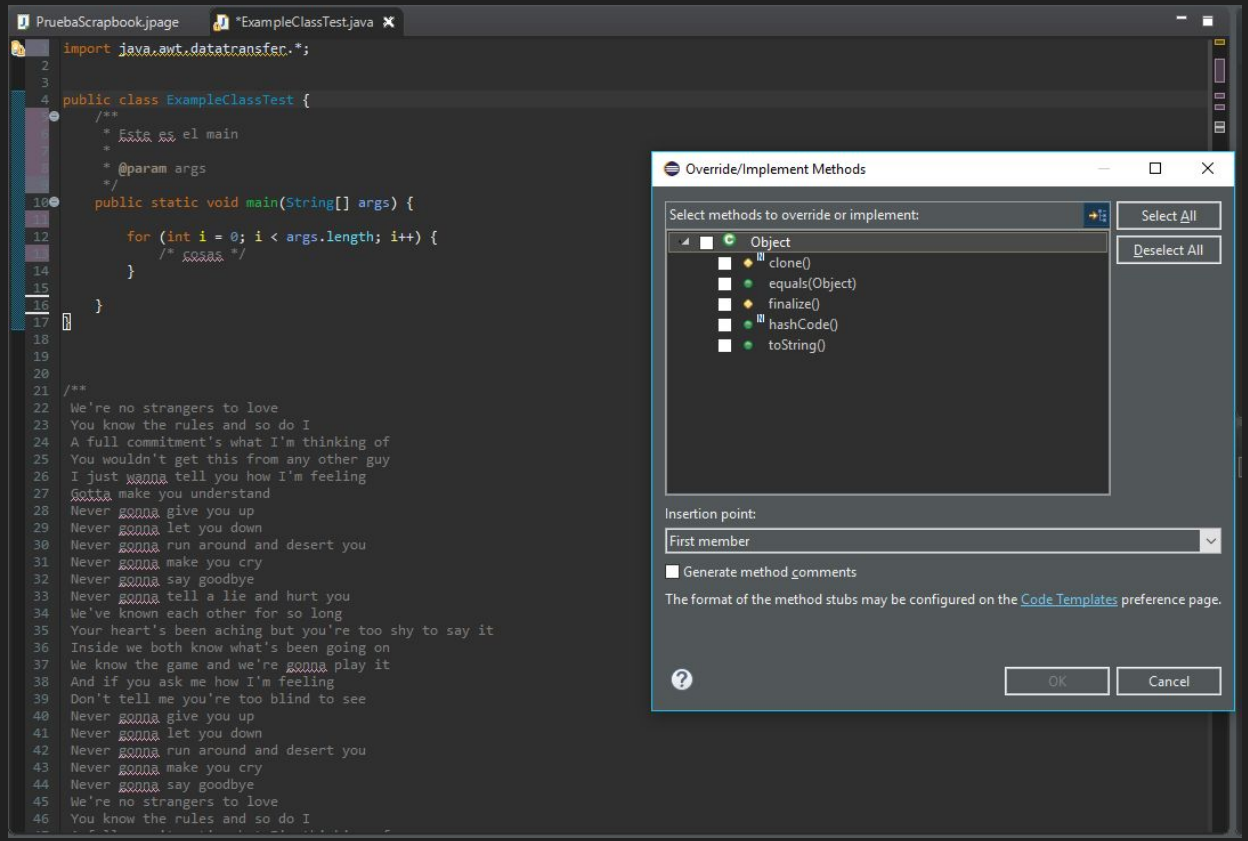


Add imports

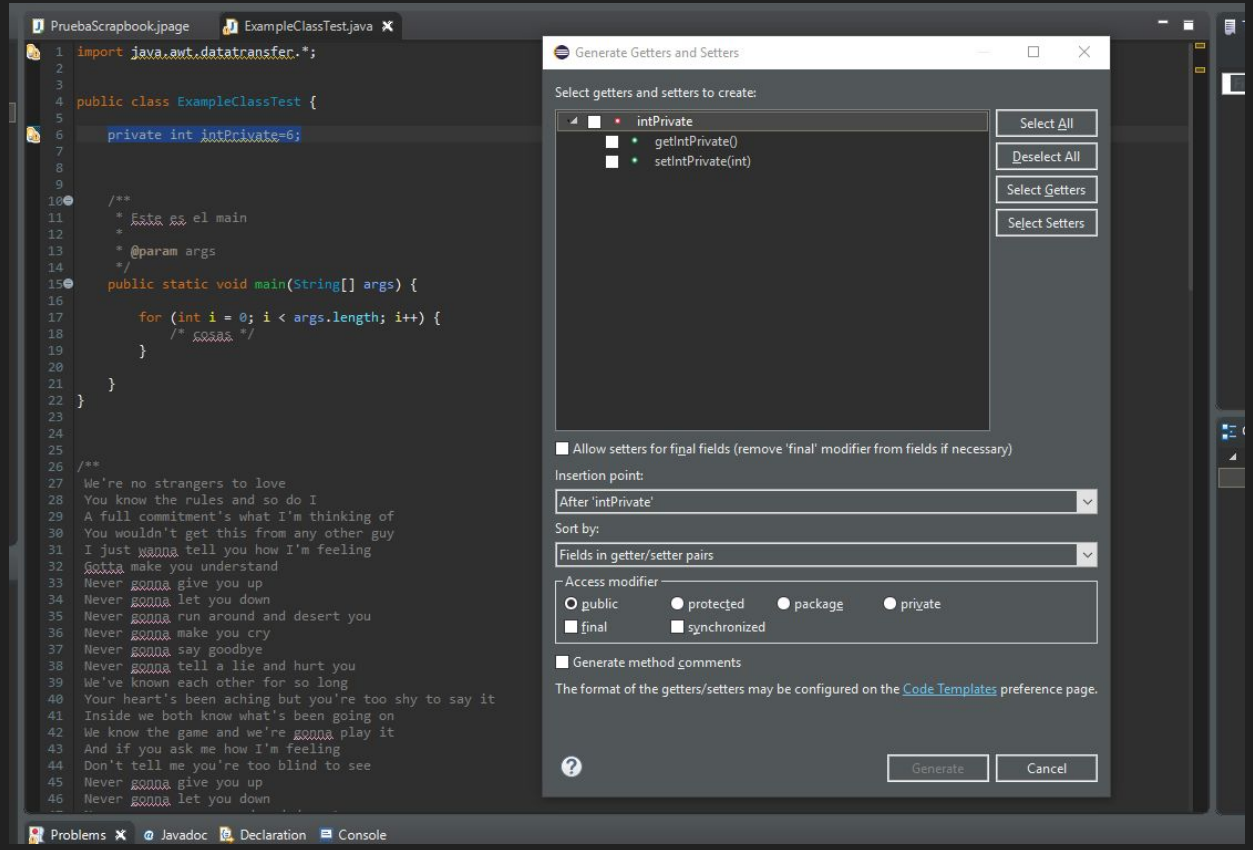
CTRL+SHIFT+M



Override/Implement Methods



Generate Getters/Setters

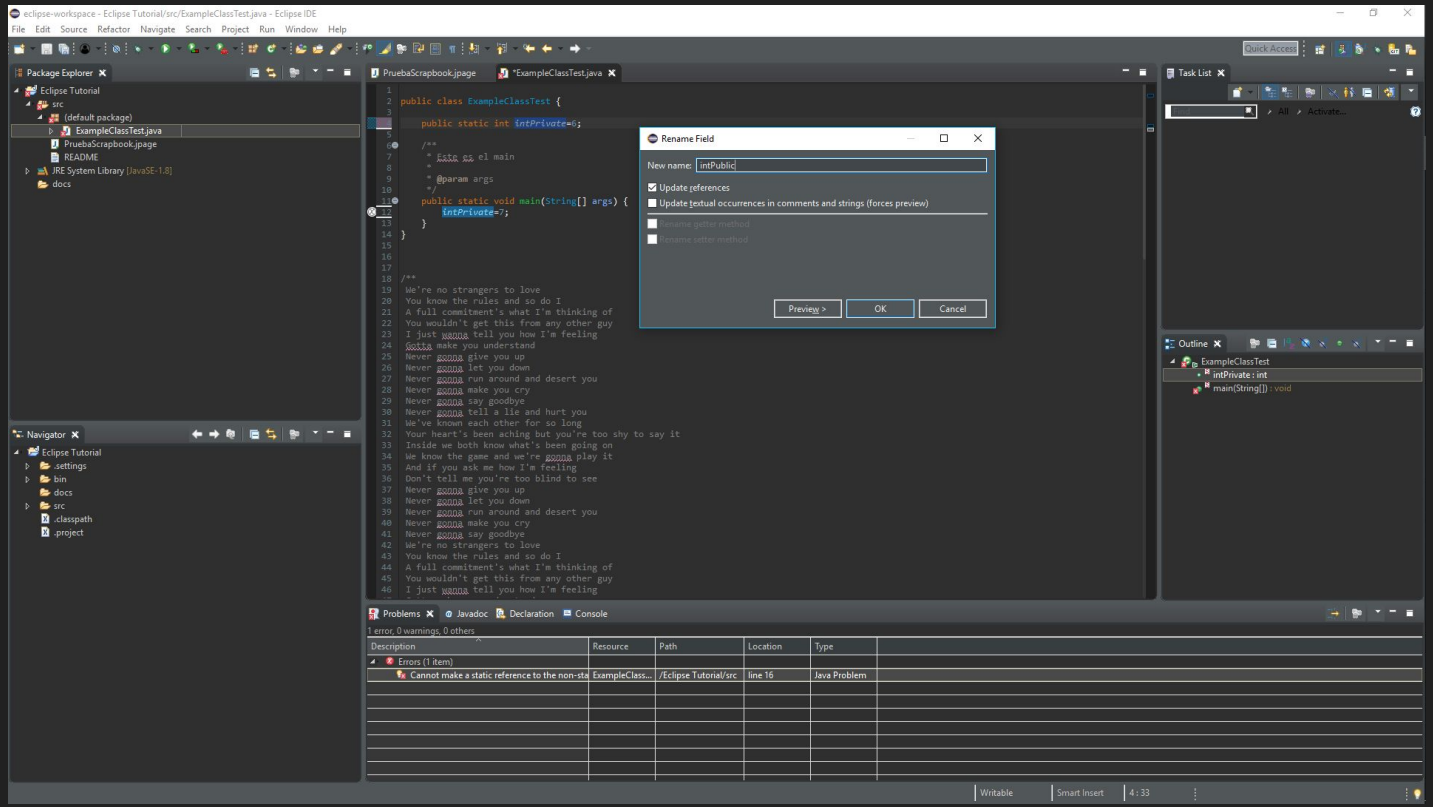


Refactor Menu

Don’t use this to copy anyone’s code. It won’t work.

Rename

ALT+SHIFT+R



Another interesting stuff we can do with the Refactor Menu:

- Move (folders)
- Change Method Signature
- Pull Up and Push Down

Documentation

No, your code isn’t self explanatory, moron.

External Javadoc doc.

- Use Mayus + F2 to check Javadoc documentation for anything.

- Javadoc has also a Eclipse view:
  Window > Show View... > Java > Javadoc

- We can import JAR files on Properties > JBP -> Libraries -> +Add External JARs.

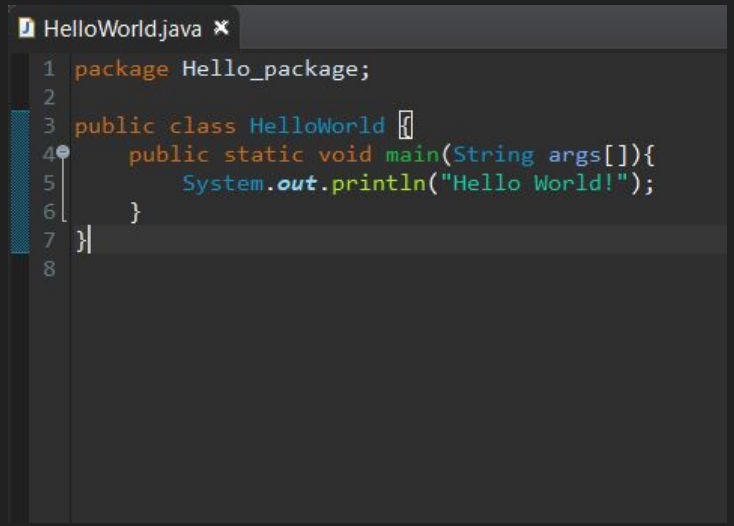
4

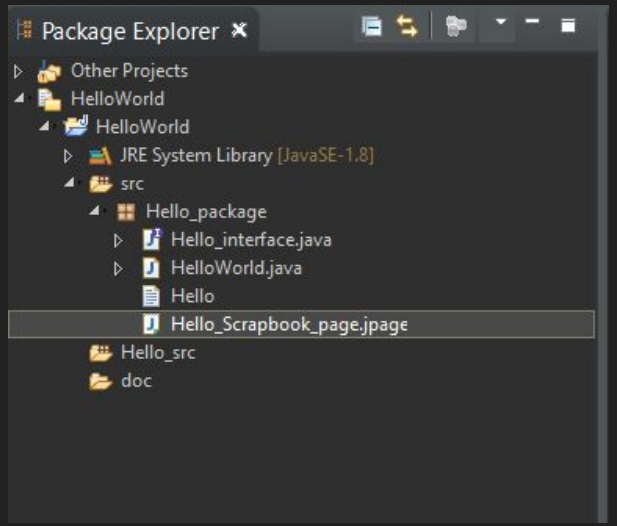
ECLIPSE VIEWS

Views of Eclipse

The user interface of Eclipse consists of two types:

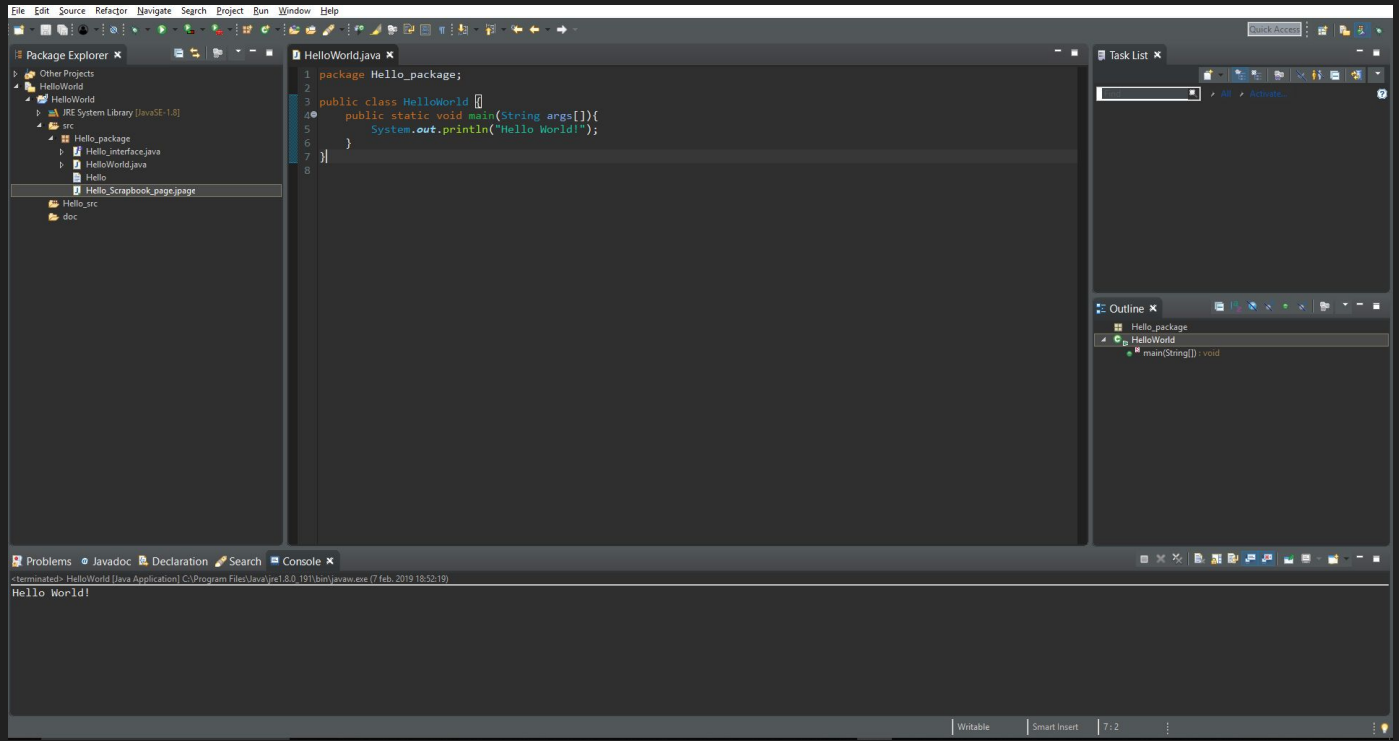
- Editors -> Perform a complete Task
- Views -> Support functions



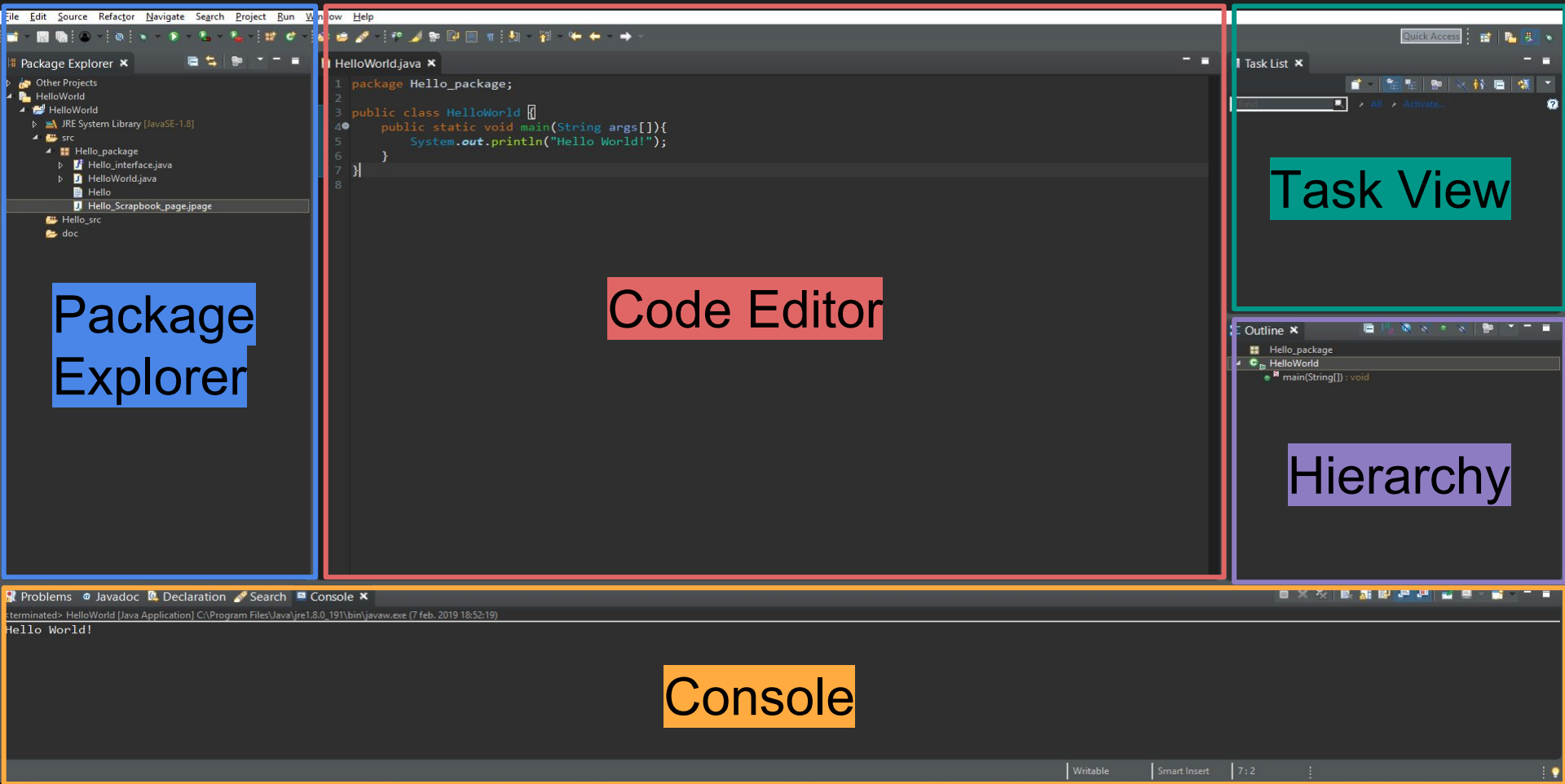


Perspectives

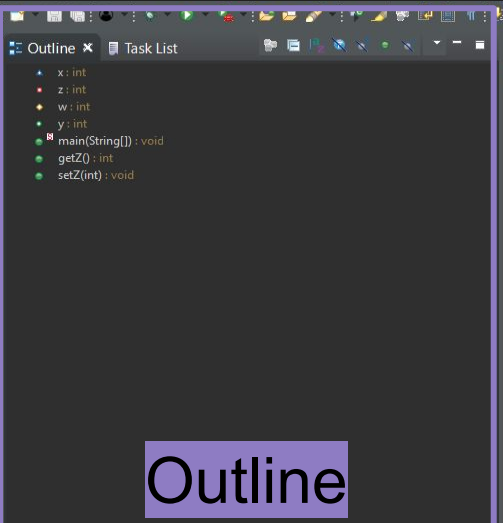
- Set of editors and views to support an activity



Java

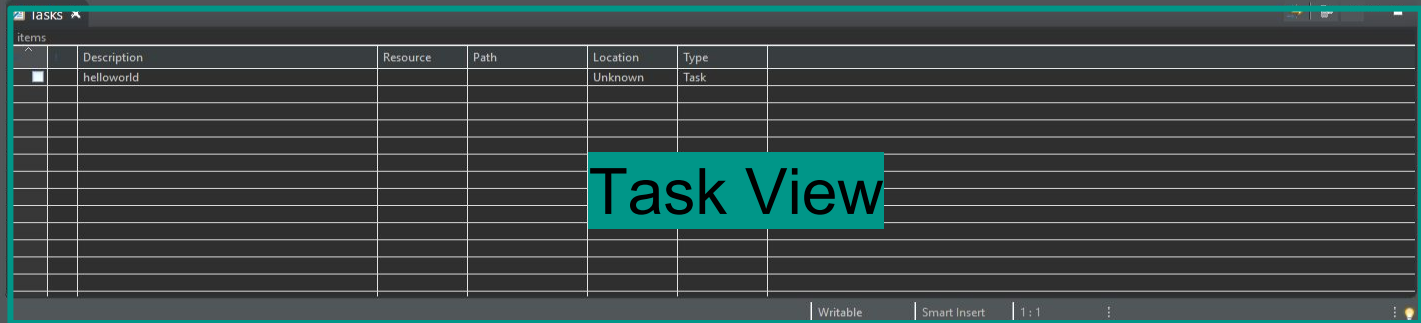

File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Other Projects
HelloWorld
HelloWorld
JRE System Library [JavaSE-1.8]
src
Hello_package
Hello_interface.java
HelloWorld.java
Hello
Hello_Scrapbook_page.jpage
Hello_src
doc
HelloWorld.java
1 package Hello_package;
2
3 public class HelloWorld {
4 public static void main(String args[]){
5 System.out.println("Hello World!");
6 }
7 }
8
Task List
Quick Access
Outline
Hello_package
HelloWorld
main(String[]) : void
Problems Javadoc Declaration Search Console
<terminated> HelloWorld [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe (7 feb. 2019 18:52:19)
Hello World!
Writable
Smart Insert
7 : 2
Package Explorer
Code Editor
Task View
Hierarchy
Console

Resource



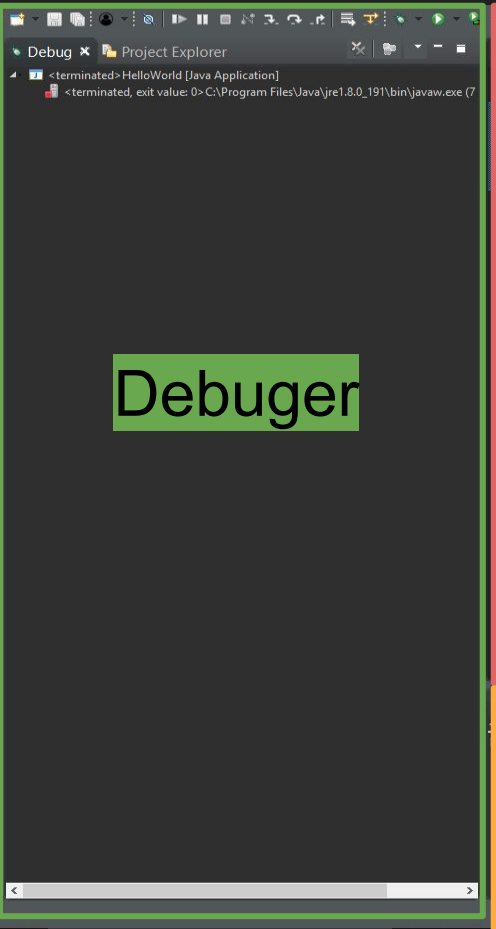
Outline

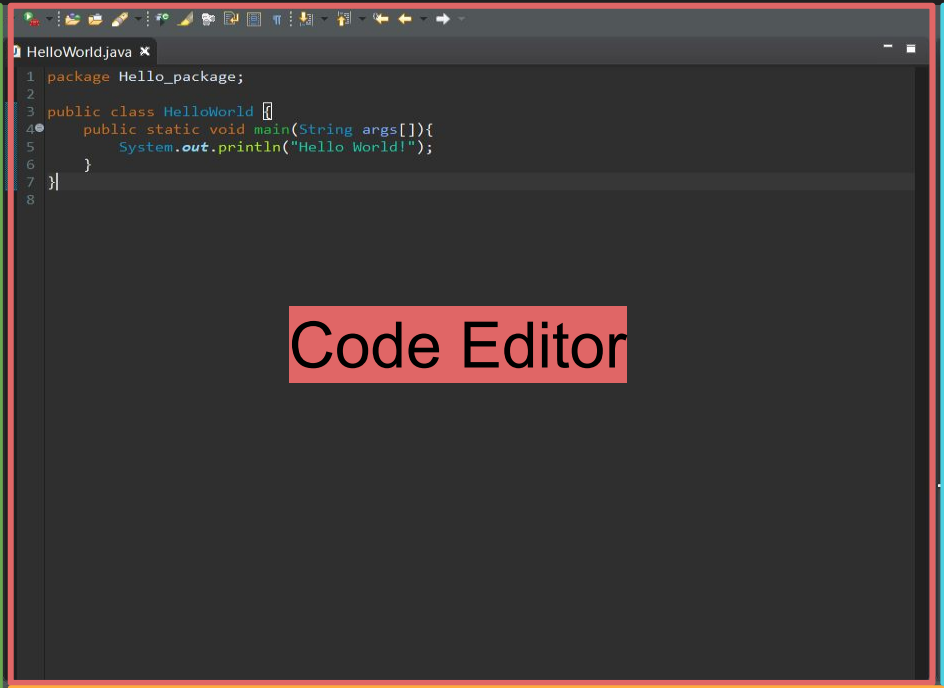
Code Editor

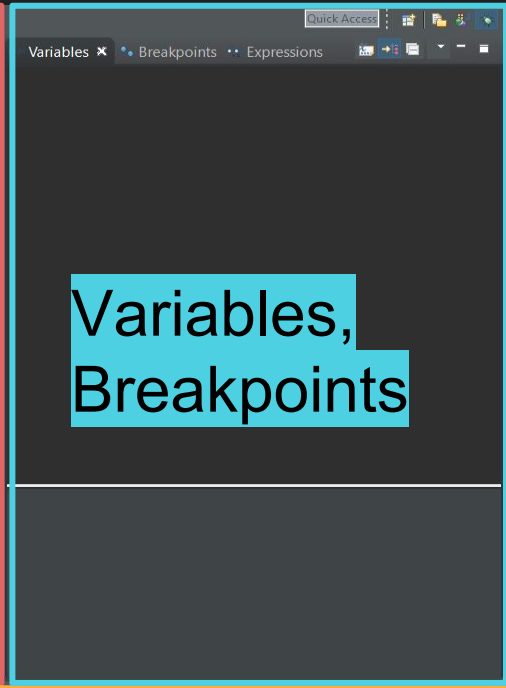


Task View

Debuger

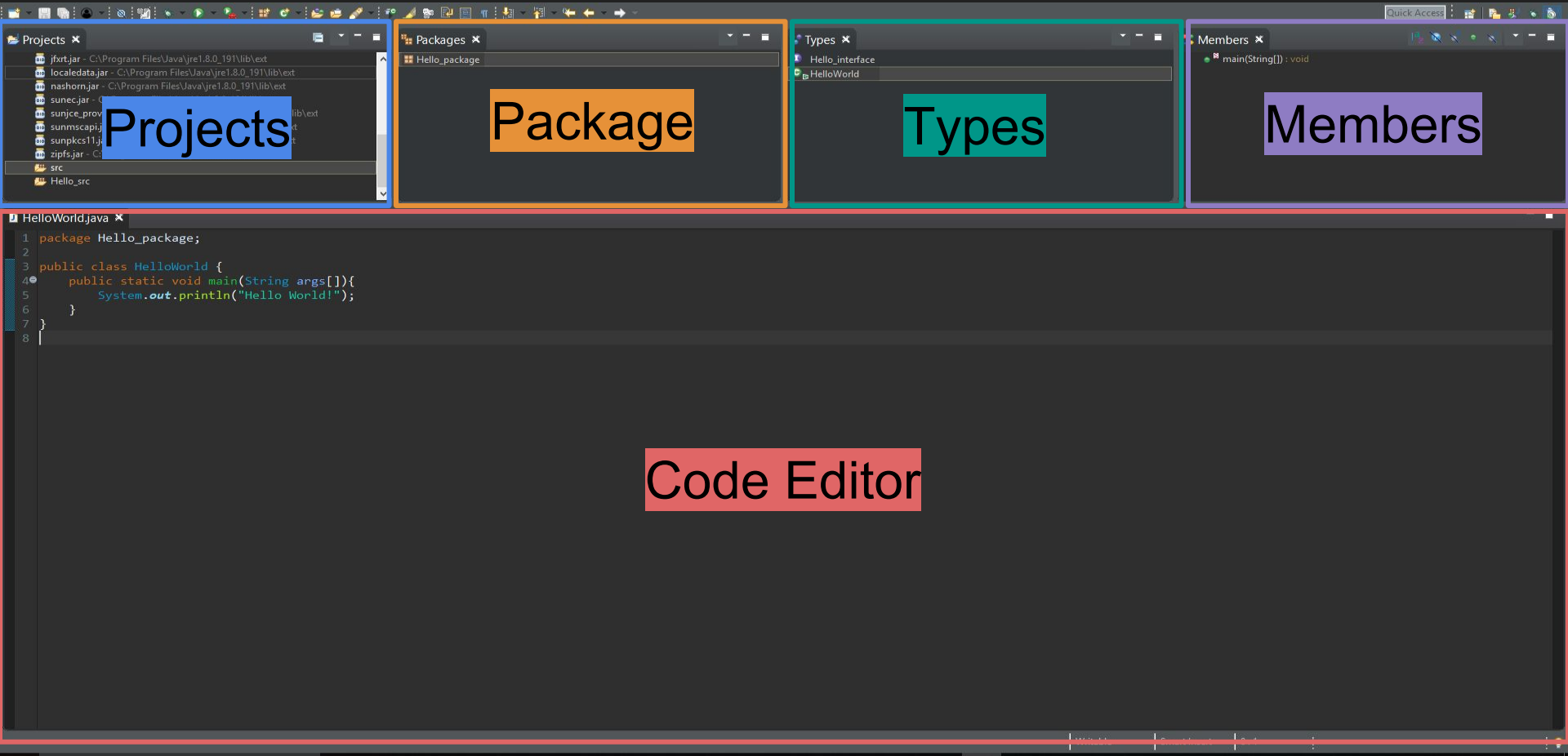

Debug
Project Explorer
<terminated> HelloWorld [Java Application]
<terminated, exit value: 0> C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe (7
Debuger


HelloWorld.java
1 package Hello_package;
2
3 public class HelloWorld {
4 public static void main(String args[]){
5 System.out.println("Hello World!");
6 }
7 }
8
Code Editor


Quick Access
Variables
Breakpoints
Expressions
Variables,
Breakpoints


Console
Problems
Debug Shell
<terminated> HelloWorld [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe (7 feb. 2019 18:52:19)
Hello World!
Console
Writable
Smart Insert
7 : 2

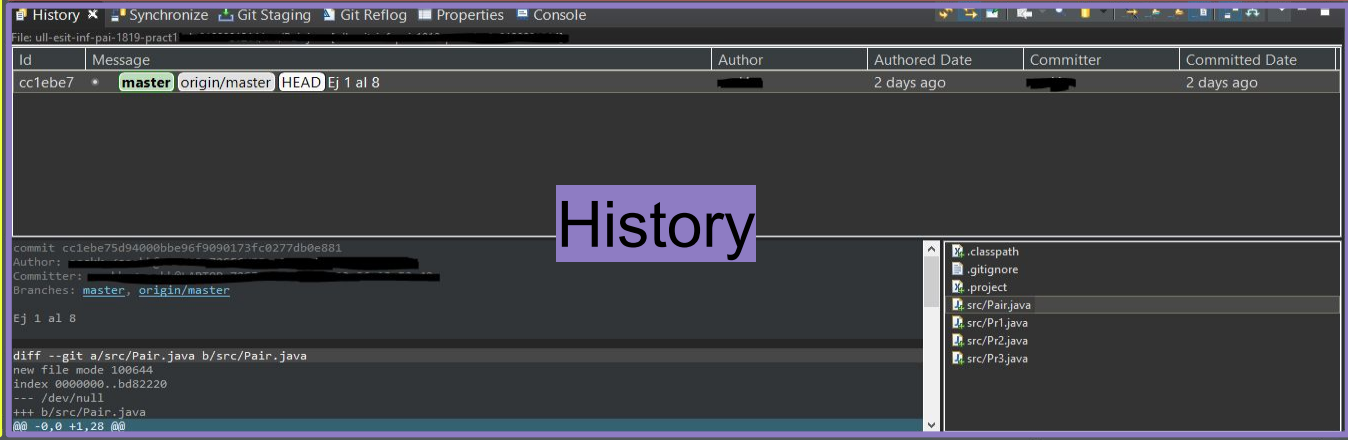
Java Browsing



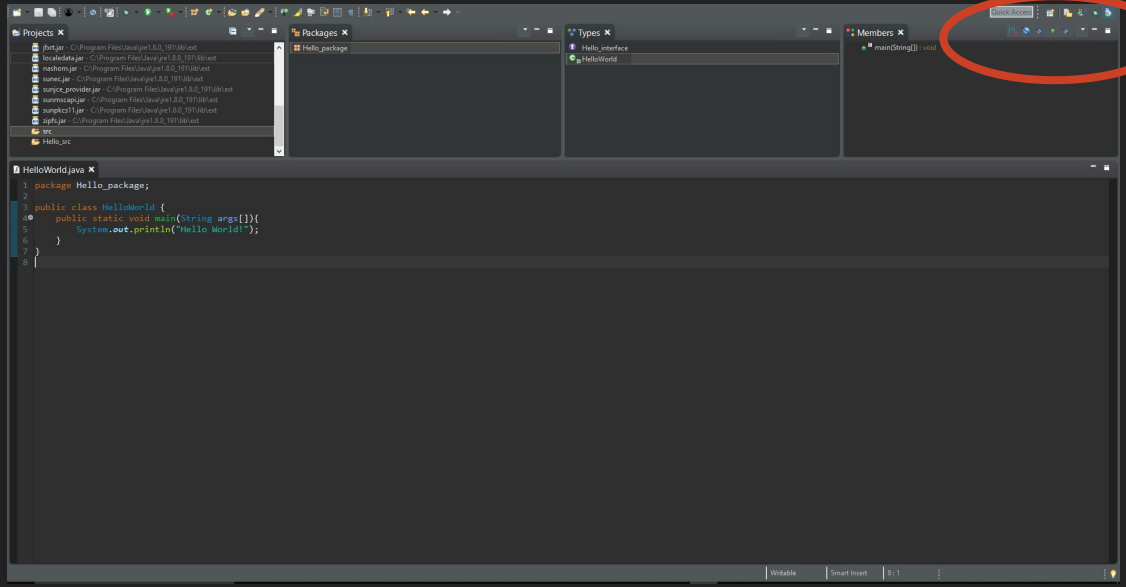
Git


Git Repositories
ull-esit-inf-pai-1819-pract1- [master] -
Branches
Local
master cc1ebe7 Ej 1 al 8
Remote Tracking
origin/master cc1ebe7 Ej 1 al 8
Tags
References
Remotes
Working Tree
.git
bib
bin
report
slides
src
.classpath
.gitignore
.project
README.md


Pair.java
Pr1.java
Pr3.java
Pr2.java
Quick Access
public class Pair {
int first, second;
public Pair(int first, int second) {
this.first = first;
this.second = second;
}
public String toString() {
return "(" + first + "," + second + ")
}
public boolean compare(Pair a, Pair b) {
if ((a.first == b.first) && (a.second
return true;
else
return false;
}
public void reflex () {
int z = first;
first = second;
second = z;
}
public void swap(Pair q) {
Code Editor

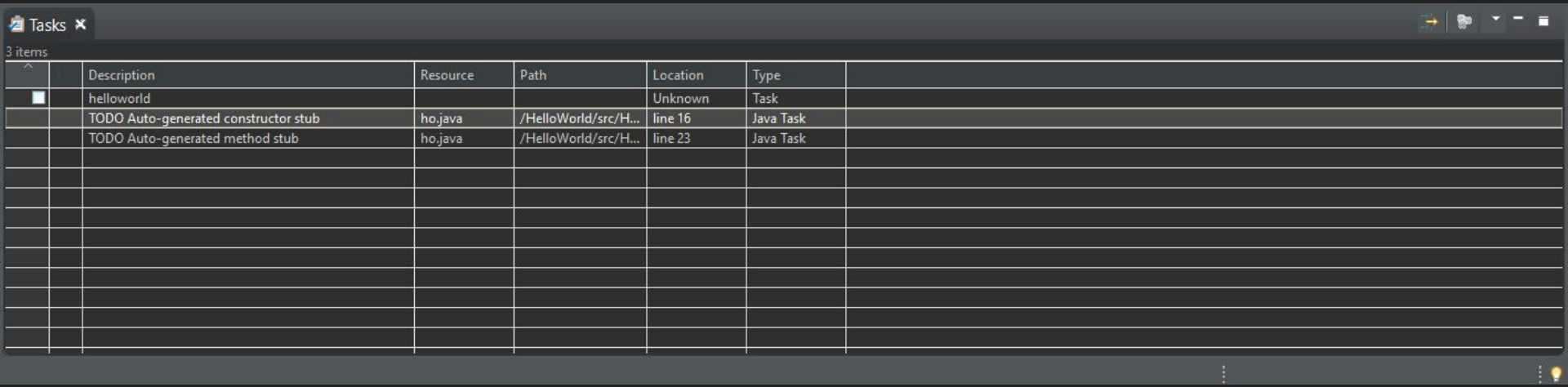

History
Synchronize
Git Staging
Git Reflog
Properties
Console
Id
Message
Author
Authored Date
Committer
Committed Date
cc1ebe7
master
origin/master
HEAD
Ej 1 al 8
2 days ago
2 days ago
commit cc1ebe75d94000bbe96f9090173fc0277db0e881
Branches: master, origin/master
Ej 1 al 8
diff --git a/src/Pair.java b/src/Pair.java
new file mode 100644
index 0000000..bd82220
--- /dev/null
+++ b/src/Pair.java
@@ -0,0 +1,28 @@
.classpath
.gitignore
.project
src/Pair.java
src/Pr1.java
src/Pr2.java
src/Pr3.java
History

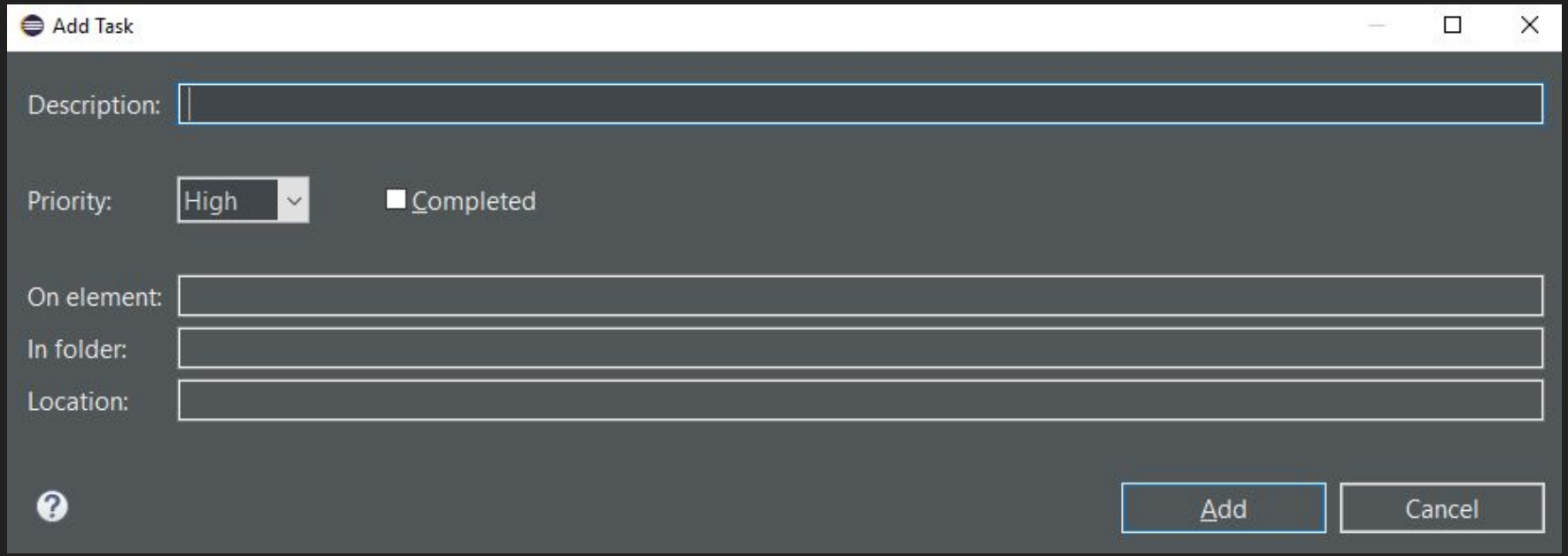
Quick Access



Tasks

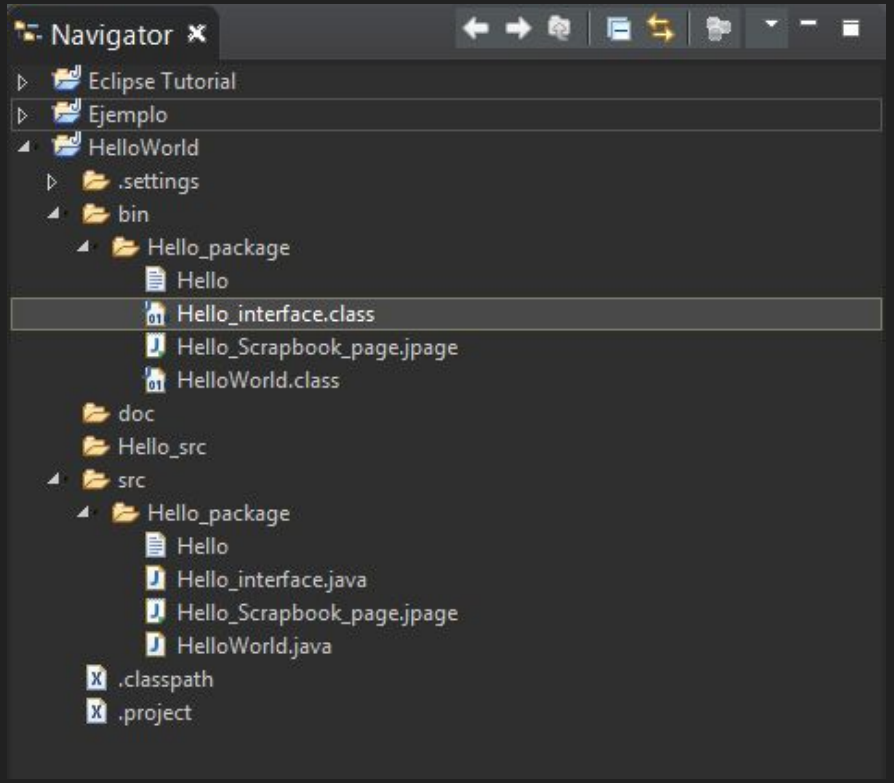
- Allows quick management of pending tasks.
- Window -> Show View -> Tasks
- Right click -> Add Task
- Priorities can be assigned.
- Errors and warnings can appear here too.




Add Task
Description:
Priority:
High
Completed
On element:
In folder:
Location:
Add
Cancel

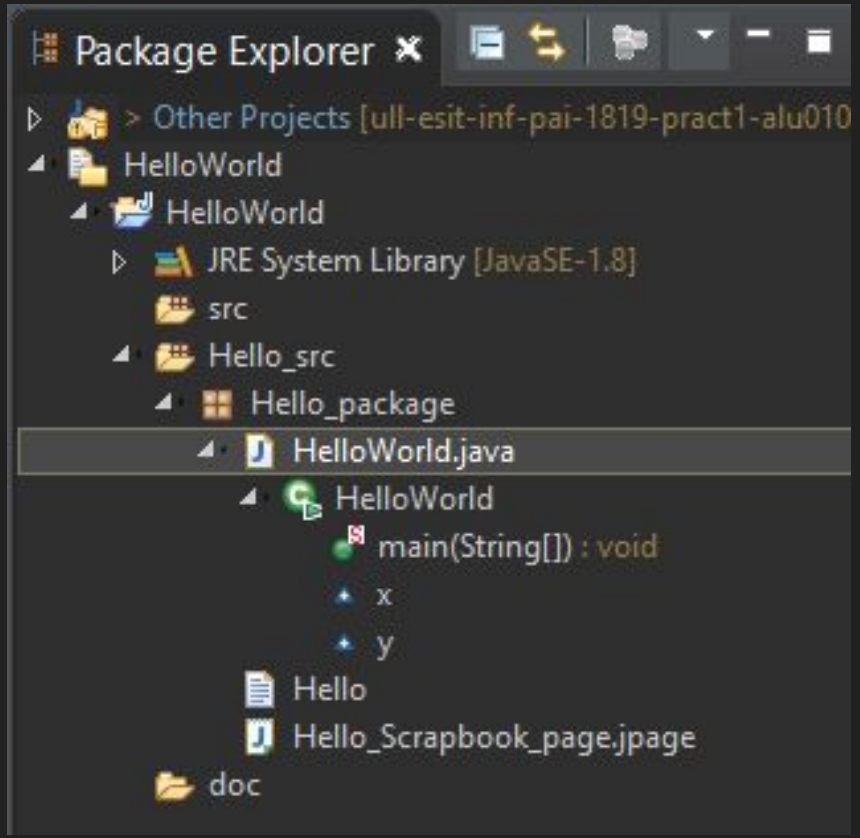
Navigator

- We can see the structure of defined files.
- The only one that shows the folder ‘/bin’.



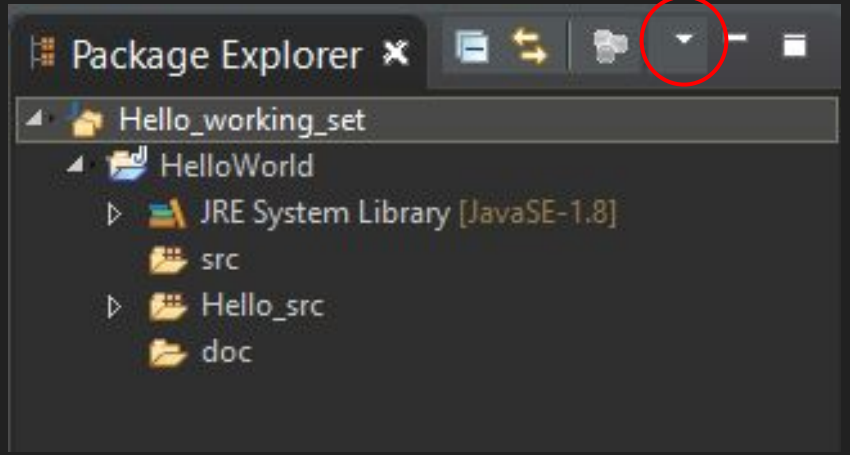
Package Explorer

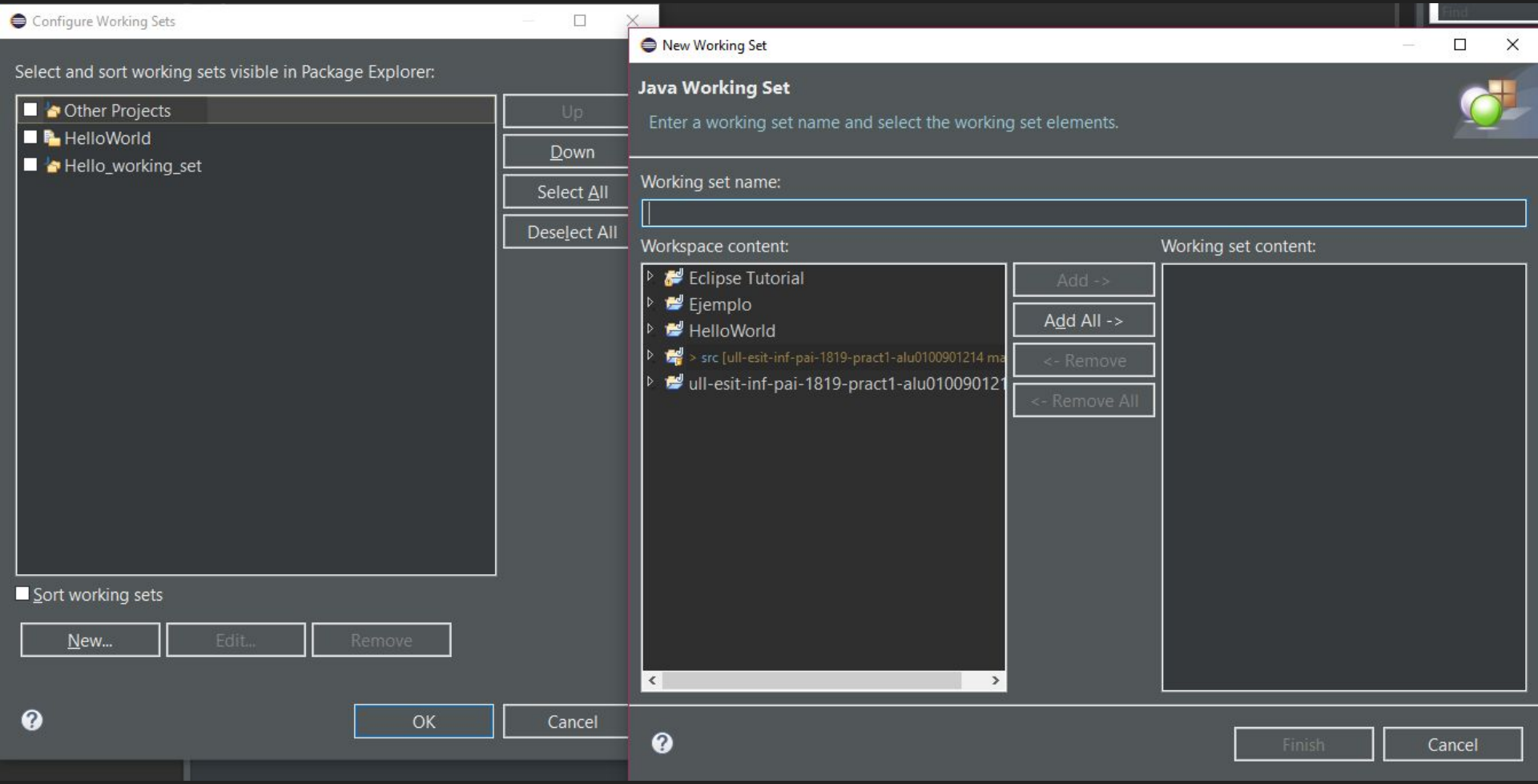
- Shows the logical structure of packages and java classes.
- .java files can be expanded to show their atributes and methods



Working set

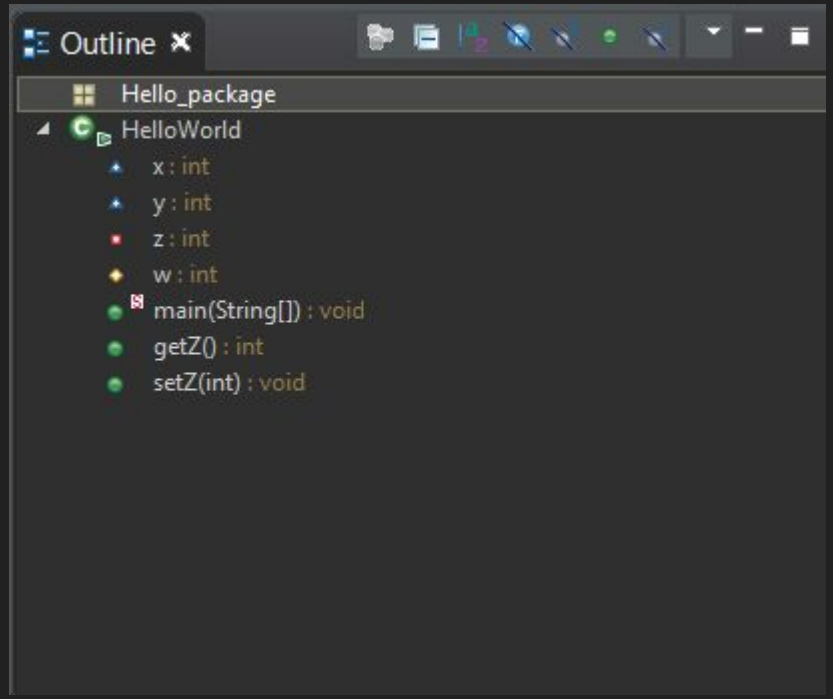
- They are used to separate the different projects that are being worked on.
- Useful when you are working on differentiated projects.
- View Menú -> Configure Working sets...




Configure Working Sets
Select and sort working sets visible in Package Explorer:
Other Projects
HelloWorld
Hello_working_set
Up
Down
Select All
Deselect All
Sort working sets
New...
Edit...
Remove
OK
Cancel
New Working Set
Java Working Set
Enter a working set name and select the working set elements.
Working set name:
Workspace content:
Eclipse Tutorial
Ejemplo
HelloWorld
> src [ull-esit-inf-pai-1819-pract1-alu0100901214 ma
ull-esit-inf-pai-1819-pract1-alu010090121
Add ->
Add All ->
<- Remove
<- Remove All
Working set content:
Finish
Cancel

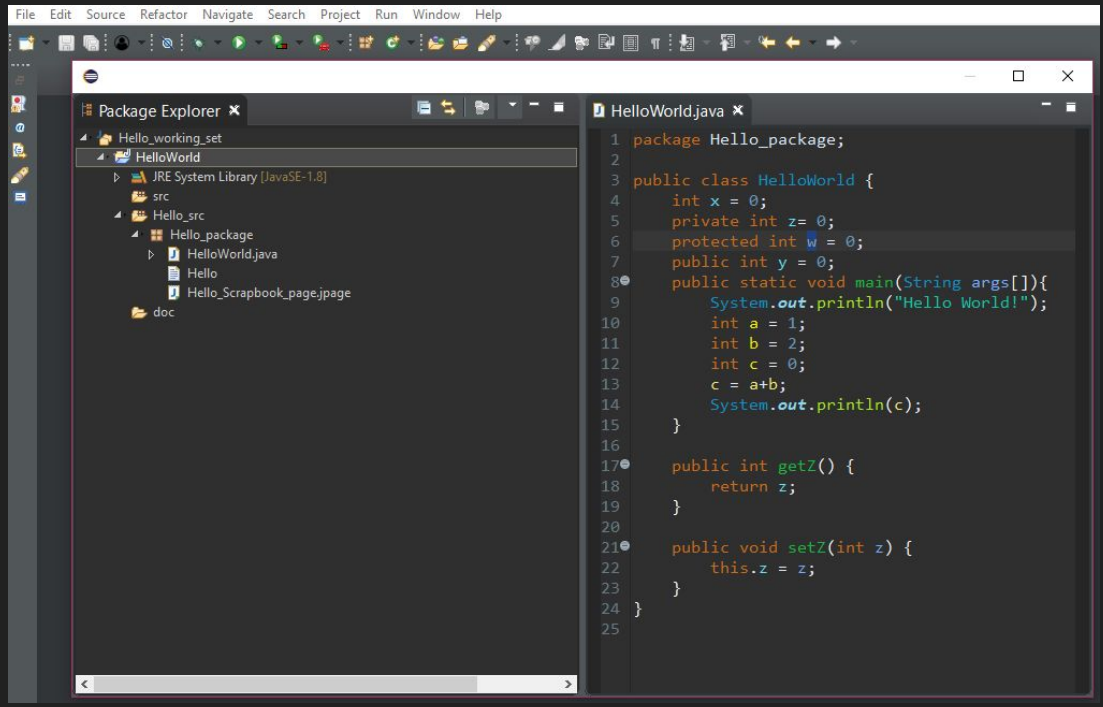
Outline View

- A quick way to see the methods and attributes of a .java class.
- Icons give adittional information about visibility.
  - Package
  - Private
  - Protected
  - Public



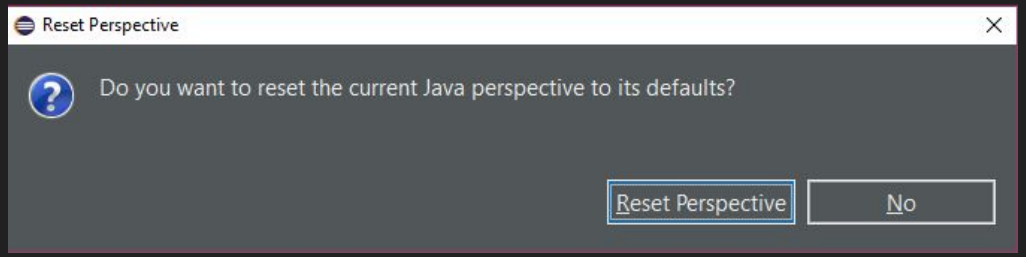
Fast views

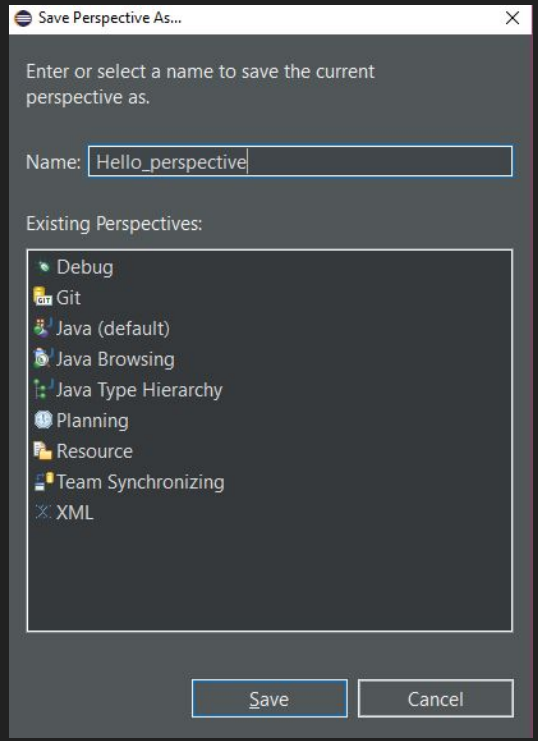
- Used to separate the view in a new window



Save a perspective

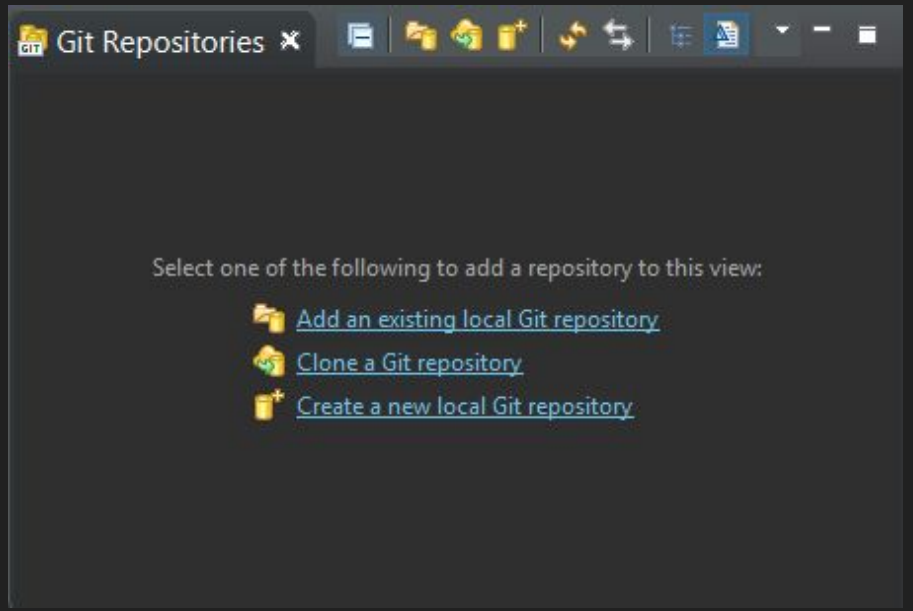
- Window -> Perspective… -> Save Perspective as …
- Window -> Perspective -> Reset Perspective

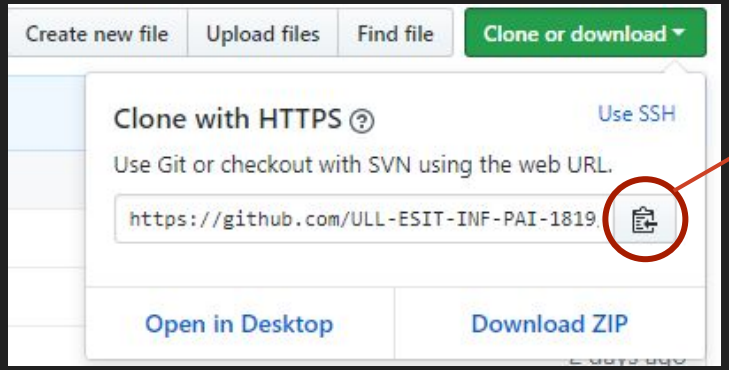




Git Repositories

- We can create a new repository.
- Add an existing one.
- Or Clone a repository





Clone Git Repository

Source Git Repository

Enter the location of the source repository.

Location

URI: https://github.com/ULL-ESIT-INF-PAI-1819-j [Local File...]

Host: github.com

Repository path: /ULL-ESIT-INF-PAI-1819/ull-esit-inf-pai-1819-pract1-[redacted]

Connection

Protocol: https

Port:

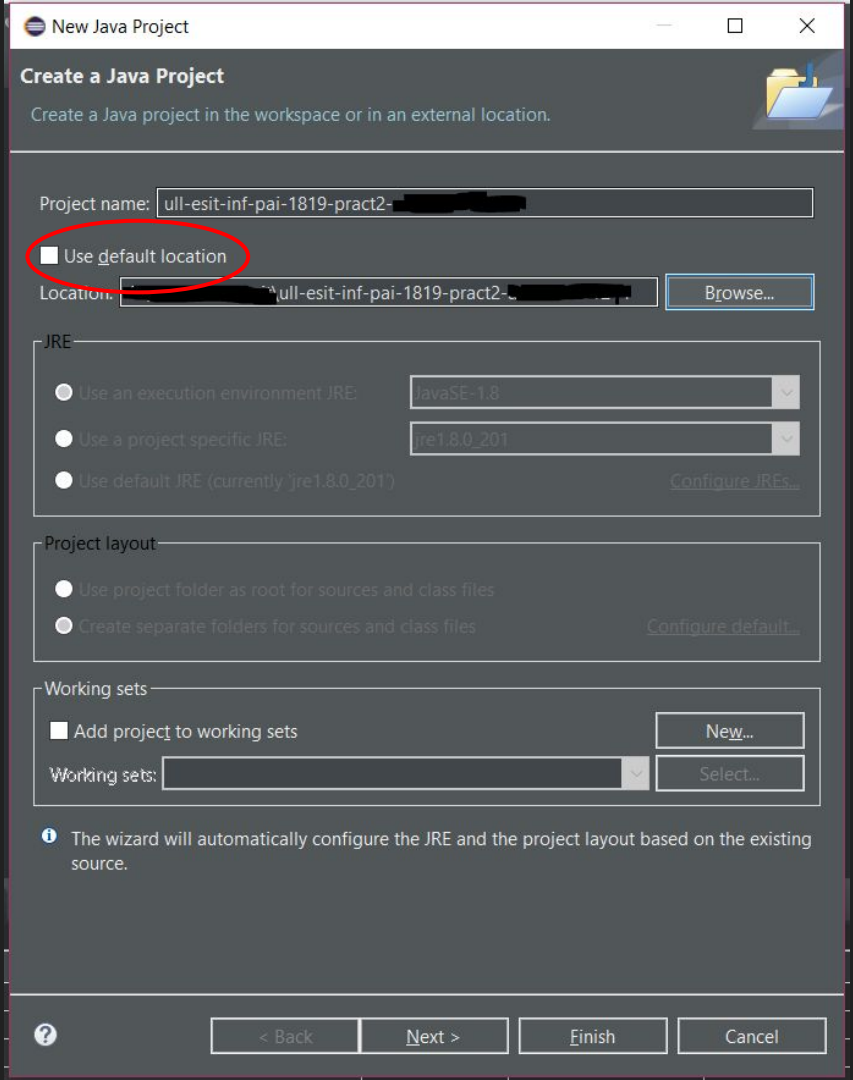
Authentication

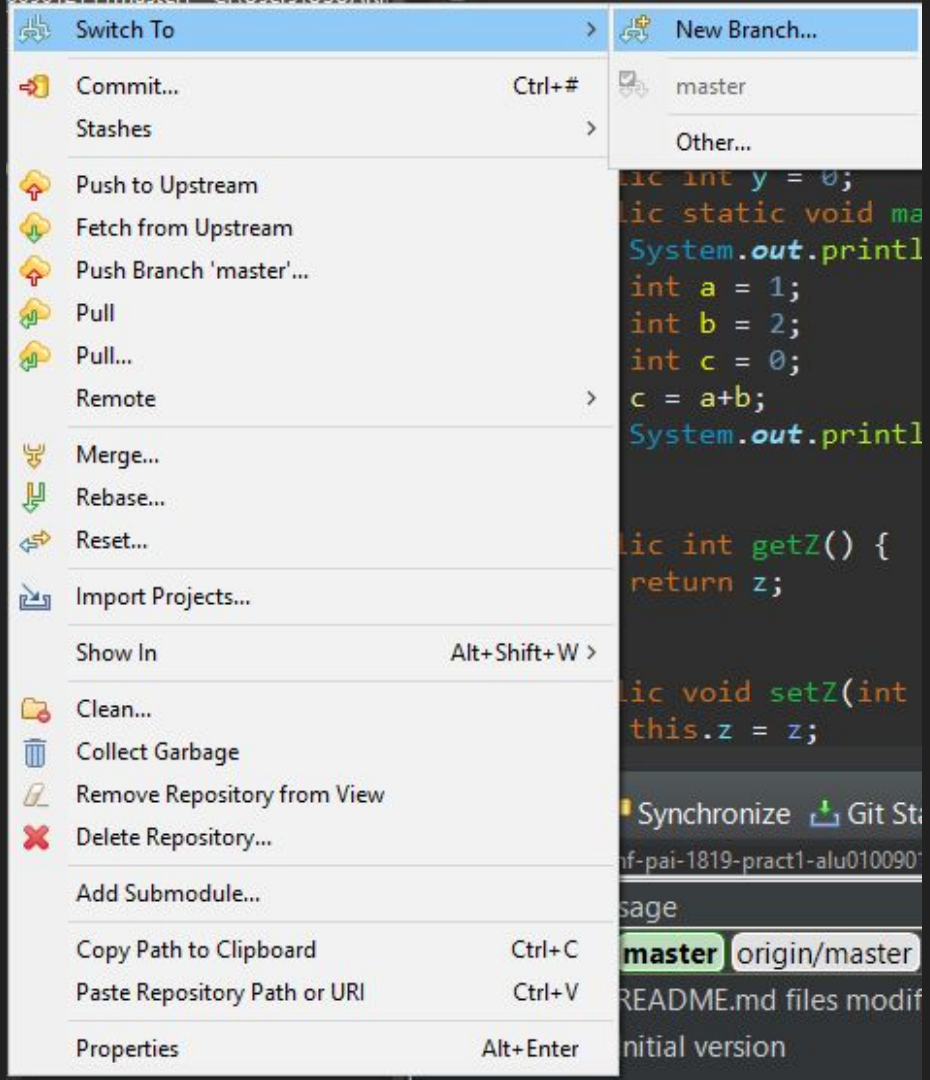
User:

Password:

Store in Secure Store

< Back | Next > | Finish | Cancel


New Java Project
Create a Java Project
Create a Java project in the workspace or in an external location.
Project name: ull-esit-inf-pai-1819-pract2-[redacted]
Use default location
Location: [redacted]ull-esit-inf-pai-1819-pract2-[redacted]
Browse...
JRE
Use an execution environment JRE: JavaSE-1.8
Use a project specific JRE: jre1.8.0_201
Use default JRE (currently 'jre1.8.0_201')
Configure JREs...
Project layout
Use project folder as root for sources and class files
Create separate folders for sources and class files
Configure default...
Working sets
Add project to working sets
New...
Working sets:
Select...
The wizard will automatically configure the JRE and the project layout based on the existing source.
< Back
Next >
Finish
Cancel


Switch To
New Branch...
master
Other...
Commit... Ctrl+#
Stashes
Push to Upstream
Fetch from Upstream
Push Branch 'master'...
Pull
Pull...
Remote
Merge...
Rebase...
Reset...
Import Projects...
Show In Alt+Shift+W
Clean...
Collect Garbage
Remove Repository from View
Delete Repository...
Add Submodule...
Copy Path to Clipboard Ctrl+C
Paste Repository Path or URI Ctrl+V
Properties Alt+Enter
int y = 0;
lic static void ma
System.out.printl
int a = 1;
int b = 2;
int c = 0;
c = a+b;
System.out.printl
lic int getZ() {
return z;
lic void setZ(int
this.z = z;
Synchronize
Git St
sage
master
origin/master
README.md files modif
nitial version

5

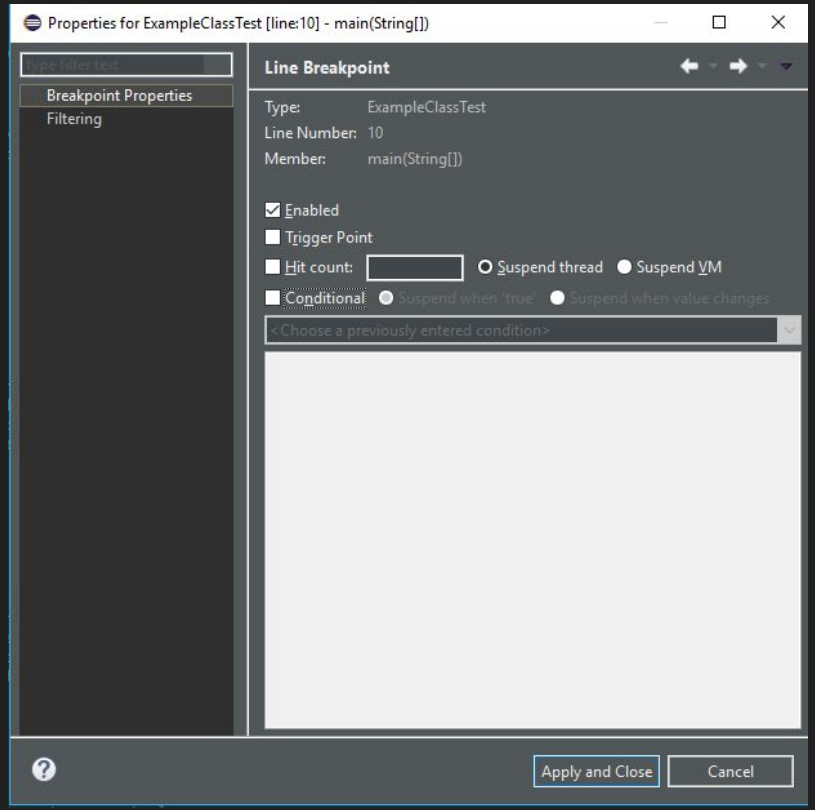
EJECUTE AND DEBUG

Shortcuts

- Run: CTRL +F11
- Debug: F11

¡Use breakpoints for debugging!

Breakpoints Properties



- Hit count
- Conditional

Debug steps

- RUN-RESUME (F8)
- SUSPEND
- TERMINATE
- STEP INTO
- STEP OVER
- STEP RETURN

Any Questions?