Integrated Development Environments

Using Eclipse

The Eclipse integrated development environment is a popular choice for Java Developers. But it can be used with many other programming languages as well, including Python, PHP, C, and C++. It has a large feature set, customizable user interface, and can be extended through a large ecosystem of plugins that can be found in its marketplace. It benefits from the support of an active community of developers and the Eclipse Foundation, ensuring it remains stable and secure through frequent updates and enhancements.

Eclipse is a free, open-source IDE, and also powerful, making it a great option for solo developers and development teams on a budget.

Development environments include:

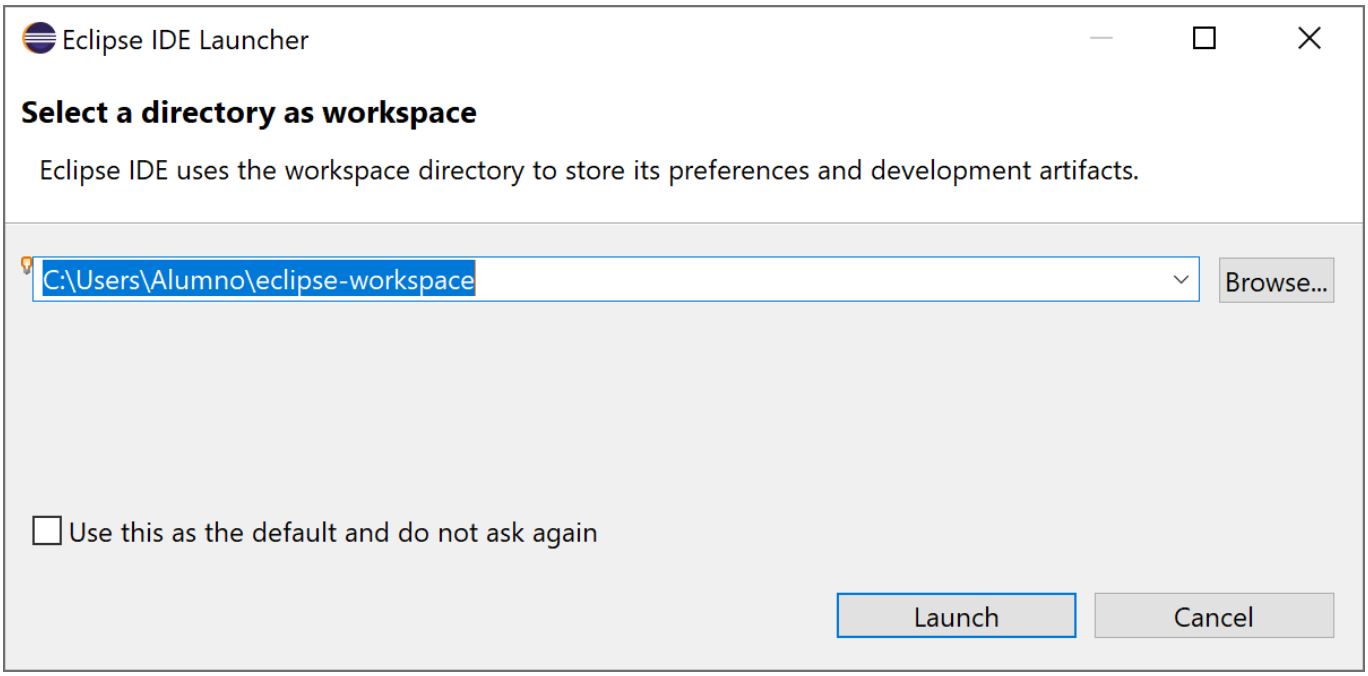
- The Eclipse Java development tools (JDT) for Java and Scala,
- Eclipse CDT for C/C++,
- Eclipse PDT for PHP
- and others...

You can download the installer from the Eclipse Packages page. Please, start by downloading the **Eclipse IDE for Java Developers**. Eclipse installation process consist on extracting the contents fo the compressed file to a directory of our choice.

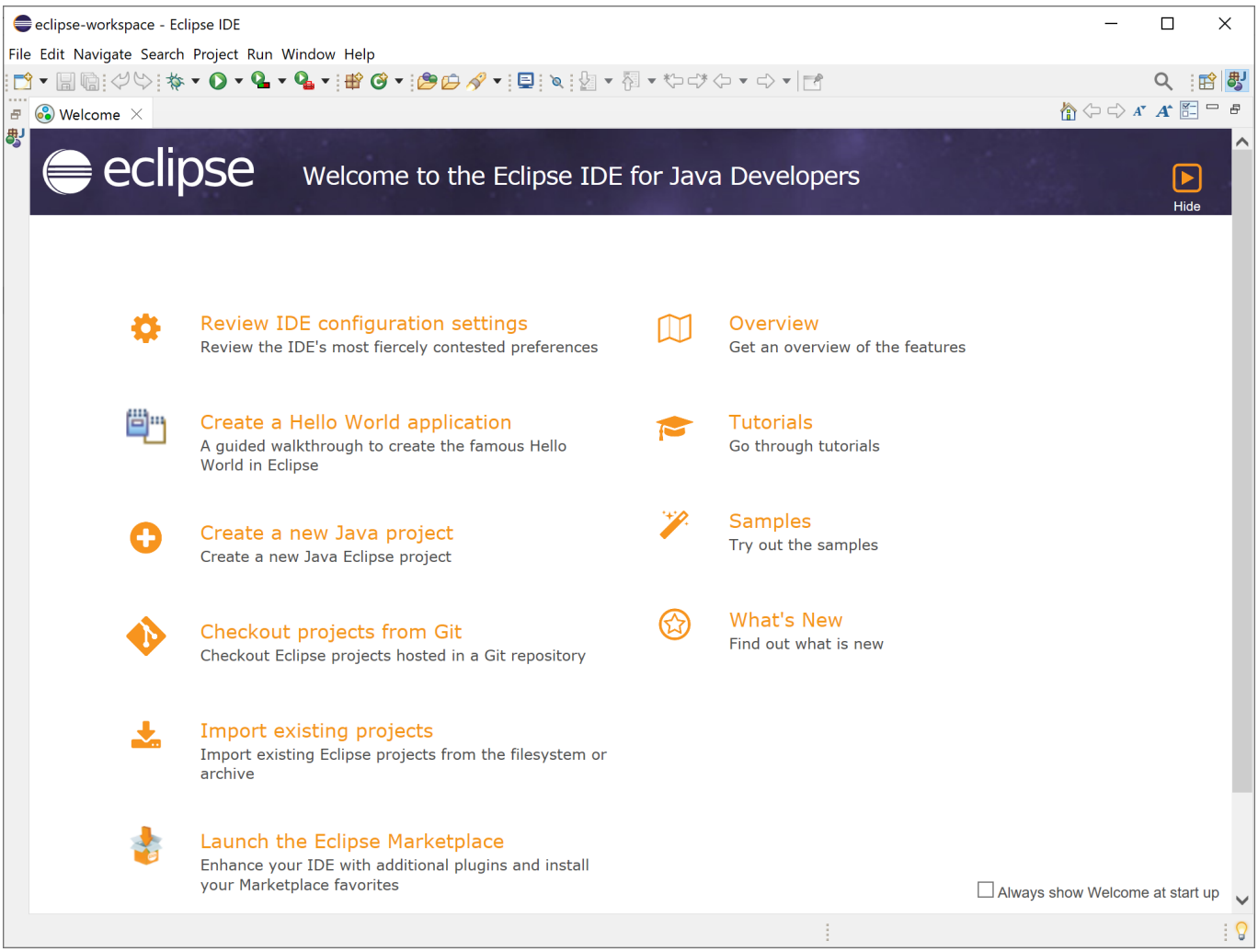
1. Work environment

In order to start Eclipse you should find executable file in the folder where de IDE was extracted and run it.

Eclipse will ask for the "Workspace", it is the directory where it will create the new projects.



Here you have the welcome screen that you will find after the first eclipse execution:



2. Main features

2.5. Keybindings

There are many shortcuts or key bindings available in Eclipse, the following table shows some of the most useful.

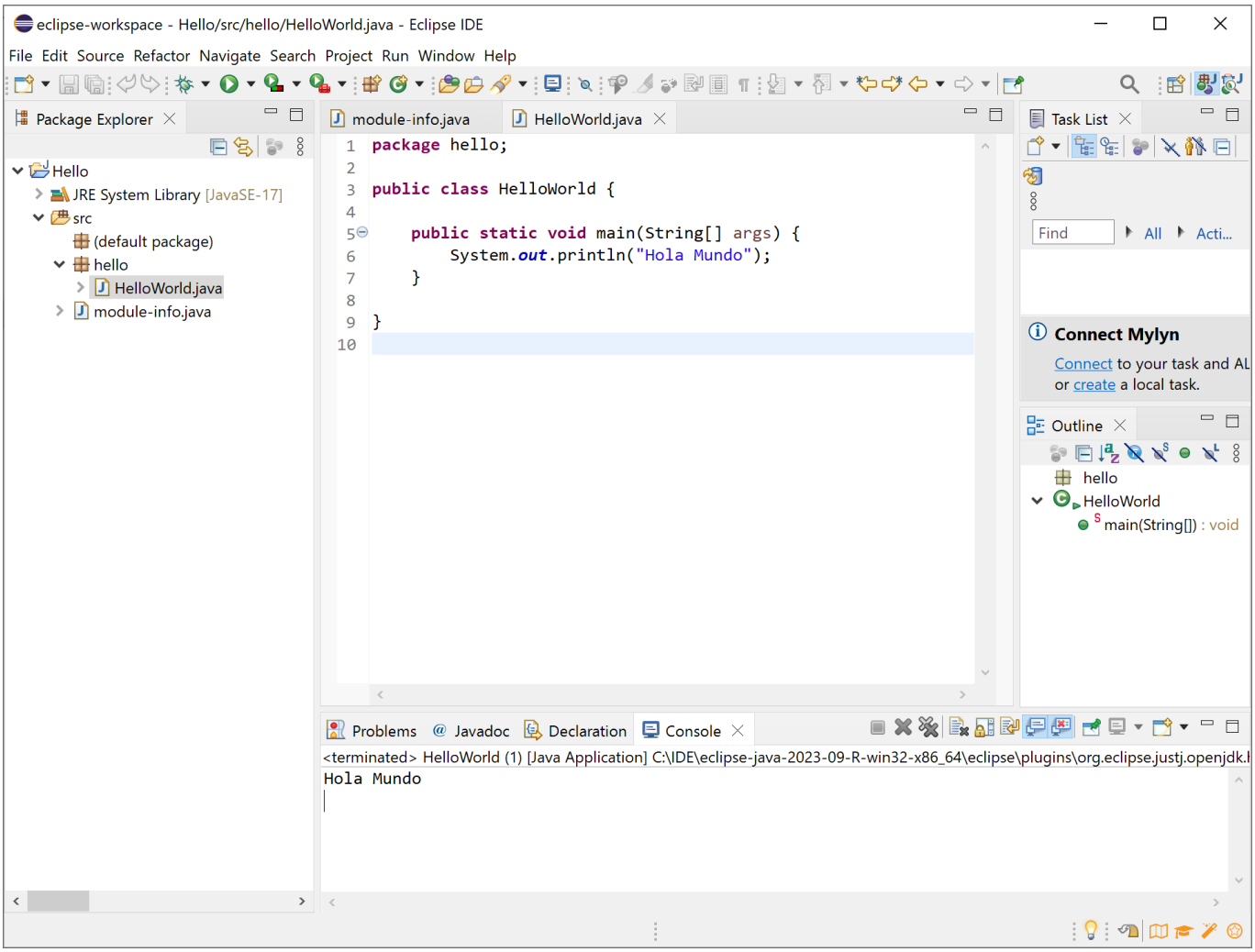
Shortcut Key Mac	Shortcut Key Windows	Description
Command + 3	Ctrl + 3	It puts the focus into Quick Access search box.
Command + S	Ctrl + S	Save current editor
Command + 1	Ctrl + 1	Quickfix for errors and warnings, depends on the cursor position
Control + Space	Ctrl + Space	Content assist and code completion
Command + Shift + F	Ctrl + Shift + F	Format source code
Control + Q	Ctrl + Q	Moves cursor to the last edited position
Command + D	Ctrl + D	Deletes current line in the editor
Command + Shift + O	Ctrl + Shift + O	Organize imports in the current java file
Command + 2 + L	Ctrl +2 + L	Assign statement to new local variable
Command + 2 + F	Ctrl + 2 + F	Assign statement to a field
Command + O	Ctrl + O	Shows quick outline of the java class
Command + fn + F11	Ctrl + F11	Runs the current opened java class if main method exists or else run the last launched application
Command + Shift + R	Ctrl + Shift + R	Open / Search for resources
Command + Shift + T	Ctrl + Shift + T	Open / Search for types, very useful in finding classes
Command + E	Ctrl + E	To select an editor from the currently open editors
Command + fn + F8	Ctrl + F8	Shortcut for switching perspectives
Command + [or Command +]	Alt + ← or Alt + →	Go to previous/ next editor position in history
Fn + F3	F3	Move cursor to the declaration of the variable
Command + Shift + P	Ctrl + Shift + P	Move cursor to the matching bracket
Command + .	Ctrl + .	Go to the next problem
Command + Shift + .	Ctrl + ,	Go to the previous problem

Shortcut Key Mac	Shortcut Key Windows	Description
Fn + F4	F4	Show type hierarchy of the variable
Command + K	Ctrl + K	Find next for search text in the opened editor
Command + Shift + G	Ctrl + Shift + G	Search for references in the workspace
Command + T	Ctrl + T	Shows type hierarchy of the current java class
Command + M	Ctrl + M	Maximize Java editor
Fn + Shift + F2	Shift + F2	Shows the javadoc of the method, class
Command + Option + R	Alt + Shift + R	Rename of package, class etc
Command + Option + T	Alt + Shift + T	Opens the quick refactoring menu

> **Exercise 1:**
>
> Read this report on the Java ecosystem, please check the full report in PDF format and answer the following questions:
>
> - ¿Which are the two most used IDEs in Java development?
> - ¿Which is the most used build system for Java?
> - ¿Which is the most popular Java framework?
> - ¿What JDK version is the most used in production?
> - ¿What JDK version is the most used in development?

> **Exercise 2:**
>
> Use Eclipse to create a java project. Run it. Debug it. Finally, check the project structure: finde where the .java and the .class files are stored.

```java
public class Test
{
    public static void main(String[] args)
    {
        System.out.println("Hello");
        for (int i = 0; i < 10; i++) {
            System.out.println(i);
        }
    }
}
```



> **Exercise 3:**
>
> Use Eclipse to create a C project. First you will need to install de **Eclipse C/C++ IDE CDT** from the **MarketPlace**. The MarketPlace can be found under de **Help** menu. After installing the CDT, eclipse will allow you to create new C/C++ projects (File->New Project->C/C++). Create a hello world project, run it and debug it.

```c
#include <stdio.h>

int main()
{
    printf("Hello");
    return 0;
}
```