

Entornos de Desarrollo

U2-E2

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1º DAM

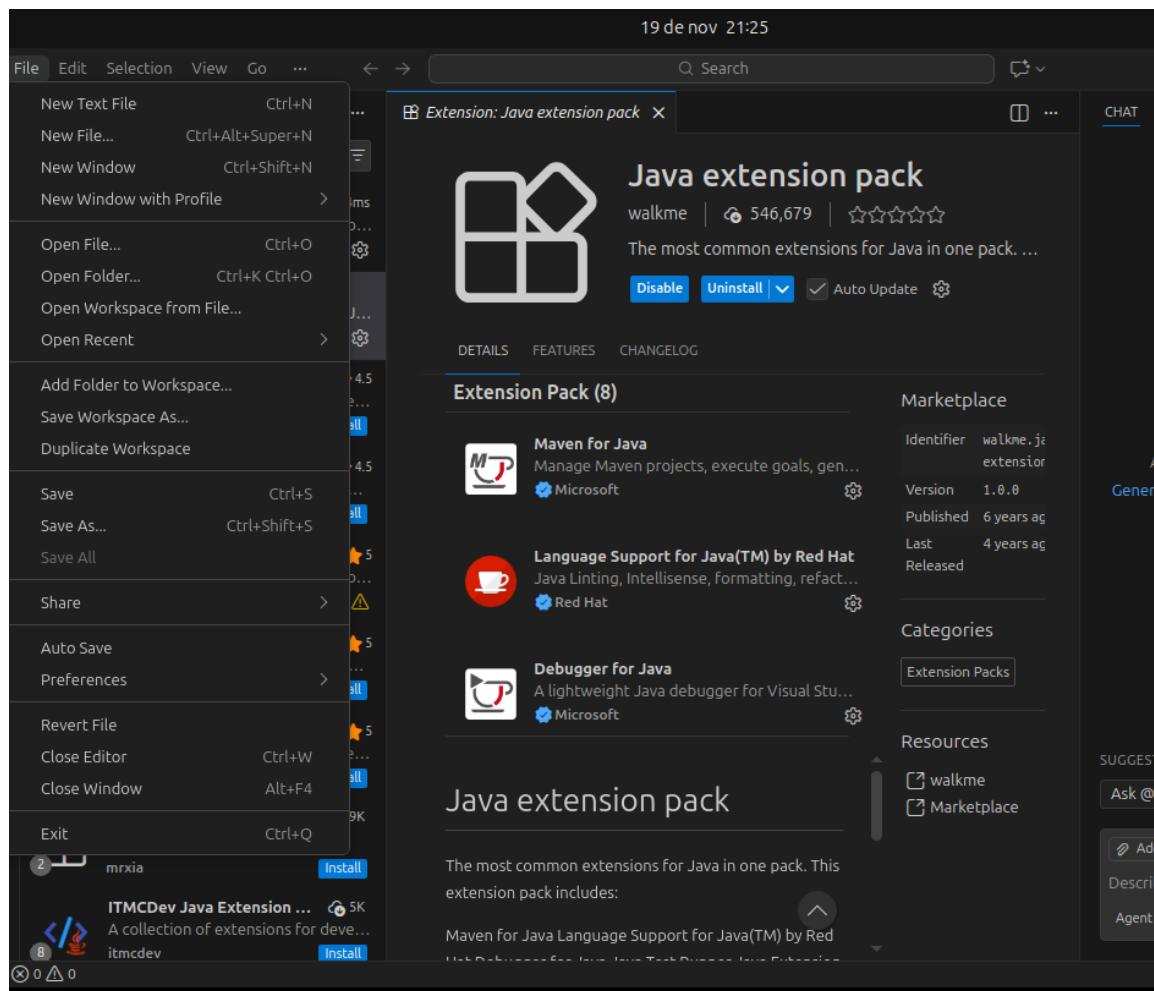
Parte 1: Instalación y configuración de Visual Studio Code

1. Descargamos Visual Studio Code desde su página oficial.

The screenshot shows the official Visual Studio Code download page. The background of the main content area is a grid of binary code (0s and 1s). At the top, there's a navigation bar with links: Visual Studio Code, Docs, Updates, Blog, API, Extensions, MCP, and FAQ. Below the navigation, a message says "Version 1.106 is now available! Read about the new features and fixes from October." In the center, the text "The open source AI code editor" is displayed in large, bold, black letters. Below this text are two download buttons: "Download for Linux (.deb)" and "Download for Linux (.rpm)". Further down, there are links for "Web, Insiders edition, or other platforms". A note at the bottom states "By using VS Code, you agree to its [license](#) and [privacy statement](#)". On the right side of the page, there is a vertical column of binary code representing the page's URL or file path.

2. Configurar VSCode para trabajar con Java:

- AbrIR VSCode y accede al gestor de extensiones (Ctrl + Shift + X).
- Instalar el "Java Extension Pack".

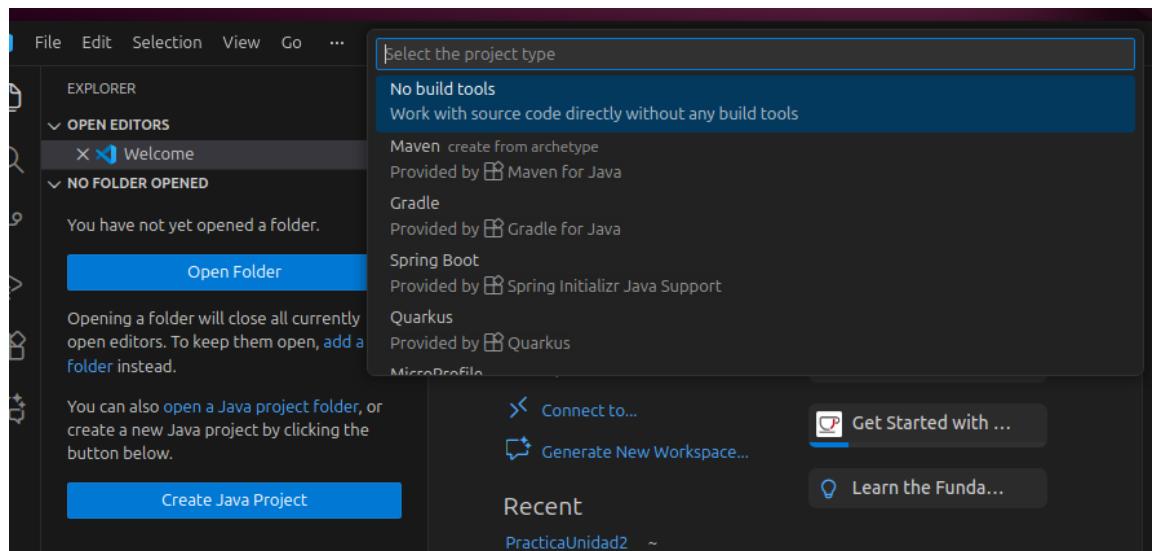


Parte 2: Creación y ejecución de un proyecto Java

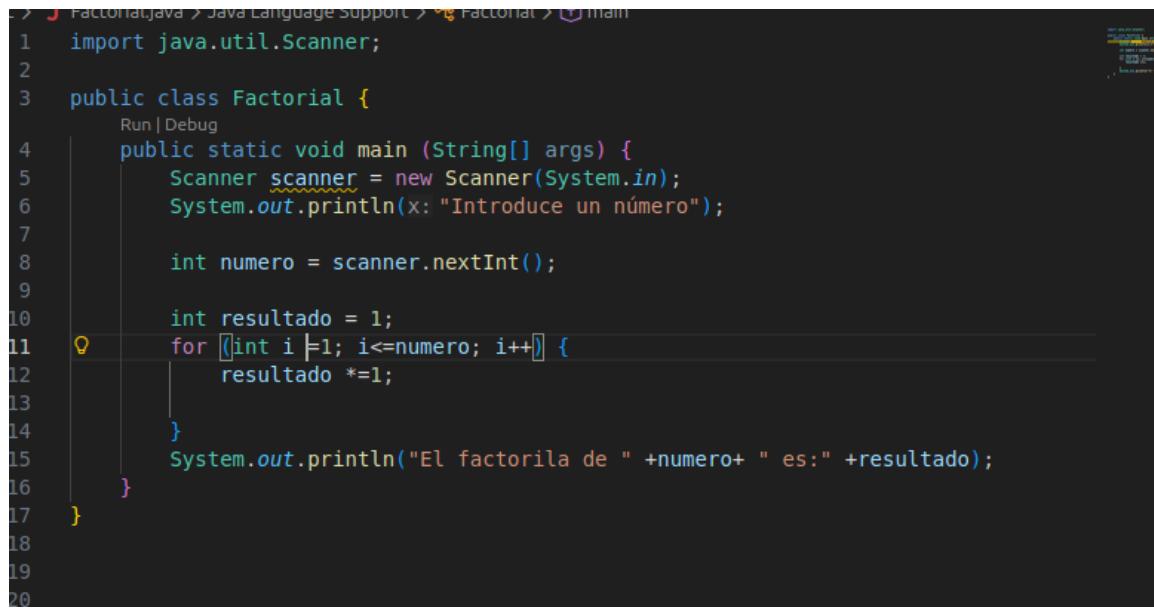
1. Desde la terminal creé una carpeta nueva en mi equipo llamada PracticaUnidad2.

```
fleming@ENDES24:~/Escritorio
fleming@ENDES24:~/Escritorio$ mkdir ~/PracticaUnidad2
fleming@ENDES24:~/Escritorio$ code ~/PracticaUnidad2
fleming@ENDES24:~/Escritorio$
```

2. En el explorador lateral de VSCode, seleccioné la opción para crear un proyecto Java.



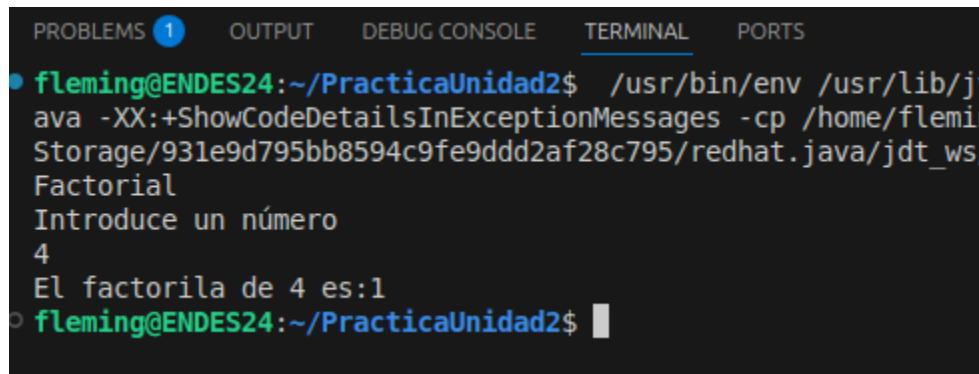
3. Hice una clase Java llamada Factorial.java con el siguiente código inicial:



A screenshot of a Java code editor showing a factorial program. The code is as follows:

```
1 import java.util.Scanner;
2
3 public class Factorial {
4     public static void main (String[] args) {
5         Scanner scanner = new Scanner(System.in);
6         System.out.println("Introduce un número");
7
8         int numero = scanner.nextInt();
9
10        int resultado = 1;
11        for (int i = 1; i <=numero; i++) {
12            resultado *=i;
13        }
14        System.out.println("El factorila de " +numero+ " es:" +resultado);
15    }
16
17 }
```

4. Vemos que el programa se ejecuta.

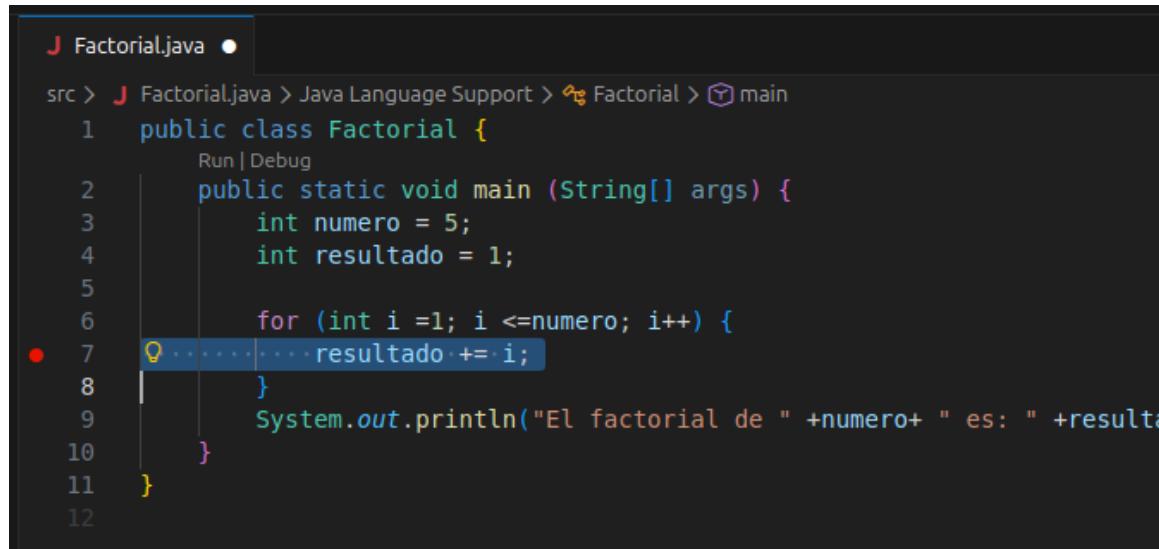


A screenshot of a terminal window showing the execution of the Factorial.java program. The terminal output is as follows:

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
● fleming@ENDES24:~/PracticaUnidad2$ /usr/bin/env /usr/lib/jvm/java -XX:+ShowCodeDetailsInExceptionMessages -cp /home/fleming/Storage/931e9d795bb8594c9fe9ddd2af28c795/redhat.java/jdt_ws/Factorial
Introduce un número
4
El factorila de 4 es:1
● fleming@ENDES24:~/PracticaUnidad2$
```

Parte 3: Uso del depurador

5. Introducimos un error en el código. Después de modificar el código, coloqué un *breakpoint* (punto de interrupción) en la línea donde se realiza la operación del factorial.



The screenshot shows a Java code editor with the file "Factorial.java" open. The code defines a class Factorial with a main method that calculates the factorial of the number 5. A red dot, representing a breakpoint, is placed on the line where the variable "resultado" is updated inside the for loop. The code is as follows:

```
1  public class Factorial {
2      public static void main (String[] args) {
3          int numero = 5;
4          int resultado = 1;
5
6          for (int i =1; i <=numero; i++) {
7              resultado+=i;
8          }
9          System.out.println("El factorial de " +numero+ " es: " +resultado);
10     }
11 }
```

6. Una vez colocado el punto de interrupción, inicié el depurador desde la opción *Run and Debug* de VSCode. Deteniéndose el programa en la línea marcada.

Usé el depurador para: insepeccionar las variables, identificar el error y corregirlo.

The screenshot shows the VSCode interface during debugging:

- Editor:** The code for `Factorial.java` is displayed. A yellow box highlights the line `resultado += i; resultado = 1, i = 1`, which corresponds to the current breakpoint.
- Local Variables:** The `args` array, `numero` (5), `resultado` (1), and `i` (1) are listed.
- Call Stack:** The stack shows the main thread is paused at `Factorial.main`.
- Terminal:** The terminal output shows the Java command and the execution of the program, which prints "El factorial de 5 es: 16".

The screenshot shows the corrected code in the editor:

```

public class Factorial {
    public static void main (String[] args) { args = String[0]@8
        int numero = 5; numero = 5
        int resultado = 1; resultado = 2

        for (int i =1; i <=numero; i++) { i = 2, numero = 5
            resultado += i; resultado = 2, i = 2
        }
        System.out.println("El factorial de " +numero+ " es: " +resultado)
    }
}

```

The error in line 7 (`resultado = 1, i = 1`) has been corrected to (`resultado = 2, i = 2`).

```
public class Factorial {
    Run | Debug
    public static void main (String[] args) { args = String[0]@8
        int numero = 5; numero = 5
        int resultado = 1; resultado = 4

        for (int i =1; i <=numero; i++) { numero = 5
            resultado += i;
        }
        System.out.println("El factorial de " +numero+ " es: " +resultado)
    }
}
```

```
J Factorial.java ×
src > J Factorial.java > Java Language Support > Factorial
1  public class Factorial {
2      Run | Debug
3      public static void main (String[] args) {
4          int numero = 5;
5          int resultado = 1;
6
6          for (int i =1; i <=numero; i++) {
7              resultado *= i;
8          }
9          System.out.println("El factorial de " +numero+ " es: " +resultado)
10     }
11 }
12
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
icaUnidad2 c31080c8/bin Factorial
● fleming@ENDES24:~/PracticaUnidad2$ cd /home/fleming/PracticaUnidad2 ; /usr/bin/java -agentlib:jvm/jdk-21.0.9-oracle-x64/bin/java -agentlib:jdwp=transport=dt_socket,server=d=y,address=localhost:33895 -XX:+ShowCodeDetailsInExceptionMessages -cp /home/fleming/Code/User/workspaceStorage/931e9d795bb8594c9fe9ddd2af28c795/redhat.java/jdt_icaUnidad2_c31080c8/bin Factorial
● fleming@ENDES24:~/PracticaUnidad2$ cd /home/fleming/PracticaUnidad2 ; /usr/bin/java -agentlib:jvm/jdk-21.0.9-oracle-x64/bin/java -agentlib:jdwp=transport=dt_socket,server=d=y,address=localhost:37429 -XX:+ShowCodeDetailsInExceptionMessages -cp /home/fleming/Code/User/workspaceStorage/931e9d795bb8594c9fe9ddd2af28c795/redhat.java/jdt_icaUnidad2_c31080c8/bin Factorial
El factorial de 5 es: 120
○ fleming@ENDES24:~/PracticaUnidad2$
```