What is Java?

Java is a popular programming language, created in 1995.

It is owned by Oracle, and more than **3 billion** devices run Java.

It is used for:

* Mobile applications (specially Android apps)
* Desktop applications
* Web applications
* Web servers and application servers
* Games
* Database connection
* And much, much more!

## Why Use Java?

* Java works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc.)
* It is one of the most popular programming language in the world
* It has a large demand in the current job market
* It is easy to learn and simple to use
* It is open-source and free
* It is secure, fast and powerful
* It has a huge community support (tens of millions of developers)
* Java is an object oriented language which gives a clear structure to programs and allows code to be reused, lowering development costs
* As Java is close to [C++](https://www.w3schools.com/cpp/default.asp) and [C#](https://www.w3schools.com/cs/default.asp), it makes it easy for programmers to switch to Java or vice versa

## Java Syntax

In the previous chapter, we created a Java file called Main.java, and we used the following code to print "Hello World" to the screen:

Main.java

public class Main {

public static void main(String[] args) {

System.out.println("Hello World");

}

}

[Try it Yourself »](https://www.w3schools.com/java/tryjava.asp?filename=demo_helloworld)

### **Example explained**

Every line of code that runs in Java must be inside a class. In our example, we named the class **Main**. A class should always start with an uppercase first letter.

**Note:** Java is case-sensitive: "MyClass" and "myclass" has different meaning.

The name of the java file **must match** the class name. When saving the file, save it using the class name and add ".java" to the end of the filename. To run the example above on your computer, make sure that Java is properly installed: Go to the [Get Started Chapter](https://www.w3schools.com/java/java_getstarted.asp) for how to install Java. The output should be:

Hello World

## The main Method

The main() method is required and you will see it in every Java program:

public static void **main**(String[] args)

Any code inside the main() method will be executed. Don't worry about the keywords before and after main. You will get to know them bit by bit while reading this tutorial.

For now, just remember that every Java program has a class name which must match the filename, and that every program must contain the main() method.

## System.out.println()

Inside the main() method, we can use the println() method to print a line of text to the screen:

public static void main(String[] args) {

**System.out.println("Hello World");**

}

Primitive Data Types

A primitive data type specifies the size and type of variable values, and it has no additional methods.

There are eight primitive data types in Java:

Data Type Size Description

byte 1 byte Stores whole numbers from -128 to 127

short 2 bytes Stores whole numbers from -32,768 to 32,767

int 4 bytes Stores whole numbers from -2,147,483,648 to 2,147,483,647

long 8 bytes Stores whole numbers from -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807

float 4 bytes Stores fractional numbers. Sufficient for storing 6 to 7 decimal digits

double 8 bytes Stores fractional numbers. Sufficient for storing 15 decimal digits

boolean 1 bit Stores true or false values

char 2 bytes Stores a single character/letter or ASCII values