

**ESCUELA COLOMBIANA DE INGENIERÍA  
JULIO GARAVITO**

VIGILADA MINEDUCACIÓN

SYSTEMS ENGINEERING

Arquitecturas Empresariales

## **Workshop 4**

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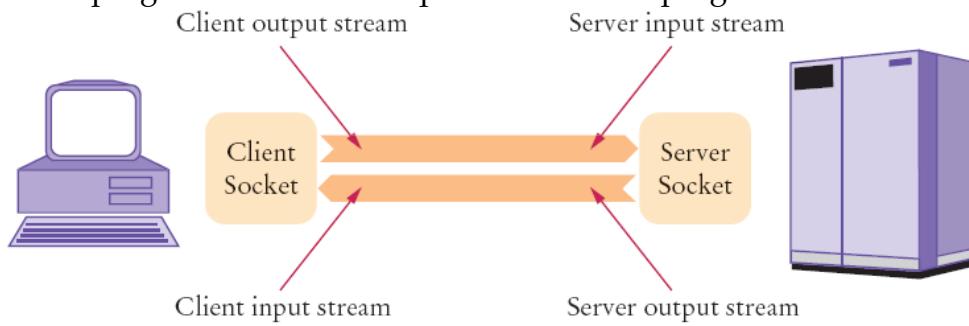
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# 1 Introducción

The objective of this workshop is to learn the use of sockets for use in deployments, learning the use of get types, and sockets use is created from scratch without using the main libraries and using the data entered by url.

## 2 Sockets

Sockets are the end points of the communication link between two programs running on the network. Each socket is bound to a specific port, the layer that implements the TCP protocol can know to which application to send the messages. In general, a server is a process that runs and has a socket, linked to a port, that is waiting for requests from external clients. Sockets are a lower level abstraction than URLs and are used to implement client-server communication protocols. The client-server protocol consists of a client program that makes requests to a server program that serves those requests.



**Figure 5** Client and Server Sockets

Image1: socket

## 3 Sockets

### 3.1 sockets from the client

The application consists of a client that sends messages and a server that responds with the same message but with a string "Response:" at the beginning of it. The server also prints the messages it receives to the screen.

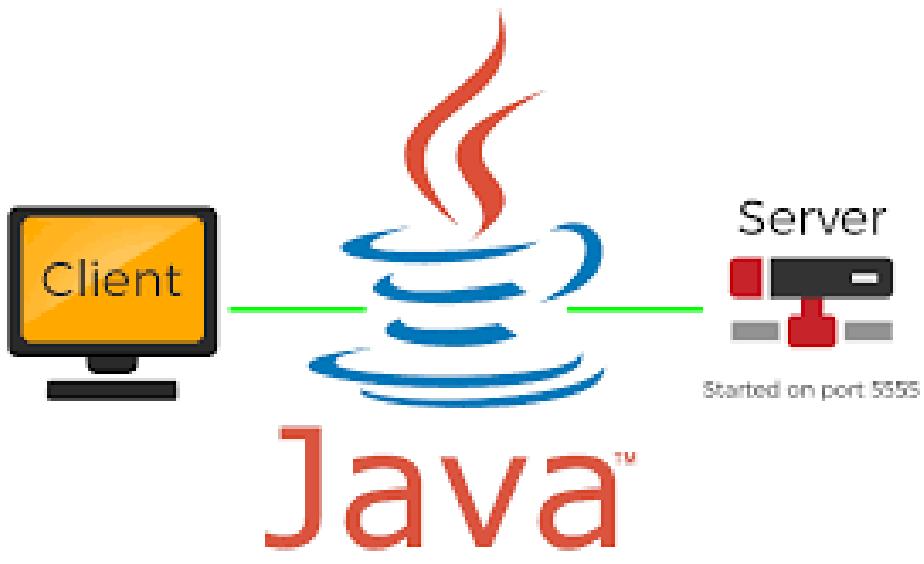


Image2: socket

### 3.2 sockets from server

The server listens on a port and responds to requests from each client.

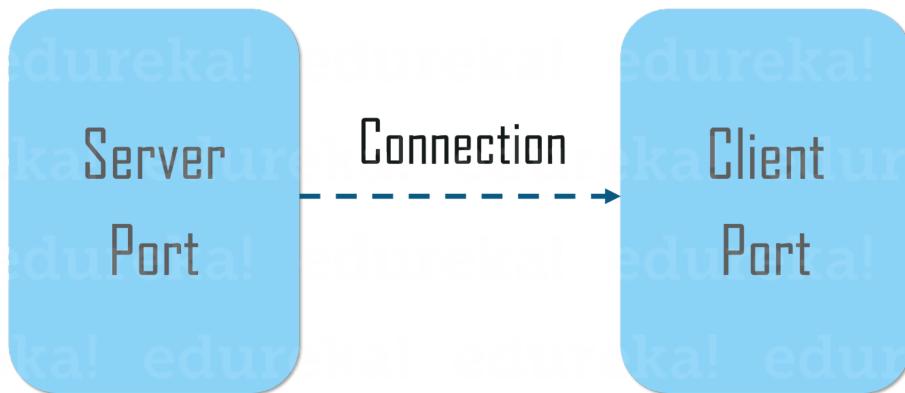
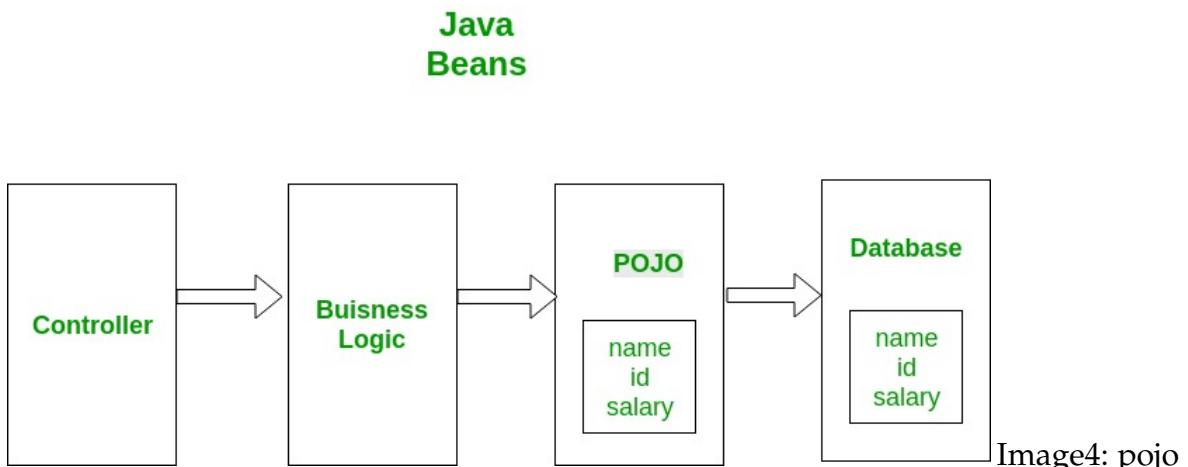


Image3: socket

### 3.3 POJO

The classes from which these types of objects are instantiated are simple classes independent of the framework used. These classes do not have special restrictions (beyond those provided by the language), and are used to simplify the structuring of developments, reducing their complexity, increasing readability and facilitating code reuse.



By definition POJOs cannot: Extender other classes, Implement interfaces (although it is not frowned upon that they implement marked interfaces, as it does not increase the complexity of the code), Contain decorators.

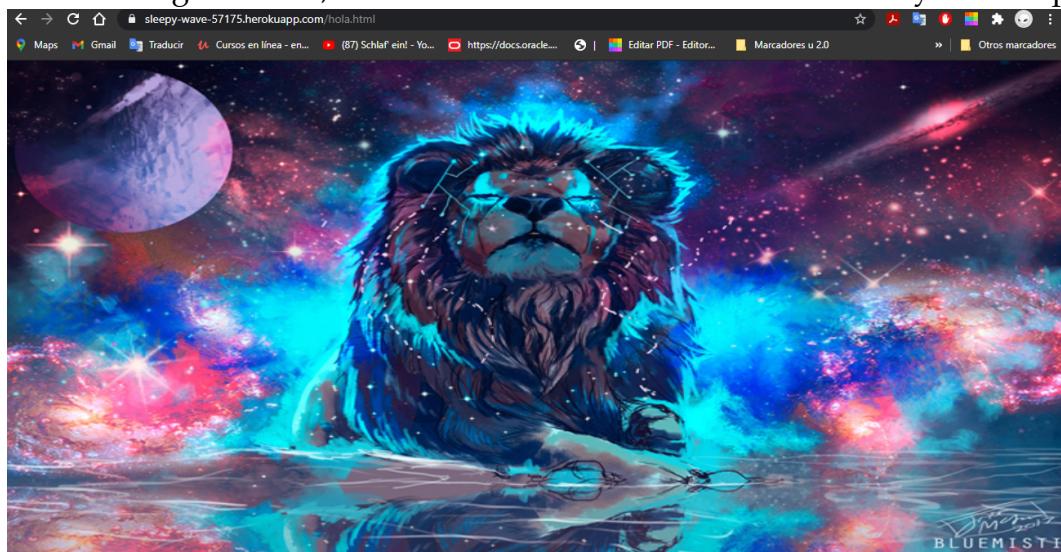
## 4 Workshop

For this workshop, students must build a Web server (Apache type) in Java. The server must be able to deliver html pages and PNG images. Likewise, the server must provide an IoC framework for the construction of web applications from POJOS. Using the server, a sample web application must be built and deployed on Heroku. The server must serve multiple non-concurrent requests.

For this workshop, develop a minimal prototype that demonstrates reflective JAVA capabilities and allows at least to load a bean (POJO) and derive a Web application from it. You must turn in your work at the end of the lab.

## 5 Answer

When executing our code, the files with the data it contains are analyzed and pages.



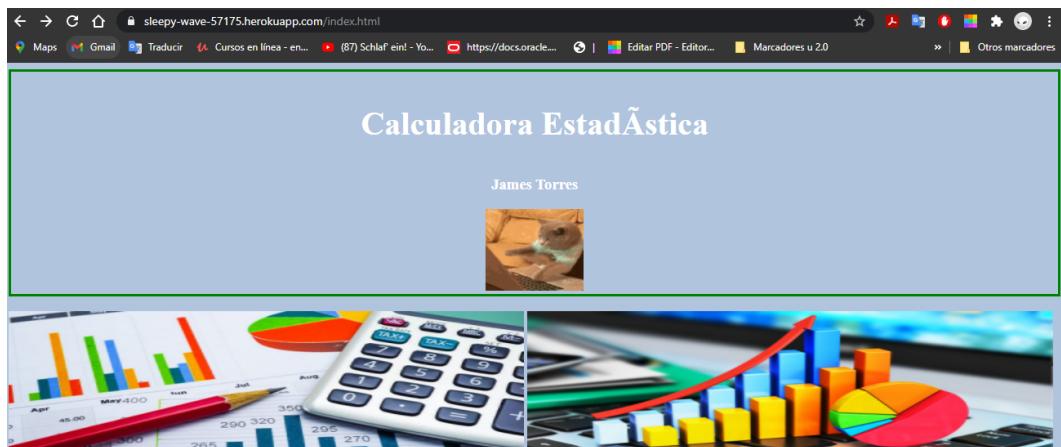


Image5:Executed

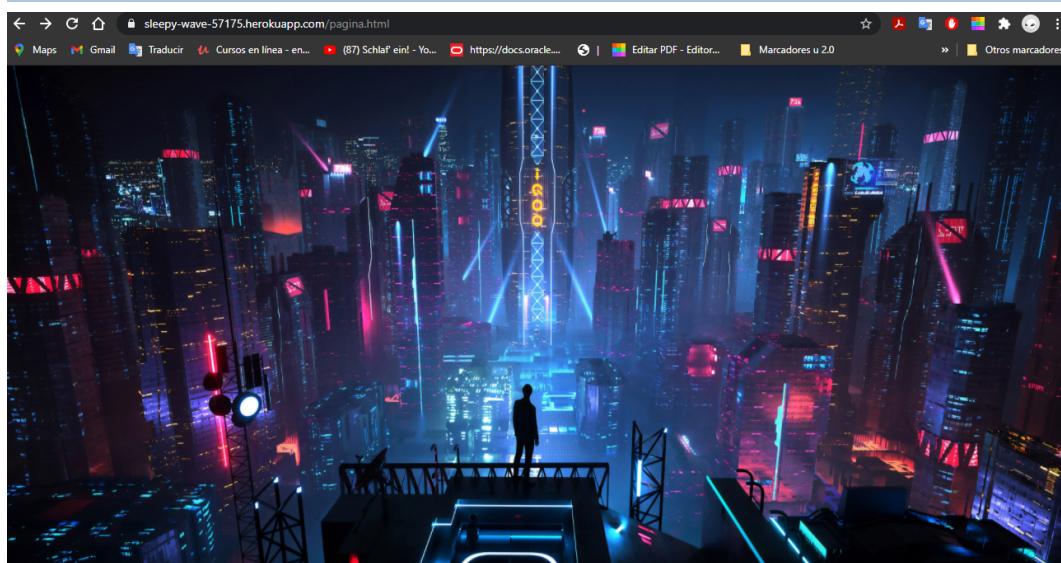


Image5:Executed

## 6 References

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