Clients and Services

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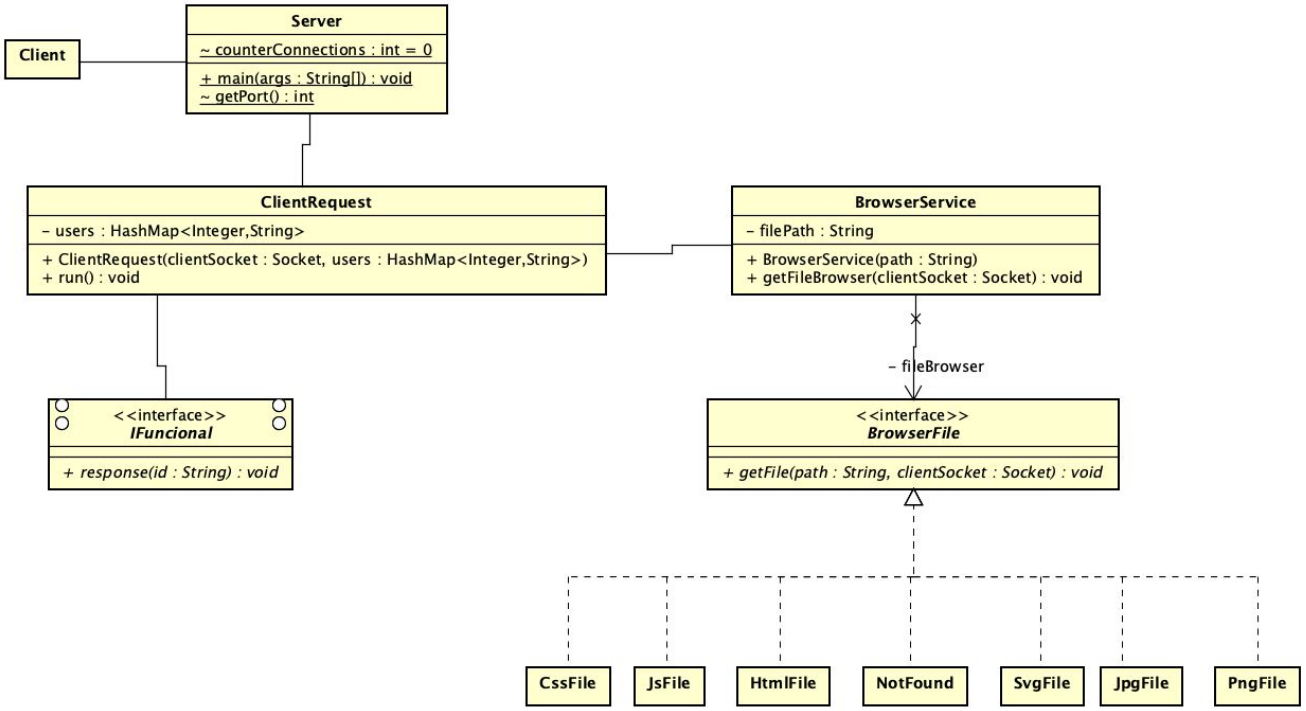
Introduction

The response to requests from a client through the interaction with a server that serves as an intermediary between the resources requests with the existing resources in the same is a fundamental part for the functioning of the services provided by the business, the architecture used by the servers that receive multiple requests should ensure availability and agility, to observe this behavior will proceed to implement a web server that will allow multiple concurrent requests, additionally implement a basic framework in order to manage Get requests from the browser as it does Sparkweb.

Design



The diagram shows that the **Server** class starts listening to the server, the Server class creates an instance of the **ClientRequest** class when a client makes a request to the server whose purpose is to read the request made by the client, additionally the **ClientRequest** is able to recognize requests of type **GET** made to resources with the endpoint determined as **App** for the simulation of the **SparkWeb** framework, which through a **lambda** function and a **functional interface** responds to the dynamic resource requested, If it is not a request of this type, the server will resolve the request based on it by determining the path of the requested file with which it can create an instance of the specific class **BrowserService** which is able to identify the extension of the requested file and request it to the **BrowserFile** interface which can handle and respond to files with the extension **HTML, JS, CSS, PNG, JPG, JPEG, SVG** which will show through the **clientSocket** the corresponding file, if it is not found it will show a 404 Not Found error.

Conclusion

- Knowing how frameworks that control requests from different clients work allows us to understand and improve the implementations to access and display the existing resources in our servers.

- Lambda functions are tools that allow scalable implementations and multiple uses through the implementation of functional classes, which are characterized by having at least an abstract method.

- Concurrency management in web servers is essential to offer an efficient and correct service in our applications.

Test

For the development of tests in this work were used threads that allowed to turn on the server and make requests to evaluate the resources found by it, for this the following cases were evaluated:

- Resource not found
- HTML type resource
- PNG type resource
- Resource type JPG