

CUSTOM SPRING FRAMEWORK IMPLEMENTATION

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1 Introduction

The following paper will describe the architecture and design of the prototype of the custom implementation of the Spring Framework

2 Content

- **Http Server:** A Http Server is the combination of software and hardware that with the help of HTTP, thanks to this kind of implementation and the service offered by this protocol, the server is able to display website content to end users. It's worth mentioning that this server not only uses the HTTP protocol but also SMTP or even FTP.[1]
- **Spring Framework** The Spring Framework offers support to the infrastructure of the application layer. This kind of framework has the advantage of allowing the developer to implement software solutions without the need of focusing on repetitive tasks. Spring offers a wide range of characteristics that we can take advantage of such as the easiness to access data, testing performing with Spring MVC or WebTesting, offers the MVC and Finally offers 2 web frameworks, Spring WebFlux and Spring MVC [2]

3 Design

3.1 Class Diagram

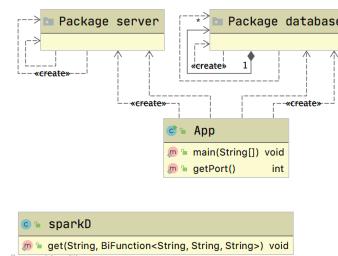


Figure 1: Class Diagram

3.2 Design Description

In order to build the custom solution there are 2 important packages, server and database.

1. **Server Package:** This package allow the prototype to create a web server where all the requests are going to be made, for testing purposes the port 36000 was used but we are able to choose one that fits our needs. As we can appreciate in the next figure, the service is working as its displaying the intended content.



Figure 2: Successful HTTP Server execution

2. **Database Package:** This package was solely used to connect the application to the MongoDB where test information is stored. Through some methods we are able to obtain the information stored to in the database and we are successful to accomplish of task of accessing information stored remotely. In the following figure we can see some of the data stored in MongoDB that is waiting to be queried by a remote client.

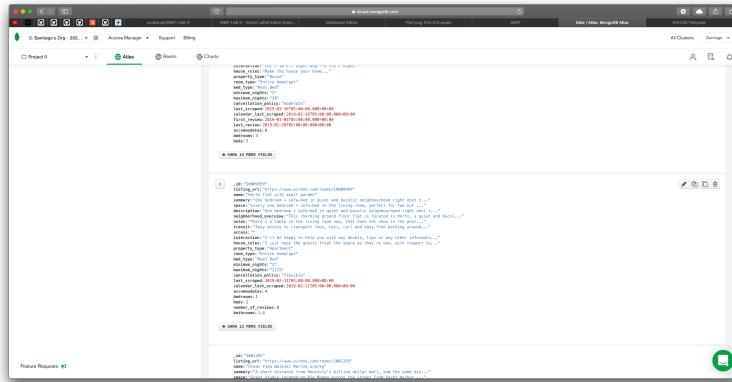


Figure 3: Successful HTTP Server execution

4 Execution and Tests

In order to successfully execute the program and tests, follow the next step by step:

1. First, download the project from GitHub executing the following command:

```
git clone https://github.com/srubianof/AREP-LAB-3.git
```

2. Second, built the project using maven:

```
mvn clean install
```

3. Third, execute the project with Heroku Local Server

```
heroku local web
```

4. Fourth, execute the tests, the idea of each test is to verify right behaviour of each class

```
mvn test
```

5 Conclusion

Overall, the execution of the proposed workshop succeeded in showing basic architecture of a web server. The workshop allowed to understand in detail how a request is made and how a server can build it in order to send the corresponding information that has been queried.

References

- [1] Rouse, M. (2020, July 22). What is a Web Server and How Does it Work? Retrieved September 04, 2020, from <https://whatis.techtarget.com/definition/Web-server>
- [2] Maceira, Y. (2020, May 29). Conoce qué es Spring Framework y por qué usarlo. Retrieved September 04, 2020, from <https://openwebinars.net/blog/conoce-que-es-spring-framework-y-por-que-usarlo/>