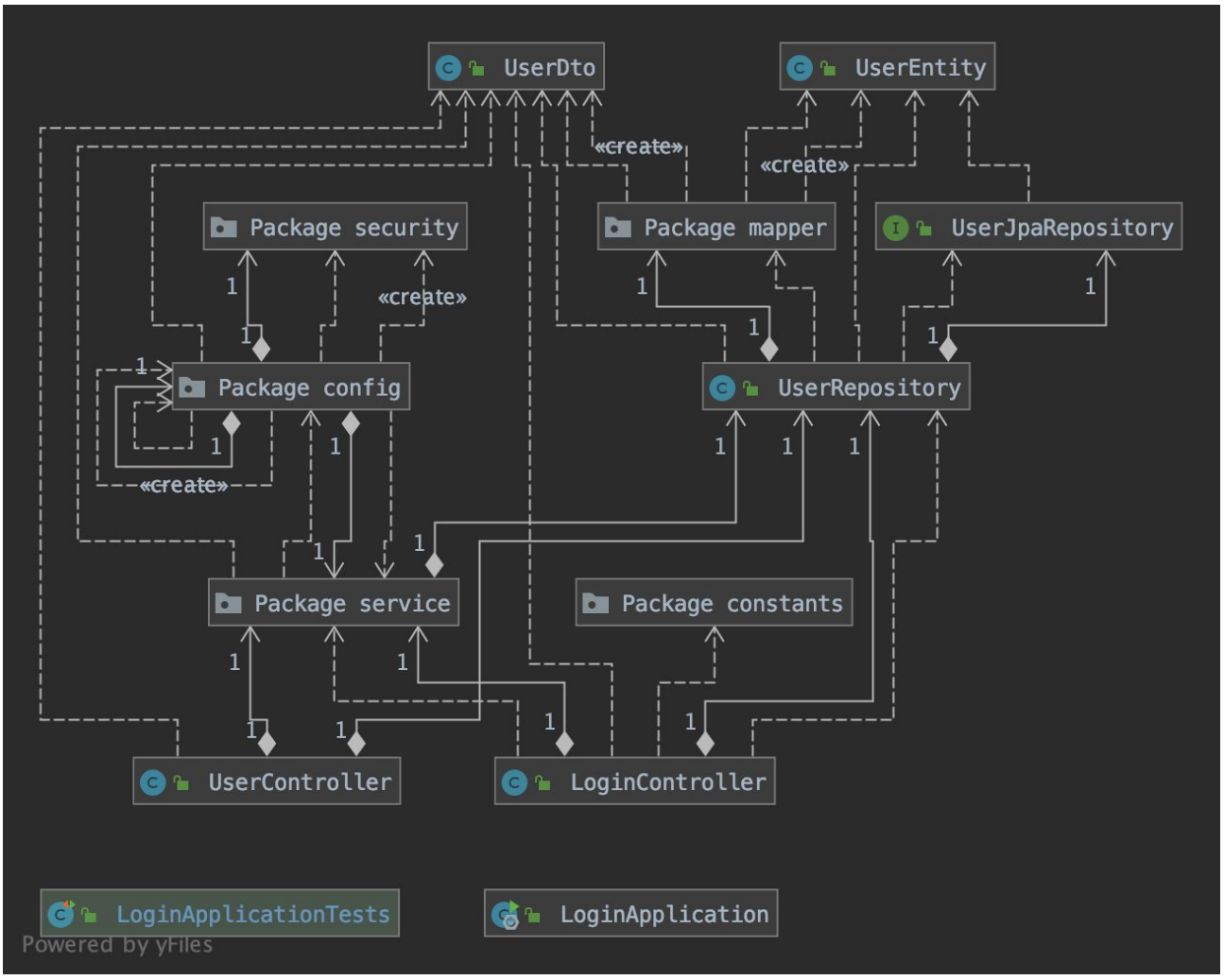
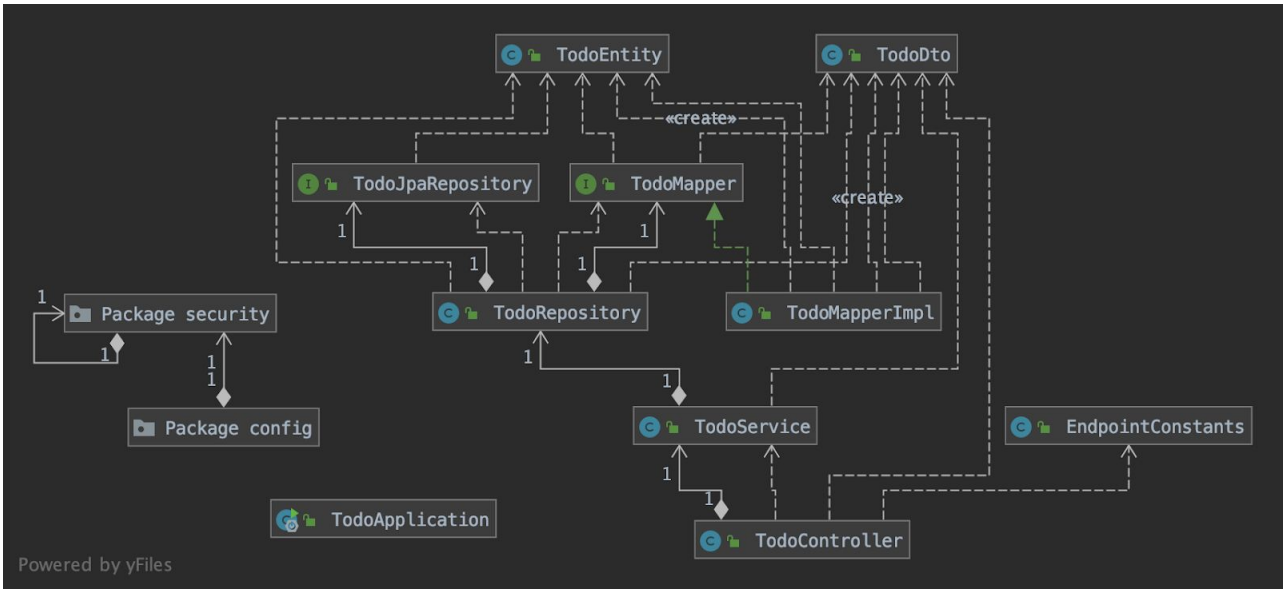
UML Diagrams

- UML diagram for Login Microservice



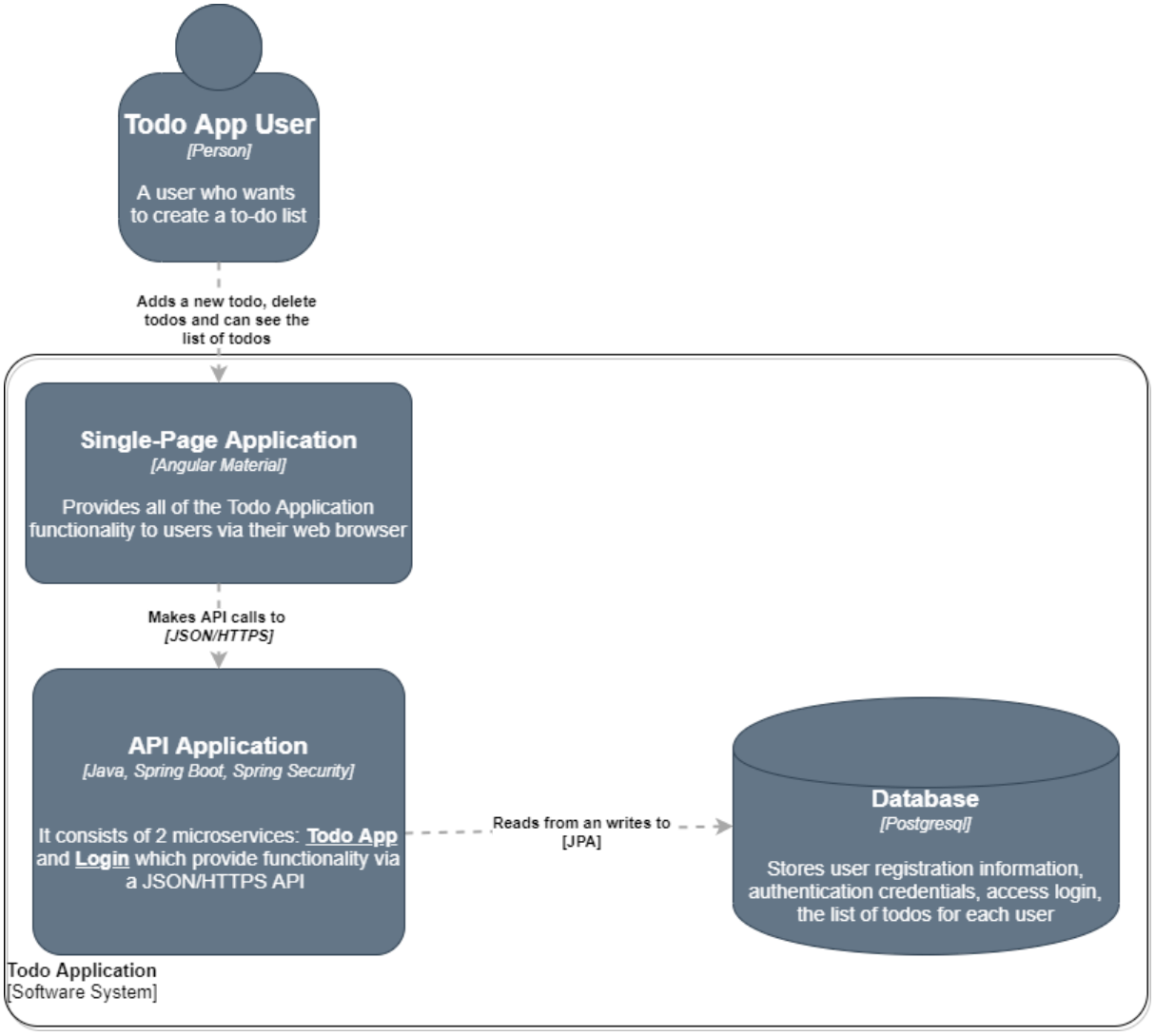
- UML diagram for TodoMicroservice



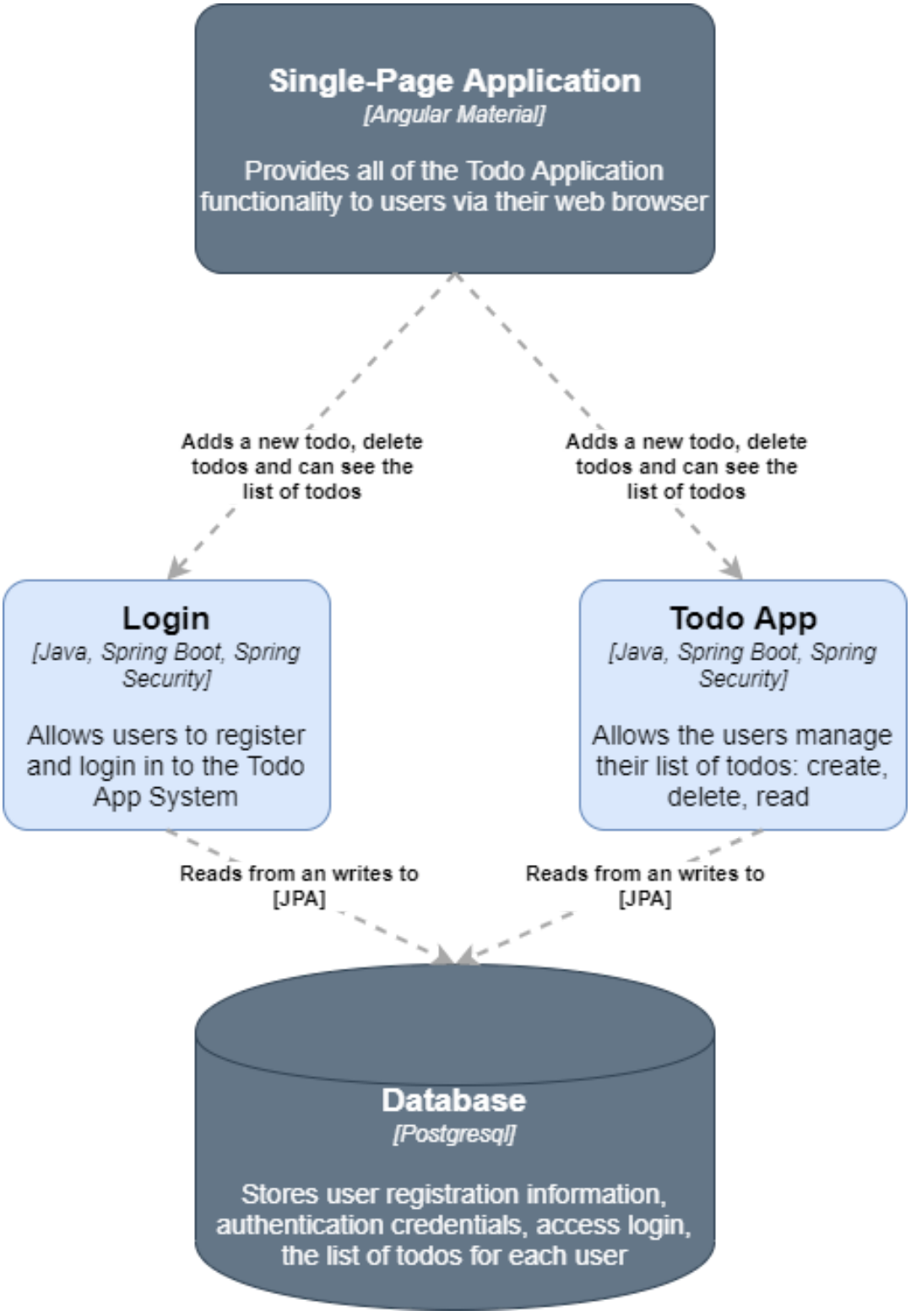
C4 models describing the system

- System context diagram

- Container diagram



- Component diagram



Microservices

The architecture based on microservices consists in the development of a single application that contains small services, each having its own role and communicating through simple mechanisms, such as the HTTP protocol [1].

Microservices are an alternative to the monolithic application development system. This involves developing an application as a single unit. In a monolithic application, all components are strongly interconnected, making the application hard to modify and maintain. Any changes to the application will determine the process to create another version of the system. In Figure 1 the differences can be seen [1].

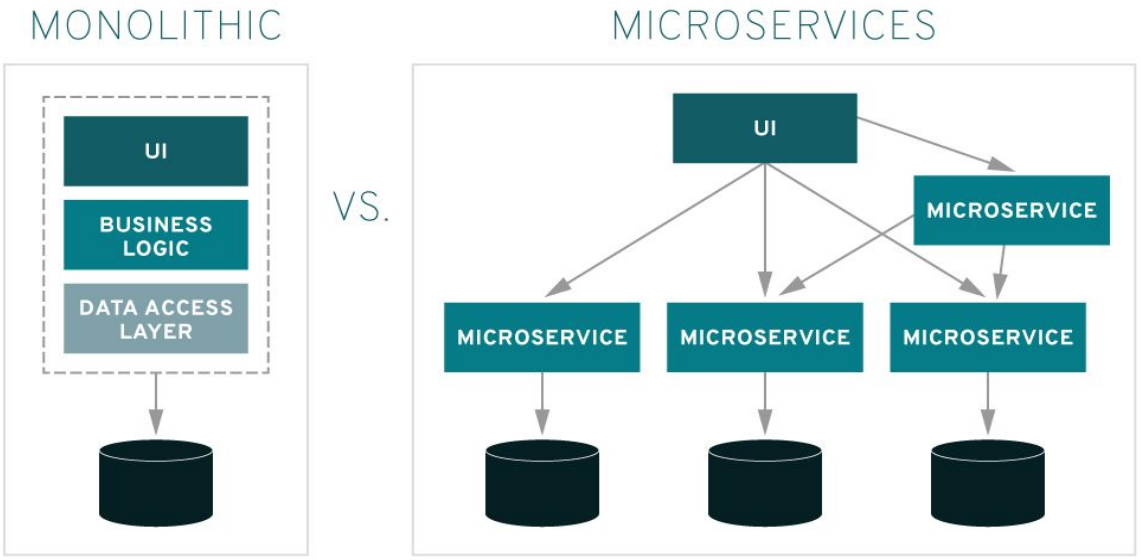


Figure 1. Differences between Monolithic and Microservice Architecture. Figure source: [2].

There are many advantages of using the microservices [1]:

- The application's components are independent, so if a failure occurs one can change a microservice without affecting the others.
- The apps can be deployed independently.
- The microservices can be developed by multiple teams.
- The code can be reused.
- Allows the developers to choose the most suitable technology for a given functionality.
- The microservices are just a small part from the entire functionality, so it's easier to understand.

Bibliography

[1] - https://blog.webland.ro/2017/10/ce-este-arhitectura-bazata-pe-microservicii/
[2] - https://www.redhat.com/en/topics/microservices/what-are-microservices