Lab 12

Part A: Scheduling

In the Bank application, add a new class BankStatementPrinter, that prints out every 20 seconds the details of all accounts to the console.

Part B: Events

In the Bank application, for every change in an account, do the following 2 things using events:

1. Send an email message to the account holder. We are not going to send a real email, but just do a System.out.println() to the console. (Don't worry about the email address because the Customer does not have an email address).

2. Write a trace record to the database using JPA with the following data:

    - Date & time
    - AccountNumber
    - Operation done on the account
    - Amount of the operation

Part C: Spring configuration

a. Write a Spring Boot application where you provide the following data in **application.properties**:

   - Application name
   - Version
   - Server URL
   - Server name
   - User firstname
   - User lastname
   - User username
   - User password
   - A list of countries

   The application writes the configured values to the console.

b. Change the application.properties file to a application.yml file

c. Add validation to the properties:
   - Application name — not blank
   - Version — not blank
   - Server URL — not blank
   - Server name
   - User firstname
   - User lastname
   - User username — not blank, between 8 and 15 characters
   - User password — not blank, between 8 and 15 characters
   - A list of countries

Part D: Logging

Modify the Bank application so that logging is done properly to a log file instead of System.out.println().

Apply the different levels of logging for the bank and check that these levels work correctly

Part E: Actuators

Add the actuators dependency to the Bank application

Call and study the output of the following actuators:

/health

/env

/beans

/configprops

/mappings

/scheduledtask

Also shut the application down using the actuator.