

# Technical Interview

## Exercises

### 1 Object-Oriented Programming

The system presented below monitors a list of syslog files and transmits via FTP new entries/events found in these files. Each set of syslog files belonging to the same group (messages, messages.0, messages.1, etc.) are handled by a LogFileManager. The LogFileAgent can monitor multiple groups of files (messages, debug, etc.). The current reading state of each file is kept in LogFileState. This component is a black box assumed to work properly.

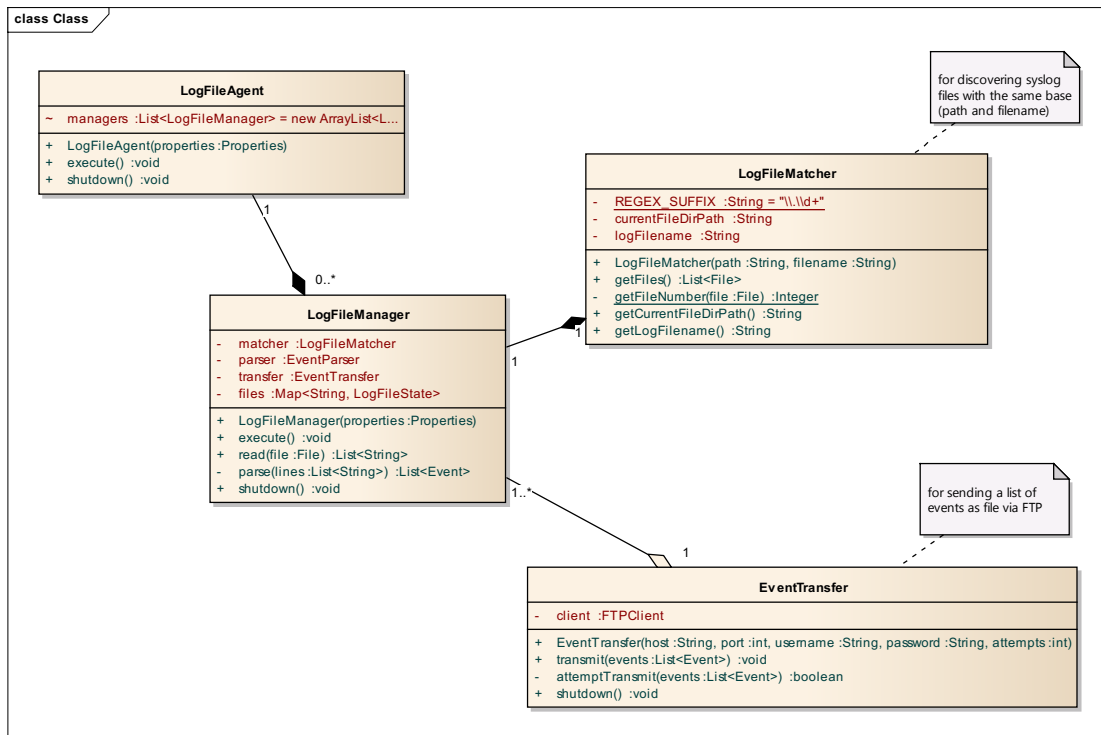
The customer requested some changes and you are in charge of implementing them. Please describe how you would refactor the presented system.

The customer wants depending on the properties that:

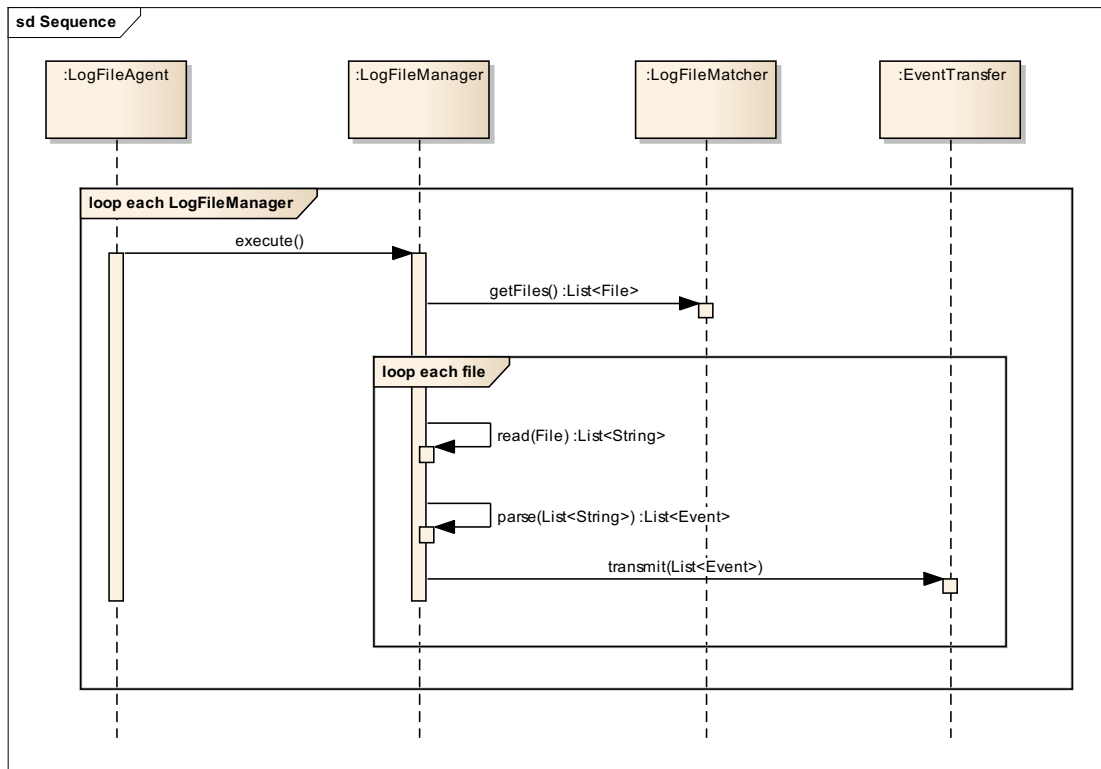
- Some managers discover sets of files containing the same base name plus a variable date instead of syslog;
- Some managers send events via a message queue instead of FTP;
- Not all events are transmitted, but only the ones containing (include) or not (exclude) a set of configurable patterns.

We do not expect you to thoroughly design the attributes and methods of each class, but only to mention the ones part of the public interface.

## 1.1 Class Diagram



## 1.2 Sequence Diagram



## 2 Java

Please explain what the command below does.

```
java -Xmx512m -cp my-app.jar ch.solenix.myapp.Program Hello World
```

Implement a Java program that prints the name of all files in the current directory and its sub-directories. We need to be able to run the given code only by typing the following command in a console:

```
gradlew run
```

## 3 RESTful

Design a RESTful service for managing tasks. Each task is part of a project and has a description, due date and priority. Each project has a name and a customer. We do not expect code, but only a description of the service.

## 4 Spring Framework

Prepare to discuss the Spring configuration file below.

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
       xmlns:context="http://www.springframework.org/schema/context"
       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xsi:schemaLocation="...">
  <bean id="uri" class="com.mongodb.MongoURI">
    <constructor-arg value="mongodb://${db.host}:${db.port:27017}" />
  </bean>
</beans>
```