

## Code Review / Refactoring exercise

Please review the following code snippet. Assume that all referenced assemblies have been properly included.

The code is used to log different messages throughout an application. We want the ability to be able to log to a text file, the console and/or the database. Messages can be marked as message, warning or error. We also want the ability to selectively be able to choose what gets logged, such as to be able to log only errors or only errors and warnings.

1. If you were to review the following code, what feedback would you give? Please be specific and indicate any errors that would occur as well as other best practices and code refactoring that should be done.
2. Rewrite the code based on the feedback you provided in question 1. Please include unit tests on your code.

- Simulación tipos de eventos error, warning y mensaje.

The screenshot shows the PgAdmin interface with a query executed in the 'demo/postgres@PostgreSQL 11' database. The query is `select * from log_values`. The result is displayed in the 'Data Output' tab, showing 8 rows of log entries. The columns are 'mensaje' (character varying (200)) and 'tipo' (character varying (2)).

	mensaje	tipo
1	nullerror 9 de octubre de 2019 This is Info Message	2
2	nullwarning 9 de octubre de 2019 This is Info Message	3
3	nullwarning 9 de octubre de 2019 This is Info Message	3
4	nullwarning 9 de octubre de 2019 This is Info Message	3
5	nullwarning 9 de octubre de 2019 This is Info Message	3
6	nullmessage 9 de octubre de 2019 This is Info Message	1
7	nullmessage 9 de octubre de 2019 This is Info Message	1
8	nullerror 9 de octubre de 2019 This is Info Message	2

- error

```
Console Problems Debug Shell
<terminated> RetoConsola - RetoConsolaApplication [Spring Boot App] /Library/Java/JavaVirtualMachines/jdk1.8.0_221.jdk/Contents/Home/bin/java (Oct 9, 2019, 3:08:14 PM)

Spring
=====|=====
(v2.1.9.RELEASE)

2019-10-09 15:08:14.114 INFO 23972 --- [main] com.RetoConsola.RetoConsolaApplication : Starting RetoConsolaApplication
2019-10-09 15:08:14.118 INFO 23972 --- [main] com.RetoConsola.RetoConsolaApplication : No active profile set, falling back to default profile: "default"
2019-10-09 15:08:14.636 INFO 23972 --- [main] com.RetoConsola.RetoConsolaApplication : Started RetoConsolaApplication in 4.51 seconds (JVM running for 4.51s)
2019-10-09 15:08:14.695 ERROR 23972 --- [main] MyLog : java.lang.Exception: Error
at com.RetoConsola.JobLogger.LogMessage(JobLogger.java:79)
at com.RetoConsola.RetoConsolaApplication.main(RetoConsolaApplication.java:36)

oct 09, 2019 3:08:14 PM com.RetoConsola.JobLogger LogMessage
INFORMACIÓN: This is Info Message
2019-10-09 15:08:14.699 INFO 23972 --- [main] MyLog : This is Info Message
```

- Warning

```
<terminated> RetoConsola - RetoConsolaApplication [Spring Boot App] /Library/Java/JavaVirtualMachines/jdk1.8.0_221.jdk/Contents/Home/bin/java (Oct 9, 2019, 3:53:53 PM)

Spring
=====|=====
(v2.1.9.RELEASE)

2019-10-09 15:53:55.216 INFO 24211 --- [main] com.RetoConsola.RetoConsolaApplication : Starting RetoConsolaApplication
2019-10-09 15:53:55.221 INFO 24211 --- [main] com.RetoConsola.RetoConsolaApplication : No active profile set, falling back to default profile: "default"
2019-10-09 15:53:55.946 INFO 24211 --- [main] com.RetoConsola.RetoConsolaApplication : Started RetoConsolaApplication in 4.51 seconds (JVM running for 4.51s)
2019-10-09 15:53:56.174 WARN 24211 --- [main] MyLog : nullwarning 9 de octubre de 2019
oct 09, 2019 3:53:56 PM com.RetoConsola.JobLogger LogMessage
INFORMACIÓN: This is Info Message
2019-10-09 15:53:56.177 INFO 24211 --- [main] MyLog : This is Info Message
```

```
logFile.txt
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE log SYSTEM "logger.dtd">
<log>
<record>
  <date>2019-10-09T15:52:21</date>
  <millis>1570654341512</millis>
  <sequence>0</sequence>
  <logger>MyLog</logger>
  <level>SEVERE</level>
  <class>com.RetoConsola.JobLogger</class>
  <method>LogMessage</method>
  <thread>1</thread>
  <message>nullerror 9 de octubre de 2019 This is Info Message</message>
</record>
<record>
  <date>2019-10-09T15:52:21</date>
  <millis>1570654341513</millis>
  <sequence>1</sequence>
  <logger>MyLog</logger>
  <level>INFO</level>
  <class>com.RetoConsola.JobLogger</class>
  <method>LogMessage</method>
  <thread>1</thread>
  <message>This is Info Message</message>
</record>
</log>
```

logFile.txt

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE log SYSTEM "logger.dtd">
<log>
<record>
  <date>2019-10-09T15:53:56</date>
  <millis>1570654436173</millis>
  <sequence>0</sequence>
  <logger>MyLog</logger>
  <level>WARNING</level>
  <class>com.RetoConsola.JobLogger</class>
  <method>LogMessage</method>
  <thread>1</thread>
  <message>nullwarning 9 de octubre de 2019 This is Info Message</message>
</record>
<record>
  <date>2019-10-09T15:53:56</date>
  <millis>1570654436174</millis>
  <sequence>1</sequence>
  <logger>MyLog</logger>
  <level>INFO</level>
  <class>com.RetoConsola.JobLogger</class>
  <method>LogMessage</method>
  <thread>1</thread>
  <message>This is Info Messsage</message>
</record>
</log>
```

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE log SYSTEM "logger.dtd">
<log>
  <record>
    <date>2019-10-09T15:47:30</date>
    <millis>1570654050000</millis>
    <sequence>0</sequence>
    <logger>MyLog</logger>
    <level>SEVERE</level>
    <class>com.RetoConsola.JobLogger</class>
    <method>LogMessage</method>
    <thread>1</thread>
    <message>java.lang.Exception: Error or Warning or Message must be specified
      at com.RetoConsola.JobLogger.LogMessage(JobLogger.java:79)
      at com.RetoConsola.RetoConsolaApplication.main(RetoConsolaApplication.java:35)
    </message>
  </record>
  <record>
    <date>2019-10-09T15:47:30</date>
    <millis>1570654050001</millis>
    <sequence>1</sequence>
    <logger>MyLog</logger>
    <level>INFO</level>
    <class>com.RetoConsola.JobLogger</class>
    <method>LogMessage</method>
    <thread>1</thread>
    <message>This is Info Message</message>
  </record>
  <record>
    <date>2019-10-09T15:47:30</date>
    <millis>1570654050001</millis>
    <sequence>1</sequence>
    <logger>MyLog</logger>
    <level>INFO</level>
    <class>com.RetoConsola.JobLogger</class>
    <method>LogMessage</method>
    <thread>1</thread>
    <message>This is Info Message</message>
  </record>
</log>
```