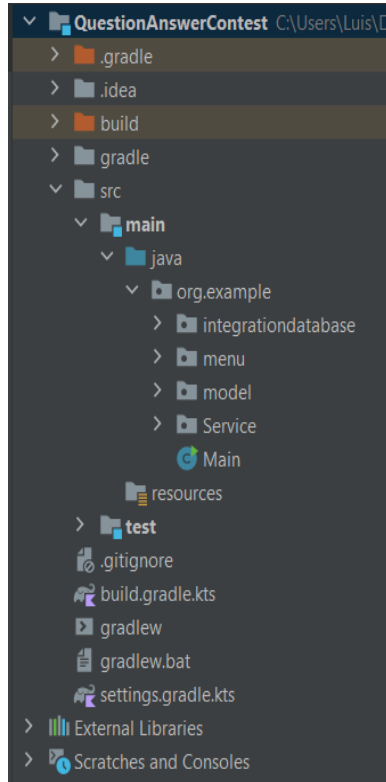# Workshop documentation #2 JAVA - Luis Molina – QA

Project Description:

Question Answer Contest is an application to simulate a trivia game that contains a question bank with different levels of difficulty according to the round the user is in. Each question has 4 different answer options, with only one correct answer. The user will have the opportunity to play up to 5 rounds, where each correct answer will award them a prize, and as they progress through rounds, the prize accumulates. However, they also have the option to withdraw after each correct answer.

The application allows configuring the game, which involves adding questions to the bank, loading the questions, and, of course, playing the game.

Project structure:

→ **.idea:** Project configurations.

→ **build:** files and directories.

menu(It contains the menu, its constants, and interface messages) **– integration** (It contains the persistence and database connection.) **– Service** (It contains all the functional logic classes of the project) **- model** (It contains the modeled entities of the system.)

→ **resources:** resources used by the application.

→ **tmp:** Directory for temporary files.

→ **src:** source code.

→ **META-INF:** Contains metadata files.

→ **out:** generated files.

Data base connection

Showing the call from Java and displaying the environment variables:

```java
public void openConnection() {
    this.setServer(System.getenv( name: "SERVER"));
    this.setDataBaseName(System.getenv( name: "DATA_BASE_NAME_CONTEST"));
    this.setUser(System.getenv( name: "USER"));
    this.setPassword(System.getenv( name: "PASSWORD"));
}
```

Variables de usuario para Luis

Variable	Valor
ChocolateyLastPathUpdate	133425758241269875
DATA_BASE_NAME	libreria_pinguinera
DATA_BASE_NAME_CONT...	contest
JAVA_HOME	D:\jdk
OneDrive	C:\Users\Luis\OneDrive
OneDriveConsumer	C:\Users\Luis\OneDrive
PASSWORD	M3dell1n*
Path	C:\Program Files\MySQL\MySQL Shell 8.0\bin\;C:\Users\Luis\AppData\Local\Microsoft\WindowsA...
SERVER	localhost:3306
TEMP	C:\Users\Luis\AppData\Local\Temp
TMP	C:\Users\Luis\AppData\Local\Temp
USER	root

Nuevo...   Editar...   Eliminar

System architecture

- **User Interface:** Command line interface or terminal.

- **Application Logic:** Classes that handle the business logic and interaction with the database.

- **Database:** MySQL server storing project data.

Technologies Used:

- Programming Language: Java

- Frameworks:

```
dependencies {
    testImplementation("org.junit.jupiter:junit-jupiter-api:5.8.1")
    testRuntimeOnly("org.junit.jupiter:junit-jupiter-engine:5.8.1")
    implementation("com.mysql:mysql-connector-j:8.3.0")
}
```

- Database server: MySQl

Technical Details

• The application will be developed as a console application.

• No frontend will be implemented, but data persistence will be done in a database.

• Object-oriented programming and collection handling will be used.

Functionalities:

1. **Start game:** This is the starting point of the game. The system will prompt the user for identification to verify if they have been previously registered, or if not, register the new player. Once the player is registered, the rounds of questions will begin.

```
Welcome to QuestionAnswerContest:
1. Start game
2. Set up game
0. Exit
1
Enter the player id
43011765
Enter the player name
Carlos Valderrama
Welcome to Question Answer Contest
Round 1
What is the capital of France?
1. Paris
2. Madrid
3. Lyon
4. Nice
Select the answer
```

id	name
▶ 1152215754	Luis Molina
43011765	Carlos Valderrama

If the player answers the question correctly, there will be a congratulatory message, showing the accumulated prize, and then the user will be asked if they want to continue. If they choose to continue, the next round will start immediately.

```
Welcome to Question Answer Contest
Round 1
What is the capital of France?
1. Paris
2. Madrid
3. Lyon
4. Nice
Select the answer

1

Congratulations, the answer is correct
This is you accumulated prize so far $100
Would you like to continue?
1. Yes
2. No

1

Round 2
What is the tallest mountain in Africa?
1. Kilimanjaro
2. Everest
3. Aconcagua
4. Mont Blanc
Select the answer
```

Every time the user answers a question, regardless of whether it is correct or not, a record will be generated in the game history.

id_history	id_player	id_question	id_option	id_round
11	1	9	1	2
12	1	14	1	3
13	1	17	1	4
14	1	21	1	5
15	1	5	1	1
16	1	6	1	2
17	1	13	1	3
18	1	20	1	4
19	2	2	1	1
20	2	9	1	2
21	2	12	1	3
22	2	16	1	4
23	2	23	1	5
24	1	2	1	1
25	1	4	1	1
26	1	8	1	2
27	43011765	1	1	1
NULL	NULL	NULL	NULL	NULL

Once the user has completed all the rounds, the game will end.

```
Round 5
What is the atomic number of uranium?
1. 92
2. 94
3. 90
4. 96
Select the answer
1
Congratulations, the answer is correct
Congratulations, You Have Won!
Your final prize is: 500
Thanks for participating
Welcome to QuestionAnswerContest:
1. Start game
2. Set up game
0. Exit
```

2. **Set up game:** in this functionality, we have two options.
   Load Questions: This option allows loading the question bank and answer options.
   Create questions: through this option , we will load questions and answers into the question banks.

```
> Task :main.main()
Welcome to QuestionAnswerContest:
1. Start game
2. Set up game
0. Salir
2
Set up game options
1. Load questions
2. Create questions
0. Salir
2
Insert a question
Insert the question description
What is the capital of France?
Select the category of the question
1. Very easy
2. Easy
3. Medium
4. Difficult
5. Very difficult
1
Remember the first option will be the true answer
Enter the description of the option
Paris
Enter the description of the option
Madrid
Enter the description of the option
Lyon
Enter the description of the option
Nice
```

```
Insert a question
Insert the question description
Who painted the Mona Lisa?
Select the category of the question
1. Very easy
2. Easy
3. Medium
4. Difficult
5. Very difficult
1
Remember the first option will be the true answer
Enter the description of the option
Leonardo da Vinci
Enter the description of the option
Vincent van Gogh
Enter the description of the option
Pablo Picasso
Enter the description of the option
Michelangelo
```

```
Insert a question
Insert the question description
What is the tallest mountain in Africa?
Select the category of the question
1. Very easy
2. Easy
3. Medium
4. Difficult
5. Very difficult
2

Remember the first option will be the true answ
Enter the description of the option
Kilimanjaro
Enter the description of the option
Everest
Enter the description of the option
Aconcagua
Enter the description of the option
Mont Blanc
Insert a question
Insert the question description
```

```
Insert a question
Insert the question description
Who wrote "1984"?
Select the category of the question
1. Very easy
2. Easy
3. Medium
4. Difficult
5. Very difficult
3
Remember the first option will be the true answer
Enter the description of the option
George Orwell
Enter the description of the option
Aldous Huxley
Enter the description of the option
Ray Bradbury
Enter the description of the option
Margaret Atwood
```

```
Insert a question
Insert the question description
What is the process by which cells obtain energy from glucose?
Select the category of the question
1. Very easy
2. Easy
3. Medium
4. Difficult
5. Very difficult
4
Remember the first option will be the true answer
Enter the description of the option
Cellular respiration
Enter the description of the option
Photosynthesis
Enter the description of the option
Fermentation
Enter the description of the option
Osmosis
```

```
Insert a question
Insert the question description
How many Olympic medals did Michael Phelps win?
Select the category of the question
1. Very easy
2. Easy
3. Medium
4. Difficult
5. Very difficult
5

Remember the first option will be the true answer
Enter the description of the option
28

Enter the description of the option
12

Enter the description of the option
0

Enter the description of the option
31
```

```
1 •     SELECT * FROM contest.answer_options;
```

Result Grid | Filter Rows: | Edit:

id_option	id_question	option_description	is_true
1	1	Paris	1
1	2	Leonardo da Vinci	1
1	3	Nile	1
1	4	1896	1
1	5	H2O	1
1	6	William Shakespeare	1
1	7	Kilimanjaro	1
1	8	Pacific	1
1	9	China	1
1	10	Mercury	1
1	11	Canberra	1
1	12	George Orwell	1
1	13	Fe	1
1	14	1945	1
1	15	â€œDon Quixoteâ€?	1
1	16	Cellular respiration	1
1	17	Vincent van Gogh	1
1	18	Mississippi	1
1	19	Pretoria	1
1	20	Albert Einstein	1

```
1 •    SELECT * FROM contest.answer_options;
```

Result Grid | Filter Rows: | Edit:

id_option	id_question	option_description	is_true
1	24	476 AD	1
1	25	28	1
2	1	Madrid	0
2	2	Vincent van Gogh	0
2	3	Amazon	0
2	4	1900	0
2	5	CO2	0
2	6	Charles Dickens	0
2	7	Everest	0
2	8	Atlantic	0
2	9	India	0
2	10	Venus	0
2	11	Melbourne	0
2	12	Aldous Huxley	0
2	13	Ag	0
2	14	1919	0
2	15	â€œLa Celestinaâ€?	0
2	16	Photosynthesis	0
2	17	Pablo Picasso	0
2	18	Amazon	0

Result Grid | Filter Rows: | Edit:

id_option	id_question	option_description	is_true
3	14	1950	0
3	15	â€œLife Is a Dream...	0
3	16	Fermentation	0
3	17	Claude Monet	0
3	18	Nile	0
3	19	Cape Town	0
3	20	Niels Bohr	0
3	21	90	0
3	22	Mario Vargas Llosa	0
3	23	China	0
3	24	1492 AD	0
3	25	0	0
4	1	Nice	0
4	2	Michelangelo	0
4	3	Mississippi	0
4	4	1932	0
4	5	CH4	0
4	6	Mark Twain	0
4	7	Mont Blanc	0
4	8	Arctic	0

```
1 •    SELECT * FROM contest.questions;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

id_question	question_description	category
1	What is the capital of France?	Very easy
2	Who painted the Mona Lisa?	Very easy
3	What is the longest river in the world?	Very easy
4	In which year were the first modern Olympic Ga...	Very easy
5	What is the chemical symbol for water?	Very easy
6	Who wrote â€œRomeo and Julietâ€??	Easy
7	What is the tallest mountain in Africa?	Easy
8	Which ocean is the largest in the world?	Easy
9	In which country is the Great Wall of China loca...	Easy
10	Which planet is closest to the sun?	Easy
11	What is the capital of Australia?	Medium
12	Who wrote â€œ1984â€??	Medium
13	What is the chemical symbol for iron?	Medium
14	In which year was the United Nations (UN) foun...	Medium
15	What is the most famous work by Miguel de Cer...	Medium
16	What is the process by which cells obtain energ...	Difficult
17	Who painted â€œStarry Nightâ€??	Difficult
18	What is the longest river in North America?	Difficult
19	What is the capital of South Africa?	Difficult
20	Which scientist developed the theory of relativity?	Difficult

```
1 •    SELECT * FROM contest.questions;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Cont

id_question	question_description	category
7	What is the tallest mountain in Africa?	Easy
8	Which ocean is the largest in the world?	Easy
9	In which country is the Great Wall of China loca...	Easy
10	Which planet is closest to the sun?	Easy
11	What is the capital of Australia?	Medium
12	Who wrote â€œ1984â€??	Medium
13	What is the chemical symbol for iron?	Medium
14	In which year was the United Nations (UN) foun...	Medium
15	What is the most famous work by Miguel de Cer...	Medium
16	What is the process by which cells obtain energ...	Difficult
17	Who painted â€œStarry Nightâ€??	Difficult
18	What is the longest river in North America?	Difficult
19	What is the capital of South Africa?	Difficult
20	Which scientist developed the theory of relativity?	Difficult
21	What is the atomic number of uranium?	Very diffi...
22	Who wrote â€œOne Hundred Years of Solitude...	Very diffi...
23	Which country has the largest land area in the ...	Very diffi...
24	When did the Western Roman Empire fall?	Very diffi...
25	How many Olympic medals did Michael Phelps win?	Very diffi...