Universidad de las Fuerzas Armadas ESPE

Object Oriented Programming

Teacher: Edison Lascano

Student: Revilla Antonio

Nrc: 14575

Homework #17

Topic: Mongo Implementation

```java
    private static final Scanner scanner = new Scanner(source: System.in);
    private static final MongoClientURI uri = new MongoClientURI(uri:"mongodb+srv://revillaa:antonio@cluster0.xk5nmbc.mongodb.net/");
    private static final MongoClient mongoClient = new MongoClient(uri);
    private static final MongoDatabase database = mongoClient.getDatabase(databaseName:"DailyDevDB");
    private static final MongoCollection<Document> collection = database.getCollection(string: "Organization");

    public static void main(String[] args) {
        while (true) {
            printMenu();
            System.out.print(s: "Enter the option: ");
            int option = scanner.nextInt();
            scanner.nextLine();

            switch (option) {
                case 1:
                    createNewOrganization();
                    break;
                case 2:
                    deleteOrganization();
                    break;
                case 3:
                    findOrganizationById();
                    break;
                case 4:
                    updateOrganizationById();
                    break;
                case 0:
                    System.out.println(x: "Exiting the program...");
                    mongoClient.close();
                    System.exit(status: 0);
                default:
                    System.out.println(x: "Invalid option. Please try again.");
            }
        }
    }

    private static void printMenu() {
        System.out.println(x: "Menu:");
        System.out.println(x: "1. Create new organization");
        System.out.println(x: "2. Delete an organization");
        System.out.println(x: "3. Find an organization by ID");
        System.out.println(x: "4. Update organization by ID");
        System.out.println(x: "0. Exit");
    }
```

Create

```java
private static void createNewOrganization() {
    System.out.print(s: "Enter the ID of the new organization: ");
    int newId = scanner.nextInt();
    scanner.nextLine();

    System.out.print(s: "Enter the name of the new organization: ");
    String name = scanner.nextLine();

    System.out.print(s: "Enter the number of developers: ");
    int numberOfDevelopers = scanner.nextInt();

    Organization newOrganization = new Organization(id: newId, nombre: name, numeroDesarrolladores: numberOfDevelopers);
    collection.insertOne(xd: newOrganization.toDocument());
    System.out.println(x: "Organization created successfully.");
}
```

Output
```
Enter the ID of the new organization: 1
Enter the name of the new organization: SecureNet
Enter the number of developers: 10
ene 21, 2024 4:16:39 P. �M. com.mongodb.diagnostics.logging.JULLogger log
INFO: Opened connection [connectionId{localValue:4, serverValue:533986}] to ac-bxcwduw-shard-00-01.xk5nmbc.mongodb.net:27017
Organization created successfully.
Menu:
1. Create new organization
2. Delete an organization
3. Find an organization by ID
4. Update organization by ID
0. Exit
Enter the option: 1
Enter the ID of the new organization: 2
Enter the name of the new organization: SwiftWave
Enter the number of developers: 25
Organization created successfully.
```

ADD DATA ▾   EXPORT DATA ▾   1-2 of 2

```
_id: 1
nombre: "SecureNet"
numeroDesarrolladores: 10


_id: 2
nombre: "SwiftWave"
numeroDesarrolladores: 25
```

Read

```java
        }

87
88      private static void findOrganizationById() {
89          System.out.print(s: "Enter the ID of the organization to find: ");
90          int idToFind = scanner.nextInt();
91          Document foundOrganization = collection.find(new Document(key:"_id", value: idToFind)).first();
92
93          if (foundOrganization != null) {
94              Organization org = Organization.fromDocument(document: foundOrganization);
95              System.out.println("Organization found: " + org);
96          } else {
97              System.out.println(x: "No organization found with the provided ID.");
98          }
99      }
```

Output

prueba (run) ×   prueba (run) #2 ×

```
Menu:
1. Create new organization
2. Delete an organization
3. Find an organization by ID
4. Update organization by ID
0. Exit
Enter the option: 3
Enter the ID of the organization to find: 2
Organization found: Organization: id = 2, nombre = SwiftWave, numeroDesarrolladores = 25.
```

```
        _id: 2
        nombre: "SwiftWave"
        numeroDesarrolladores: 25
```

Update

⊕ ADD DATA ▾   ↪ EXPORT DATA ▾

```
    _id: 1
    nombre: "SecureNet"
    numeroDesarrolladores: 10
```

```
    _id: 2
    nombre: "SwiftWave"
    numeroDesarrolladores: 25
```

```
    _id: 3
    nombre: "NexaByte"
    numeroDesarrolladores: 5
```

```
    _id: 4
    name: "PrecisionCode"
    numberOfDevelopers: 4
```

```java
    private static void updateOrganizationById() {
        System.out.print(s: "Enter the ID of the organization to update: ");
        int idToUpdate = scanner.nextInt();

        Document existingOrganization = collection.find(new Document(key:"_id", value: idToUpdate)).first();

        if (existingOrganization != null) {
            scanner.nextLine();
            System.out.print(s: "Enter the new name: ");
            String newName = scanner.nextLine();
            System.out.print(s: "Enter the new number of developers: ");
            int newNumberOfDevelopers = scanner.nextInt();

            collection.updateOne(
                    new Document(key:"_id", value: idToUpdate),
                    new Document(key:"$set", value: new Document(key:"name", value: newName)
                            .append(key:"numberOfDevelopers", value: newNumberOfDevelopers))
            );

            System.out.println(x: "Organization updated successfully.");

            Document updatedOrganization = collection.find(new Document(key:"_id", value: idToUpdate)).first();
            Organization org = Organization.fromDocument(document: updatedOrganization);
            System.out.println("\nUpdated information of the organization: " + org);
        } else {
            System.out.println(x: "No organization found with the provided ID.");
        }
    }
}
```

```
Menu:
1. Create new organization
2. Delete an organization
3. Find an organization by ID
4. Update organization by ID
0. Exit
Enter the option: 4
Enter the ID of the organization to update: 4
Enter the new name: Coding Ninjas
Enter the new number of developers: 3
Organization updated successfully.

Updated information of the organization: Organization: id = 4, name = Coding Ninjas, numberOfDevelopers = 3.
Menu:
```

```
Enter the option: 4
Enter the ID of the organization to update: 4
Enter the new name: Coding Ninjas
Enter the new number of developers: 3
Organization updated successfully.

Updated information of the organization: Organization: id = 4, name = Coding Ninjas, numberOfDevelopers = 3.
```

```
_id: 4
name: "Coding Ninjas"
numberOfDevelopers: 3
```

Delete

```java
75  private static void deleteOrganization() {
76      System.out.print(s: "Enter the ID of the organization to delete: ");
77      int idToDelete = scanner.nextInt();
78      Document foundOrganization = collection.find(new Document(key:"_id", value: idToDelete)).first();
79
80      if (foundOrganization != null) {
81          collection.deleteOne(new Document(key:"_id", value: idToDelete));
82          System.out.println(x: "Organization deleted successfully.");
83      } else {
84          System.out.println(x: "No organization found with the provided ID.");
85      }
86  }
```

```
Menu:
1. Create new organization
2. Delete an organization
3. Find an organization by ID
4. Update organization by ID
0. Exit
Enter the option: 2
Enter the ID of the organization to delete: 4
Organization deleted successfully.
```

⊕ ADD DATA ▾   ⤢ **EXPORT DATA** ▾

```
_id: 1
nombre: "SecureNet"
numeroDesarrolladores: 10
```

```
_id: 2
nombre: "SwiftWave"
numeroDesarrolladores: 25
```

```
_id: 3
nombre: "NexaByte"
numeroDesarrolladores: 5
```