

## SOLID PRINCIPLES

### Single Responsibility Principle (SRP)

- **Problema:** La clase StudentToMongo maneja tanto la conexión a la base de datos como la lógica de negocio relacionada con los estudiantes (por ejemplo, obtener y guardar estudiantes en la base de datos). Esto viola el principio de responsabilidad única.

```
public class StudentToMongo {  
    private static MongoClient createMongoClient() {  
        String connectionString = "mongodb+srv://jezhe:jezheoop@cluster0.6vuzzwl.mongodb.net/";  
        ServerApi serverApi = ServerApi.builder().version(ServerApiVersion.V1).build();  
  
        MongoClientSettings settings = MongoClientSettings.builder()  
            .applyConnectionString(new ConnectionString(connectionString)).serverApi(serverApi).build();  
        return MongoClient.create(settings);  
    }  
  
    public static CreateStudent getStudentById(int studentId) {  
        CreateStudent student = null;  
  
        try (MongoClient mongoClient = createMongoClient()) {  
            MongoDB database = mongoClient.getDatabase("AcademyGradeRegister");  
            MongoCollection<Document> collection = database.getCollection("students");  
  
            Document query = new Document("id", studentId);  
            Document studentDocument = collection.find(query).first();  
  
            if (studentDocument != null) {  
                String name = studentDocument.getString("nombre");  
                String degree = studentDocument.getString("grado");  
                int age = studentDocument.getInteger("edad");  
  
                student = new CreateStudent(studentId, name, degree, age);  
            }  
        } catch (MongoException e) {  
            e.printStackTrace();  
        }  
    }  
}
```

Activar Windows  
Ve a Configuración para activar

- **Solución:** Separar la lógica de conexión a la base de datos de la lógica de negocio relacionada con los estudiantes.

Projects x

- ec.edu.espe.academygradesystemfrm.mo
- ec.edu.espe.academygradesystemfrm.util
  - DeleteGradeToMongo.java
  - DeleteProfessorToMongo.java
  - DeleteStudentToMongo.java
  - GradeToMongo.java
  - MongoDBConnectionManager.java
  - ProfessorToMongo.java
  - StudentToMongo.java
  - UpdateGradeToMongo.java
  - UpdateProfessorToMongo.java
  - UpdateStudentToMongo.java
  - UserToMongo.java
- ec.edu.espe.academygradesystemfrm.view
  - FrmAbout.java
  - FrmAcademyGradeRegister.java
  - FrmAcademyGradeSystemSplash.java
  - FrmAddGradeToStudent.java
  - FrmCreateAdministrator.java
  - FrmCreateProfessor.java

closeConnection - Navigator x

Members <empty>

- MongoDBConnectionManager
  - MongoDBConnectionManager(String c
  - closeConnection()
  - getDatabase(): MongoDBase
  - database: MongoDBase
  - mongoClient: MongoClient

Source History

```
1 package ec.edu.espe.academygradesystemfrm.utils;
2
3
4 import com.mongodb.client.MongoClient;
5 import com.mongodb.client.MongoClients;
6 import com.mongodb.client.MongoDatabase;
7
8 /**
9  *
10  * @author IAEN
11  */
12 public class MongoDBConnectionManager {
13     private final MongoClient mongoClient;
14     private final MongoDatabase database;
15
16     public MongoDBConnectionManager(String connectionString, String dbName) {
17         this.mongoClient = MongoClients.create(connectionString);
18         this.database = mongoClient.getDatabase(dbName);
19     }
20
21     public MongoDatabase getDatabase() {
22         return database;
23     }
24
25     public void closeConnection() {
26         mongoClient.close();
27     }
28 }
29
```