

SORec task evaluation: User guide (Group 1)

This is an end-user guide useful to complete two tasks with two different Java libraries.

Setup installation

To install the Eclipse IDE, please follow these instructions:

1. Download and install the latest version of Eclipse (<https://www.eclipse.org/downloads/> and choose the **JEE distribution**)
2. Be sure to have JRE and JDK software on your machine
3. Open Eclipse IDE and choose **File -> Import**
4. Choose **Maven-> Existing Maven project** as import wizard
5. Select the folder in which you downloaded the Github project

SORec plugin installation

To install the SORec plugin, please follow these instructions:

1. Go to **Help->Install new software**
2. Choose **Add** and put this site in **Location**:
<http://ci5.castalia.camp:8080/job/scava-ide/job/dev/lastSuccessfulBuild/artifact/eclipse-based-ide/org.eclipse.scava.root/releng/org.eclipse.scava.update/target/repository/>
3. **Important:** Be sure to avoid the usage of University connection for all these operations
4. Check CROSSMINER Eclipse-based IDE and choose **Next->Install**
5. Restart Eclipse
6. Go to **Window->Preferences->CROSSMINER->Remote settings** and choose the following configuration:
 - a. KnowledgeBase server address-> <http://83.212.75.210>
 - b. KnowledgeBase server port -> 8080
 - c. WebDashboard base path -> <https://crossminer.biterg.io>
7. After you select the code, you can do **Right click->CROSSMINER->Request API documentation and Q&A** and you got something like that:

The screenshot shows an IDE window with a Java file named `App.java`. The code includes imports for `com.mongodb.MongoClient`, `com.mongodb.client.FindIterable`, `com.mongodb.client.MongoCollection`, `com.mongodb.client.MongoCursor`, `com.mongodb.client.MongoDatabase`, and static imports for `Filters.and`, `Filters.gt`, and `Filters.lt`. A comment `/* Hello world! */` is present. The `App` class has a `findAll` method that initializes a `MongoClient` and a `MongoDatabase`, then returns a `MongoCollection`.

Below the code editor, there is a list of Stack Overflow questions:

- How to search document by date in MongoDB 3.3 using Java
<https://stackoverflow.com/q/39130182>
- Java MongoDB 3.0 driver query distinct without filter
<https://stackoverflow.com/q/30009847>
- How to sort the documents we got from FIND command in mongodb?
<https://stackoverflow.com/q/42438887>
- MongoDB: Querying by ObjectId with Java Driver
<https://stackoverflow.com/q/34064208>
- How to connect to MongoDB 3.2 in Java with username and password?
<https://stackoverflow.com/q/35392797>

Task 1: MongoDB library (With SORec)

<https://mongodb.github.io/mongo-java-driver/>

Complete these 8 methods given a Java class with the related import. The methods to implement are the following:

- Find all collections in a database
- Find a collection by this name
- Update a document inside a collection
- Search a field using filter query (eg search collection with specific value)
- Search documents using a Bson filter (eg search for a field greater than a specific value)
- Insert a single document in a collection
- Insert multiple documents in a collection
- Delete a document from a collection

For this task, please use SORec and keep track of the time required for the implementation of each method. You can check the correctness by running the `AppTest` class.

Task 2: Apache POI library (Without SORec)

<https://poi.apache.org/>

Complete these 8 methods given a Java class with the related import. The methods to implement are the following:

- A. Write an Excel file
- B. Read an Excel file
- C. Create a new cell in an existing file
- D. Iterate over cells of a file
- E. Add colors to a cell
- F. Create a new sheet inside a file
- G. Add comments to a cell
- H. Add a cell with a date format

For this task, please not use SORec to search relevant posts and keep track of the required time for the implementation of each method. You can check the correctness by running the AppTest class.