*DATABASE QUERY STUDY:*

Let us now turn on the query that our application needs to perform on our database:

*USER MANAGEMENT:*

1. **insertUser:** we have to provide the possibility to a new user to sign up to our service, so we have to perform that first of all check if the username that the new user choose is already taken and if it is free a query that add to the collection that stores the user data a new document with all the information about the user.
2. **userAuthentication:** we have to implement a method that check if the data that the user provide to the login are valid. In particular we have to search for a document with the username and the password specified by the user inside the collection that store the information about the users.
3. **retrieveUsersInformation:** we need a function that retrieve for each user the number of the search done this function is used by the administrators to have an overview on the most active users.
4. **deleteUser**: we have to implement a query that delete from the collection that stores the information of the users a specific user and also from the collection that stores all the research done by that specific user.

*ARTICLE MANAGEMENT:*

1. **insertArticle:** first of all, we need to perform the query that insert a new Article scraped inside the collection that store the Articles data.
2. **findArticles:** then we need give the possibility to the users to make some research on our Article collection in particular they can look for Article with a specific keyword, topic, Location, Author or a combination of the previous so we need to perform a find query on our Collection.
3. **calculateTrendingKeyWords**: we also need to perform, in order to show to the users the trending keyword of the week, a query that aggregate all the keywords of the Articles of the last week and order them descending by the number of occurrence.
4. **findArticlesNoKeywords and insertKeywordAnalysis**: every time that a scraping activity is performed we need to add to the new article scraped the Keyword Analysis so we need first of all to find all the new Article so the ones that don’t have the Keyword Analysis and then to add it in the form of an embedded document insert into the relative Article document.

*VIEW MANAGEMENT:*

1. **insertView**: In this case we have only to add a new view for a specific user.

*STATISTICS:*

1. **suggestedArticles**: we need to perform a specific aggregation query in order to find the suggested Article for a specific user based on the search done by the specific user