Programming2

JDBC API

Assignment report

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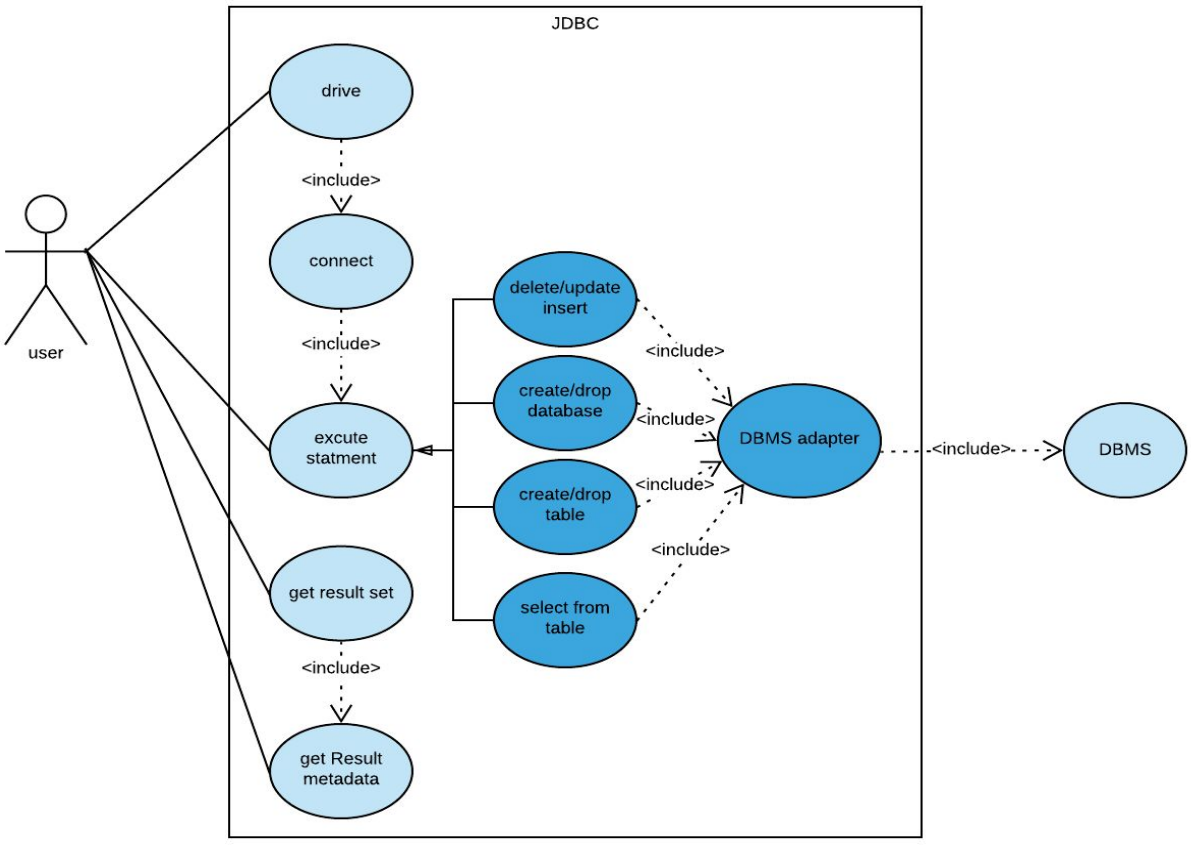
Content

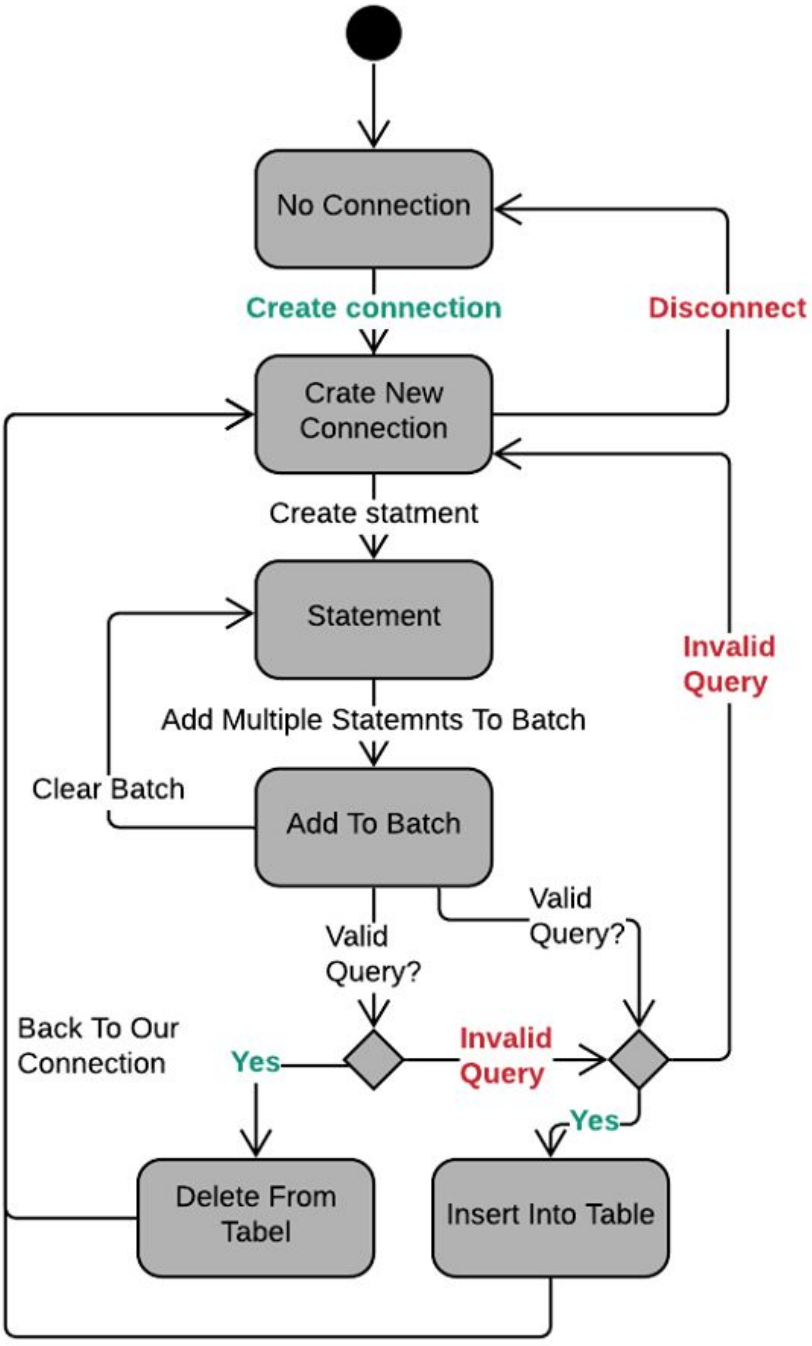
- UML diagram.
- Design description.
- User guide.
- Snapshots of GUI.

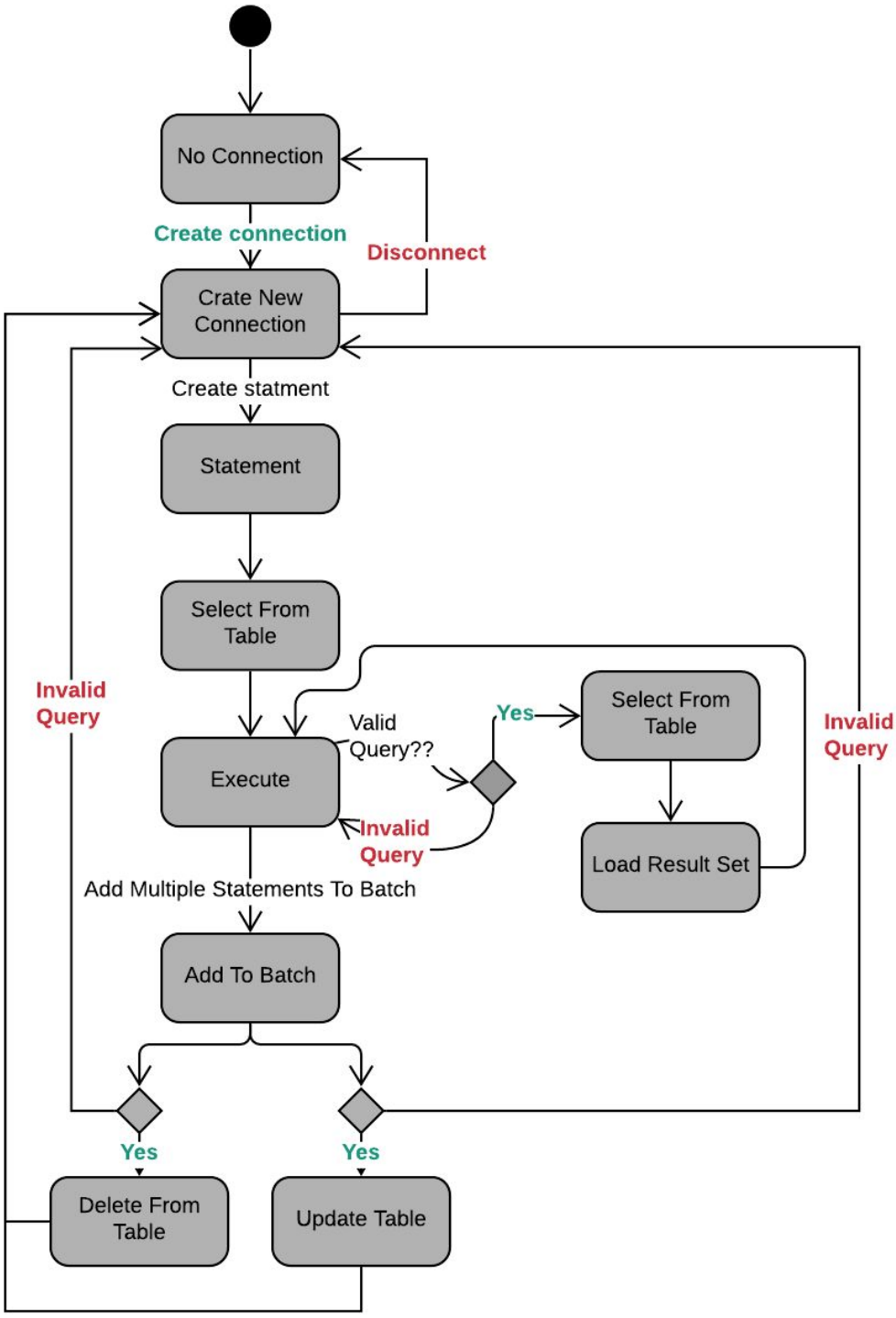
UML diagram:

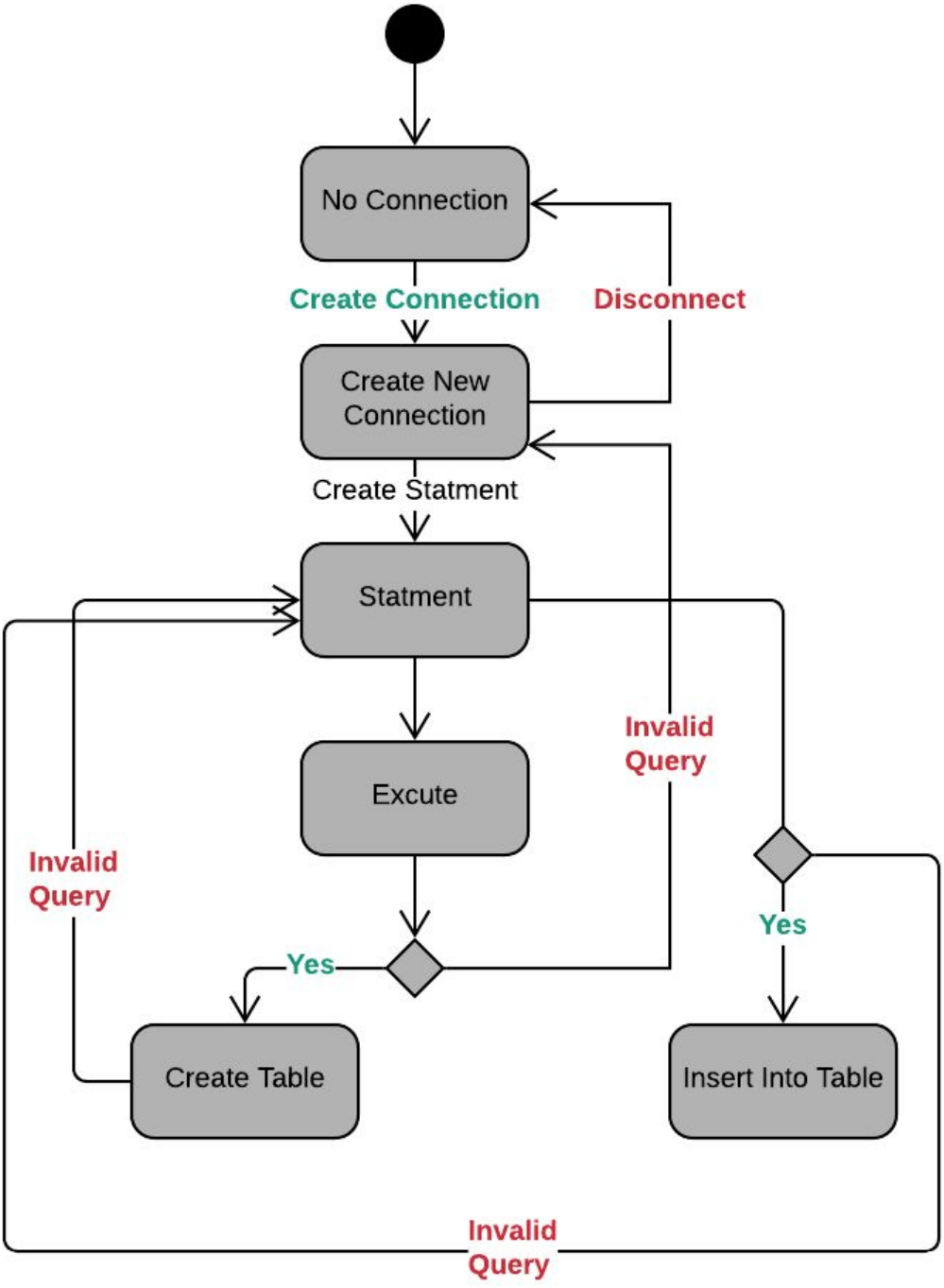
- Use case :



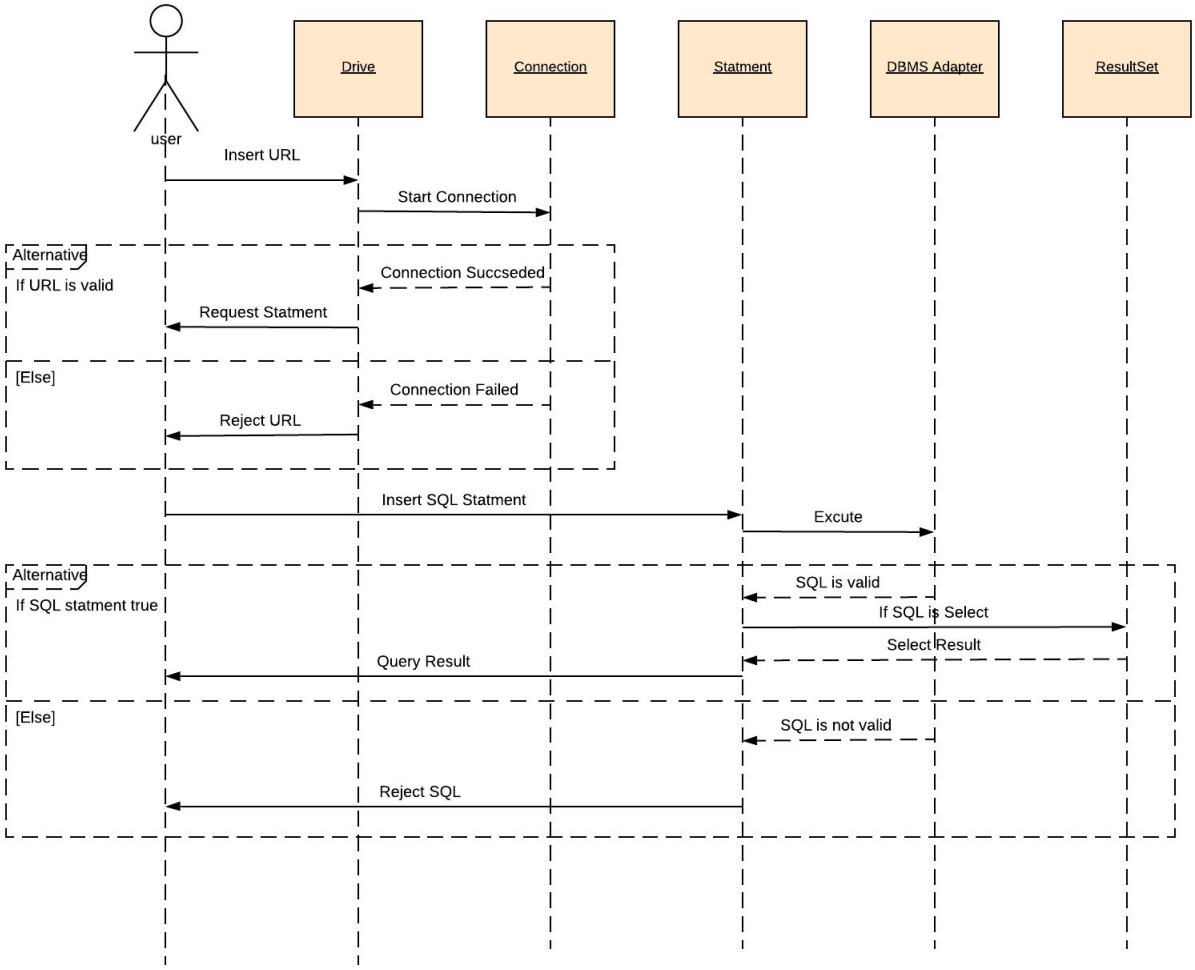
❖ State Diagram :



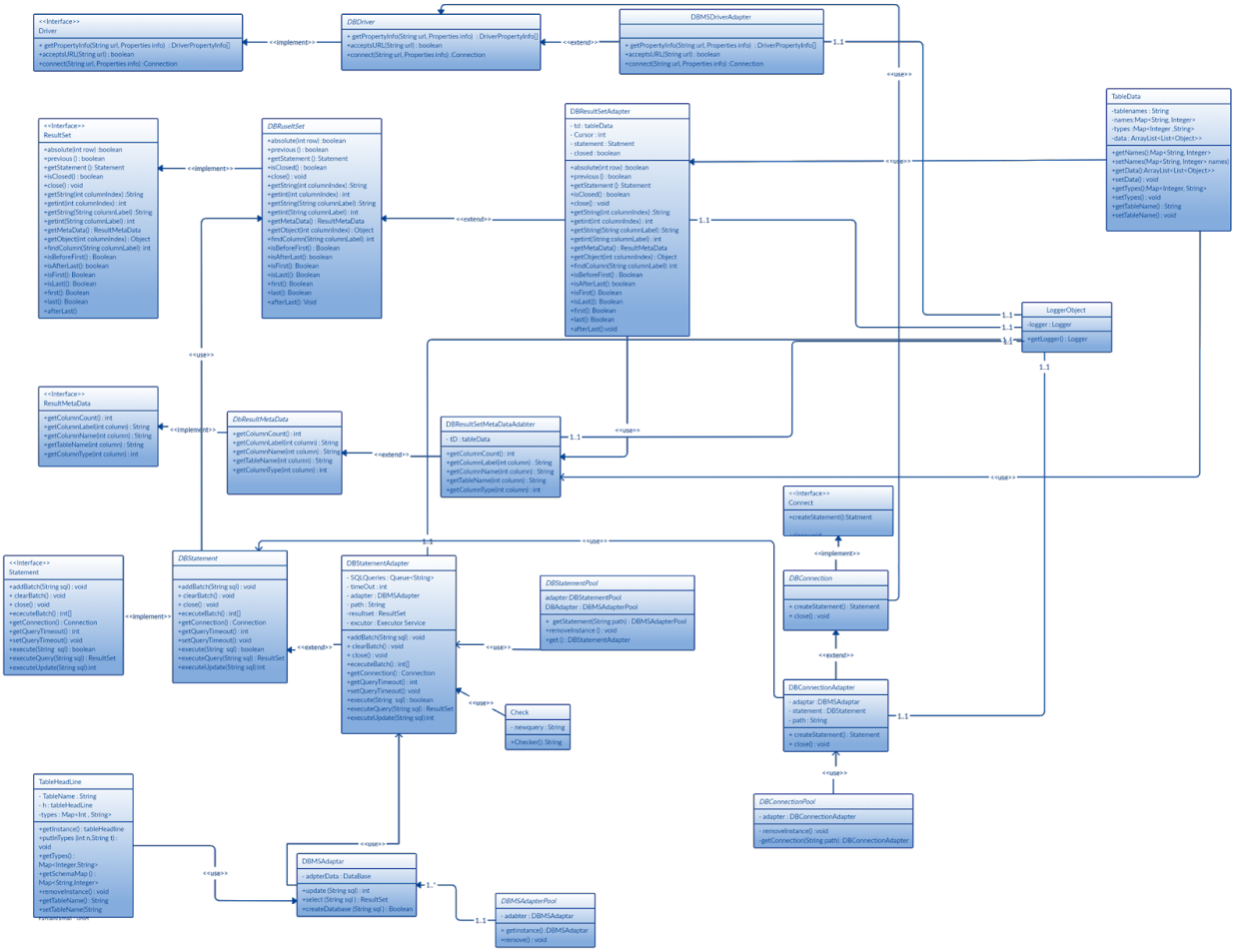

No Connection
Create connection
Disconnect
Crate New Connection
Create statment
Statement
Select From Table
Invalid Query
Valid Query??
Yes
Select From Table
Invalid Query
Execute
Invalid Query
Load Result Set
Add Multiple Statements To Batch
Add To Batch
Yes
Yes
Delete From Table
Update Table


No Connection
Create Connection
Disconnect
Create New Connection
Create Statment
Statment
Excute
Invalid Query
Invalid Query
Yes
Yes
Create Table
Insert Into Table
Invalid Query

❖ Sequence Diagram



❖ Detailed class diagram:



Design description and decisions:

- ➔ When user executes query the check class parses the beginning of the query and sends it to the DBMS adaptor which sends query to appropriate function in the dbms.
- ➔ The driver create a connection that make the communication with the required path.
- ➔ The Connection creates statement for the user to interact with the connected database and execute queries on it.
- ➔ Batch is used to hold queries to be executed at a time.
- ➔ Result set is used to store data that was fetched from the table.
- ➔ Result metadata store the metadata of the fetched data.

Used Design patterns:

➔Pool:

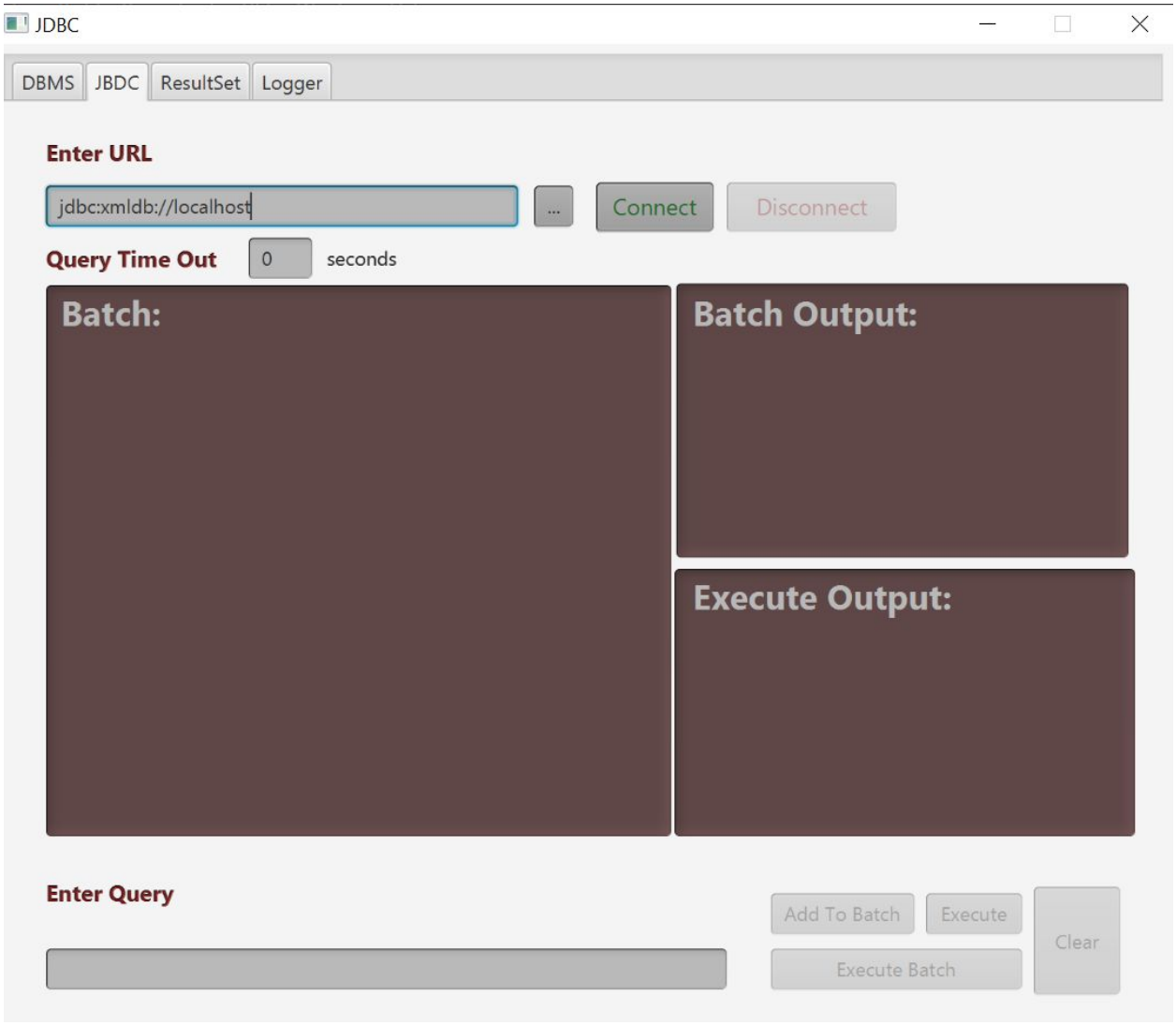
We used it to avoid repeated instantiation of Connection, Statement, and ResultSet, also to close the object after using it. It increased the performance of the program.

➔Adapter:

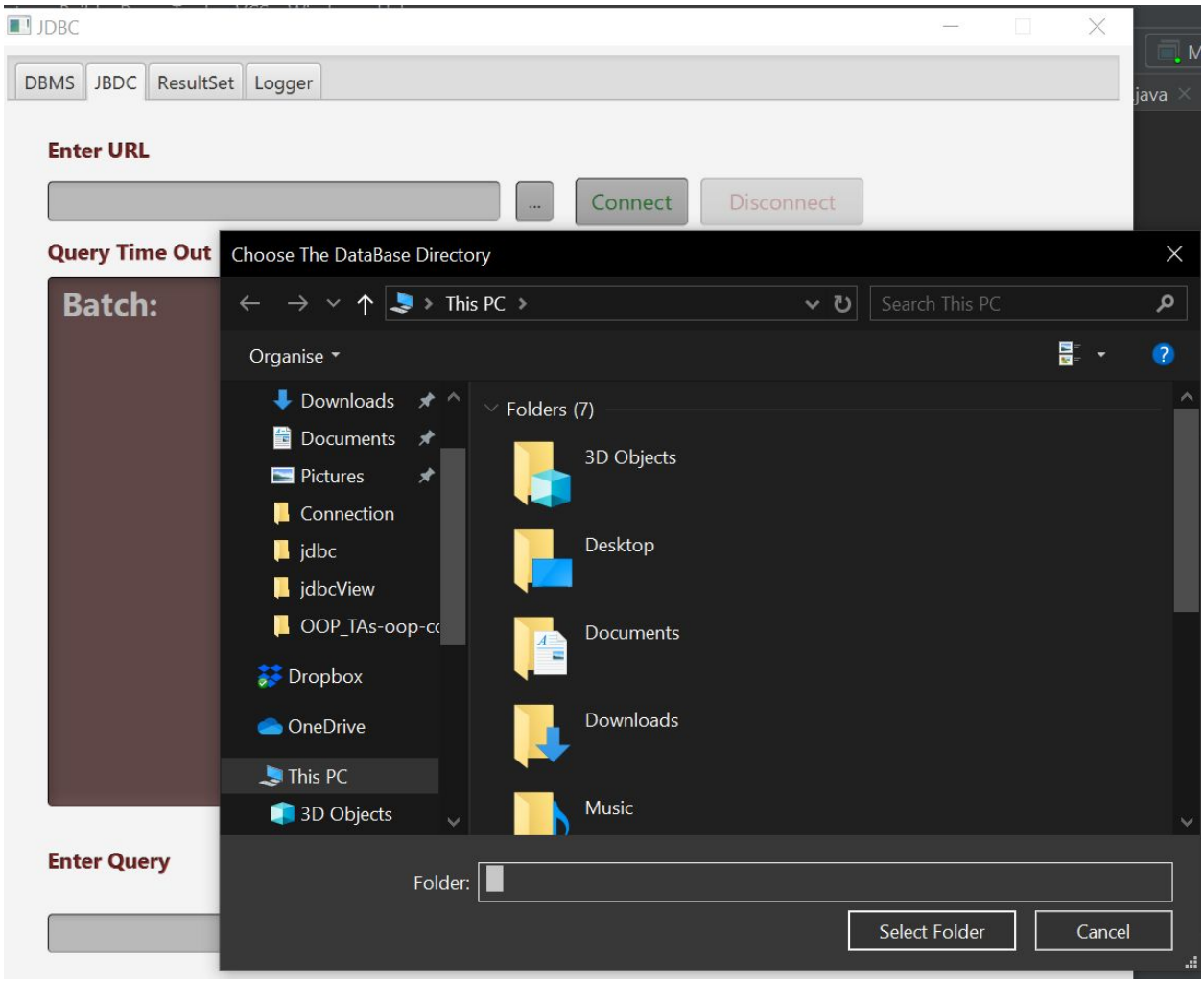
We used it to return the required execute methods only from DBMS

User guide & GUI Snapps:

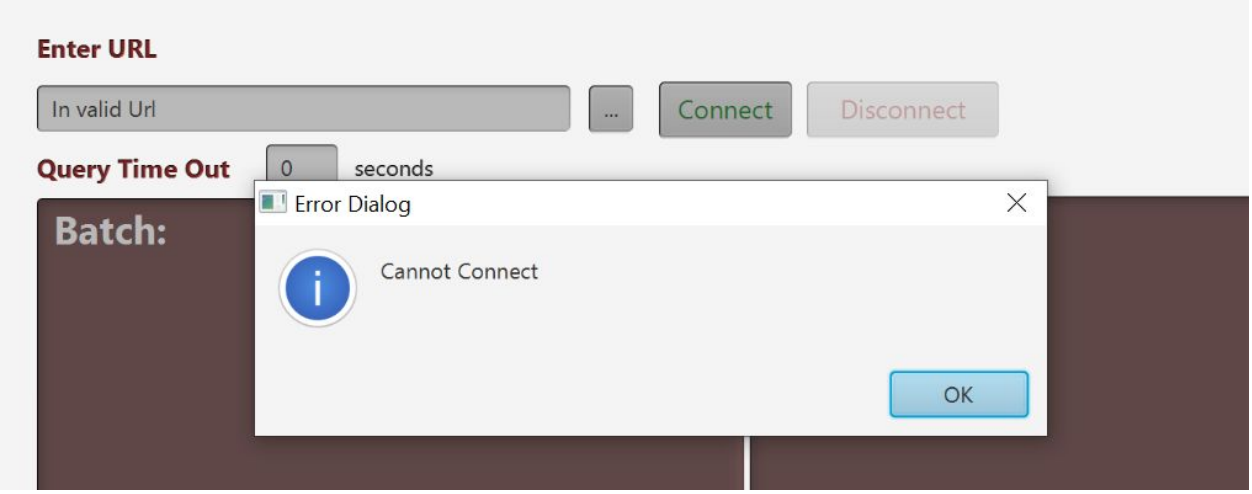
➔ Write the URL in the text field



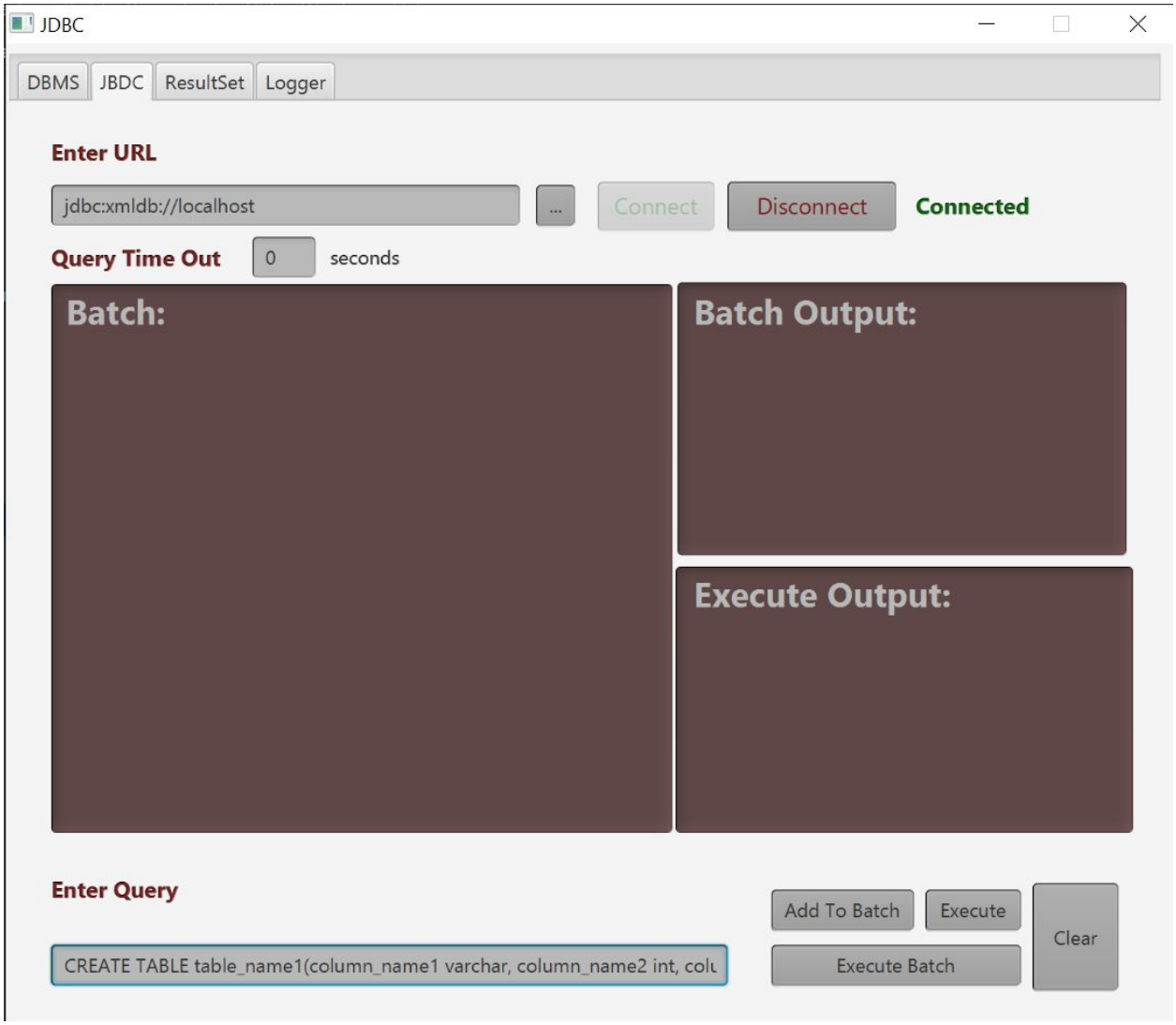
➔ Or you can choose the database directory from file chooser window



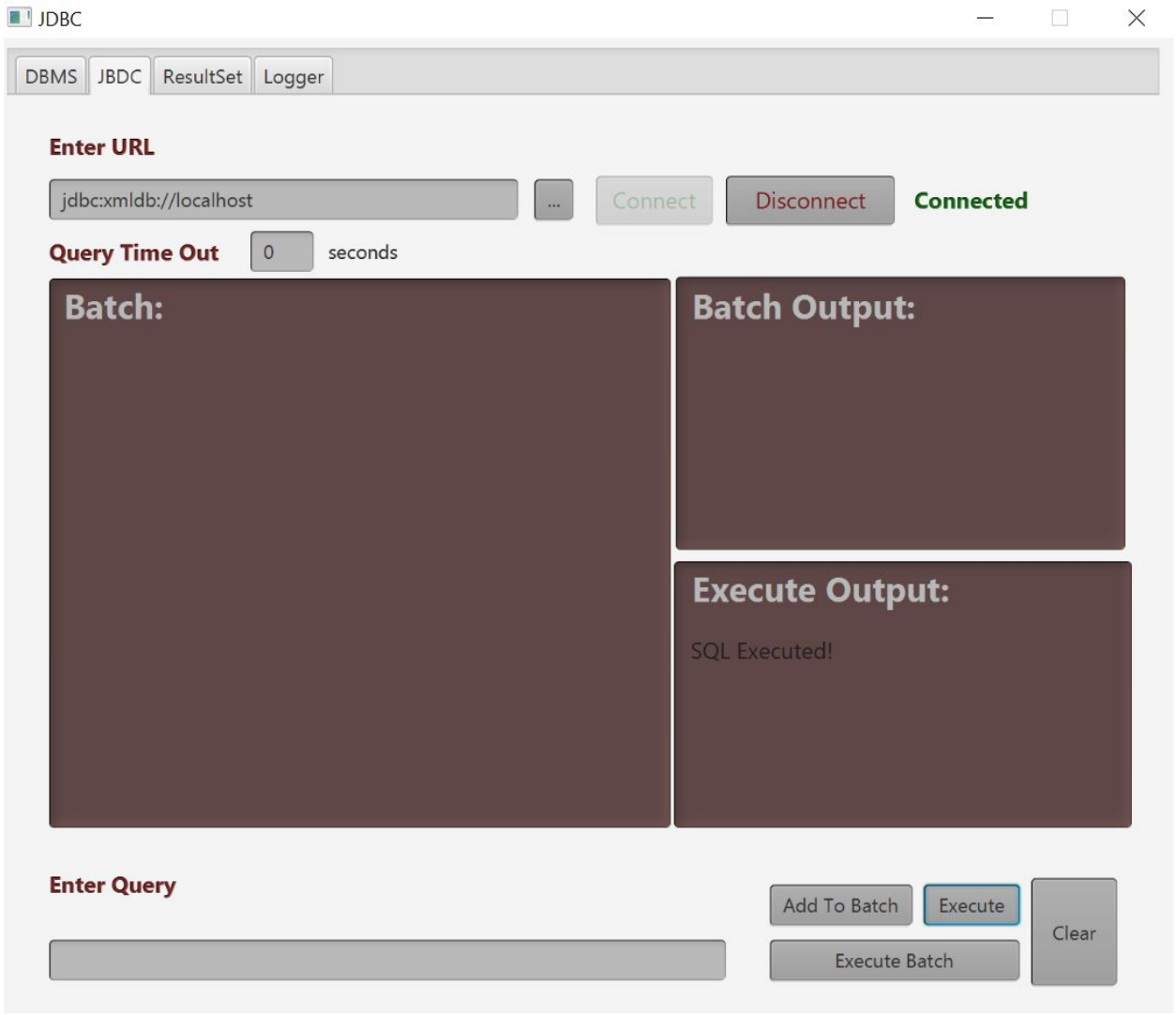
➔ If you entered an invalid URL An error message will be shawn



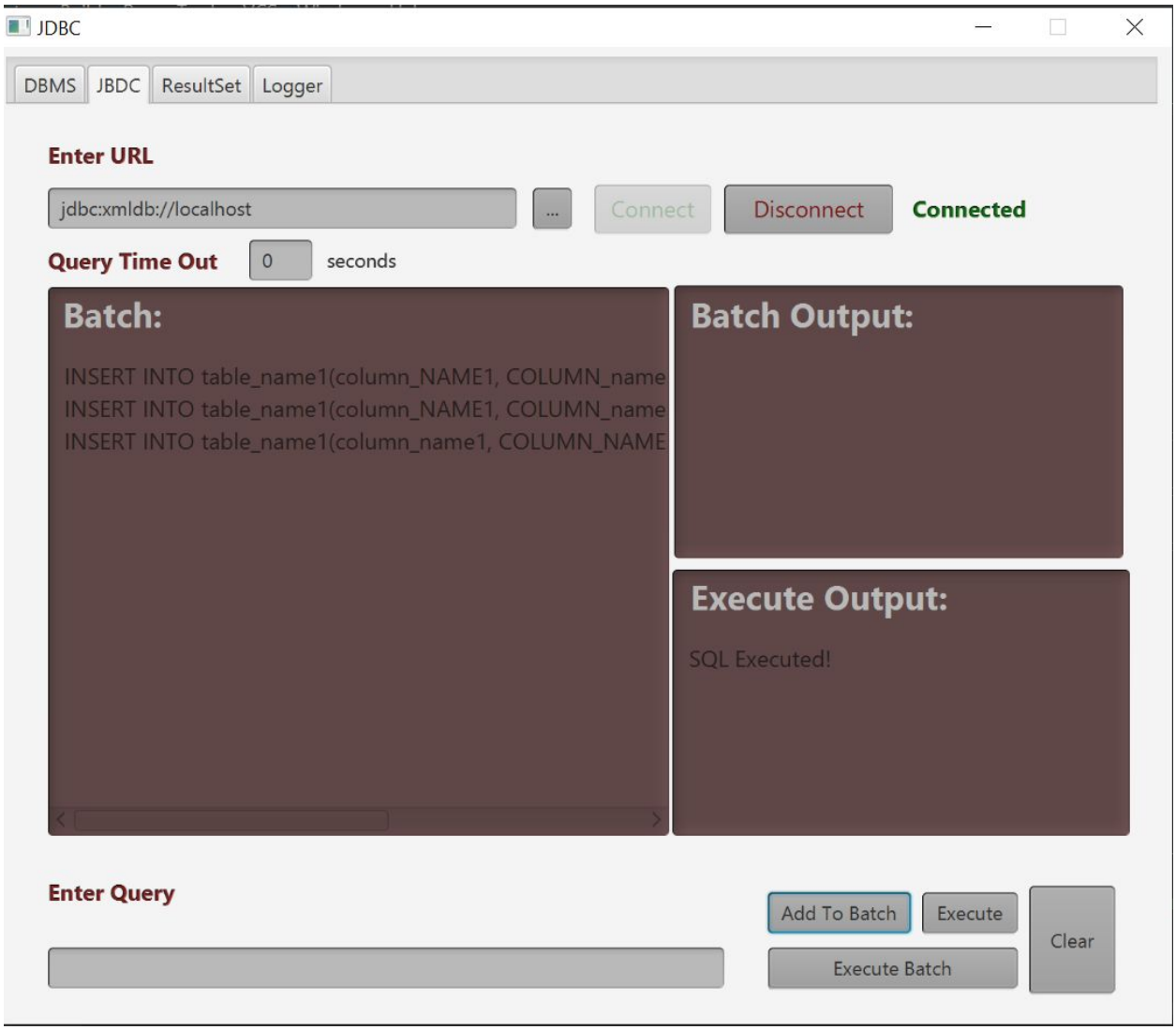
➔ Write the query you want to execute or add in the batch in the text field down in the GUI



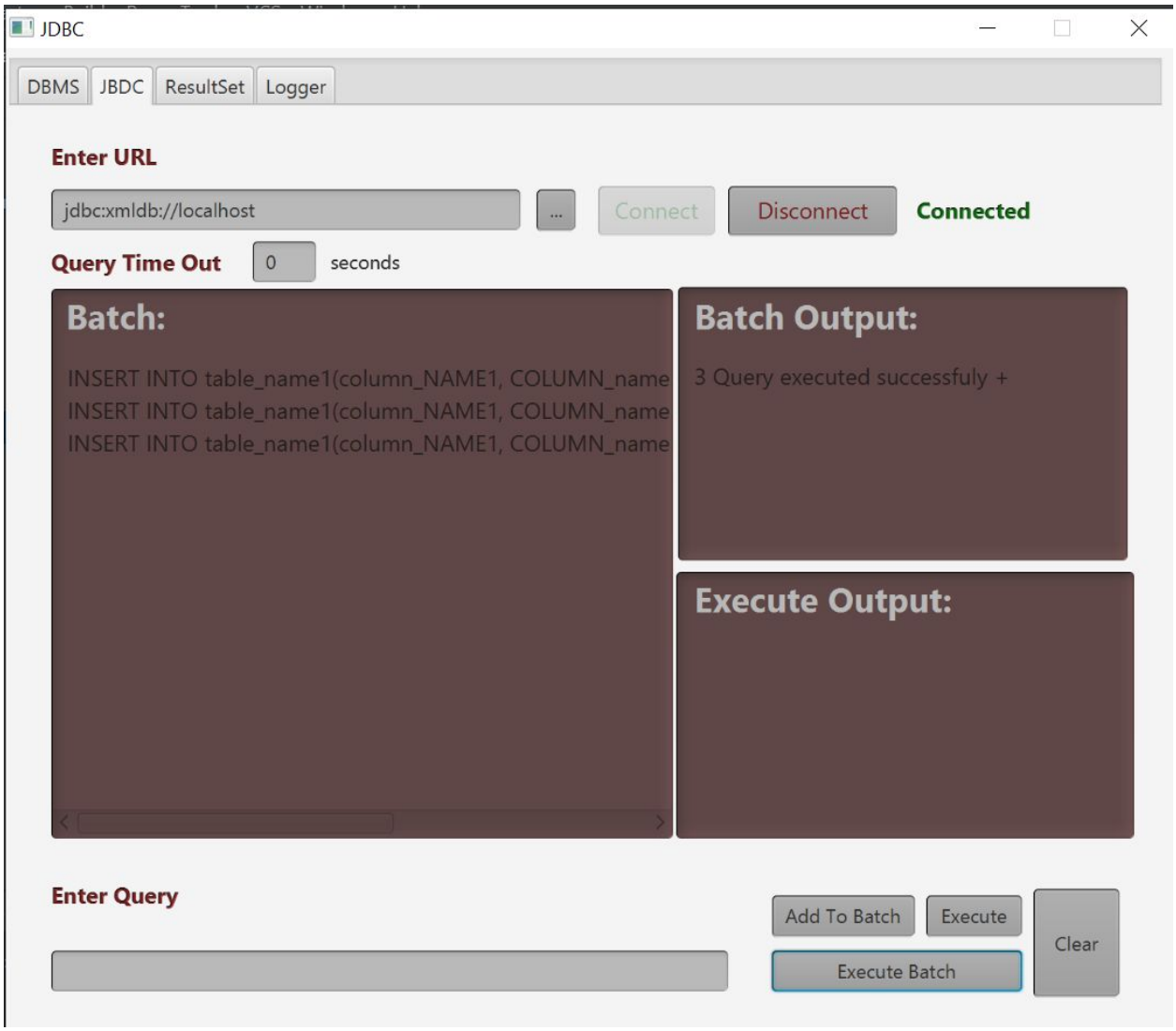
➔ Press Execute And the output of the execution will be shown in the Execute Output Window



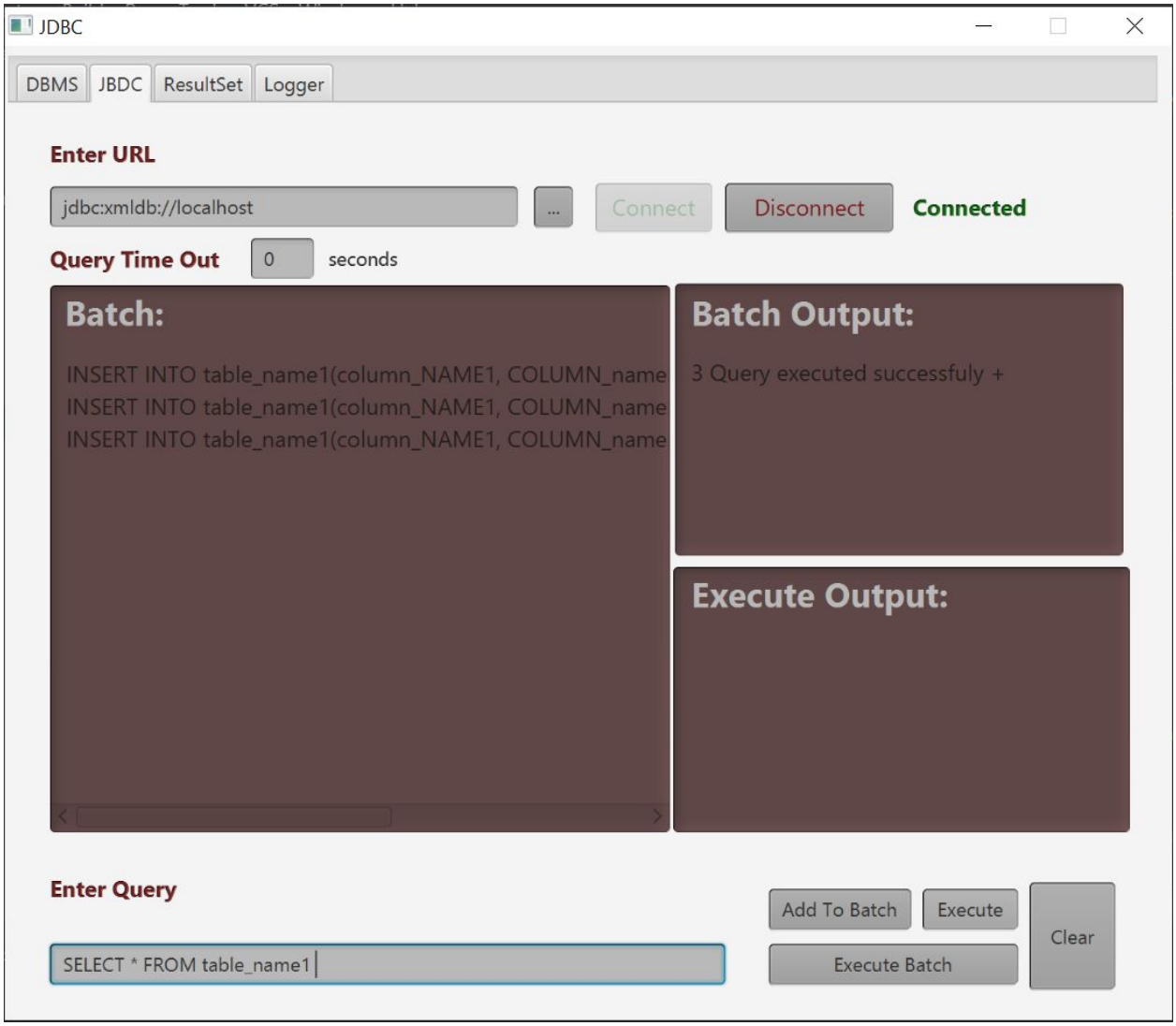
➔ You can add queries to the batch by pressing add to batch button



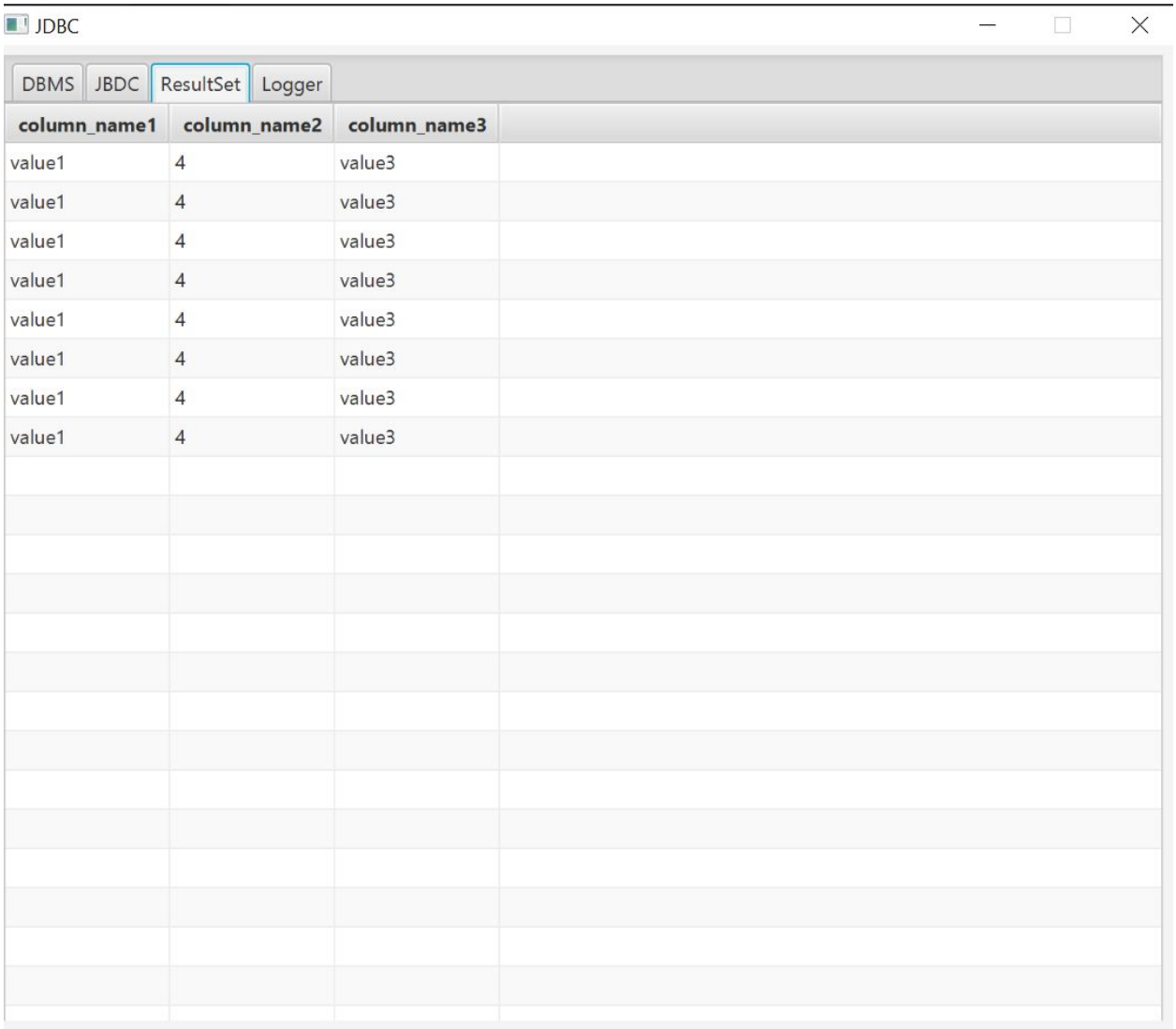
➔ Press Execute Batch to execute the batch the number of successful queries will be shown in the batch output window



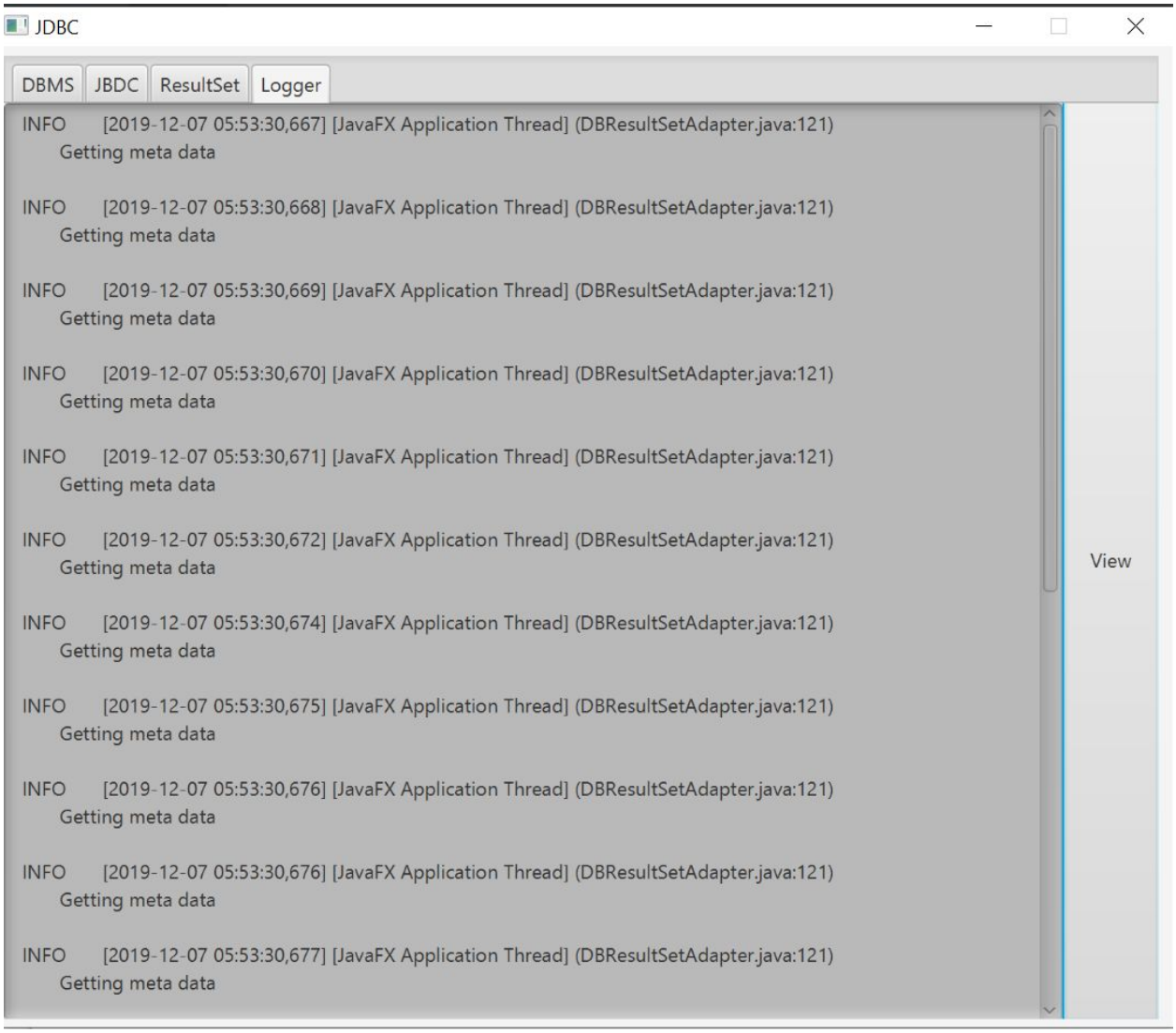
➔ You can execute the selection query by writing the query in the text field below and press execute



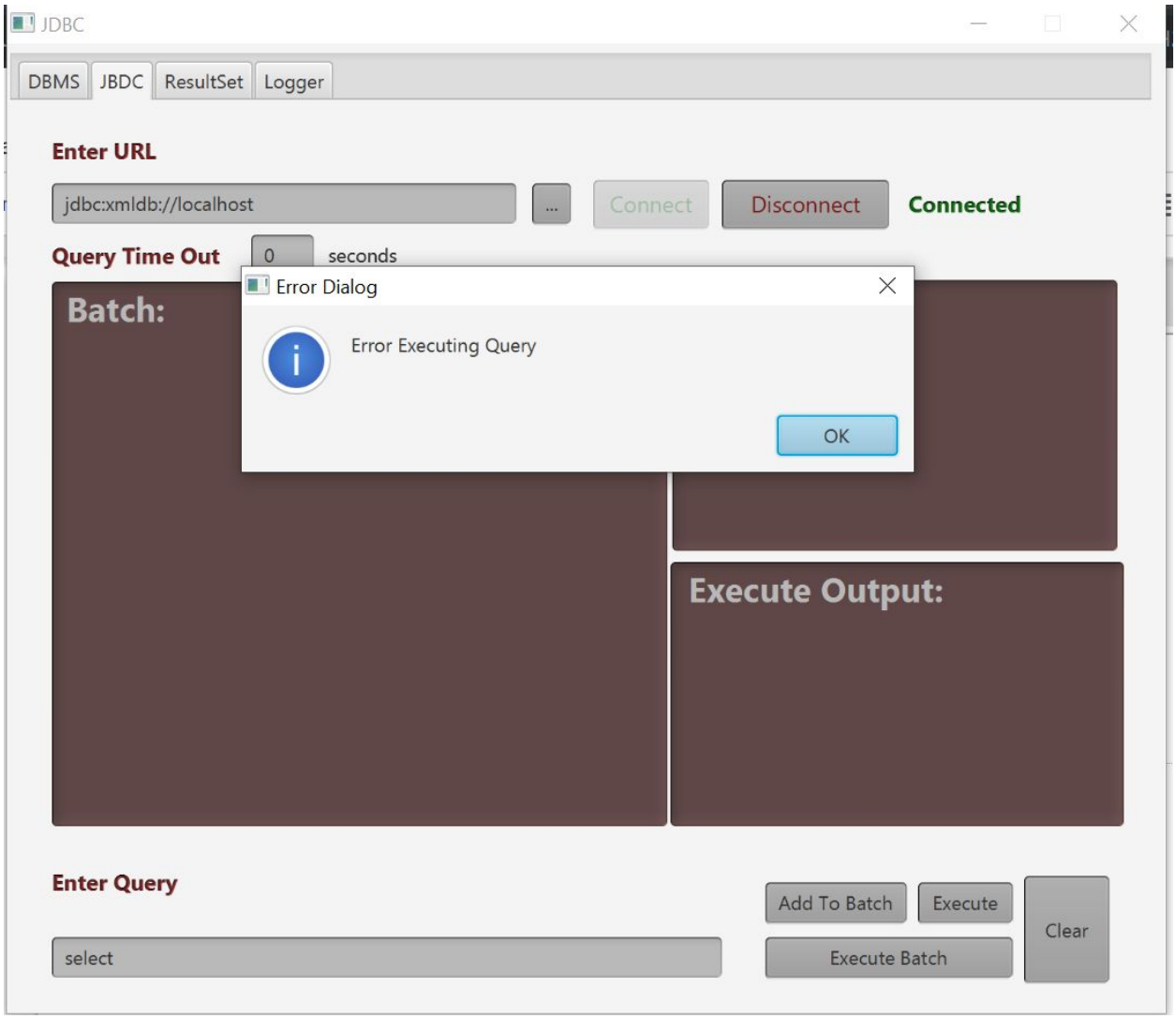
➔ The selected data will be shown in the ResultSet tab



➔ You can view the logger file in the GUI in the logger tab by pressing the view button



➔ If you tried to execute a wrong query an error dialogue will be shawn



➔ Finally you can disconnect from the connection by pressing disconnect