

JDBC

PreparedStatement

Executing SQL Statements

- one way of executing SQL statements is by using PreparedStatement
(another one is with CallableStatement, we'll talk about it later)
- to get a PreparedStatement object, we have to use Connection object:
 1. DriverManager -> Connection (using getConnection() method)
 2. Connection -> PreparedStatement (using preparedStatement() method)
 3. PreparedStatement -> execute SQL query

```
// example: print all id's and full names from the table in the database
```

```
String url = "jdbc:postgresql://localhost/phonebook_db";
```

```
String query = "SELECT * FROM contacts";
```

```
try (Connection conn = DriverManager.getConnection(url, "luka", "luka123"));
```

```
    PreparedStatement ps = conn.prepareStatement(query);
```

```
    ResultSet rs = ps.executeQuery();) {
```

```
    while (rs.next()) {
```

```
        int id = rs.getInt("id");
```

```
        String firstName = rs.getString("first_name");
```

```
        String lastName = rs.getString("last_name");
```

```
        System.out.println(id + ": " + firstName + " " + lastName);
```

```
    }
```

```
} catch (SQLException e) {
```

```
    System.err.println(e.getMessage());
```

```
}
```

PreparedStatement Methods

- with PreparedStatement methods we perform CRUD operations

- SELECT

```
ResultSet rs = ps.executeQuery();
```

- INSERT, UPDATE, DELETE

```
int rowsAffected = ps.executeUpdate();
```

- SELECT, INSERT, UPDATE, DELETE

```
boolean isResultSet = ps.execute();
```

we are performing SELECT operation

- if true, then ResultSet exists and one can call ps.`getResultSet()`

- if false, then there is no ResultSet and one can call ps.`executeUpdate()`

we are performing
INSERT, UPDATE or DELETE
operation



```
// example: add a record to a table
```

```
String url = "jdbc:postgresql://localhost/phonebook_db";
```

```
String query =
```

query with placeholders

```
"INSERT INTO contacts (first_name, last_name, email, phone_number) VALUES (?, ?, ?, ?);"
```

```
try (Connection conn = DriverManager.getConnection(url, "luka", "luka123");
```

```
    PreparedStatement ps = conn.prepareStatement(query)) {
```

```
    ps.setString(1, "John");
```

```
    ps.setString(2, "Wayne");
```

```
    ps.setString(3, "john@wayne.com");
```

```
    ps.setString(4, "555-783-5252");
```

setting the value for each placeholder

```
    int affectedRows = ps.executeUpdate();
```

executing the INSERT query

```
    if (affectedRows > 0) {
```

checking the result

```
        System.out.println("A new record was inserted successfully.");
```

```
    } else {
```

```
        System.out.println("No record was inserted.");
```

```
    }
```

```
// catch the exception...
```