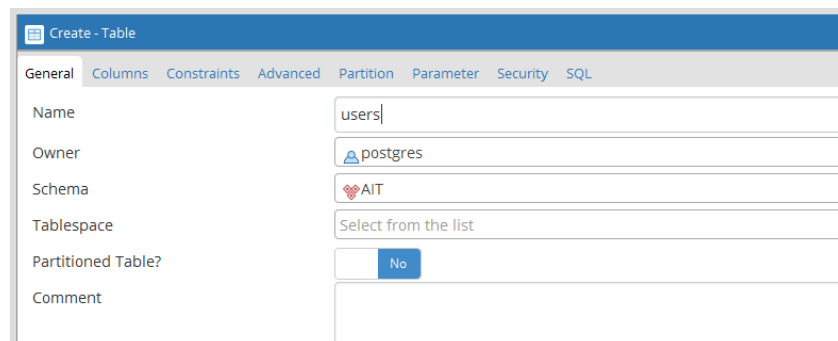Postgres 10, and pgAdmin 4 as a GUI client are installed. During the installation, a password is given, and the port number 5432 by default is set. After the installation the postgresql service on the system is started automatically. But later, it might be started. Otherwise this error is received:
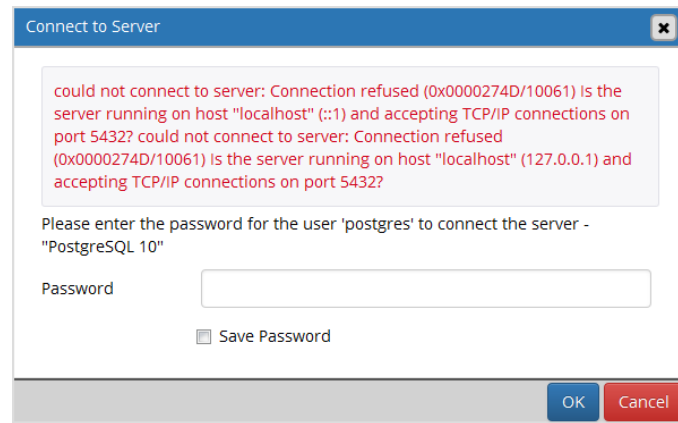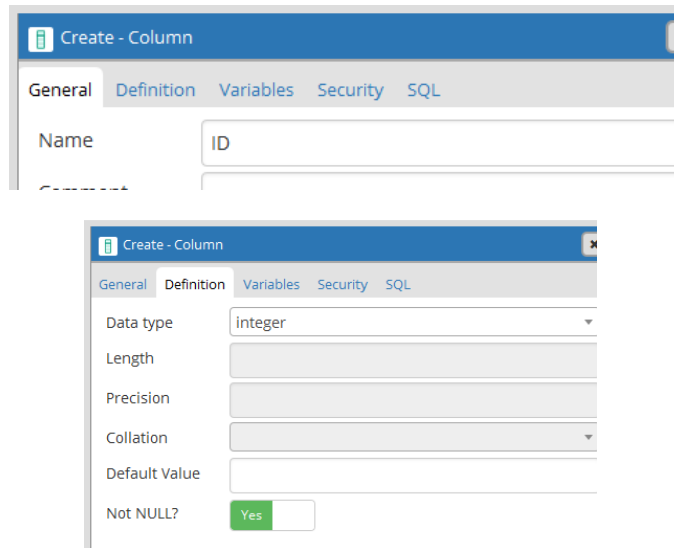

 The first thing is to create a schema, named AIT.
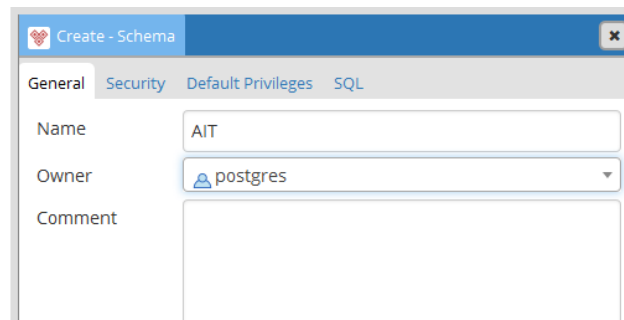
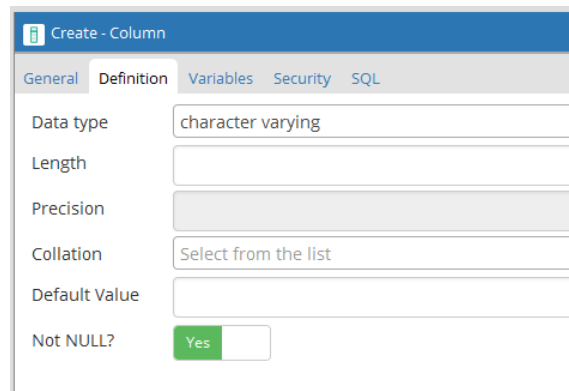In that schema, a table, named users, should be created.

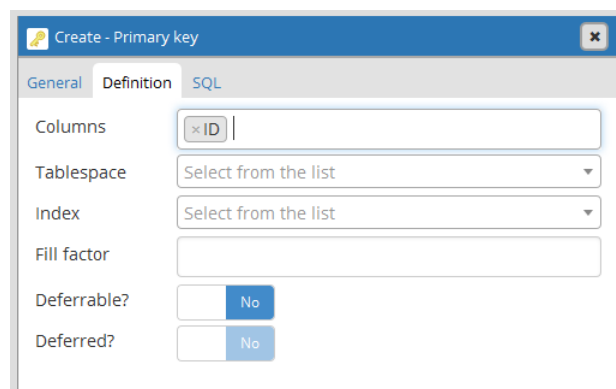Now, it is time to add three columns, named ID, Firstname, and Lastname.

Create - Column

General   Definition   Variables   Security   SQL

Name   ID

Create - Column

General   Definition   Variables   Security   SQL

Data type   integer
Length
Precision
Collation
Default Value
Not NULL?   Yes

The type of ID could be integer, and the not null is enabled. Firstname and Lastname could be in character varying. Char, and character are not appropriate.
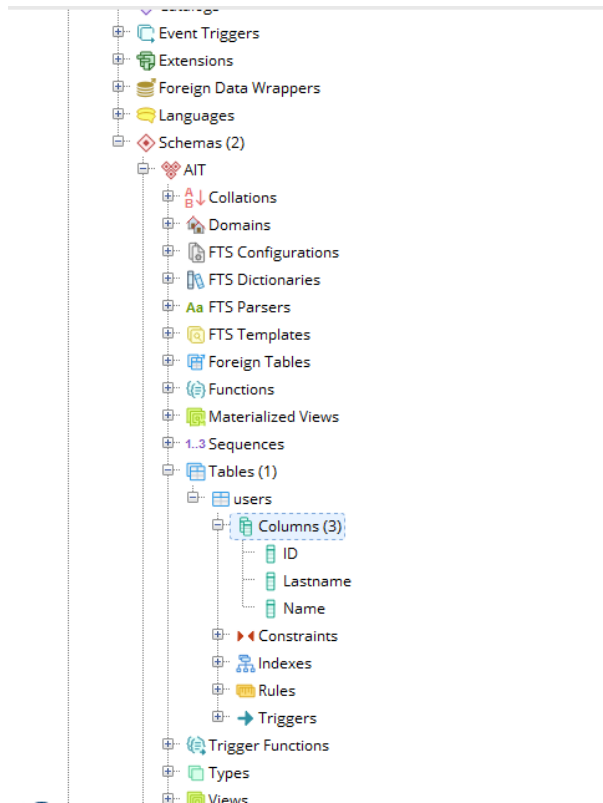
Create - Column

General   Definition   Variables   Security   SQL

Data type   character varying
Length
Precision
Collation   Select from the list
Default Value
Not NULL?   Yes

A primary key on ID is set by creating a constraint.

Create - Primary key

General   Definition   SQL

Columns   × ID

Tablespace   Select from the list
Index   Select from the list
Fill factor
Deferrable?   No
Deferred?   No

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Not it is time to populate the table by executing an inserting script:
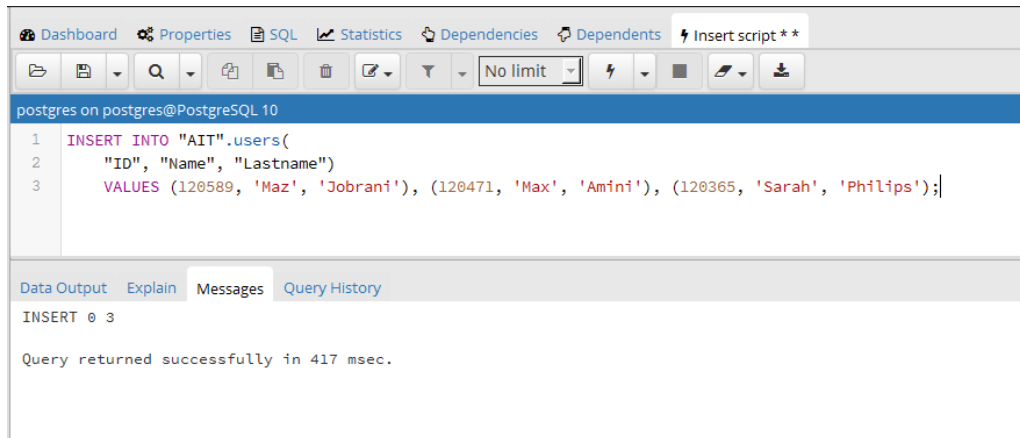
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In this example 120548 should be without any quotation or single quotation, and Amir and Ebrahimi should be in single quotation.

It is possible to add some data in a same time:

Selecting script is shown for checking the data:

We should connect to the database in Eclipse. In order to satisfy this purpose, an appropriate JDBC Driver based on which version of JDK used should be downloaded and added to the project.

In Eclipse, these steps should be followed:
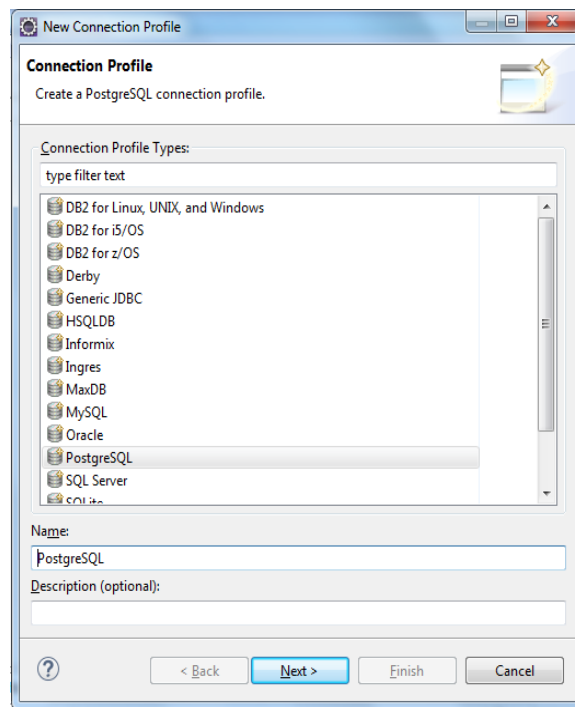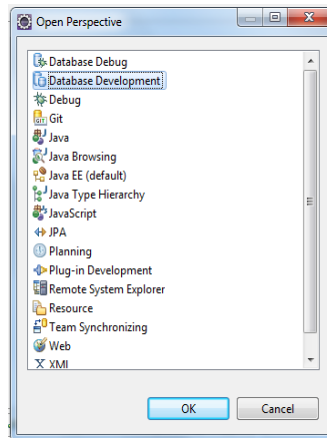
The downloaded jar file should be transmitted to the lib directory of the Tomcat.
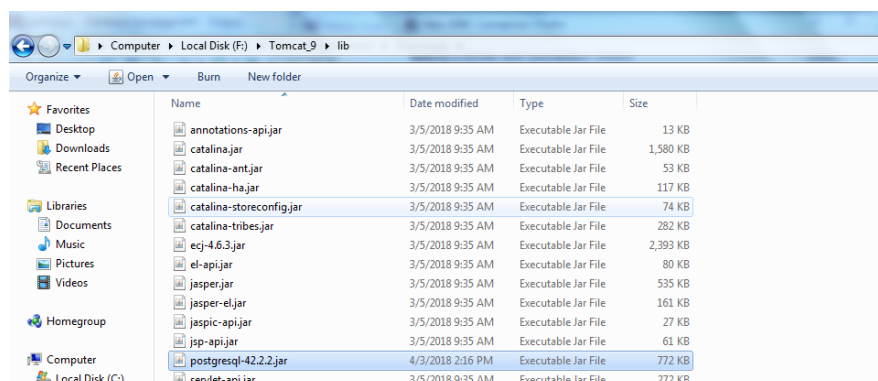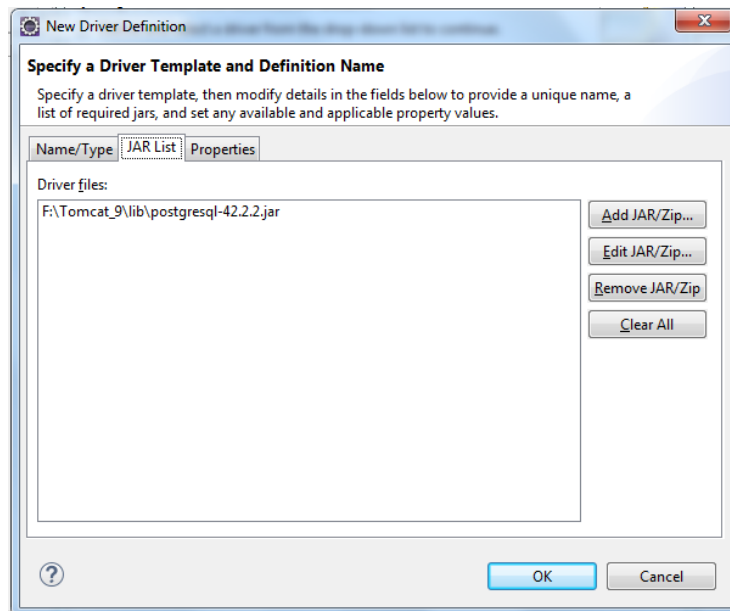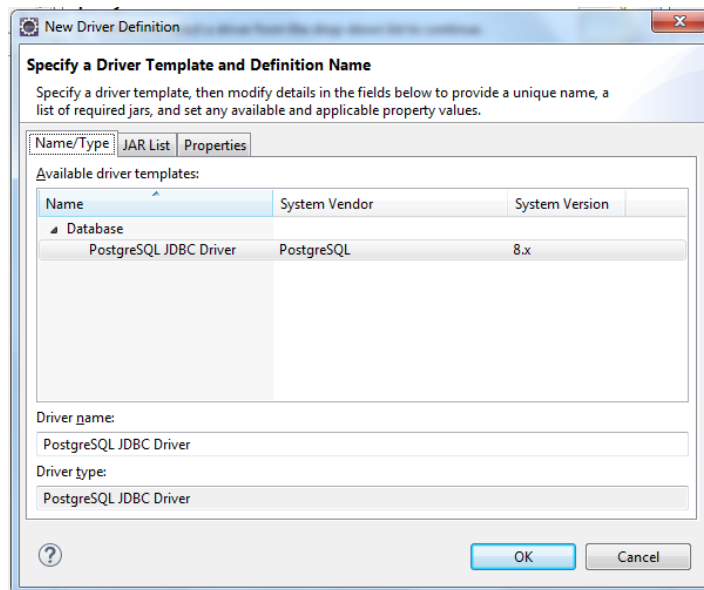
The database, username, and password should be chosen in this step. The URL value is used in the code for connecting to the database.

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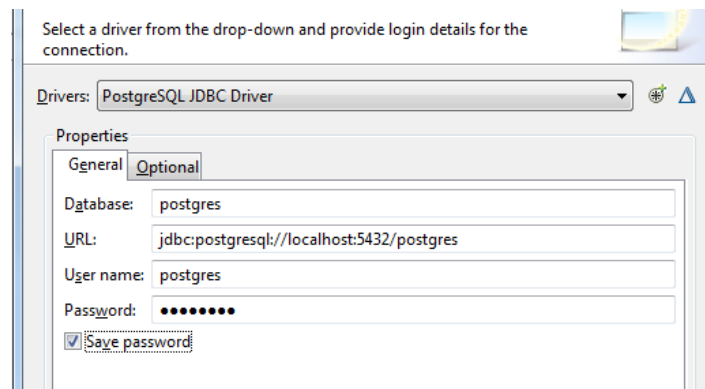
After that the connection could be checked.
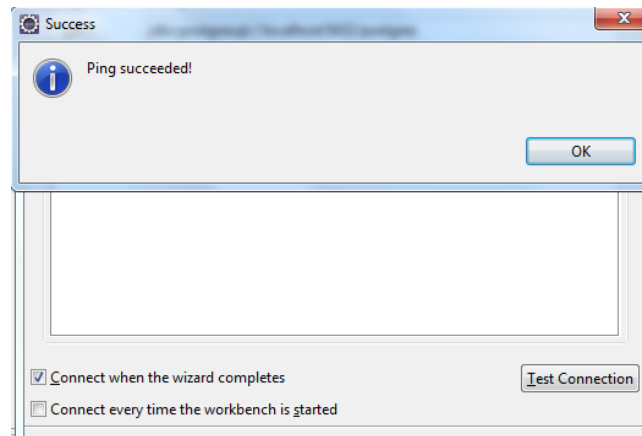
The tree:

Now it is time to create a servlet class and write the code in the doGet method:

As it is said, the value of the URL in the previous step should be used as a string parameter of the getConnection.
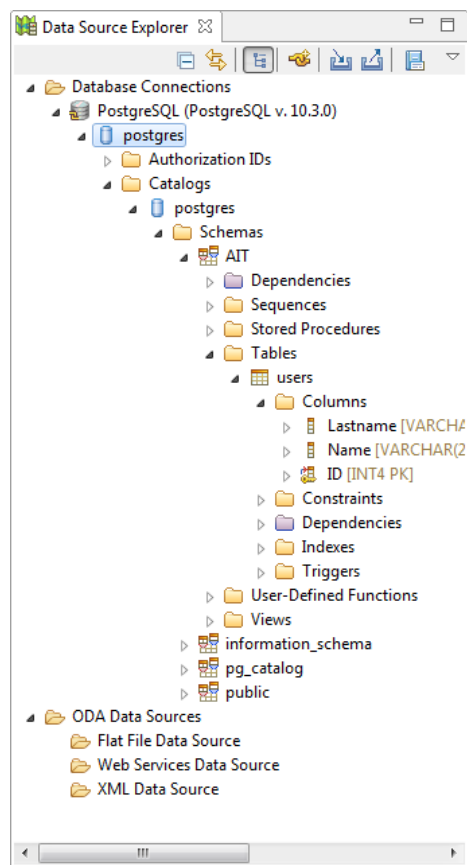
```java
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    String dbname = "jdbc:postgresql://localhost:5432/postgres";
    String driver = "org.postgresql.Driver";
    try {
        Class.forName(driver);
    } catch (ClassNotFoundException e) {
        e.printStackTrace();
    }
    Connection con = null;
    try {
        con = DriverManager.getConnection(dbname, "postgres", "admin123");
    } catch (SQLException e) {
        e.printStackTrace();
    }
    Statement statement = null;
    try {
        statement = con.createStatement();
    } catch (SQLException e) {
        e.printStackTrace();
    }
```
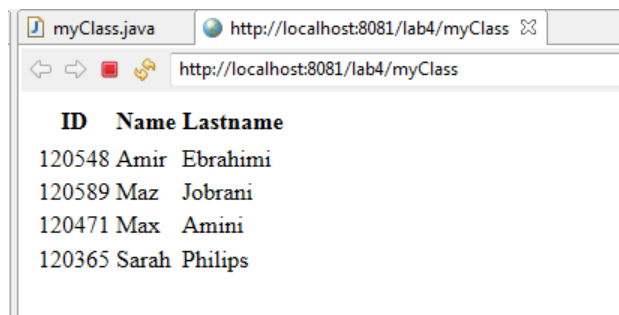
The database name is postgres but the schema created in pgAdmin is AIT. Hence, we should select the data from the table, named users, in the schema, named AIT. We should use a backslash before quotation character in the string.

```java
String sql = "SELECT * FROM \"AIT\".users";
ResultSet rs = null;
try {
    rs = statement.executeQuery(sql);
} catch (SQLException e) {
    e.printStackTrace();
}
```

for showing data in the table, table tags should be used.

```java
PrintWriter out = response.getWriter();
try {
    out.println("<table>");
    out.println("<tr><th>ID</th><th>Name</th><th>Lastname</th><tr>");
    while(rs.next())
    {
        out.println("<tr><td>" + rs.getString("ID") + "</td><td>" + rs.getString("Name") + "</td><td>" + rs.getString("Lastname") + "</
    }
    out.println("</table>");
} catch (SQLException e) {
    e.printStackTrace();
}
```

The output:

ID	Name	Lastname
120548	Amir	Ebrahimi
120589	Maz	Jobrani
120471	Max	Amini
120365	Sarah	Philips

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