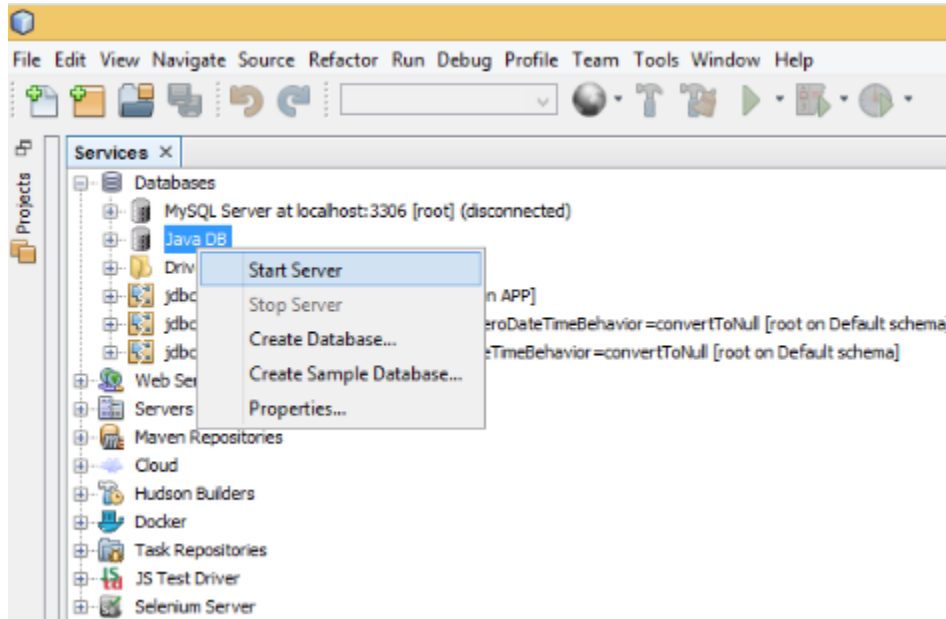


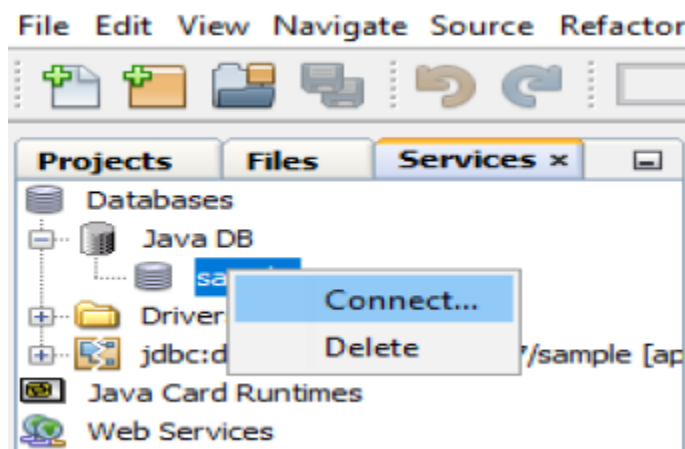
Practical:3

Aim: Define a web service method that returns the contents of a database in a JSON string. The contents should be displayed in a tabular format.

Step 1: click on the services > Databases . **Right click on Java DB** and then **click on Start Server** to start the server .



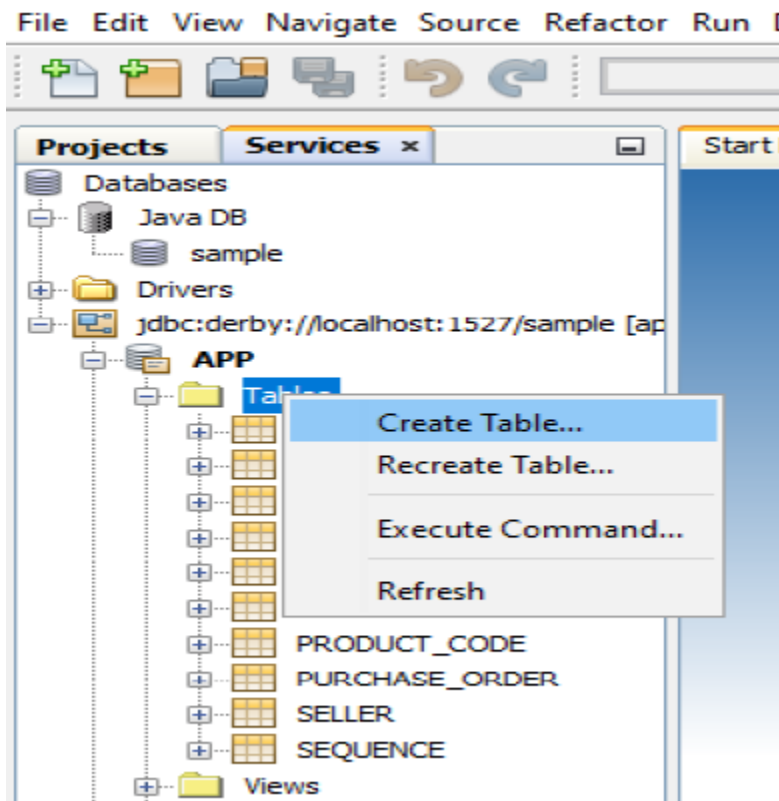
2) Now expand Java DB and **right click on sample** and then **click on connect** to connect the sample database with server.



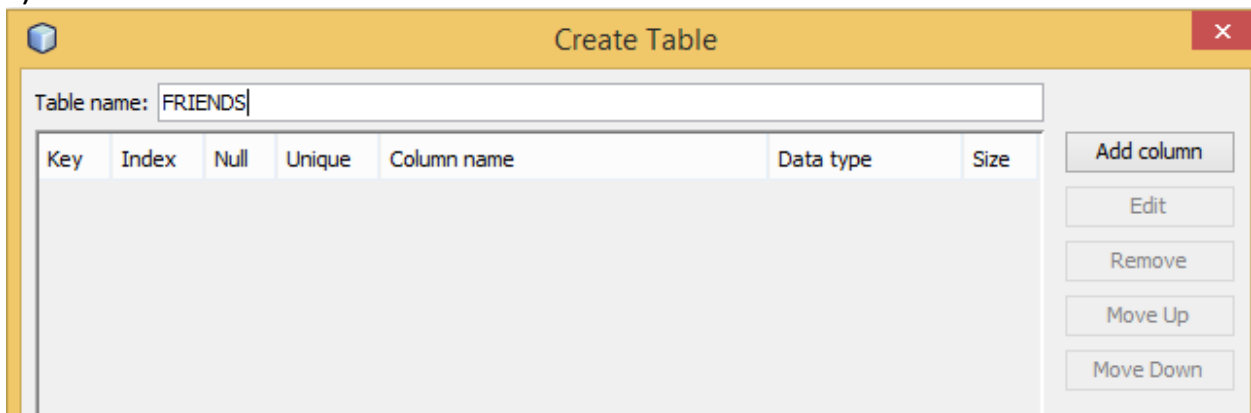
3) Now we are going to create a table in default database **sample**.

Practical:3

Right click on Table -> Create Table

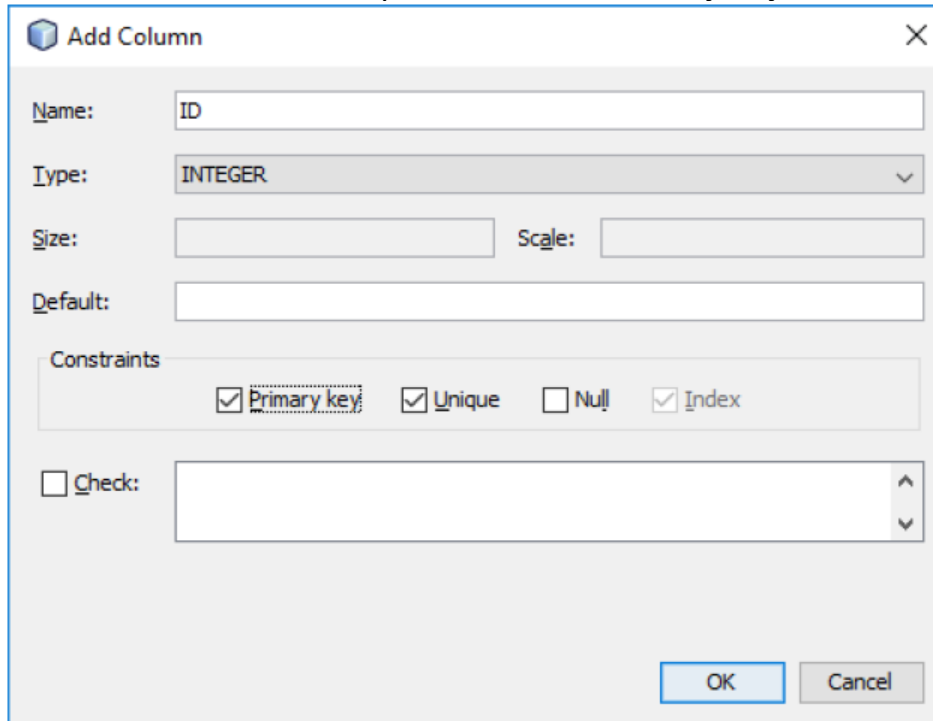


4) Give **table name** as **FRIENDS**.



Practical:3

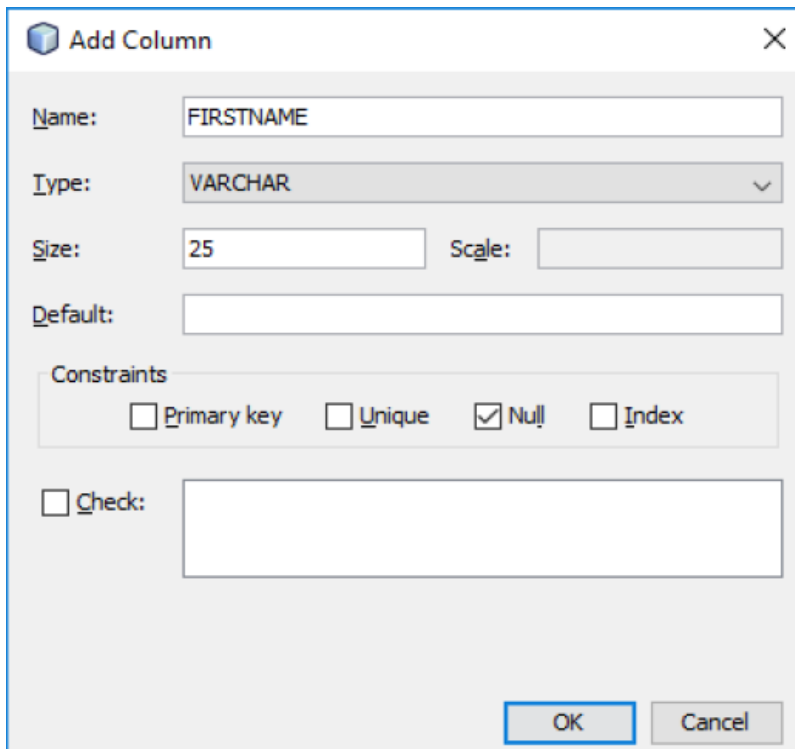
5) Now **click on Add column button to add columns** in table.
Enter details as in below pic and **select Primary key**. After that **click on OK** button.



The 'Add Column' dialog box is shown with the following details:

- Name:** ID
- Type:** INTEGER
- Size:** (empty)
- Scale:** (empty)
- Default:** (empty)
- Constraints:**
 - ☒ Primary key
 - ☒ Unique
 - ☐ Null
 - ☒ Index
- Check:** (empty)
- Buttons:** OK, Cancel

6) Now **add second column** with following detail. But **don't select primary** and click on OK button.

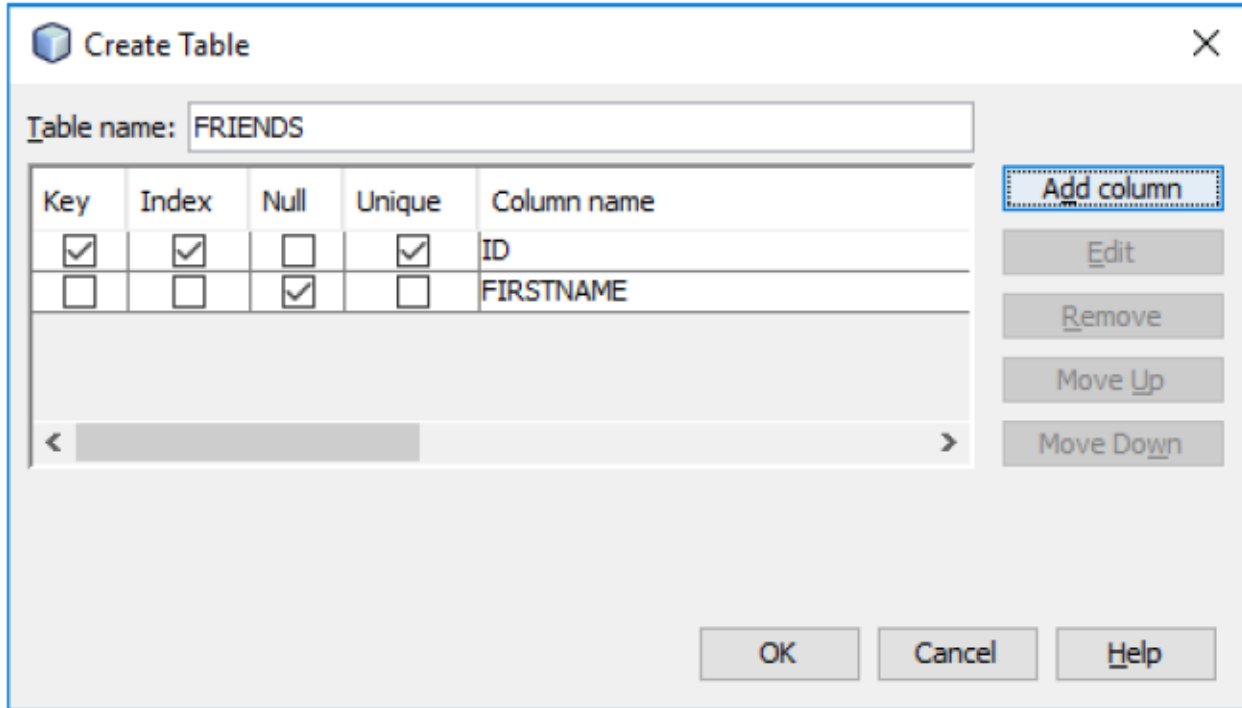


The 'Add Column' dialog box is shown with the following details:

- Name:** FIRSTNAME
- Type:** VARCHAR
- Size:** 25
- Scale:** (empty)
- Default:** (empty)
- Constraints:**
 - ☐ Primary key
 - ☐ Unique
 - ☒ Null
 - ☐ Index
- Check:** (empty)
- Buttons:** OK, Cancel

Practical:3

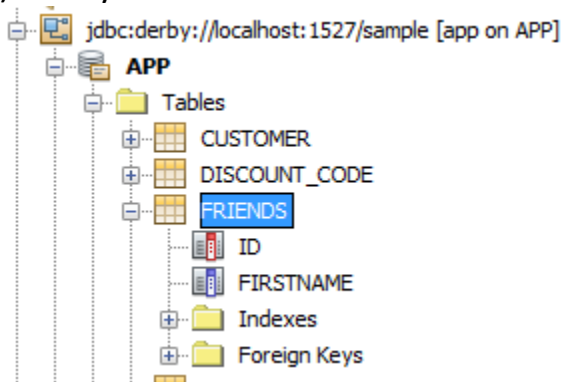
7) Now **click on OK** button.



The 'Create Table' dialog box shows the table name 'FRIENDS'. It contains a table with columns: Key, Index, Null, Unique, and Column name. The 'ID' column has 'Key' and 'Unique' checked. The 'FIRSTNAME' column has 'Null' checked. To the right of the table are buttons: 'Add column' (highlighted with a dashed border), 'Edit', 'Remove', 'Move Up', and 'Move Down'. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

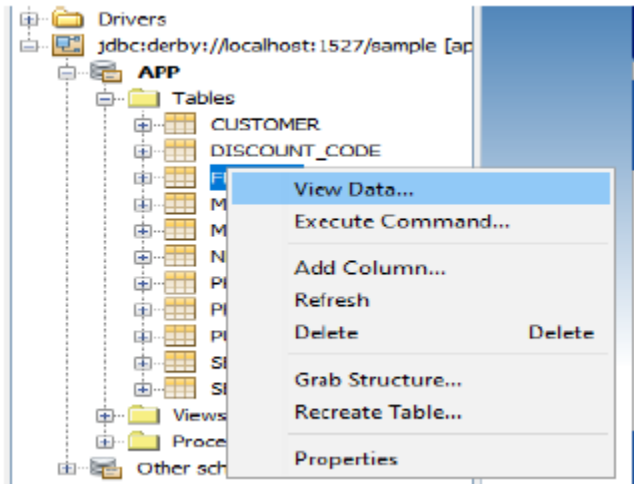
Key	Index	Null	Unique	Column name
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ID
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	FIRSTNAME

8) Now you can see a table with name **FRIENDS** in the table.

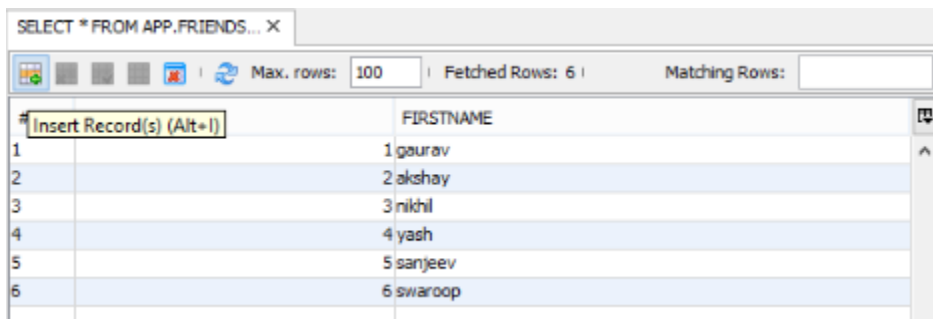


9) **Right click on FRIENDS** to view and add records into it.

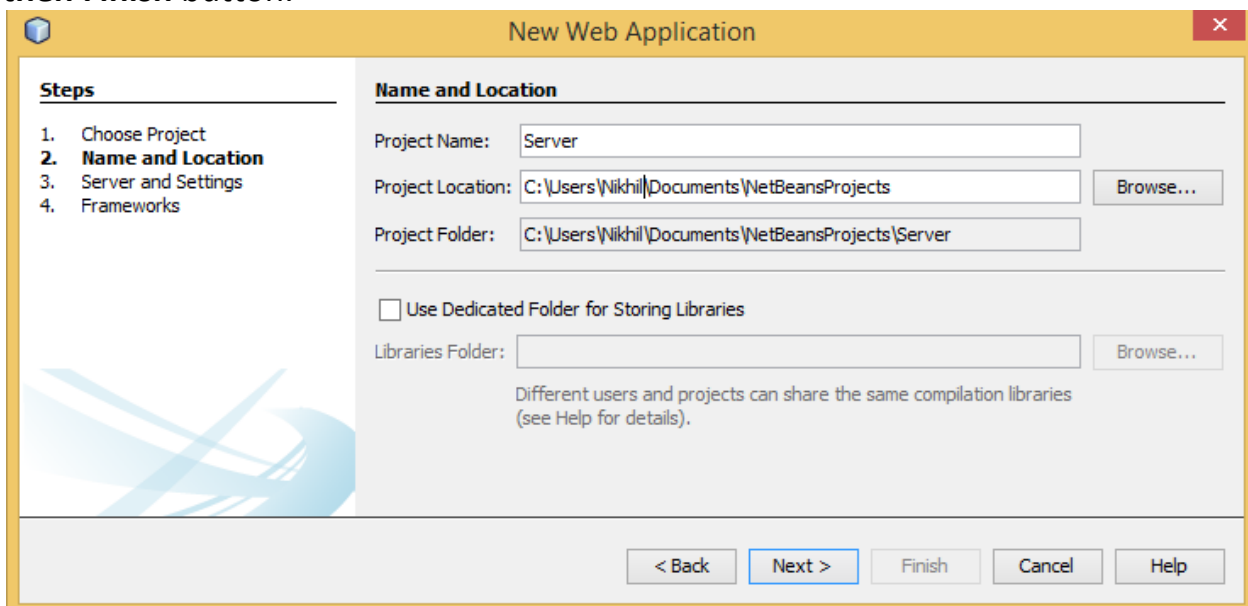
Practical:3



10) Now **click on the leftmost icon in second panel to insert some record.** **Insert a record** and then **click on Add Row button** to insert more record. After that **click on OK button** to finish.

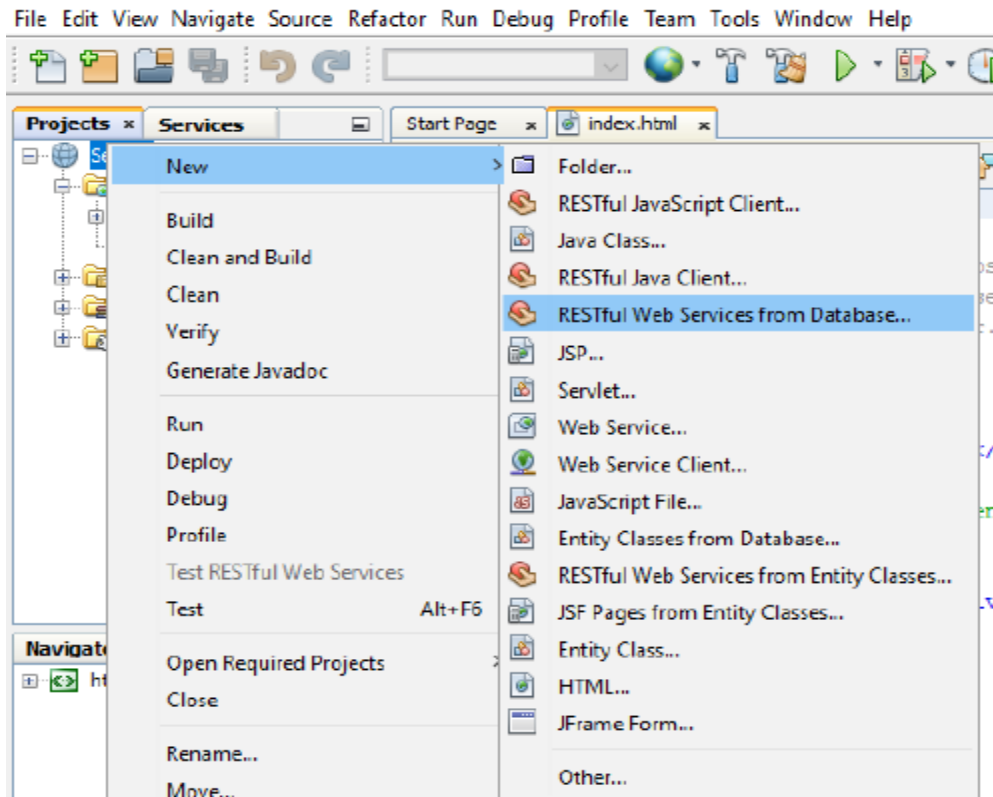


11) Now **create a web application** with name **Server**. After that **click on Next** and then **Finish** button.

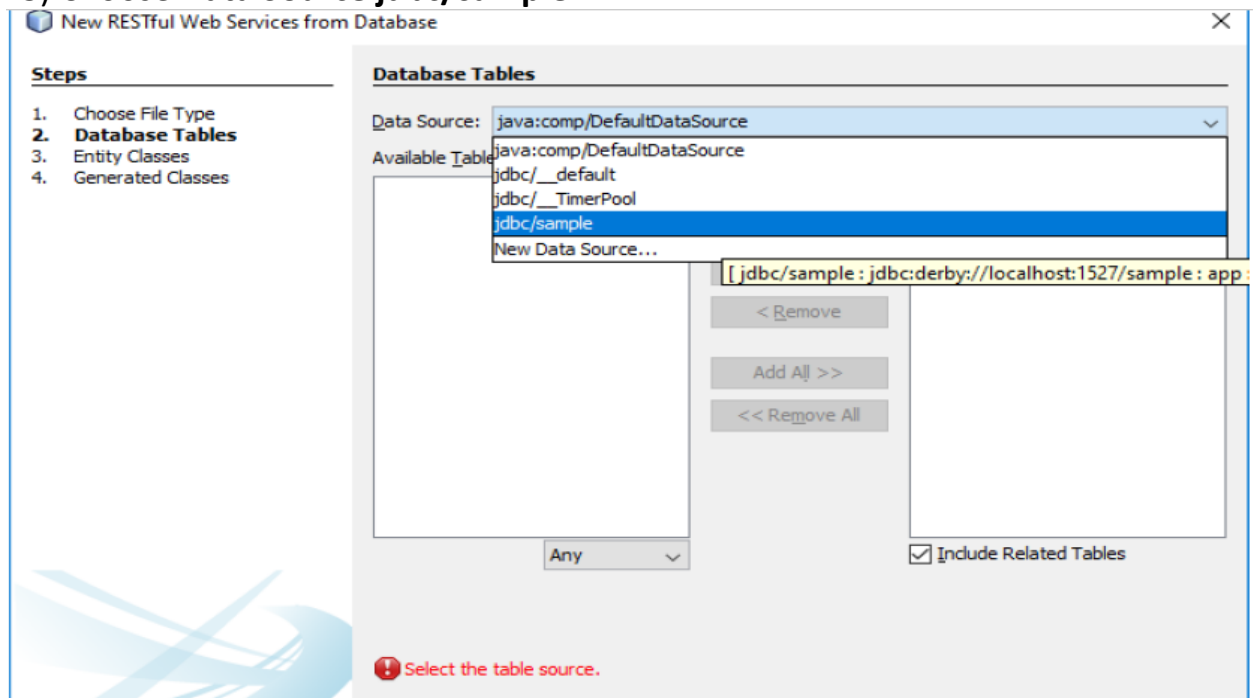


Practical:3

12) Now create a RESTful Web Service from Database by right click on project name.



13) Choose Data Source jdbc/sample.



Practical:3

14) Now **select FRIENDS** and **click on Add button**. After that **click on Next** button.

Steps

1. Choose File Type
2. **Database Tables**
3. Entity Classes
4. Generated Classes

Database Tables

Data Source: jdbc/sample

Available Tables:

- CUSTOMER
- DISCOUNT_CODE
- FRIENDS**
- MANUFACTURER
- MICRO_MARKET
- NEWENTITY
- PRODUCT
- PRODUCT_CODE
- PURCHASE_ORDER
- SELLER
- SEQUENCE

Selected Tables:

☒ Include Related Tables

Select at least one table.

< Back Next > Finish Cancel Help

15) Enter Package name as **com.kk** and **click on Next** button and then **Finish**.

Steps

1. Choose File Type
2. Database Tables
3. **Entity Classes**
4. Generated Classes

Entity Classes

Specify the names and the location of the entity classes.

Class Names:

Database Table	Class Name	Generation Type
FRIENDS	Friends	New

Project: Server

Location: Source Packages

Package: com.kk

☒ Generate Named Query Annotations for Persistent Fields

☒ Generate JAXB Annotations

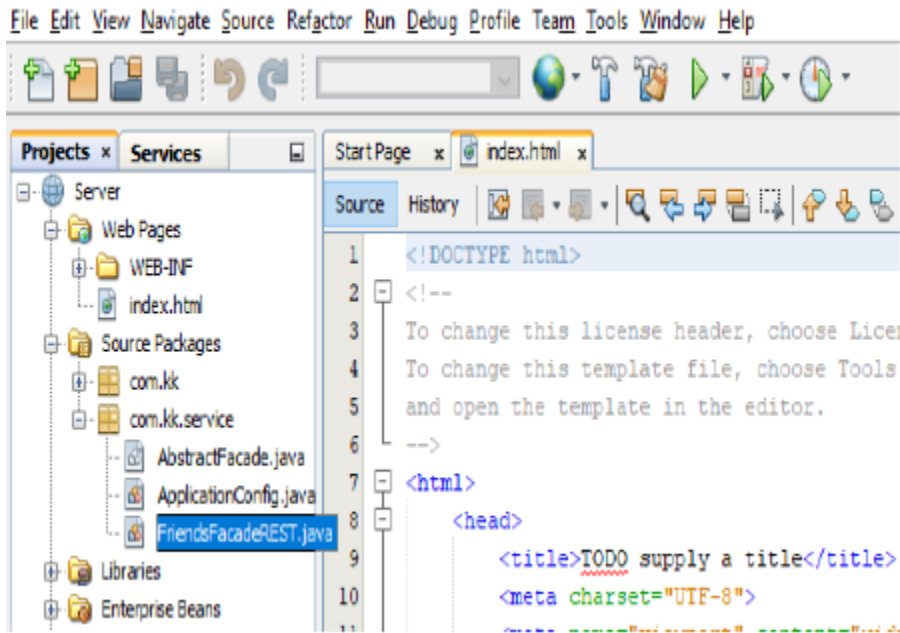
☐ Generate MappedSuperclasses instead of Entities

☒ Create Persistence Unit

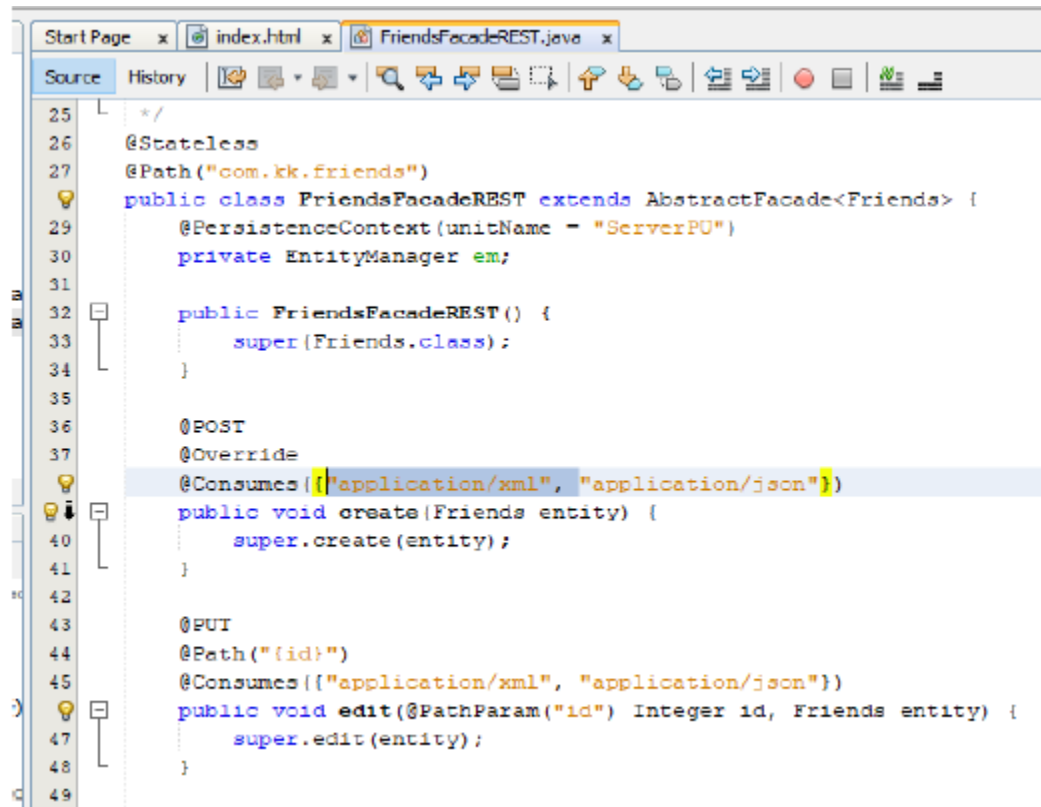
< Back Next > Finish Cancel Help

Practical:3

16) Now open selected file by double click on it.

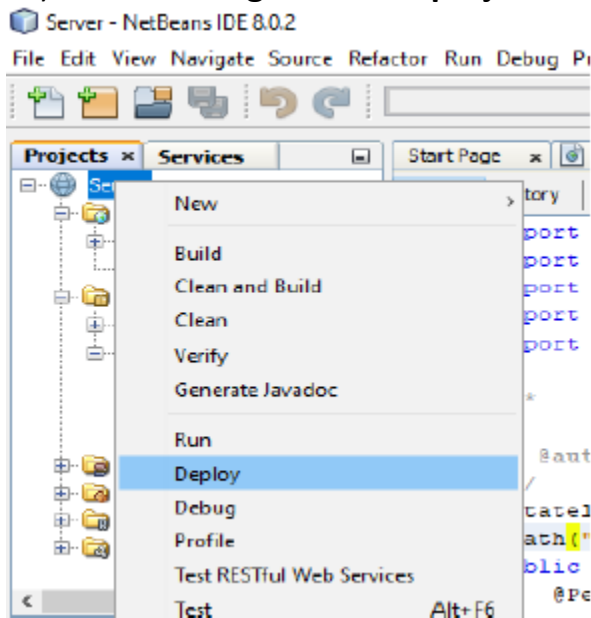


17) Now remove the selected part from every method in this file. So that it will communicate only in JSON format. You can also use methods to convert it. But this is easiest method.

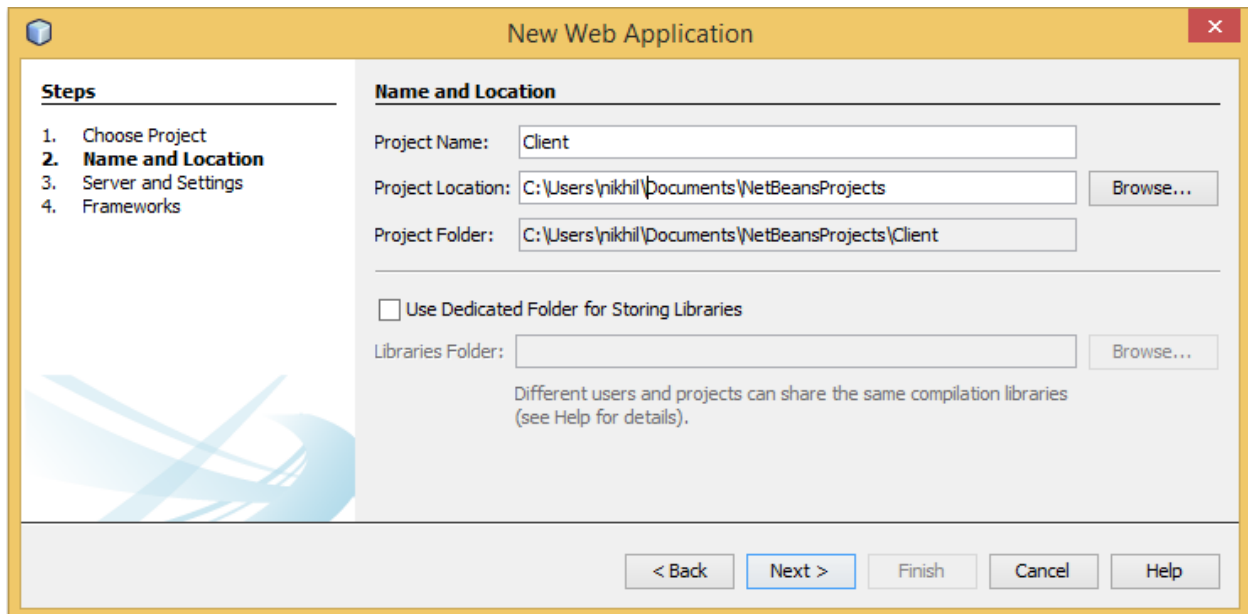


Practical:3

18) After that **right click on project name and Deploy it.**



19) Now **create one more Web Application as Client.** After that **click on Next** and then **Finish** button.



20) Now **open the index.html file of Client project** and **add the following code in between HEAD tag.**

Code:

```
<html>
  <head>
```

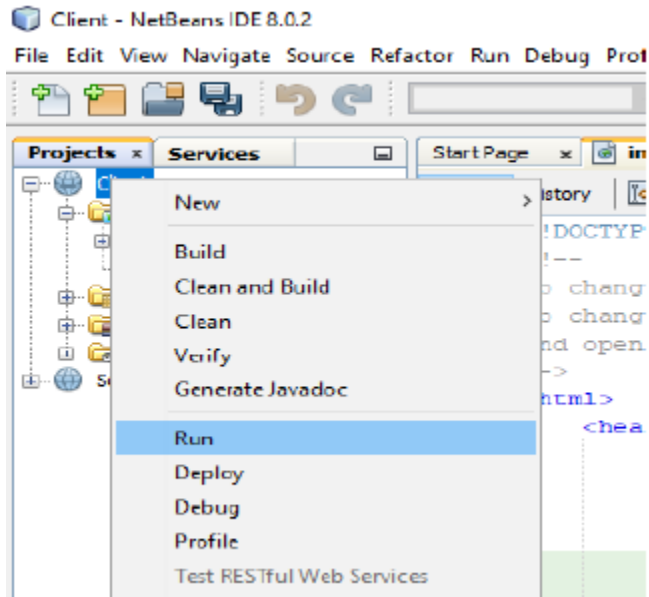
Practical:3

```
<title>TODO supply a title</title>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<style>
table {
font-family: arial, sans-serif;
border-collapse: collapse;
}
td, th {
border: 1px solid #000000;
text-align: center;
padding: 8px;
}
</style>
<script>
var request = new XMLHttpRequest();
request.open('GET',
'http://localhost:8080/server/webresources/com.kk/friends/', true);
request.onload = function () {
// begin accessing JSON data here
var data = JSON.parse(this.response);
for (var i = 0; i < data.length; i++) {
var table = document.getElementById("myTable");
var row = table.insertRow();
var cell1 = row.insertCell(0);
var cell2 = row.insertCell(1);
cell1.innerHTML = data[i].ID;
cell2.innerHTML = data[i].FIRSTNAME;
}
};
request.send();
</script>
</head>
<body>
<table id="myTable">
<tr>
<th> ID</th>
<th>NAME</th>
```

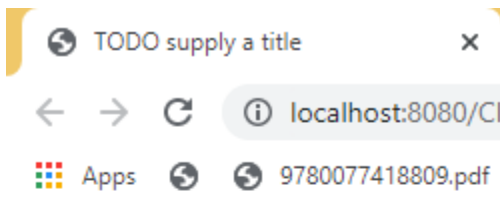
Practical:3

```
</tr>
</table>
</body>
</html>
```

21) Now **run** the **Client** Web Application.



22) A window will open in browser which represents a data in tabular format. These **data are the records entered in FRIEND table.**



ID	NAME
1	gaurav
2	akshay
3	Nikhil
4	yash
5	sanjeev
6	swaroop