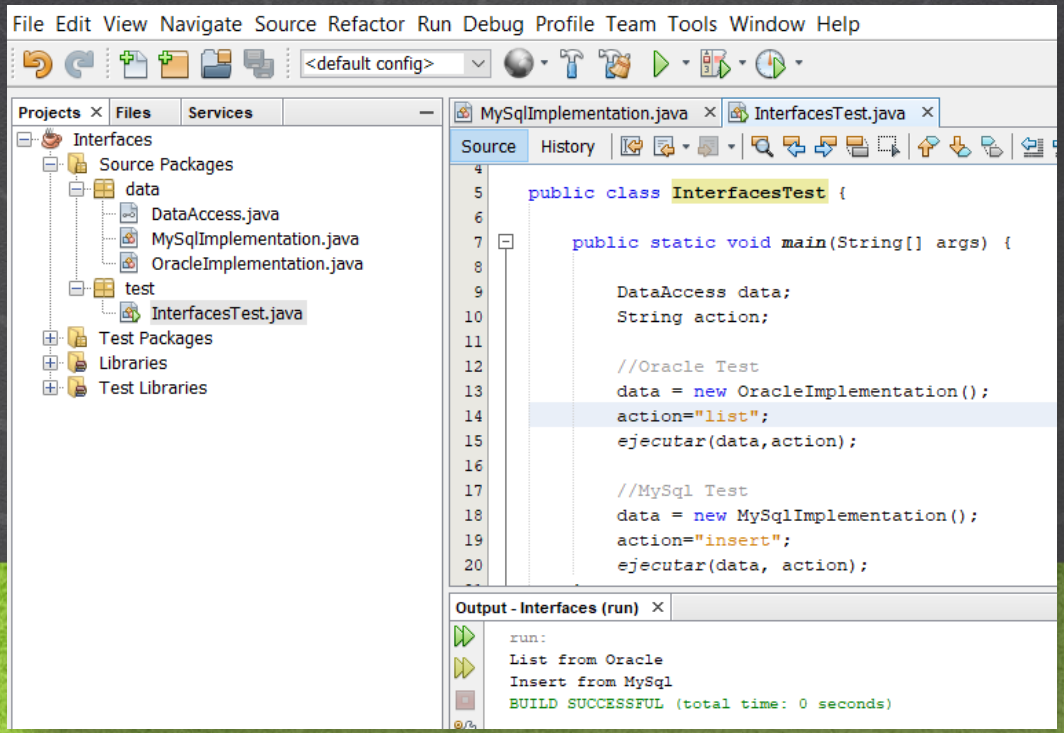
JAVA PROGRAMMING COURSE

EXERCISE

INTERFACES IN JAVA

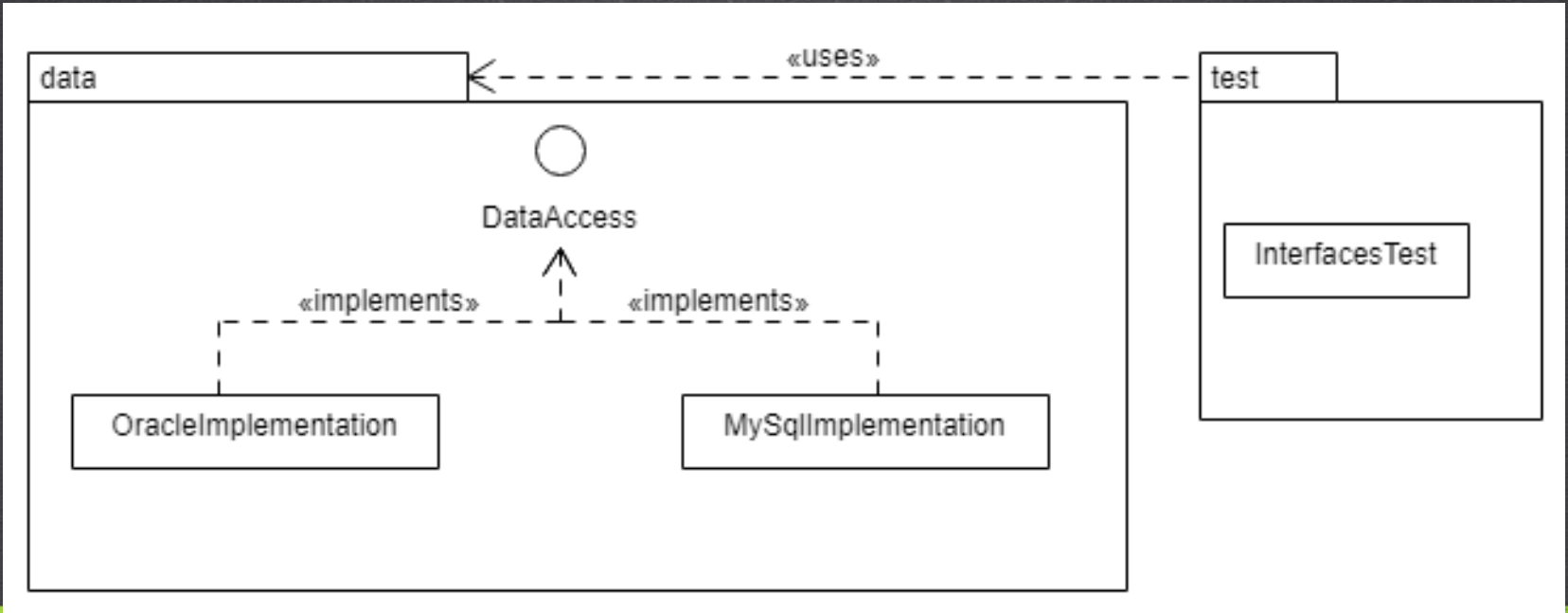
EXERCISE OBJECTIVE

Put into practice the concept of interfaces in Java. At the end we should observe the following:



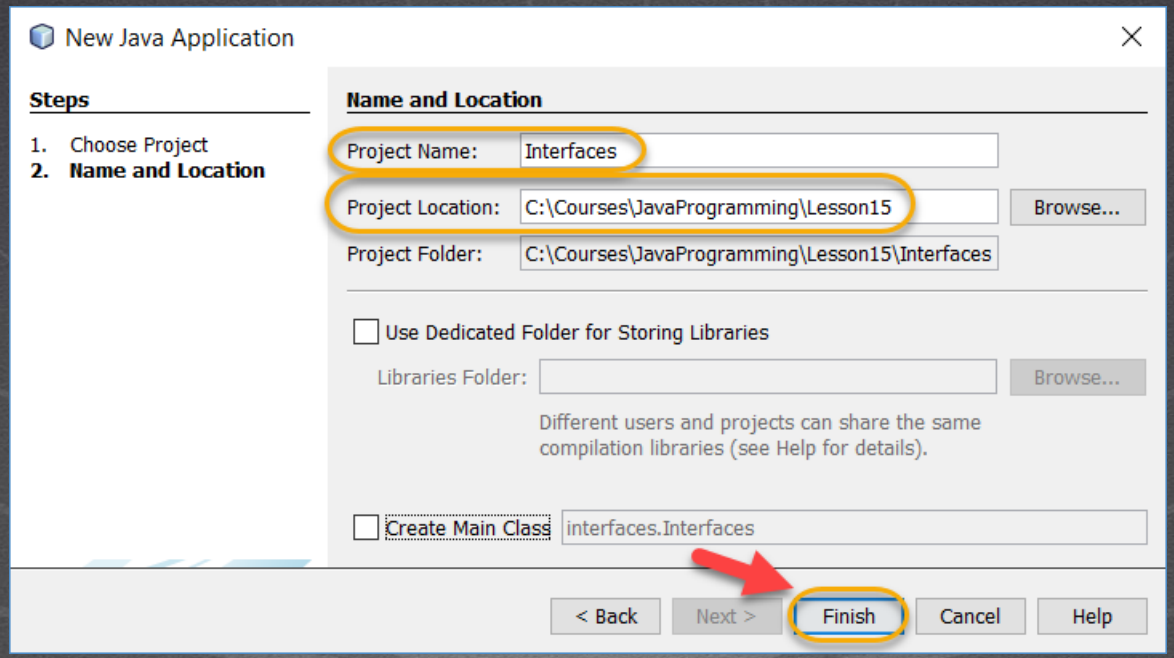
CLASS DIAGRAM OF THE EXERCISE

This is the class diagram of the exercise:



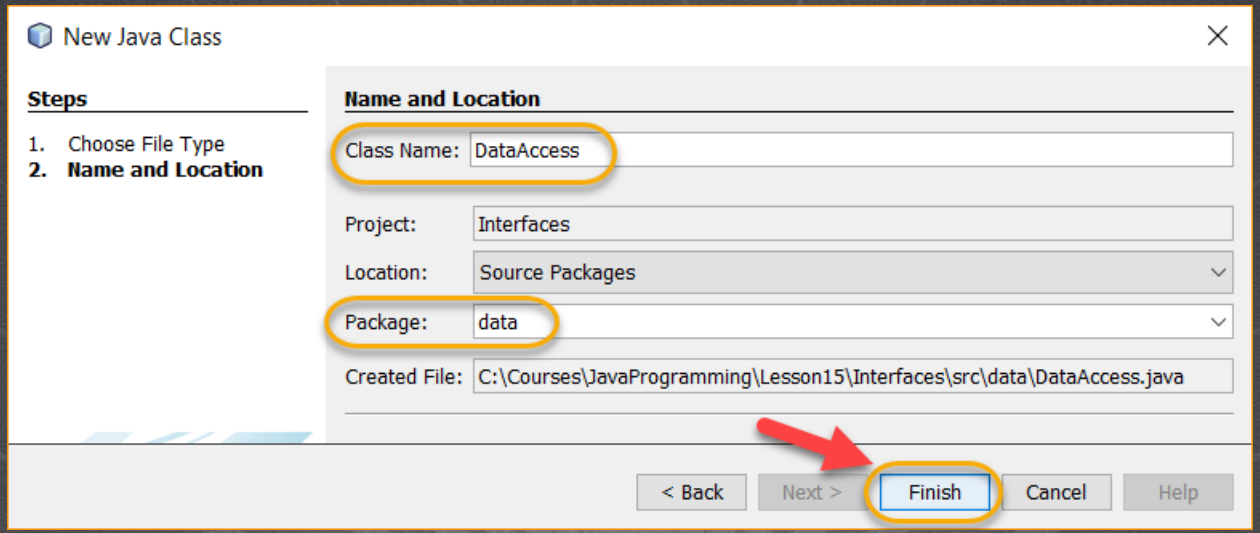
1. CREATE A NEW PROJECT

Create a new project:



2. CREATE A NEW CLASS

Create a new class:



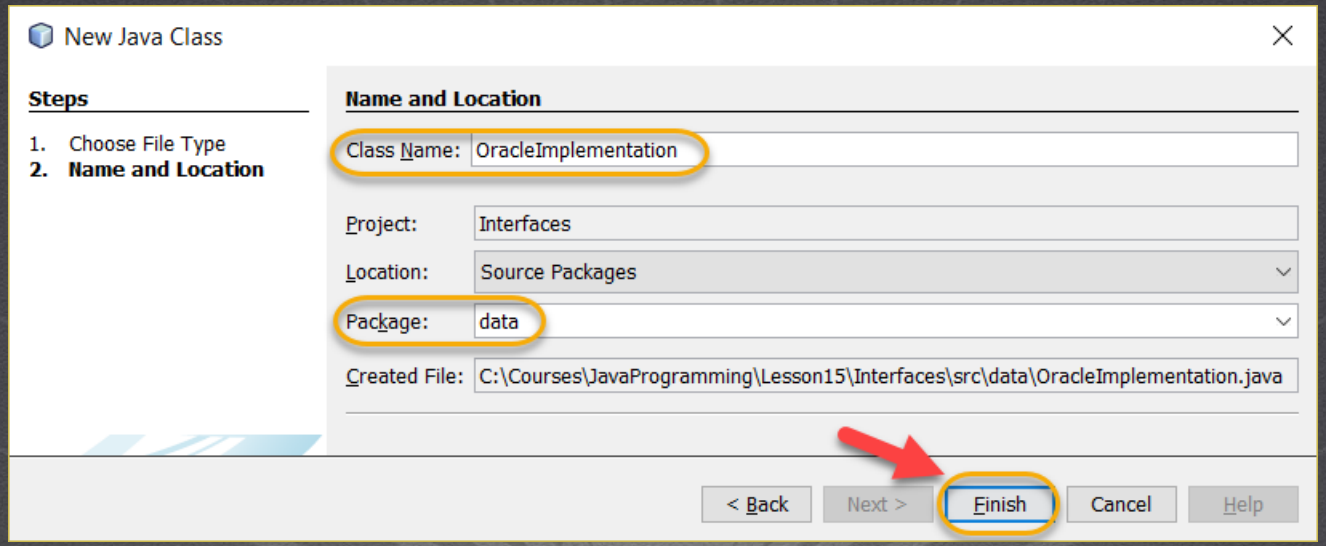
3. MODIFY THE CODE

DataAccess.java:

```
package data;

public interface DataAccess {

    public static int MAX_RECORDS = 10;

    public abstract void insert();

    public abstract void list();

}
```

4. CREATE A NEW CLASS

Create a new class:



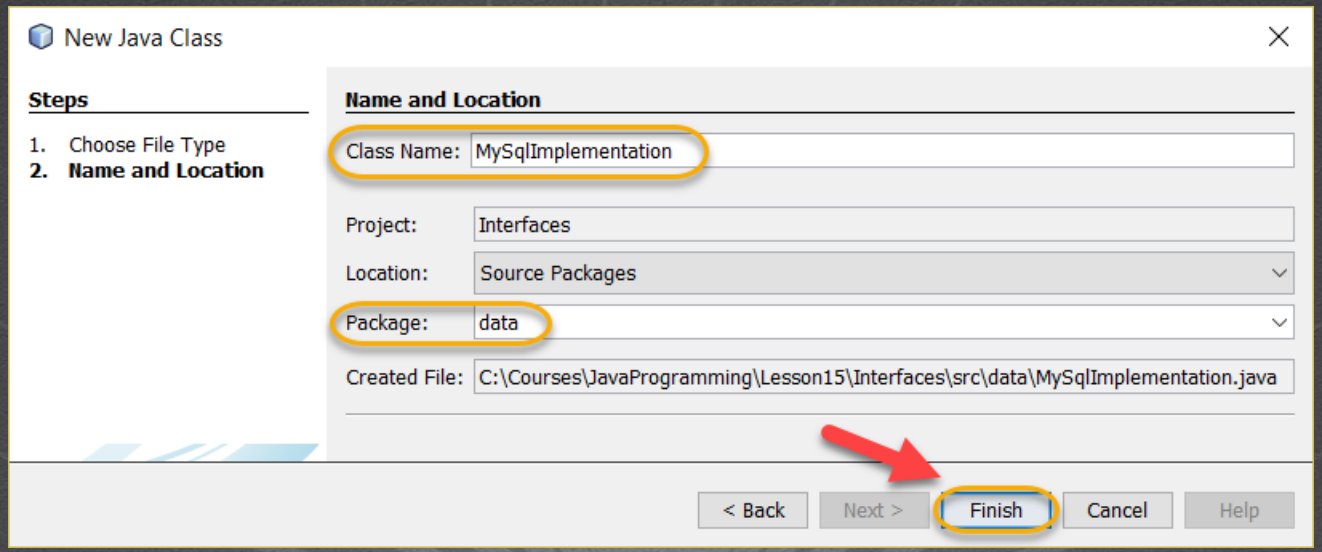
5. MODIFY THE CODE

OracleImplementation.java:

```
package data;

public class OracleImplementation implements DataAccess{

    @Override
    public void insert() {
        System.out.println("Insert from Oracle");
    }

    @Override
    public void list() {
        System.out.println("List from Oracle");
    }

}
```

6. CREATE A NEW CLASS

Create a new class:



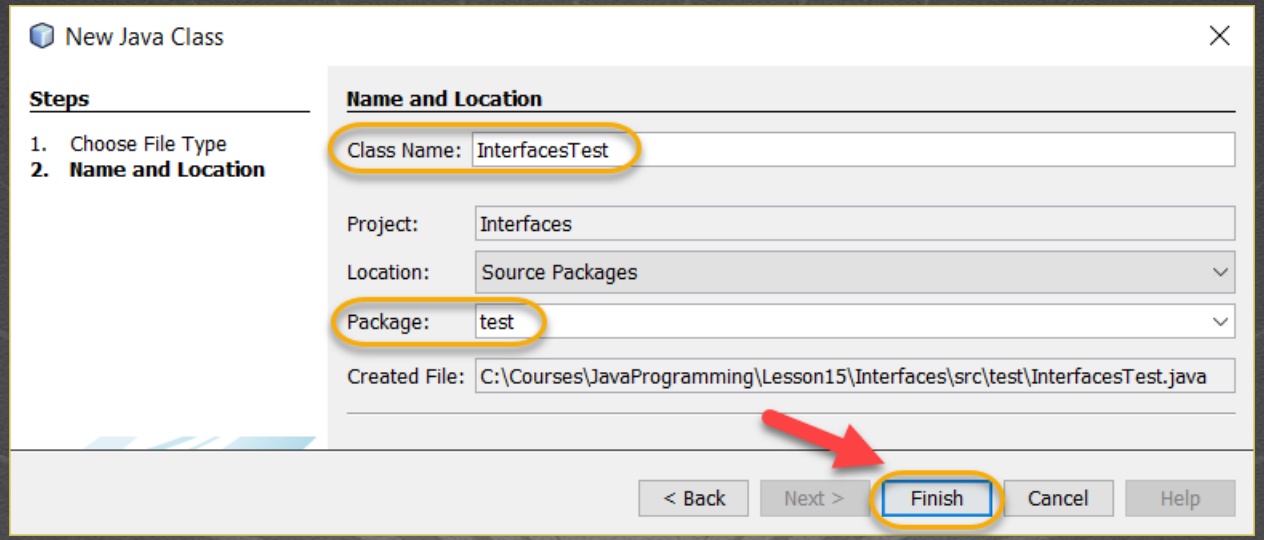
7. MODIFY THE CODE

MySqlImplementation.java:

```
package data;

public class MySqlImplementation implements DataAccess{

    @Override
    public void insert() {
        System.out.println("Insert from MySql");
    }

    @Override
    public void list() {
           System.out.println("List from MySql");
    }
}
```

8. CREATE A NEW CLASS

Create a new class:



9. MODIFY THE CODE

InterfacesTest.java:

```
package test;

import data.*;

public class InterfacesTest {

    public static void main(String[] args) {

        DataAccess data = null;
        String action = null;

        //Oracle Test
        data = new OracleImplementation();
        action="list";
        ejecutar(data,action);

        //MySql Test
        data = new MySqlImplementation();
        action="insert";
        ejecutar(data, action);
    }
```

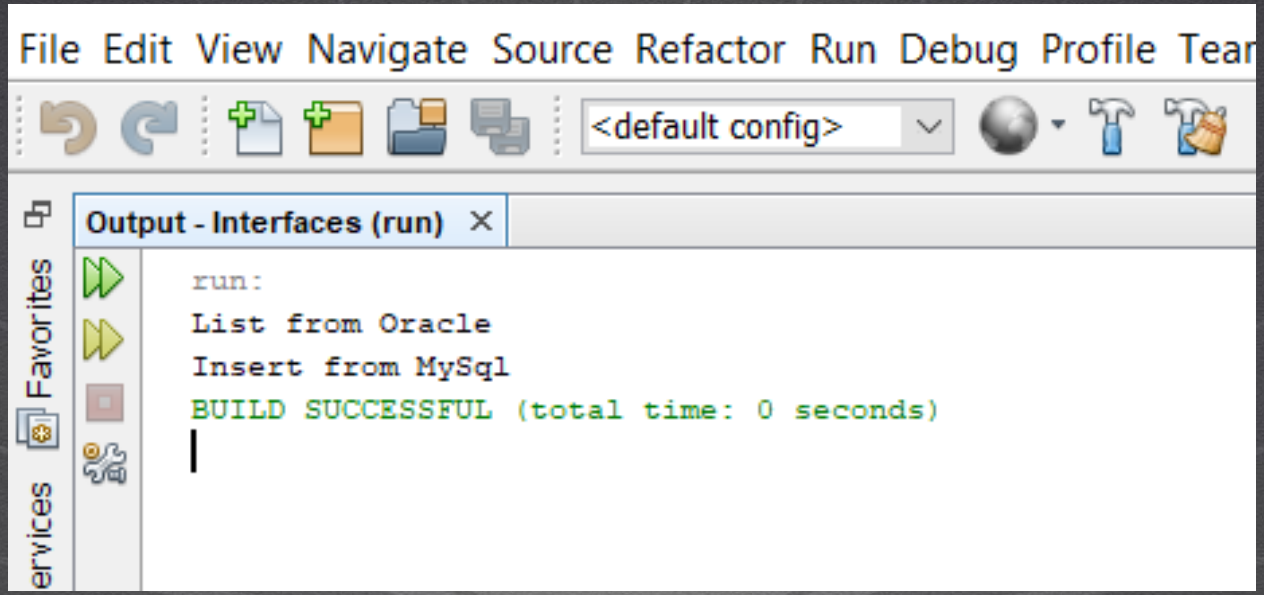
9. MODIFY THE CODE

InterfacesTest.java:

```
    private static void ejecutar(DataAccess data, String action){
        if("list".equals(action)){
            data.list();
        }
        else if("insert".equals(action)){
            data.insert();
        }
    }
}
```

10. EXECUTE THE PROJECT

The result is as follows:



EXERCISE CONCLUSION

- With this exercise we have put into practice the concept of interfaces in Java.

- We have seen how the concept of interfaces in Java is similar to abstract classes, however, we can implement multiple interfaces, instead we can only extend a class in Java, these are just some of the differences and as we go we will see more the use of interfaces in Java.