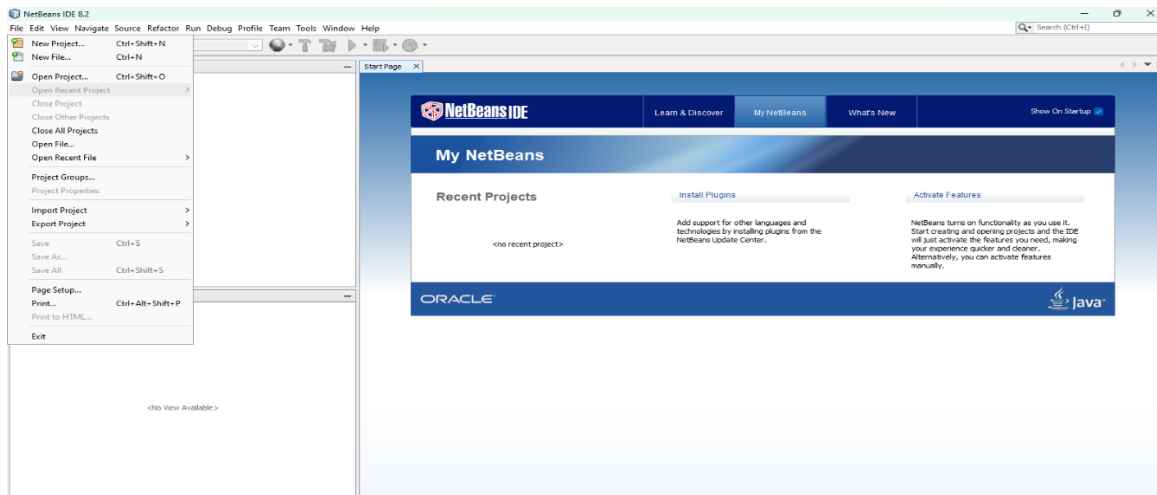


AIM: To develop a new Web Service for calculator.

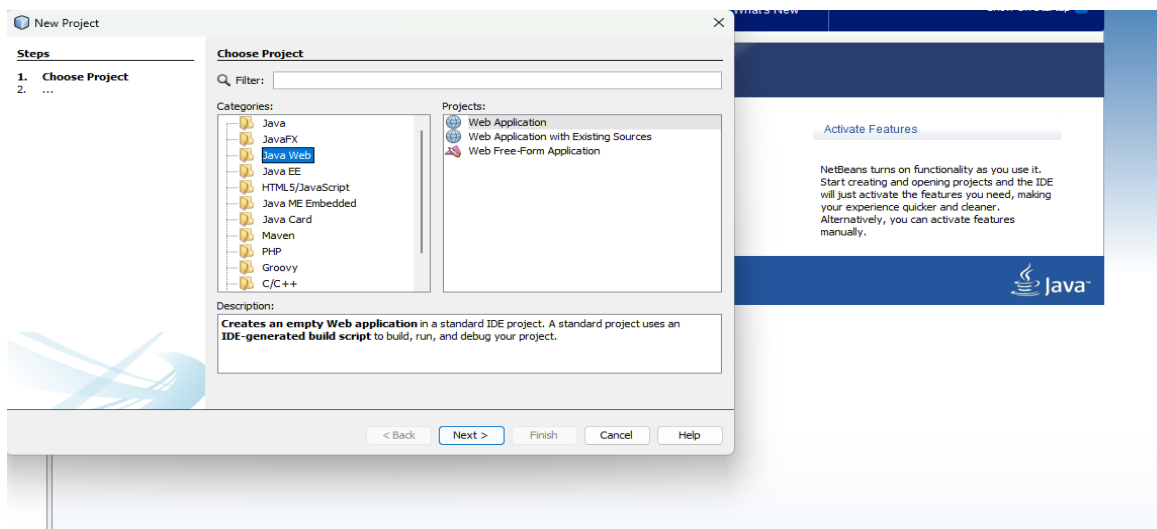
PROCEDURE:

Creating a Calculator Webservice.

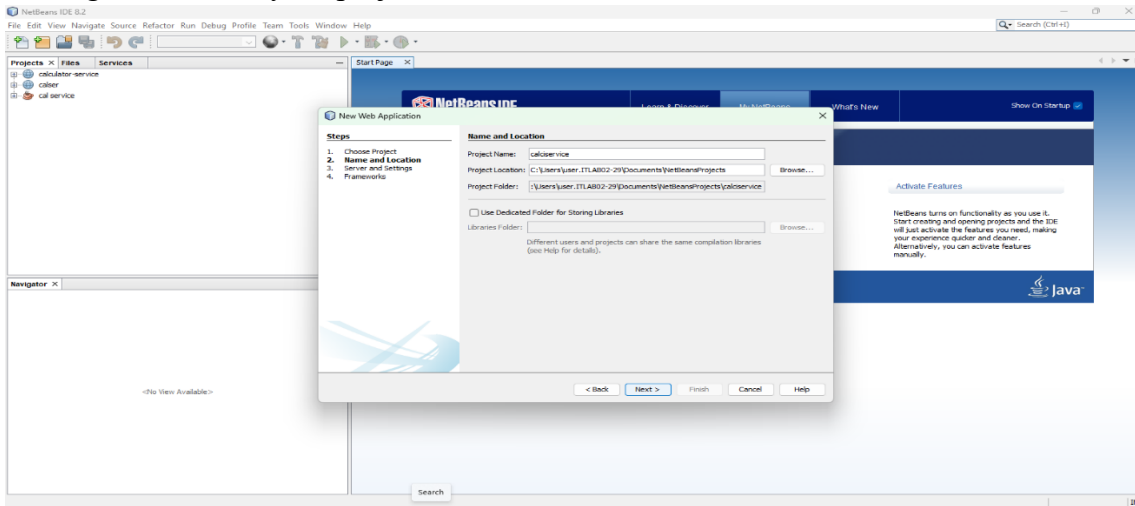
1.Create a new project in NetBeans



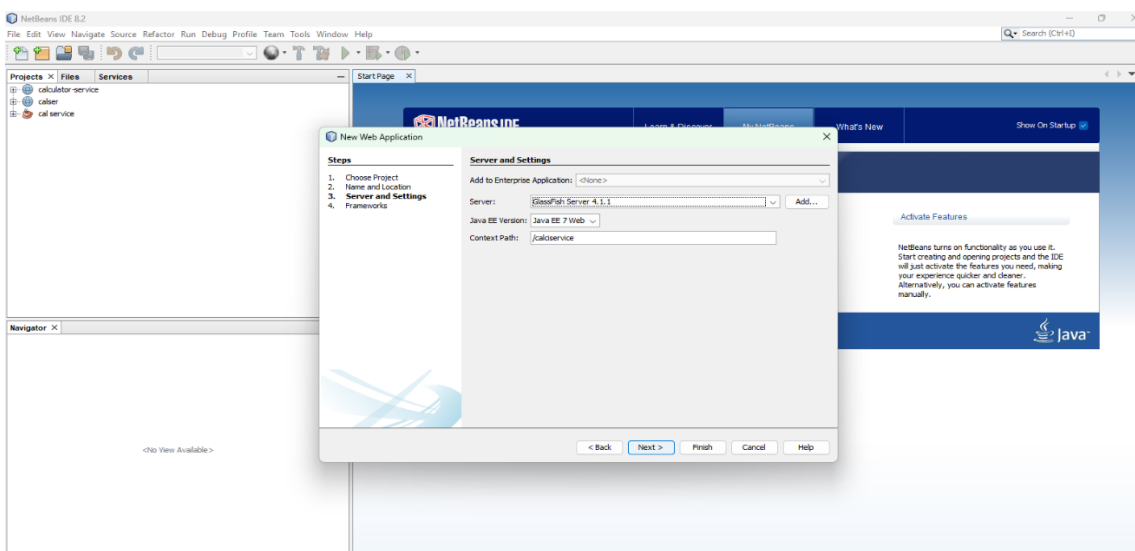
2.Select Java web, Choose web application, Click next.



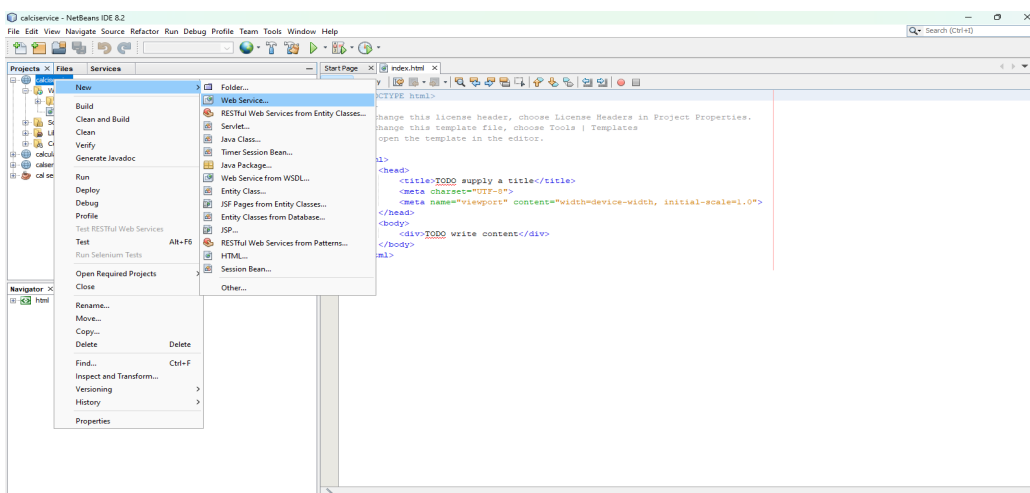
3. Assign a name for your project, Click next.

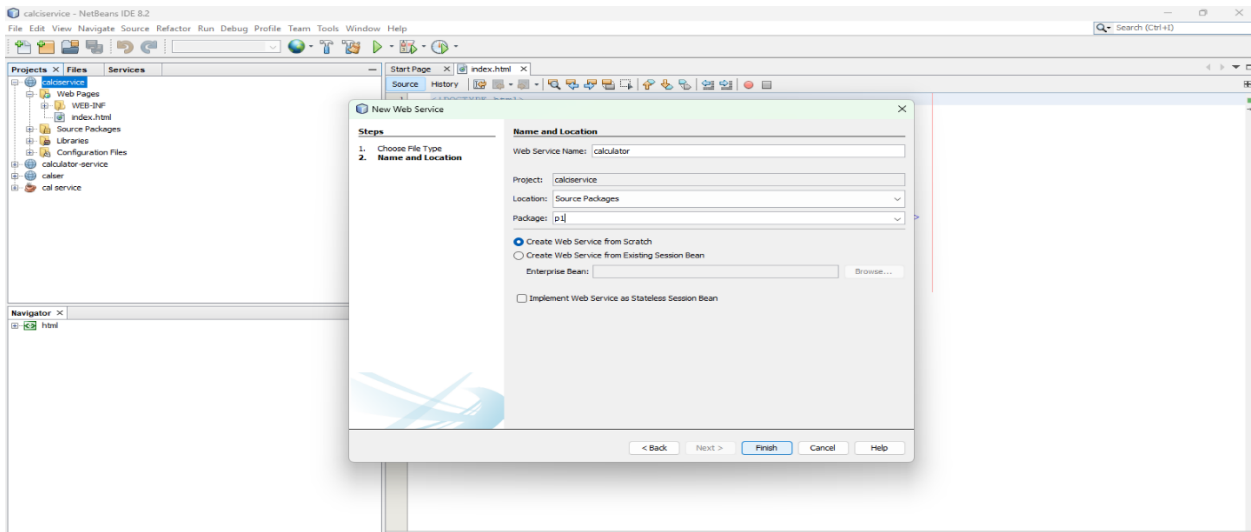


4. In the server and settings, ensure that the server name is set to GlassFish Server and the Java EE version is Java EE 7 Web.

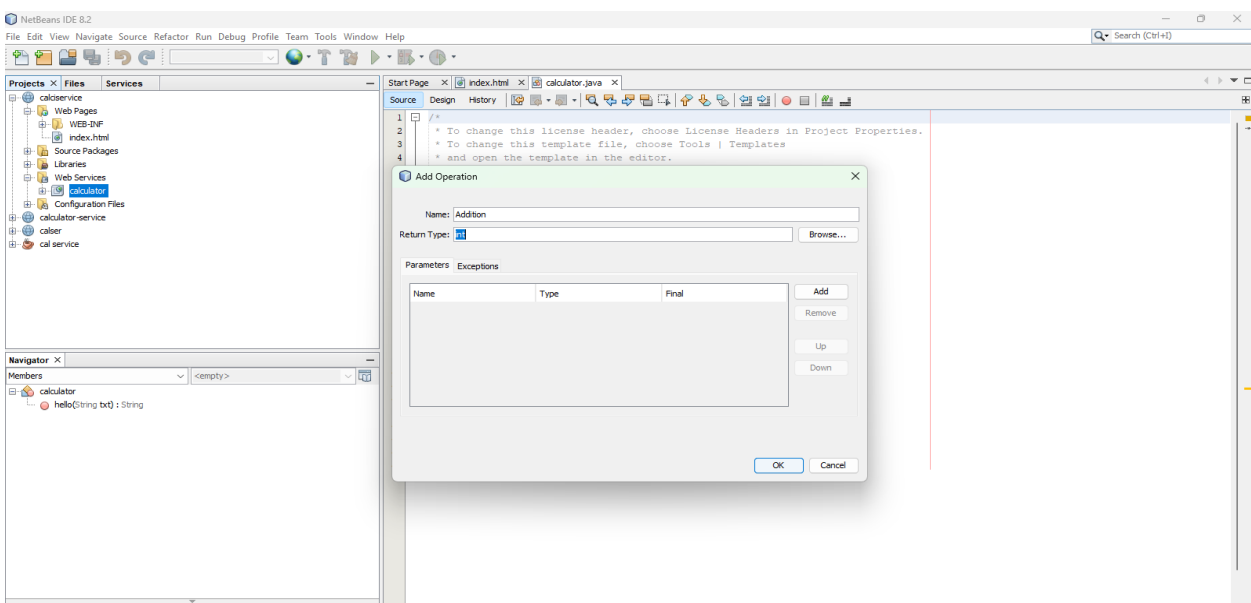


5. Right click the service project, Select->new->web service, Enter the web service name, Assign the package name, Click finish.

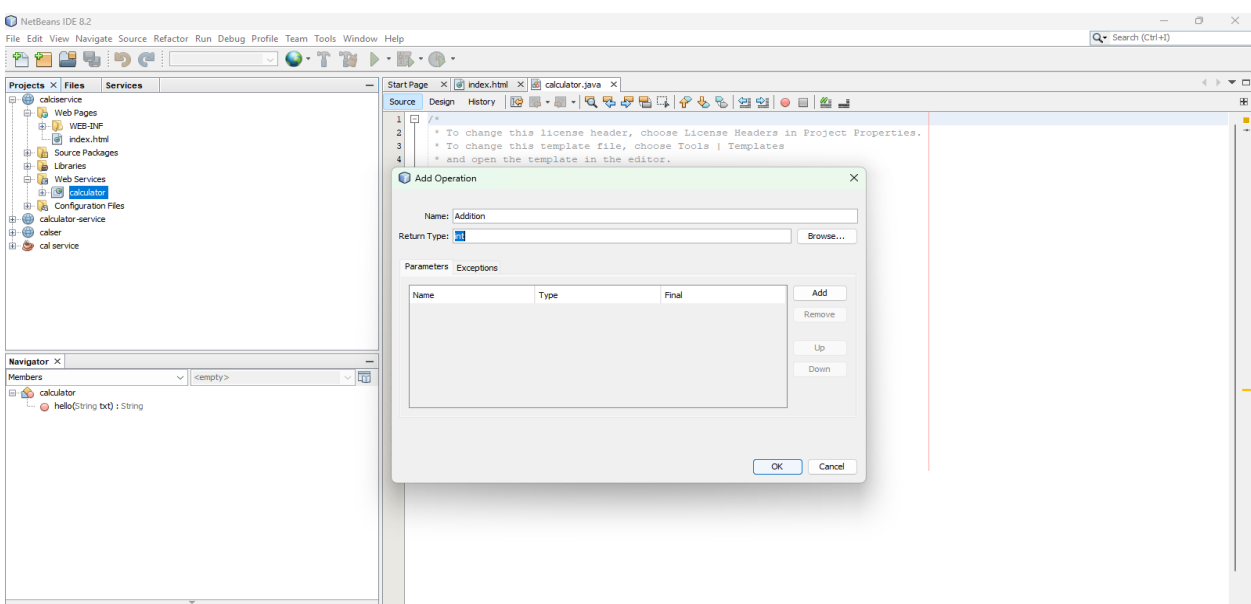




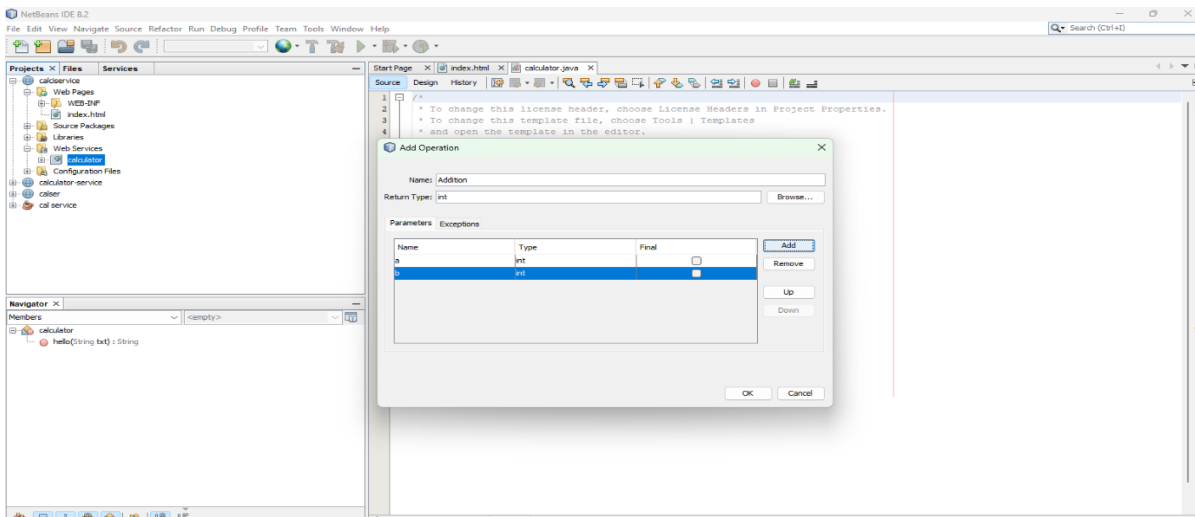
6. Expand the webservice folder, right click on the service you have created and select add operation.



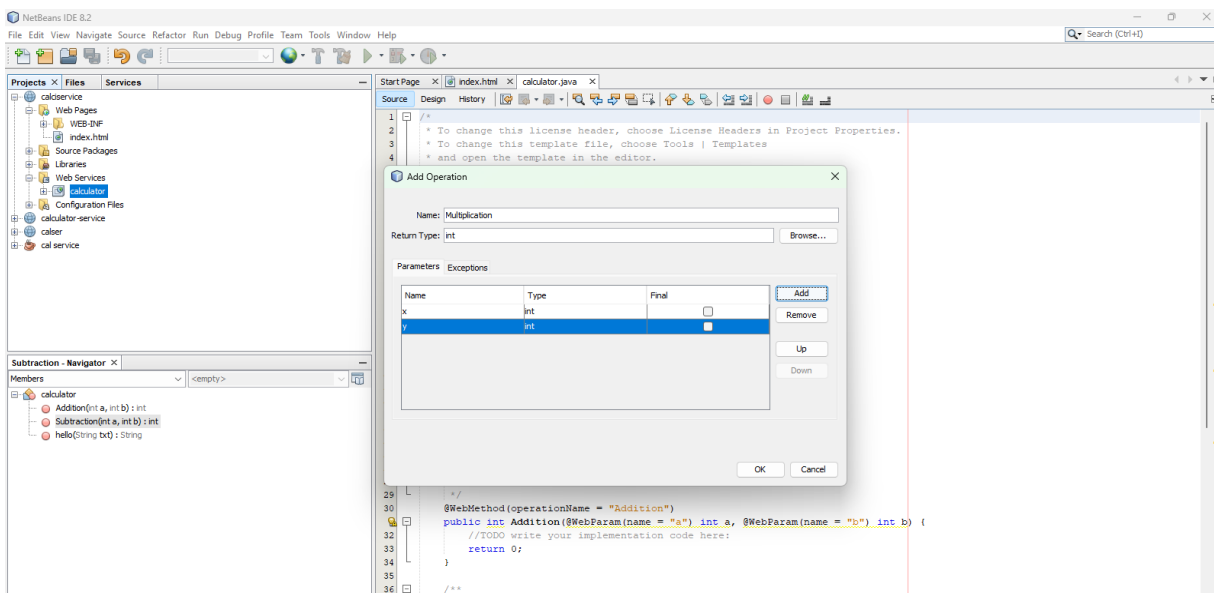
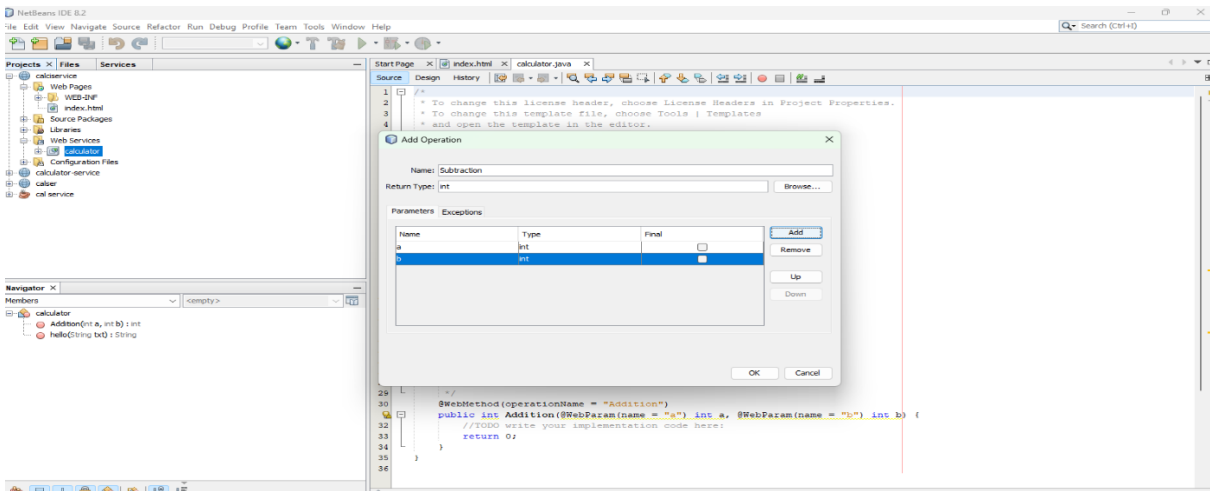
7. Give name of the operations as add, Choose the return type as Integer(int).



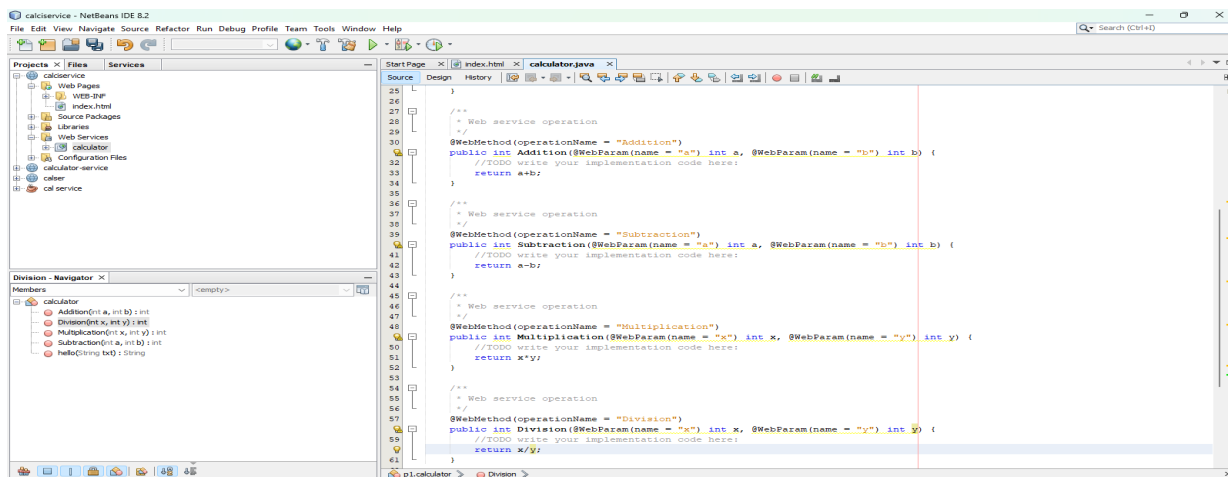
8. Click on the add button, enter the parameters, choose the datatype as Integer, click ok.



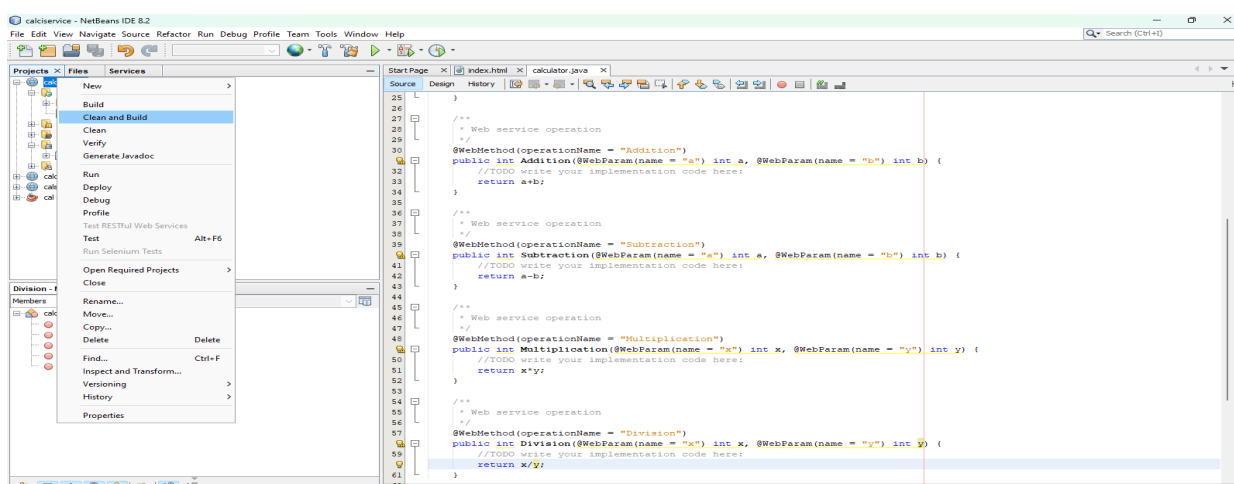
9. Similarly create for Subtraction, Multiplication, Division operations, Add the parameters and change the datatype.



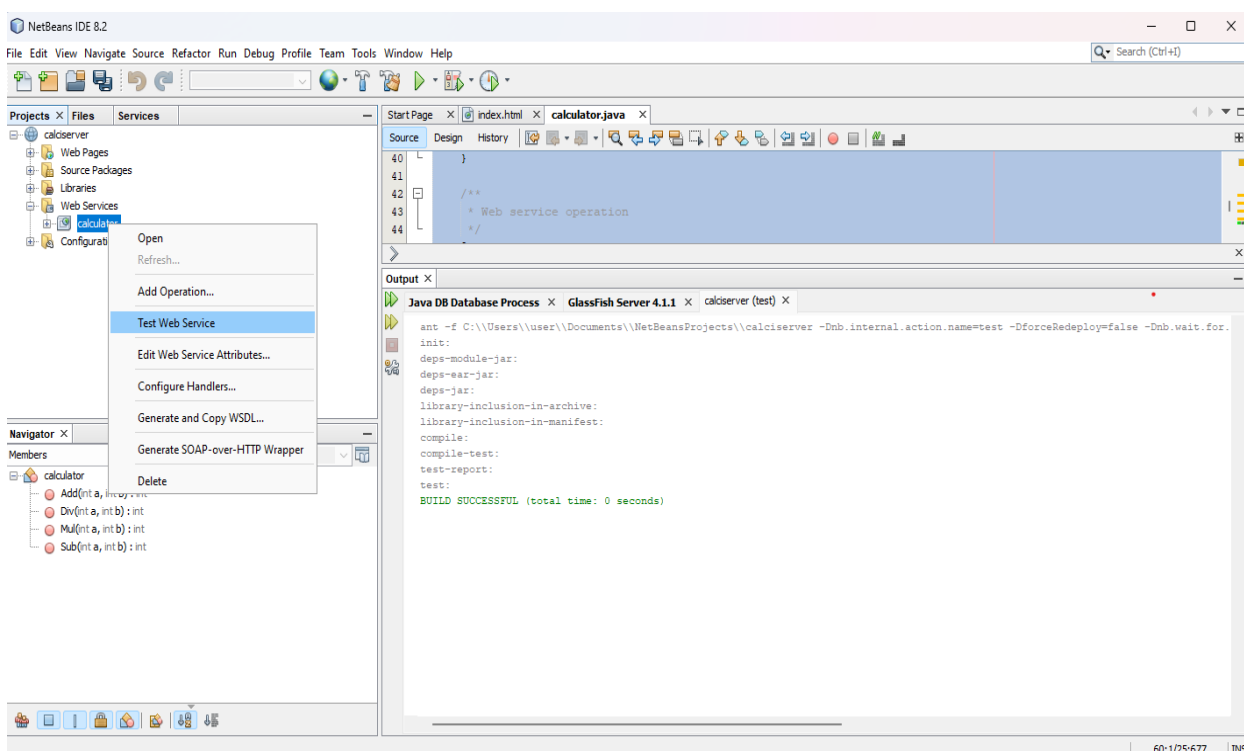
10. In web method code, change return '0' as return a+b and follow the same procedure for other operations.



11. Right click on the service project, click clean and build and also deploy it.



12. Right click the web service page, give Test web service.



localhost:8080/calciserver/calculator?Tester

calculator Web Service Tester

This form will allow you to test your web service implementation ([WSDL File](#))

To invoke an operation, fill the method parameter(s) input boxes and click on the button labeled with the method name.

Methods :

public abstract int o1.Calculator.add(int,int)
 (,)

public abstract int o1.Calculator.sub(int,int)
 (,)

public abstract int o1.Calculator.div(int,int)
 (,)

public abstract java.lang.String o1.Calculator.hello(java.lang.String)
 ()

public abstract int o1.Calculator.mul(int,int)
 (,)

localhost:8080/calciserver/calculator?Tester

sub Method invocation

Method parameter(s)

Type	Value
int	6
int	5

Method returned
 int : "1"

SOAP Request

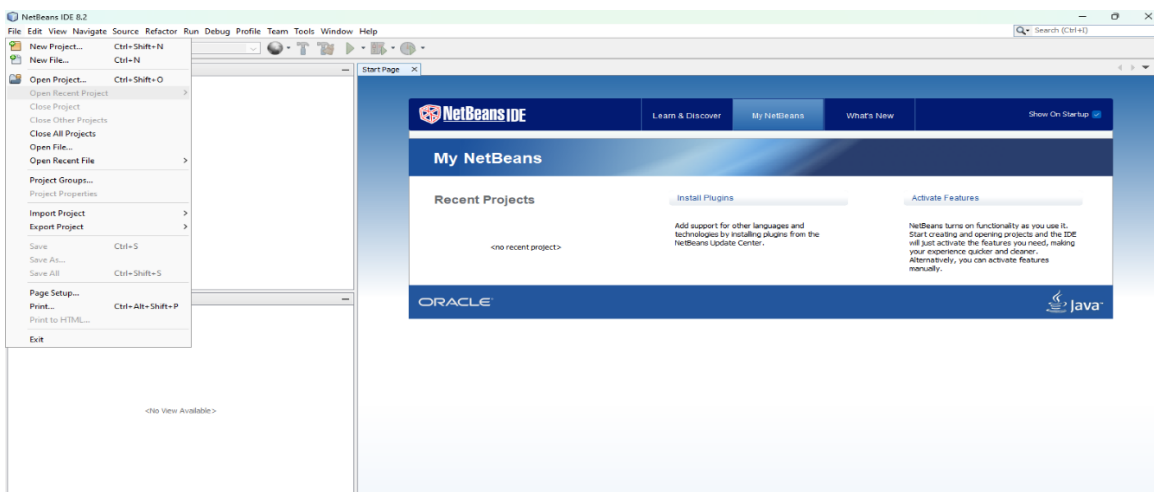
```
<?xml version="1.0" encoding="UTF-8"?><S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <S:Body>
    <ns2:Sub xmlns:ns2="http://o1/">
      <a>6</a>
      <b>5</b>
    </ns2:Sub>
  </S:Body>
</S:Envelope>
```

SOAP Response

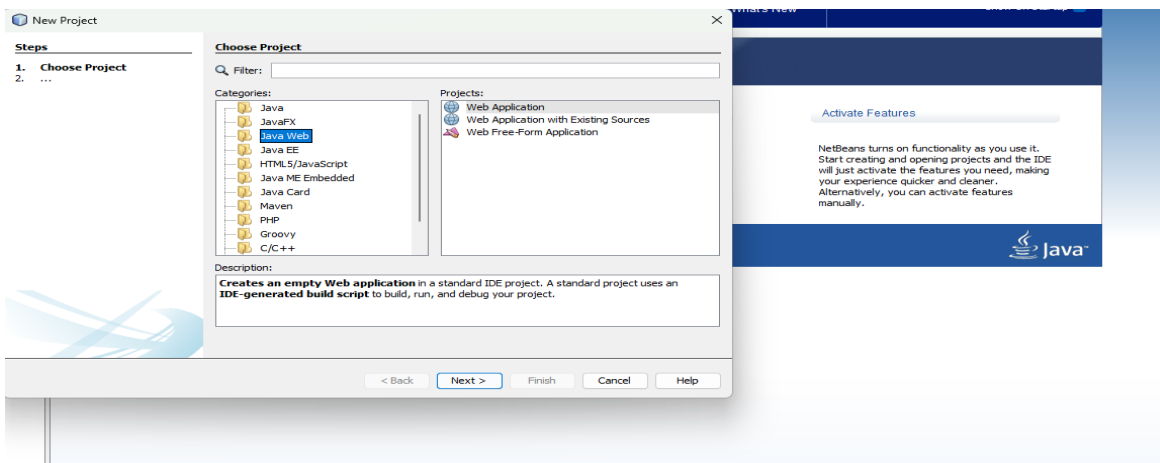
```
<?xml version="1.0" encoding="UTF-8"?><S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <S:Body>
    <ns2:SubResponse xmlns:ns2="http://o1/">
      <return>1</return>
    </ns2:SubResponse>
  </S:Body>
</S:Envelope>
```

Creating a Client Application.

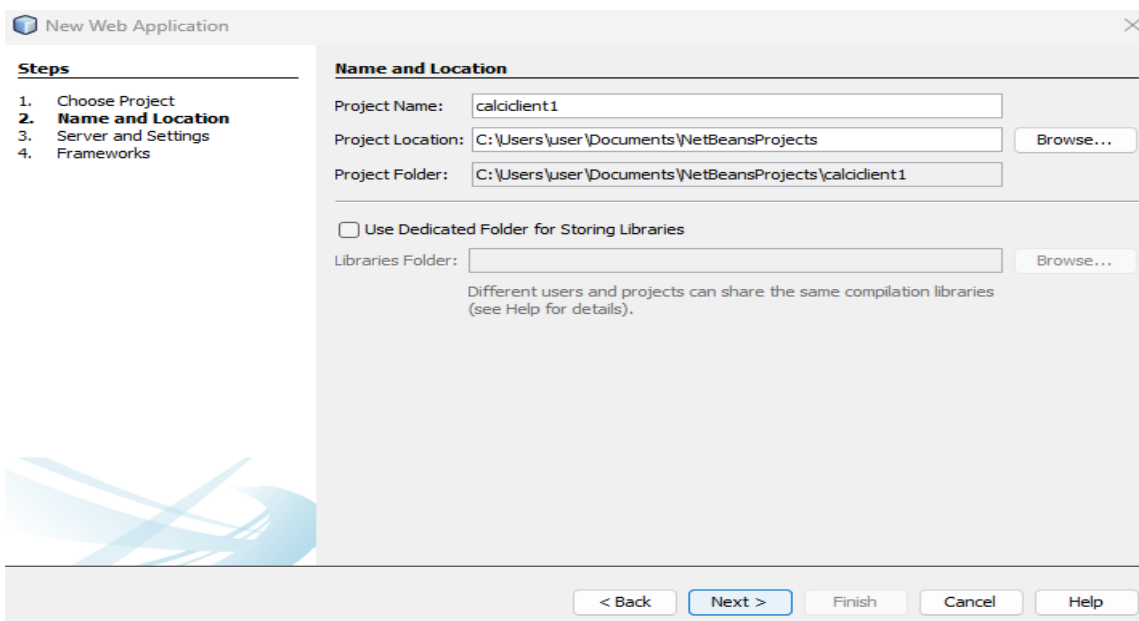
1.Create a new project in NetBeans.



2. Select Java web, Choose web application, Click next.

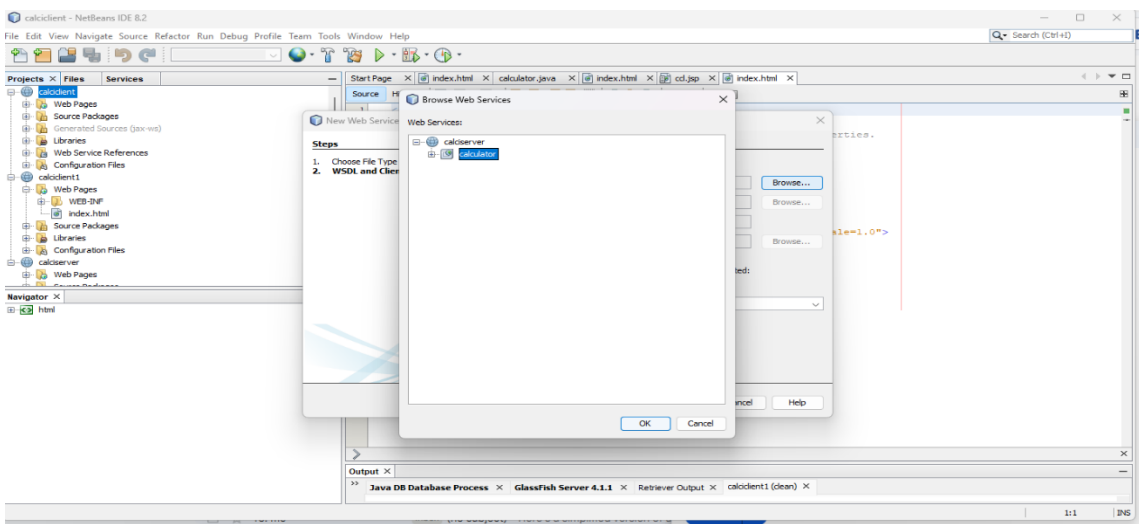


3. Assign a name for your project, Click next.



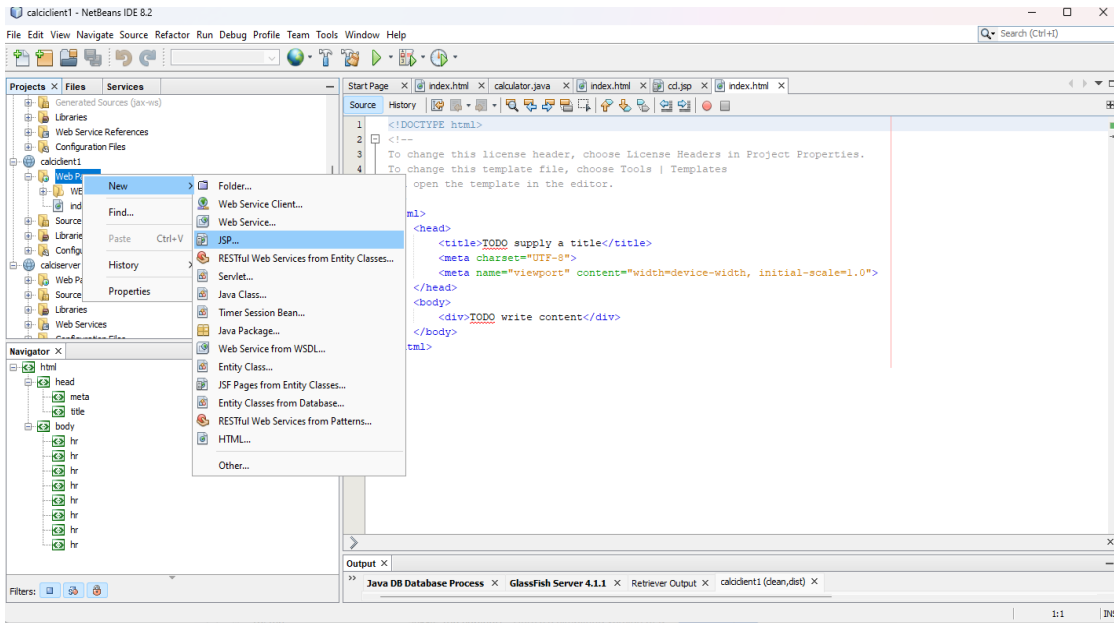
4. Right click the client project, select new web service from the client (If webservice is not listed, click other, choose web services from the category, then choose web service client from file type, click next).

5. Next browse for the project you have created and choose the web service that you have created in the service side, click ok and then click finish.

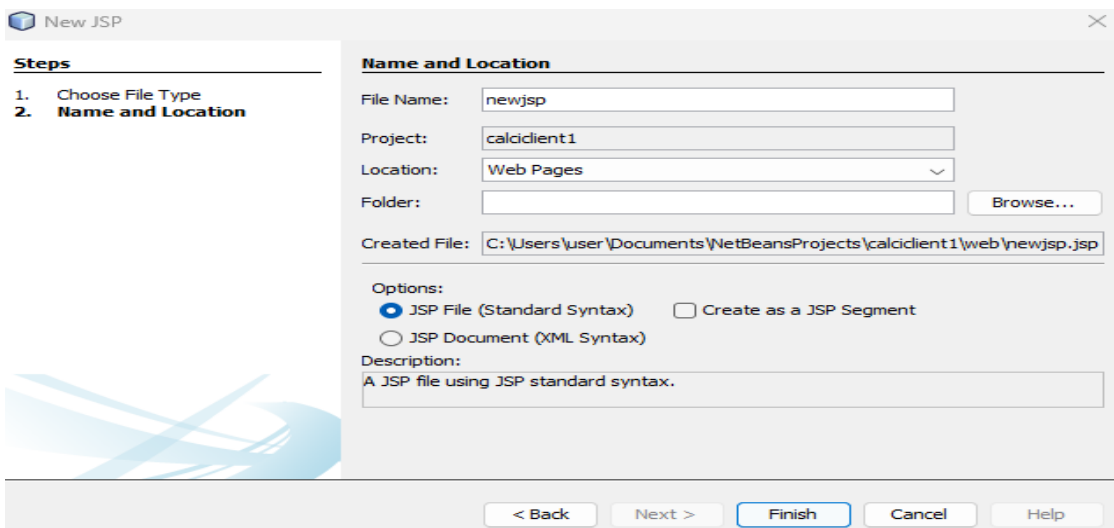


6.Right click the project, Clean and build it.

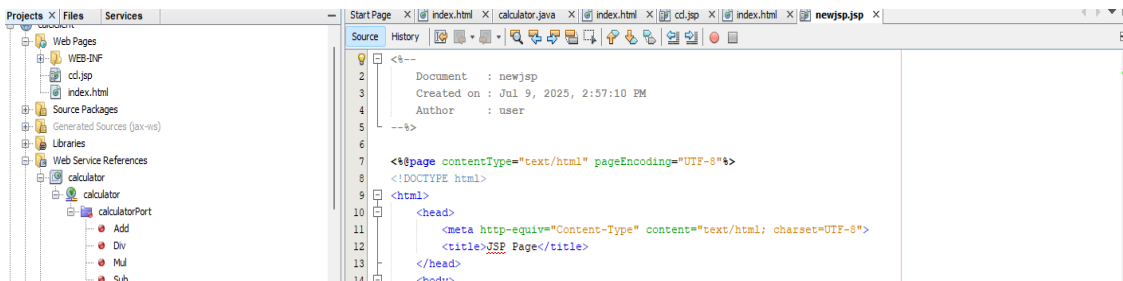
7.Expand the client project, choose web pages, right click and select JSP.



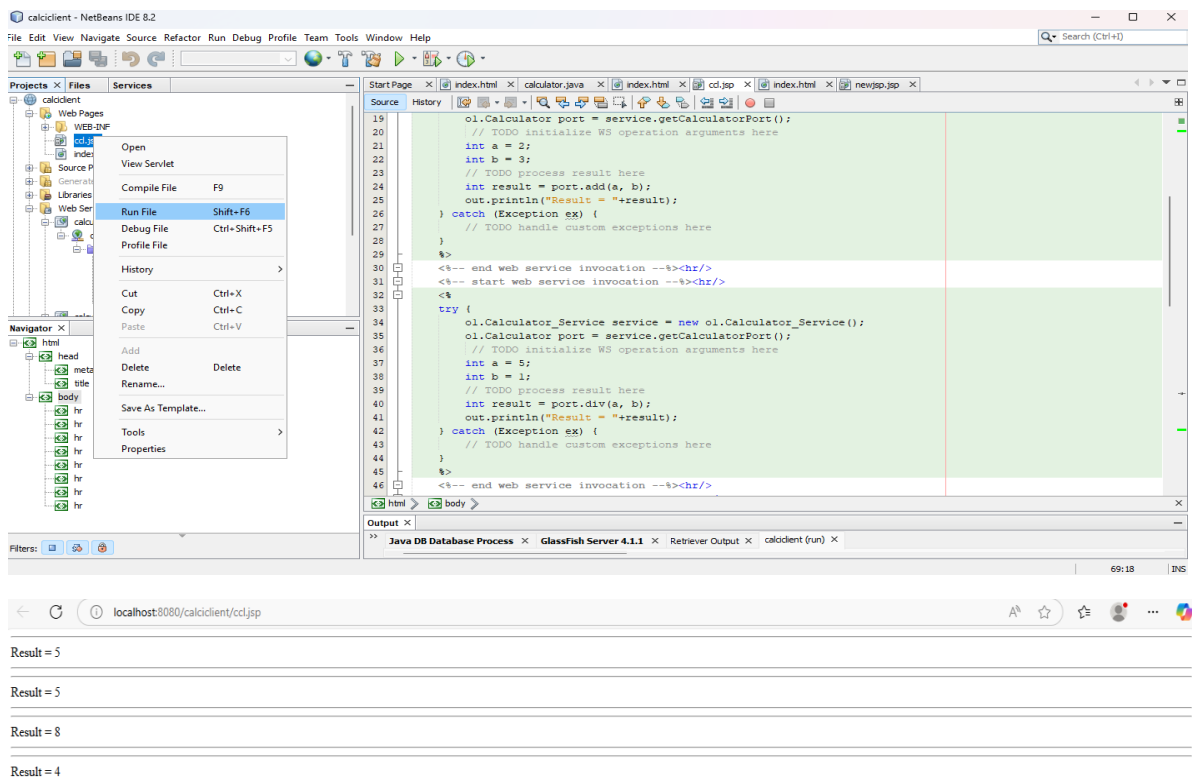
8.Assign a name for your JSP file and click finish.



9.Delete the content within the body tag in JSP file.



10. Expand the Web Service References, drag and drop the arithmetic operation interfaces inside the <body> tag, change the values of the parameters, then right-click the JSP file and select Run.



RESULT: Thus, a calculator web service has been successfully developed.