

[2CEIT603: CLOUD COMPUTING]

Practical : 1

AIM- Web Service Implementation.



**Ganpat
University**

॥ विद्यया समाजोत्कर्षः ॥

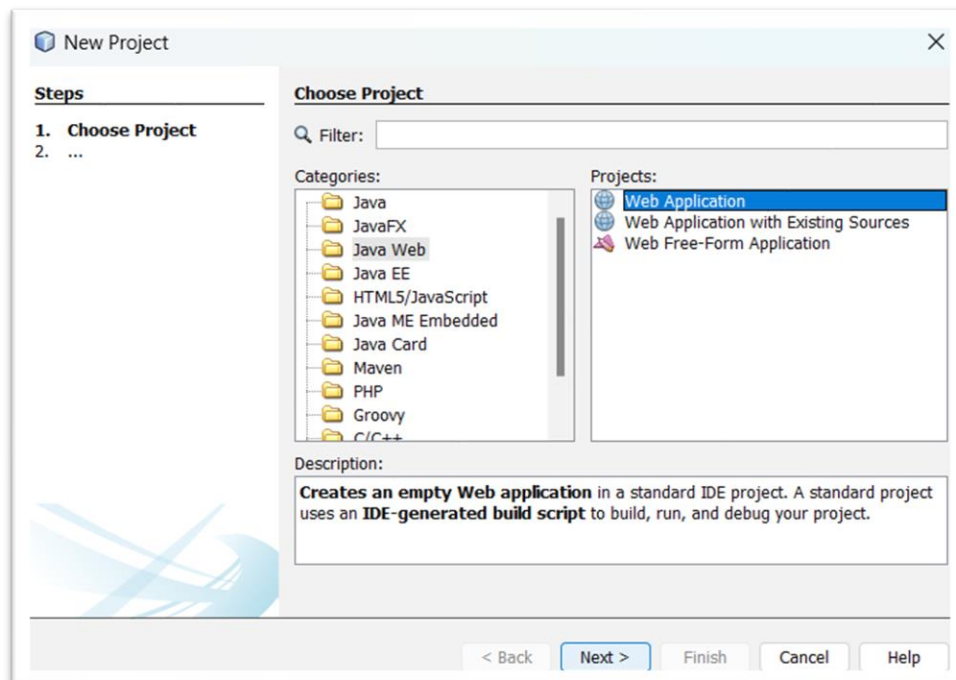
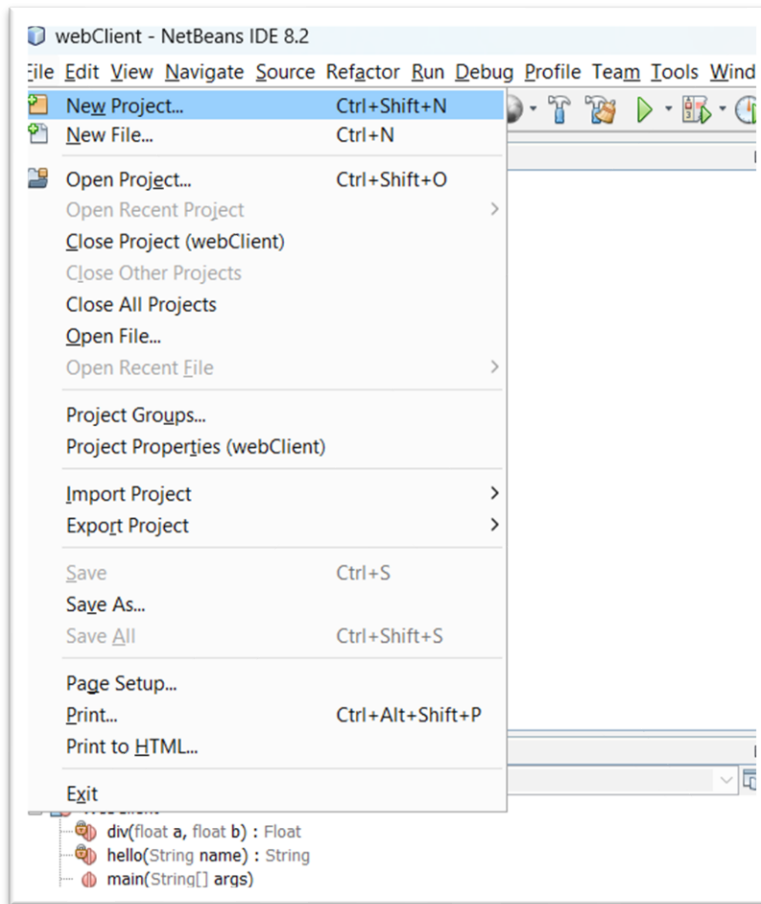
**U.V. Patel
College of
Engineering**

Department of
Information Technology

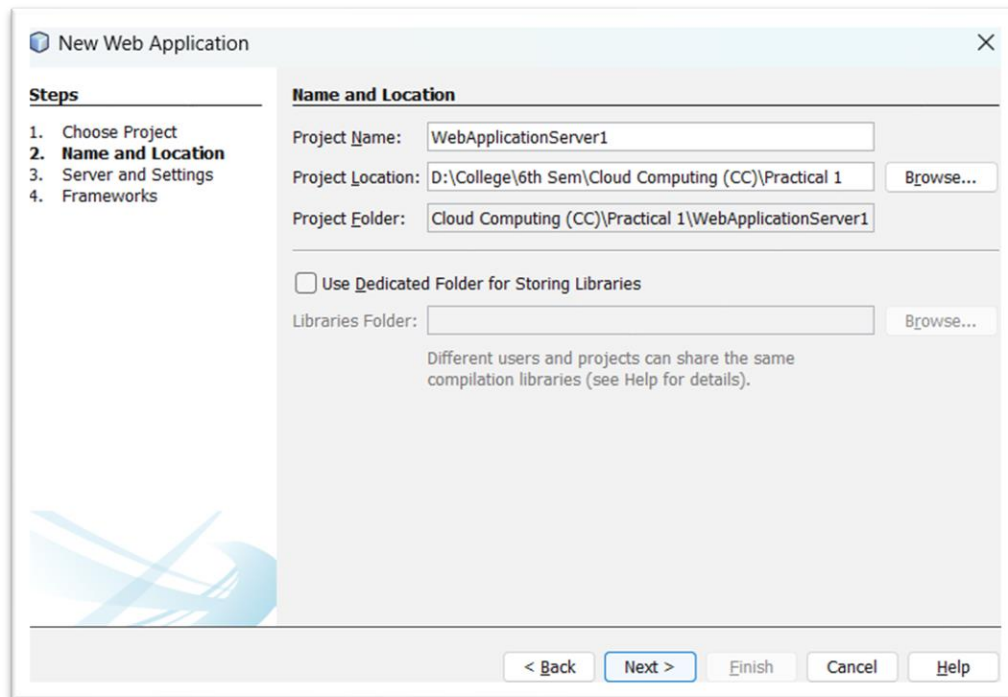
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1) Create Web application in NetBeans.

File > New Project > Java Web > Web Application



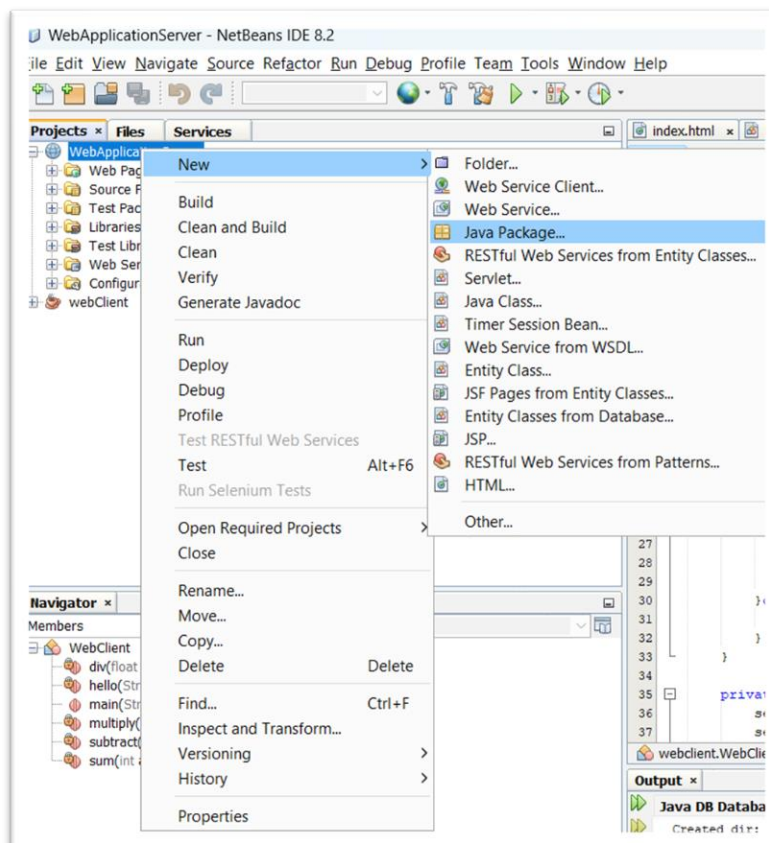
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Click Next and Finish.

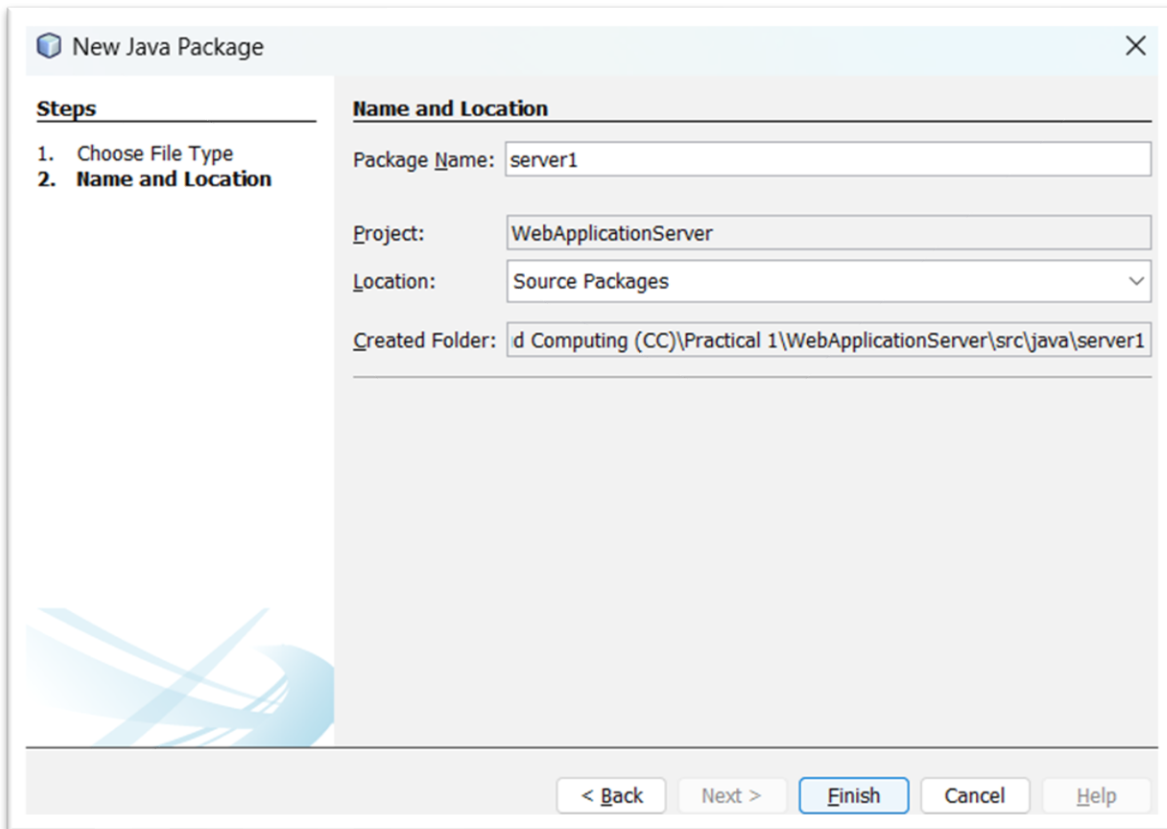
2) Create Java Packages from

Web Application > Source Packages > New > Java Package



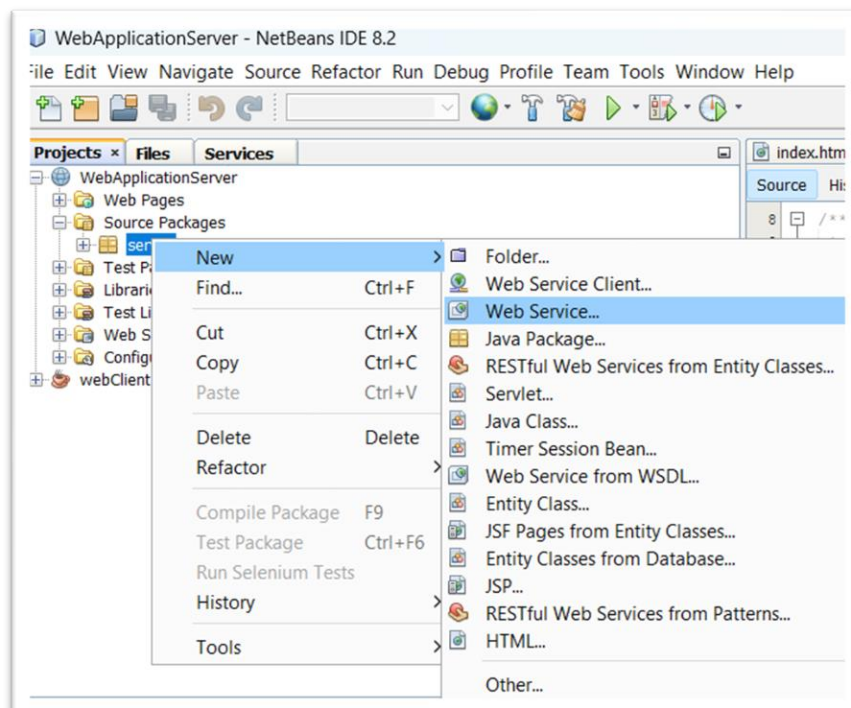
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3) Specify Name of Java Package and click on Finish Button.



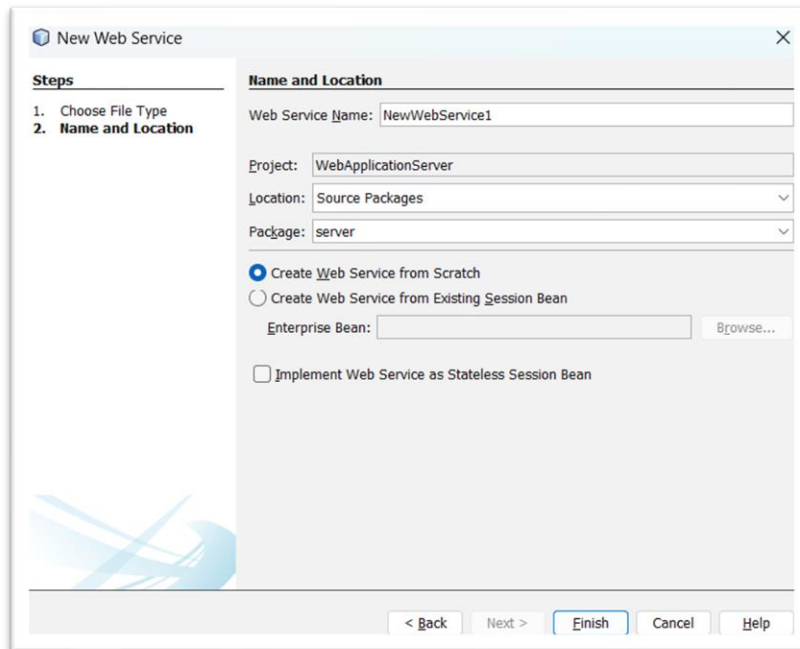
4) Right click on Package and create web service

New > Web Service



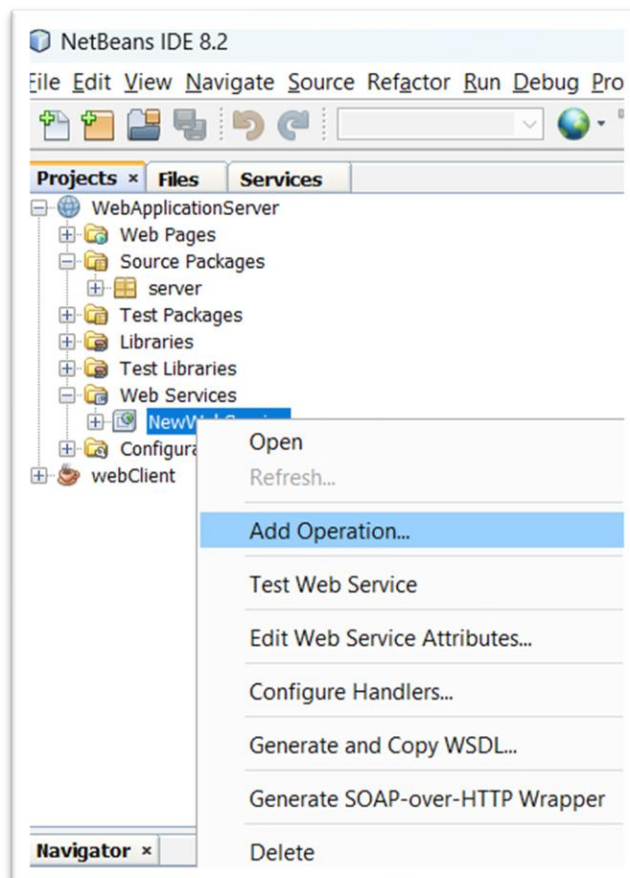
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5) Specify Name of Web service and select Java Package



Web service folder created.

6) Under web services folder select web service and Right click > Add Operation



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7) Add Operation

Specify Name of Operation and click on OK

Add Operation

Name:

Return Type:

Parameters ☒ Exceptions

Name	Type	Final
------	------	-------

8) You may also add operation with parameters

Add Operation

Name:

Return Type:

Parameters ☒ Exceptions

Name	Type	Final
a	int	<input type="checkbox"/>
b	int	<input type="checkbox"/>

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- 9) Modify method according to requirement.. like I want to return String is My Name is.. and perform arithmetic operations then code

```
@WebMethod(operationName = "hello")
public String hello(@WebParam(name = "name") String txt) {
    return "My name is Amit!!";
}

/**
 * Web service operation
 */
@WebMethod(operationName = "sum")
public Integer sum(@WebParam(name = "a") int a, @WebParam(name = "b") int b) {
    //TODO write your implementation code here:
    return a+b;
}

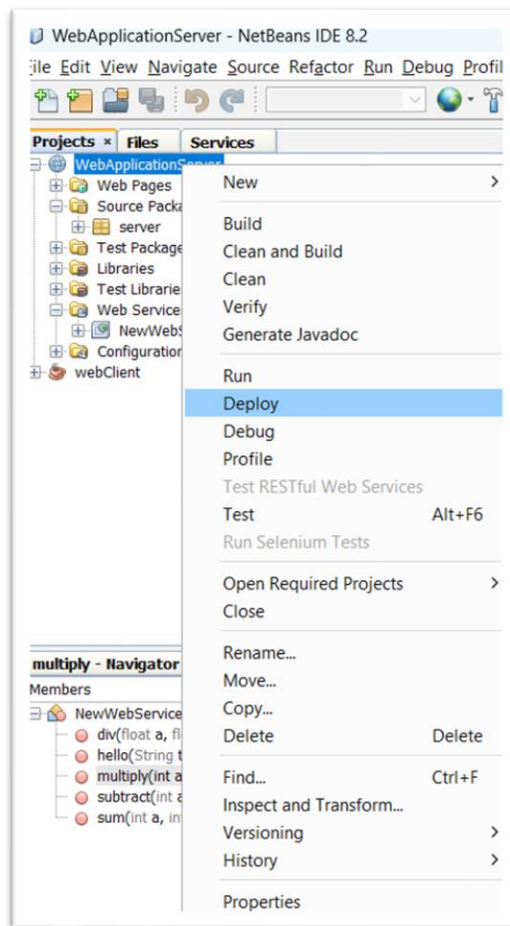
/**
 * Web service operation
 */
@WebMethod(operationName = "subtract")
public Integer subtract(@WebParam(name = "a") int a, @WebParam(name = "b") int b) {
    //TODO write your implementation code here:
    return a-b;
}

/**
 * Web service operation
 */
@WebMethod(operationName = "multiply")
public Integer multiply(@WebParam(name = "a") int a, @WebParam(name = "b") int b) {
    //TODO write your implementation code here:
    return a*b;
}

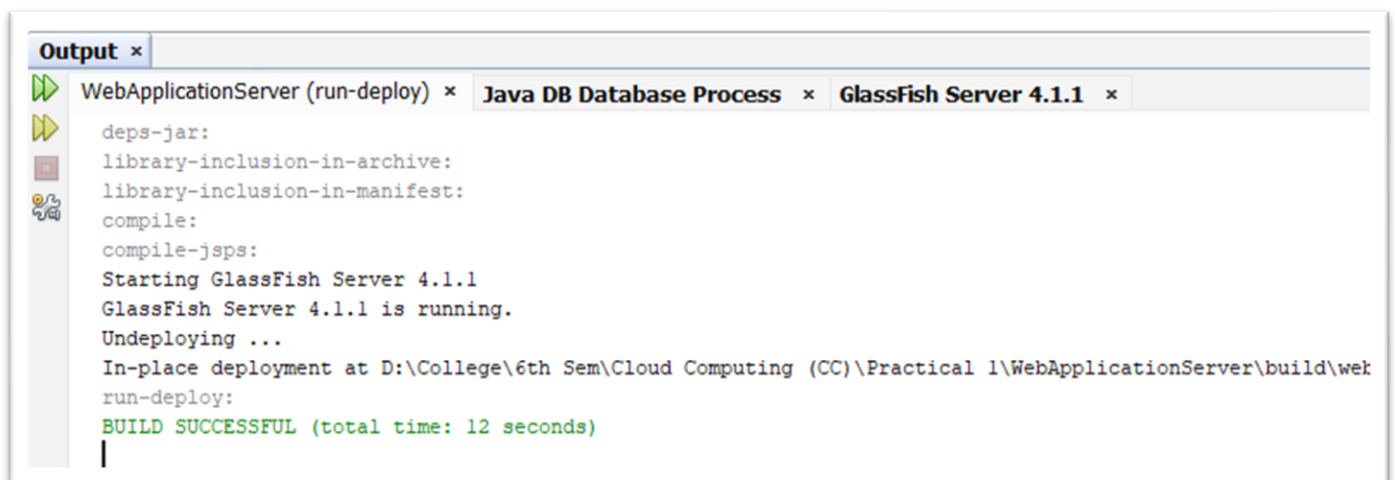
/**
 * Web service operation
 */
@WebMethod(operationName = "div")
public Float div(@WebParam(name = "a") float a, @WebParam(name = "b") float b) {
    //TODO write your implementation code here:
    return a/b;
}
```

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10) Deploy Project

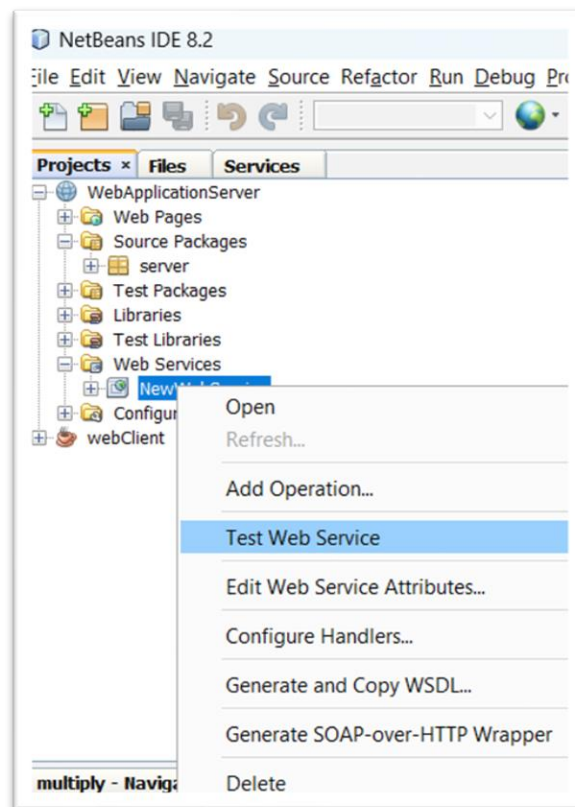


For successful deployment

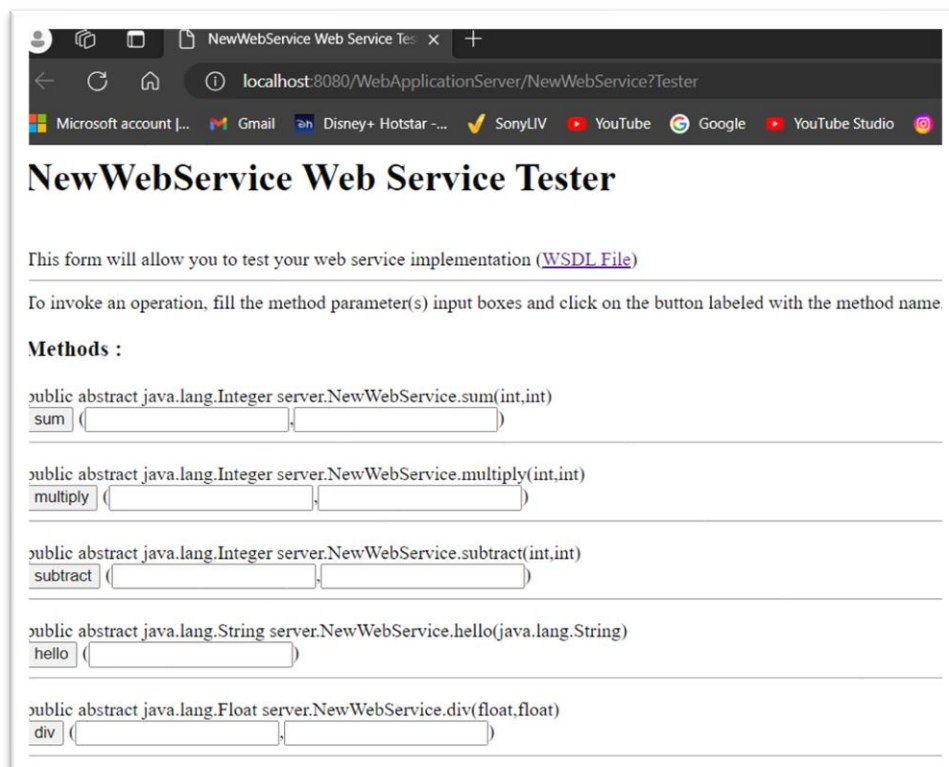


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11) Test Web Service

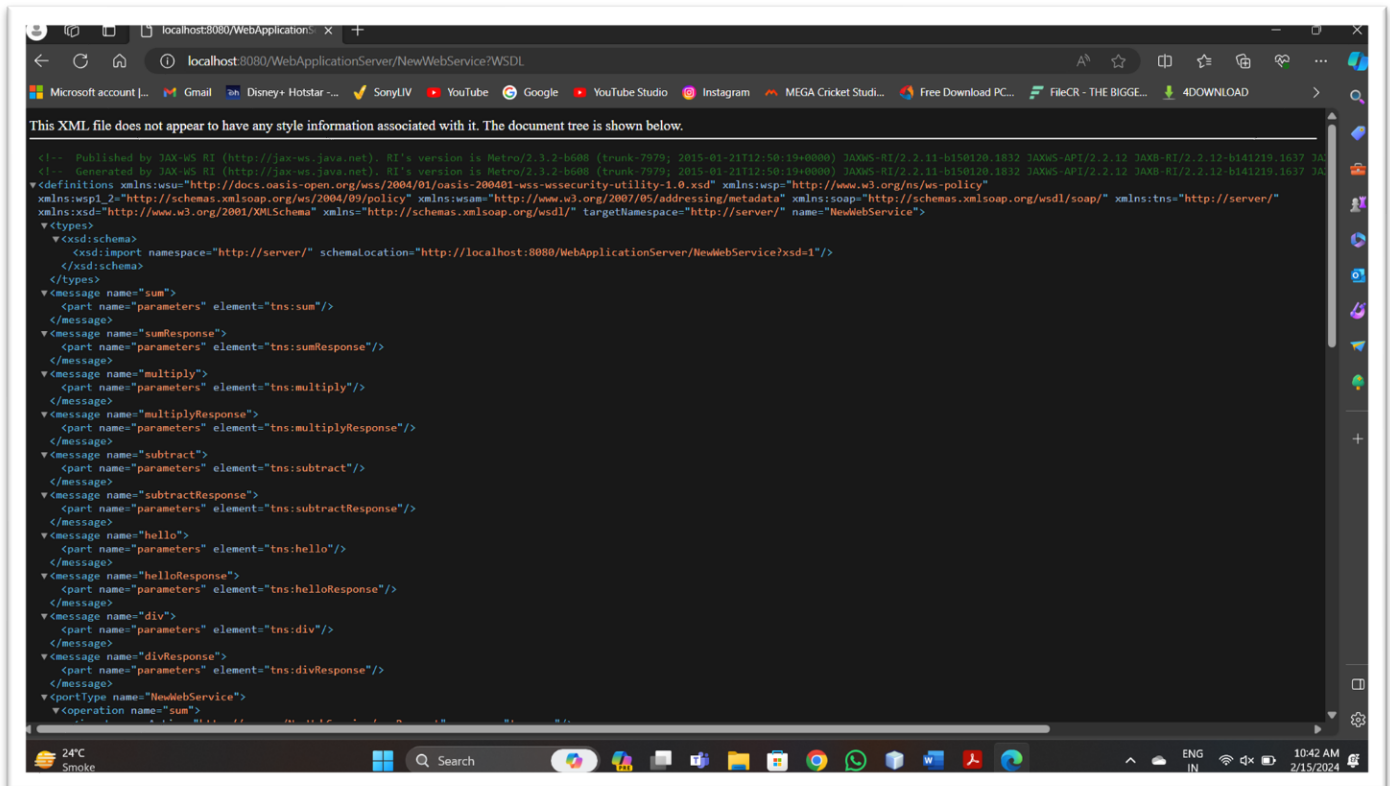


Output of Test web service in web browser

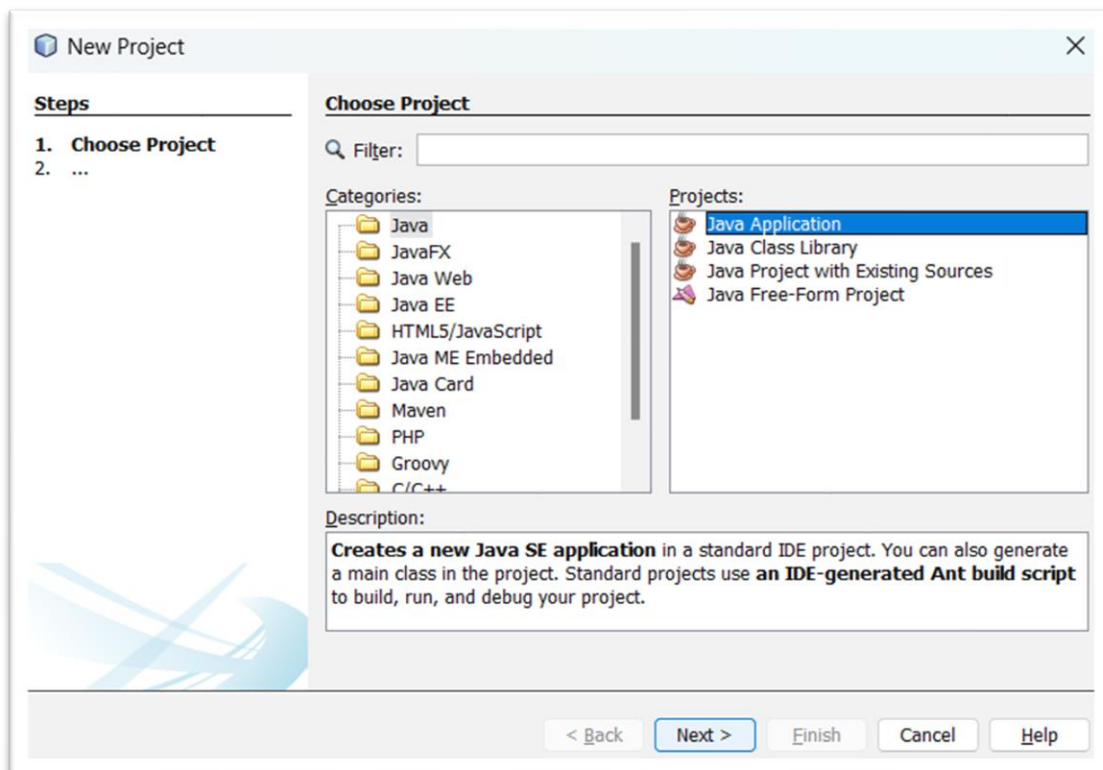


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12) Click on WSDL file Link and copy newly open window URL

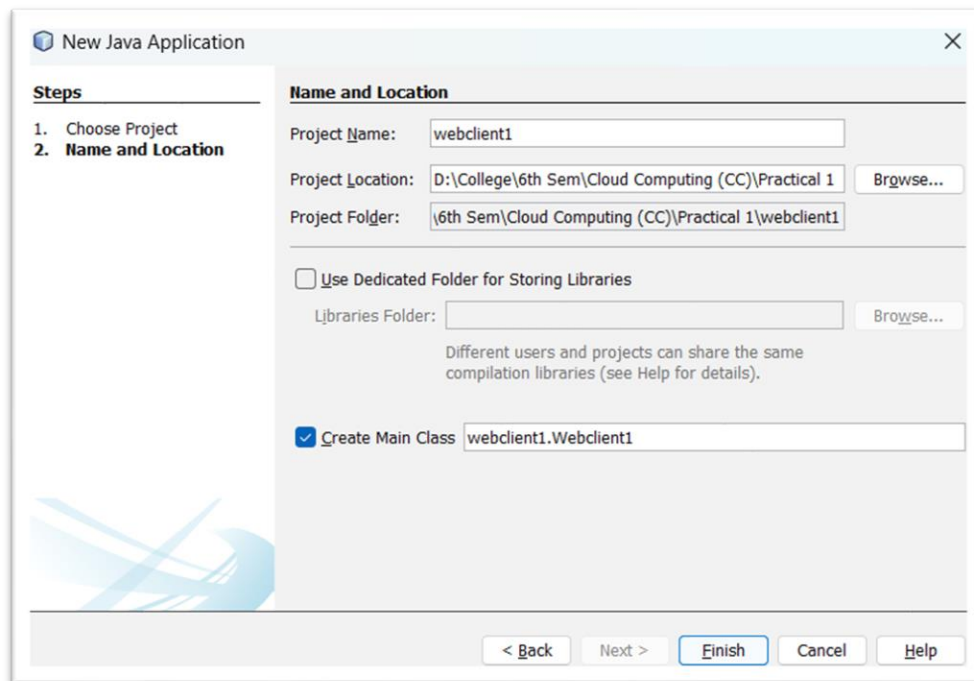


13) Create simple Java application from File > New > Java > Java Application



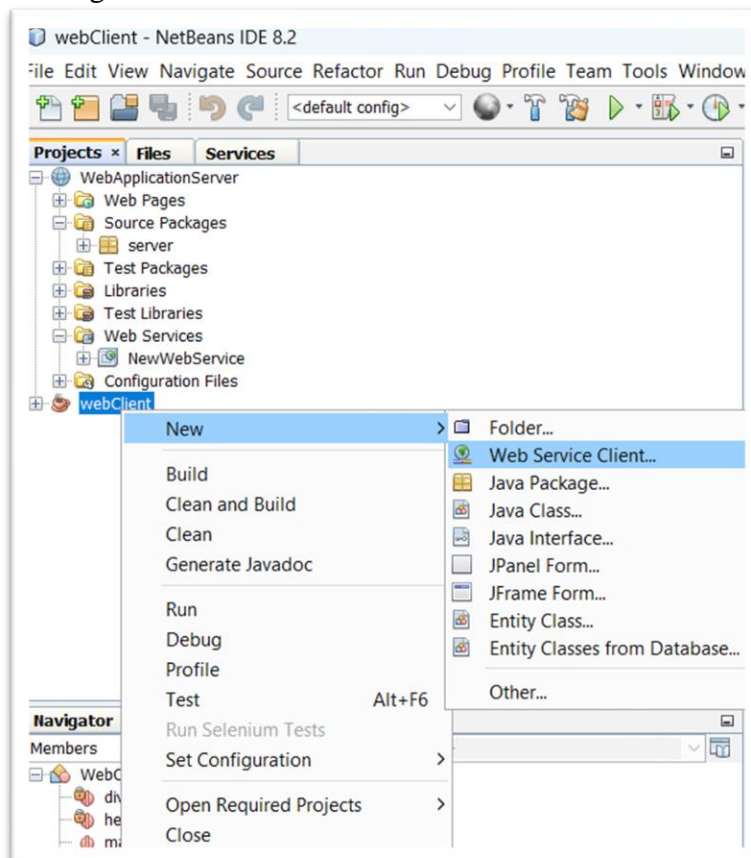
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14) Specify Name and Finish



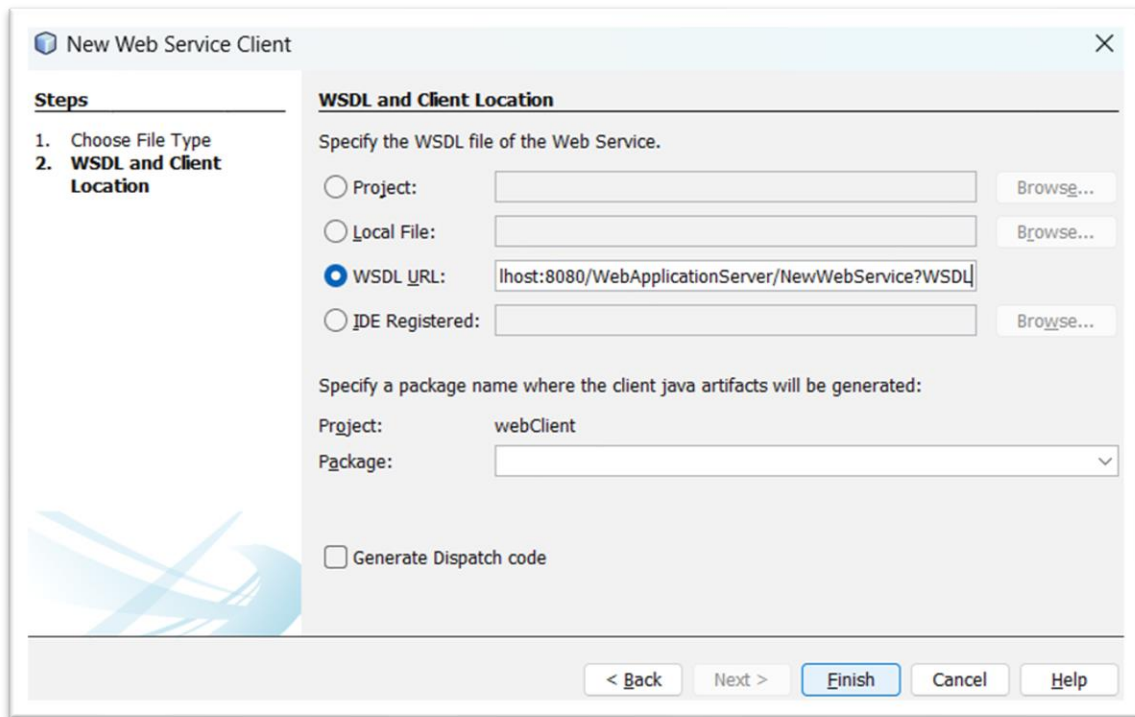
15) Add web service client from

Client Project > Source Package > New > Web Service Client

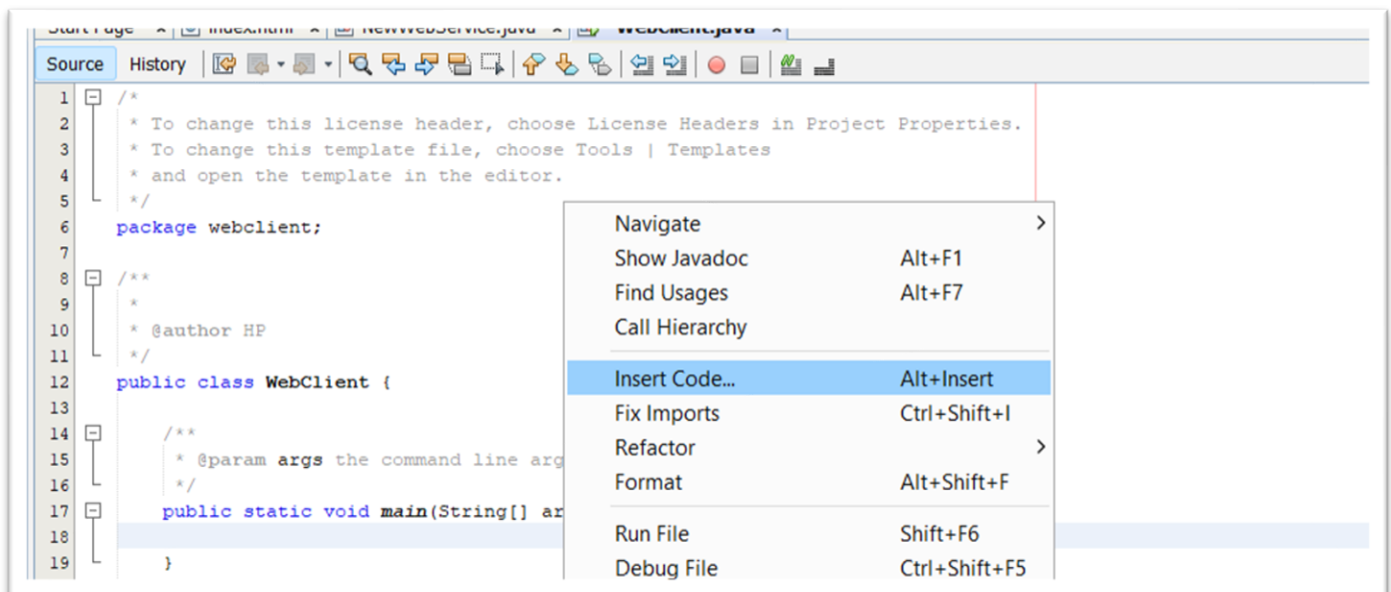


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16) Add WSDL and click on Finish

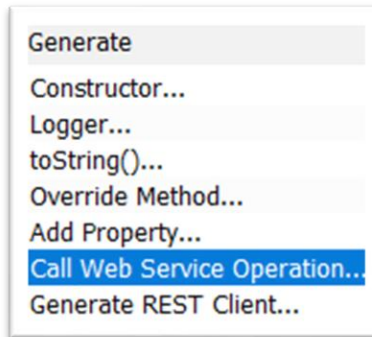


17) Open Code of java file and Right click > Insert code

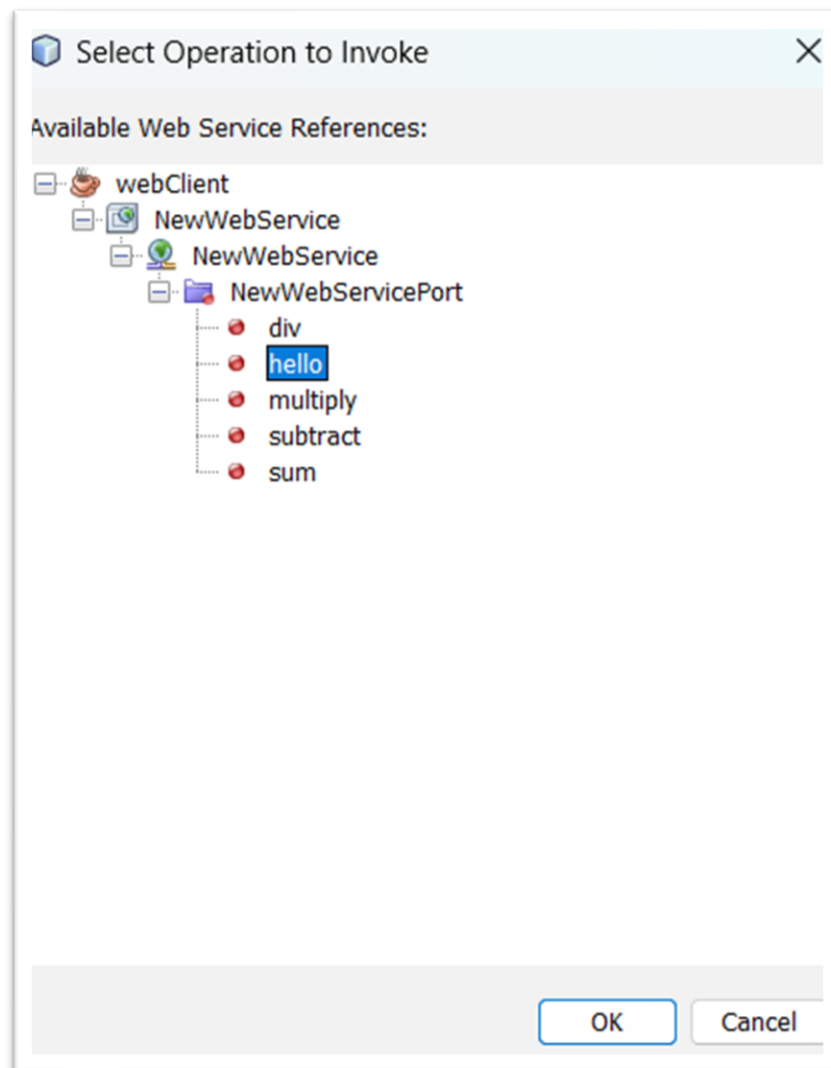


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Then select Call Web Service Operation

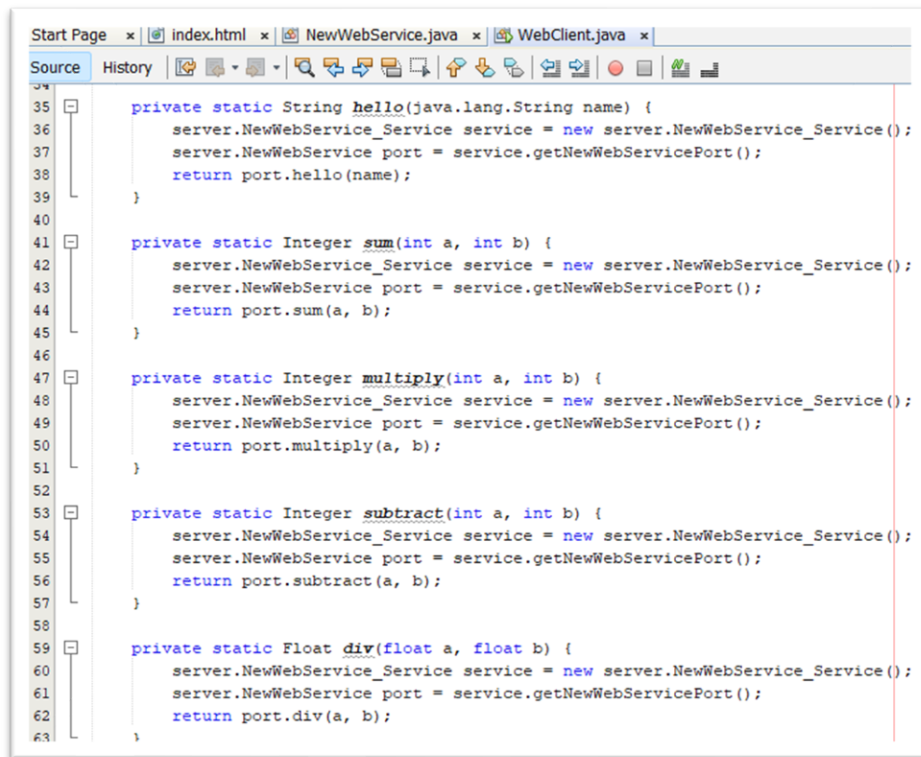


18) Select Operation from Web Service



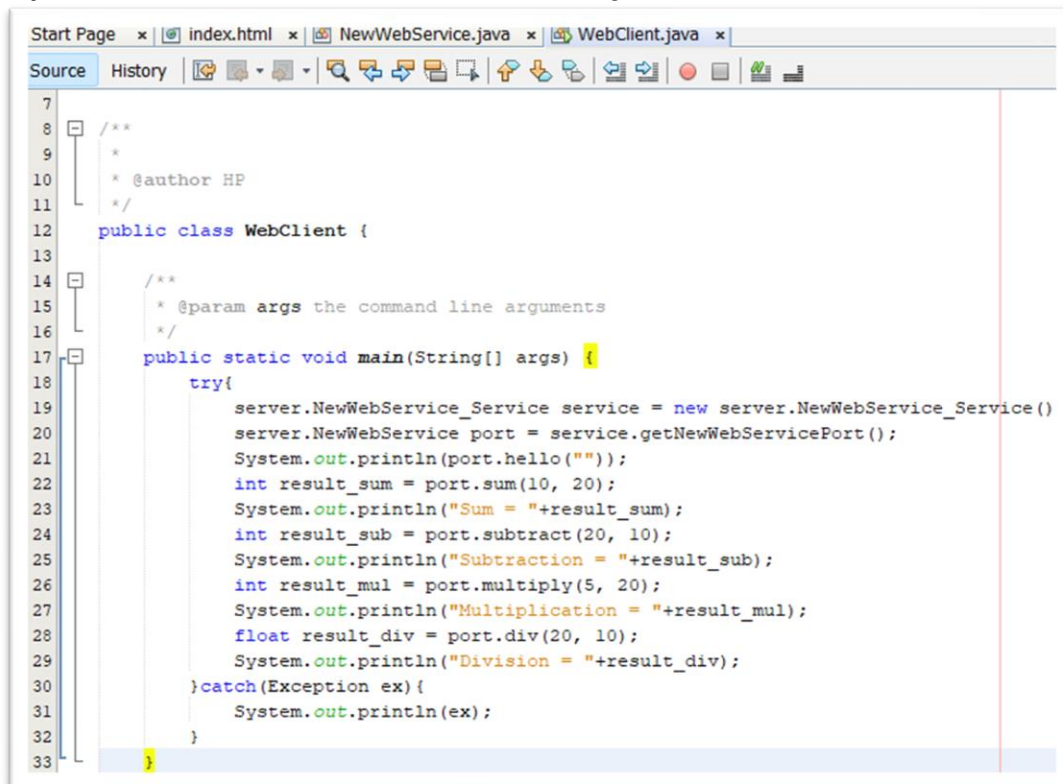
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19) You may Invoke multiple operation one by one



```
35 private static String hello(java.lang.String name) {
36     server.NewWebService_Service service = new server.NewWebService_Service();
37     server.NewWebService port = service.getNewWebServicePort();
38     return port.hello(name);
39 }
40
41 private static Integer sum(int a, int b) {
42     server.NewWebService_Service service = new server.NewWebService_Service();
43     server.NewWebService port = service.getNewWebServicePort();
44     return port.sum(a, b);
45 }
46
47 private static Integer multiply(int a, int b) {
48     server.NewWebService_Service service = new server.NewWebService_Service();
49     server.NewWebService port = service.getNewWebServicePort();
50     return port.multiply(a, b);
51 }
52
53 private static Integer subtract(int a, int b) {
54     server.NewWebService_Service service = new server.NewWebService_Service();
55     server.NewWebService port = service.getNewWebServicePort();
56     return port.subtract(a, b);
57 }
58
59 private static Float div(float a, float b) {
60     server.NewWebService_Service service = new server.NewWebService_Service();
61     server.NewWebService port = service.getNewWebServicePort();
62     return port.div(a, b);
63 }
```

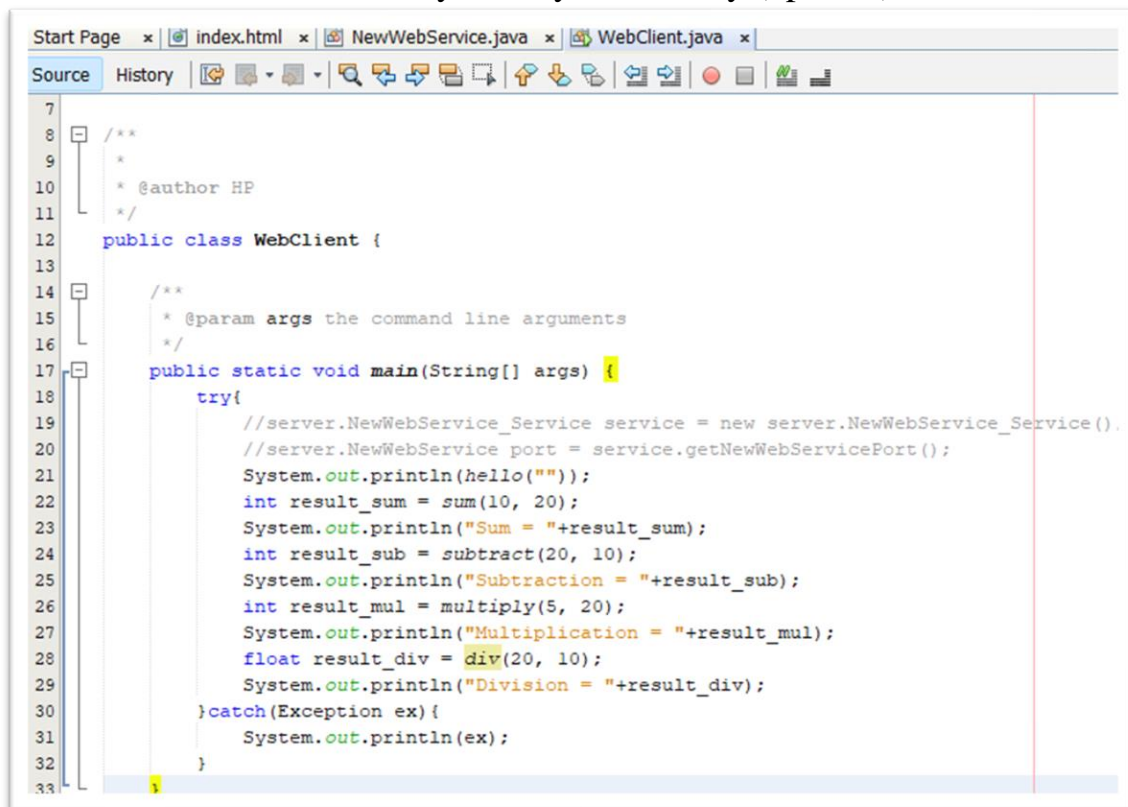
20) Modify code of main method in webClient.java



```
7
8 /**
9  *
10  * @author HP
11  */
12 public class WebClient {
13
14     /**
15      * @param args the command line arguments
16      */
17     public static void main(String[] args) {
18         try{
19             server.NewWebService_Service service = new server.NewWebService_Service()
20             server.NewWebService port = service.getNewWebServicePort();
21             System.out.println(port.hello(""));
22             int result_sum = port.sum(10, 20);
23             System.out.println("Sum = "+result_sum);
24             int result_sub = port.subtract(20, 10);
25             System.out.println("Subtraction = "+result_sub);
26             int result_mul = port.multiply(5, 20);
27             System.out.println("Multiplication = "+result_mul);
28             float result_div = port.div(20, 10);
29             System.out.println("Division = "+result_div);
30         }catch(Exception ex){
31             System.out.println(ex);
32         }
33     }
```

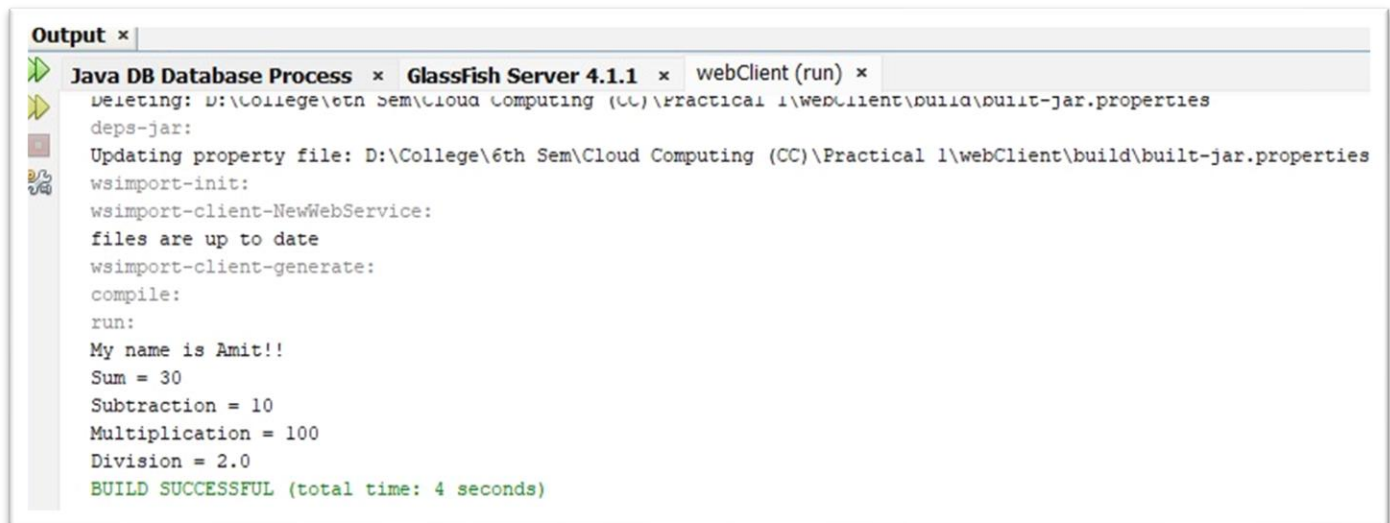

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OR You may modify in this way (optimal)



```
7
8  /**
9   *
10  * @author HP
11  */
12  public class WebClient {
13
14      /**
15       * @param args the command line arguments
16       */
17      public static void main(String[] args) {
18          try{
19              //server.NewWebService_Service service = new server.NewWebService_Service().
20              //server.NewWebService port = service.getNewWebServicePort();
21              System.out.println(hello(""));
22              int result_sum = sum(10, 20);
23              System.out.println("Sum = "+result_sum);
24              int result_sub = subtract(20, 10);
25              System.out.println("Subtraction = "+result_sub);
26              int result_mul = multiply(5, 20);
27              System.out.println("Multiplication = "+result_mul);
28              float result_div = div(20, 10);
29              System.out.println("Division = "+result_div);
30          }catch(Exception ex){
31              System.out.println(ex);
32          }
33      }
```

21) Run WebClient.java file



```
Output x
Java DB Database Process x GlassFish Server 4.1.1 x webClient (run) x
Deleting: D:\College\6th Sem\Cloud Computing (CC)\Practical 1\webClient\build\build-jar.properties
deps-jar:
Updating property file: D:\College\6th Sem\Cloud Computing (CC)\Practical 1\webClient\build\build-jar.properties
wsimport-init:
wsimport-client-NewWebService:
files are up to date
wsimport-client-generate:
compile:
run:
My name is Amit!!
Sum = 30
Subtraction = 10
Multiplication = 100
Division = 2.0
BUILD SUCCESSFUL (total time: 4 seconds)
```