

Architectures Orientées Services

Exemple pratique de développement de Web Service
À l'aide de l'environnement de développement
NetBeans

De quoi s'agit il ?

Ce qu'est NetBeans

La présentation de l'ergonomie de NetBeans

Exemple de création d'un web service, implanté sur un serveur d'application.

- Création d'un premier client pour un service

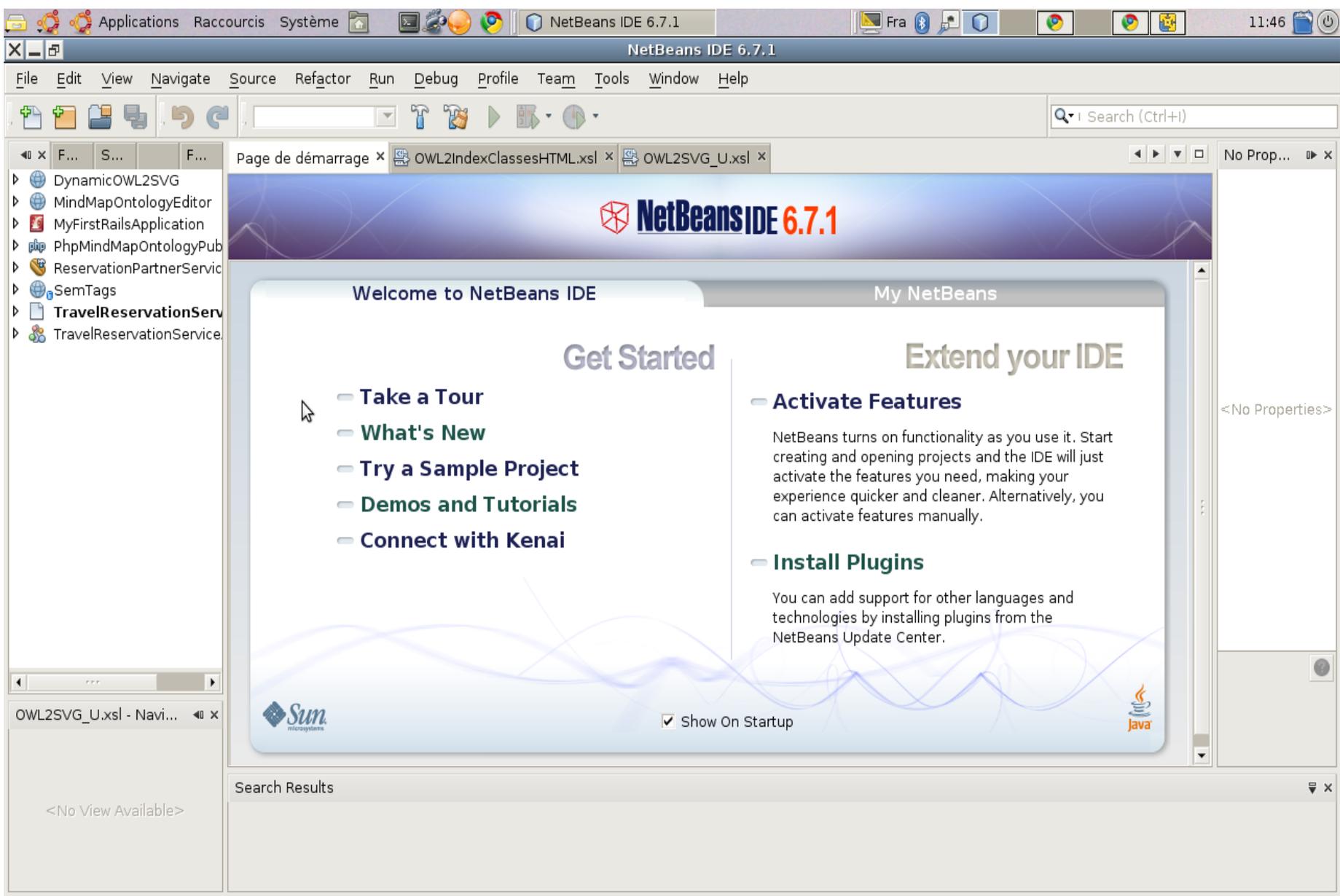
Création d'un second client, une servlet dans une application Web

Netbeans...

- Netbeans
 - est un environnement de développement logiciel (IDE) proposé par Sun,
 - qui permet de développer et de déployer des applications en différents langages (Java, PHP etc.)
 - qui Intègre la communication avec des serveurs d'application
 - Tomcat, Glassfish etc.
 - qui intègre des fonctionnalités pour le développement et l'orchestration de web services



... est un cliquodrome commode pour illustrer de façon concrète les concepts d'un cours



Création d'un Web service, installé sur un serveur d'application

un service de multiplication



Search (Ctrl+I)

- DynamicOWL2SVG
- MindMapOntologyEditor
- MyFirstRailsApplication
- PhpMindMapOntologyPub
- ReservationPartnerServic
- SemTags
- TravelReservationServ
- TravelReservationService

Page de démarrage x OWL2IndexClassesHTML.xml x OWL2SVG_U.xml x

New Project

Steps

1. Choose Project
2. ...

Choose Project

Categories:

- Java
- JavaFX
- Java Web
- Java EE
- Java ME
- Maven
- PHP
- Ruby
- Groovy
- C/C++
- SOA

Projects:

- Web Application
- Web Application with Existing Sources
- Web Free-Form Application

Description:

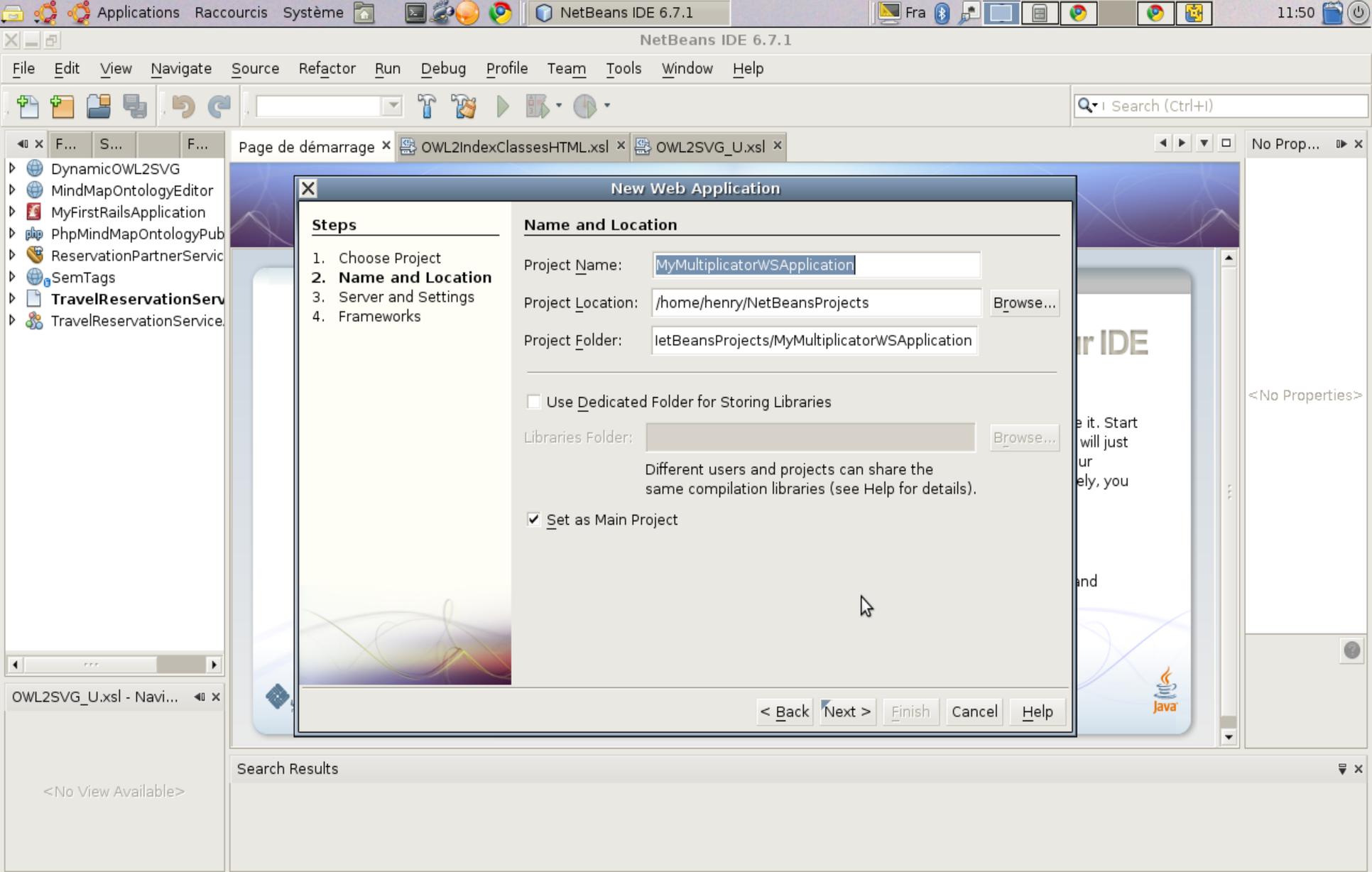
Creates an empty Web application in a standard IDE project. A standard project uses an **IDE-generated build script** to build, run, and debug your project.

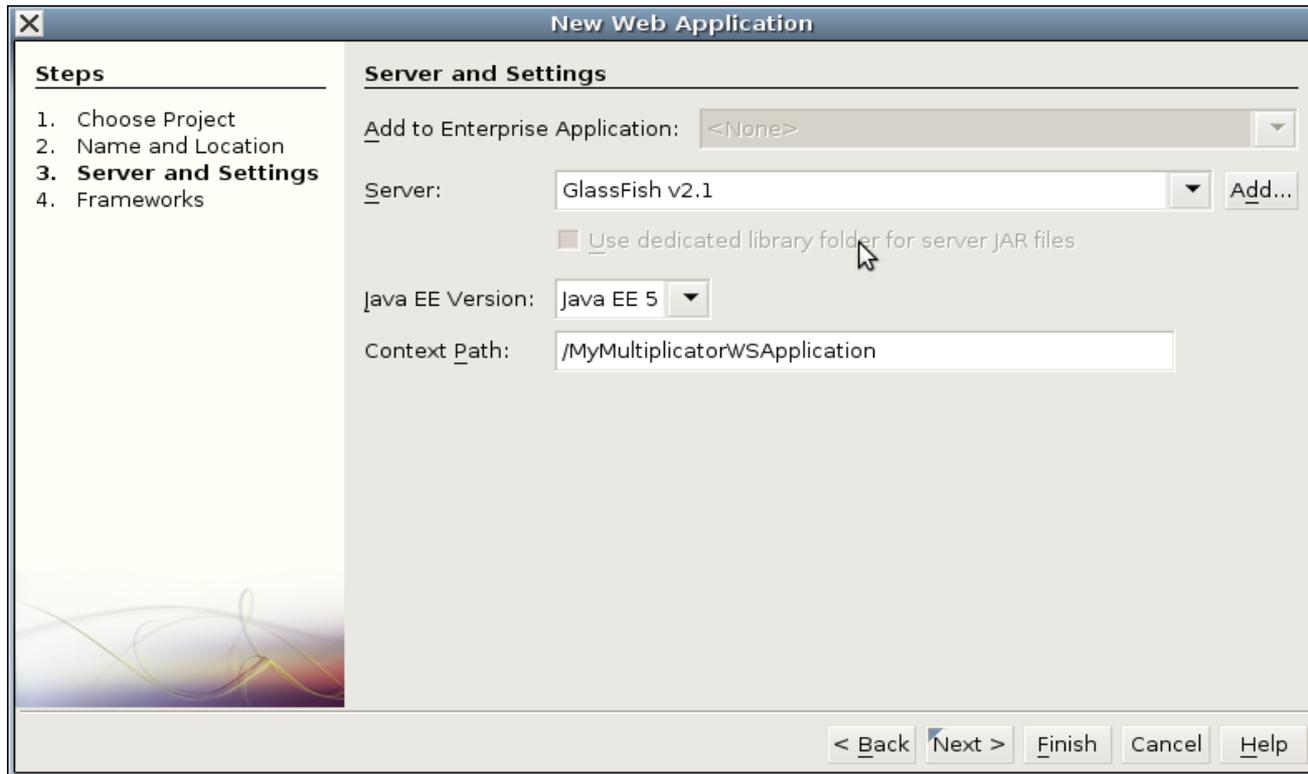
[Back](#)
[Next >](#)
[Finish](#)
[Cancel](#)
[Help](#)

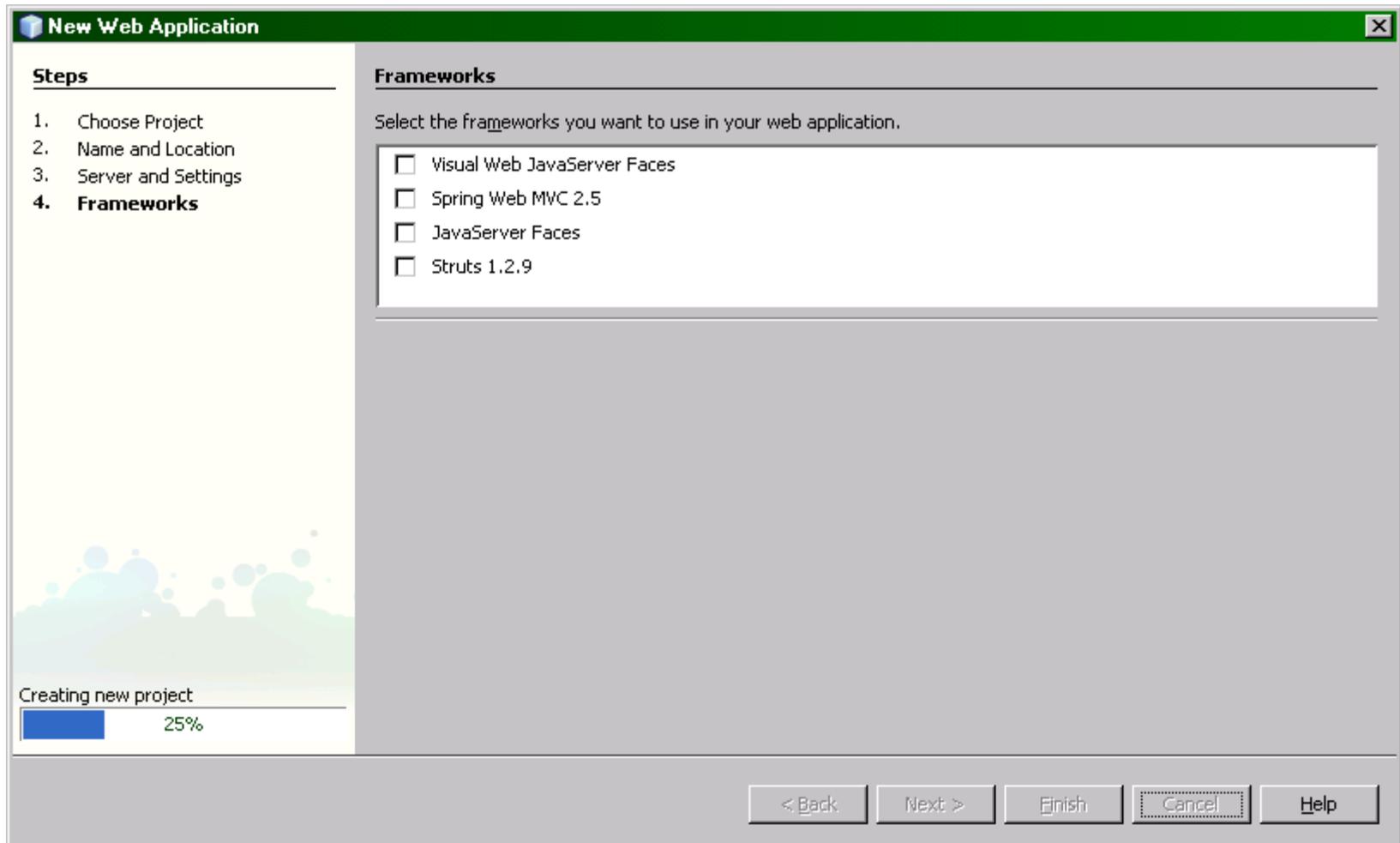
OWL2SVG_U.xml - Navi... <No View Available>

Search Results <No Properties>











Search (Ctrl+I)

Page de démarrage x index.jsp x

MyMultiplicatorWSAppli

- Web Pages
 - WEB-INF
 - index.jsp
- Configuration Files
- Server Resources
- Source Packages
- Test Packages
- Libraries
- Test Libraries

```

1  <!--
2      Document   : index
3      Created on : 15 oct. 2010, 11:53:29
4      Author    : henry
5  -->
6
7  <%page contentType="text/html" pageEncoding="UTF-8"%>
8  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
9      "http://www.w3.org/TR/html4/loose.dtd">
10
11 <html>
12   <head>
13     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
14     <title>JSP Page</title>
15   </head>
16   <body>
17     <h1>Hello World!</h1>
18   </body>
19 </html>
20

```

MyMultip... x

<No Properties>

MyMultipl... ?

torWSApplication

DynamicOWL2SVG - N... x

<No View Available>

Search Results

Ce qu'a effectué Netbeans à cette étape :

- Créé une structure de projet pour une application
 - placée sur le serveur d'application que vous avez choisi pour son déploiement
 - Avec une page web d'accès par défaut
 - (qui ne fait rien que vous dire bonjour)
 - Avec l'emplacement des exécutable, selon l'organisation par vous choisirez pour vos packages
- Créé des ressources de configuration
 - Essentiellement en langage XML
 - Mémorisant les chemins d'accès déduits de vos choix
 - (adresse URL du serveur)



Projects Files Services

- New
 - Build
 - Clean and Build
 - Clean
 - Verify
 - Generate Javadoc
- Run
- Undeploy and Deploy
- Debug
- Profile
- Test RESTful Web Services
- Set as Main Project
- Open Required Projects
- Close
- Rename...
- Move...
- Copy...
- Delete Supprimer
- Find... Ctrl+F
- Reverse Engineer...
- Versioning
- Local History
- Properties

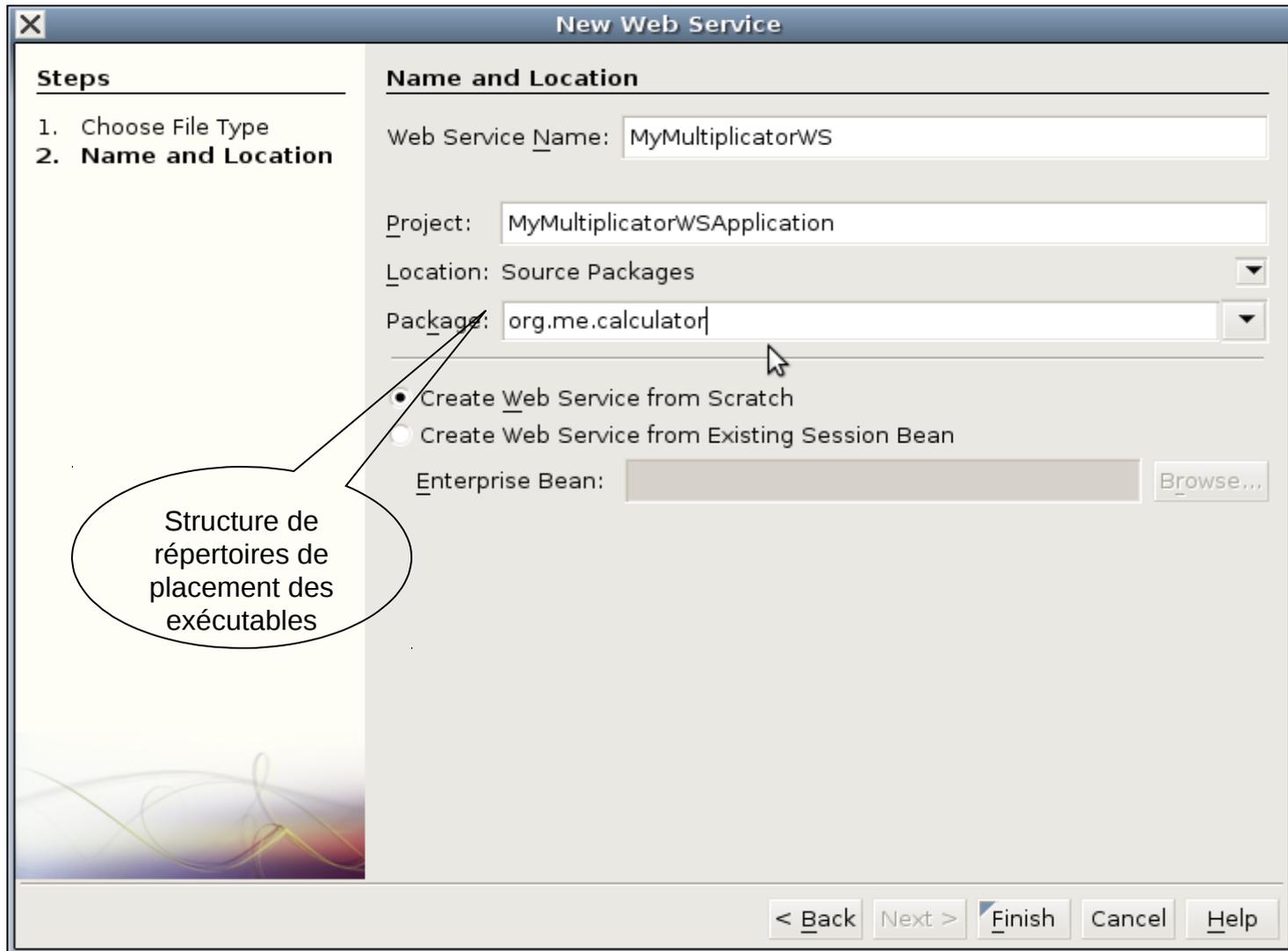
Start Page index.jsp

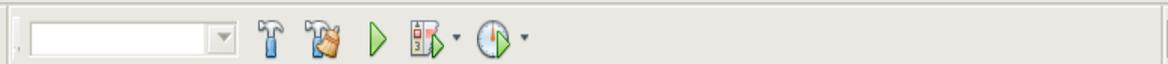
- Visual Web JSF Page...
- Visual Web JSF Page Fragment...
- JSP...
- HTML...
- Servlet...
- Java Class...
- Java Package...
- Entity Class...
- Entity Classes from Database...
- JSF Pages from Entity Classes...
- Web Service...**
- Web Service from WSDL...
- Web Service Client...
- RESTful Web Services from Entity Classes...
- RESTful Web Services from Patterns...
- Other...

```
2008, 19:23:40  
  
html" pageEncoding="UTF-8" contentType="text/html" />  
<?xml version="1.0" encoding="UTF-8" standalone="no" />  
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">  
<html>  
<head>  
<meta content="text/html" charset="UTF-8" />  
<title>  
</title>  
</head>  
<body>  
</body>  
</html>
```

Palette

- HTML
 - Table
 - Unordered List
 - Link
 - HTML Forms
 - JSP
 - JSF
 - Database
- Ordered List
- Image
- Meta data





MyMultiplicatorWSApplic

- Web Pages
 - WEB-INF
 - index.jsp
 - Web Services
 - Configuration Files
 - Server Resources
 - Source Packages
 - Test Packages
 - Libraries
 - Test Libraries

MyMultiplicatorWSService

Operations (0) Add Operation... Remove Operation

Quality Of Service

- Optimize Transfer Of Binary Data (MTOM)
- Reliable Message Delivery
- Secure Service

Advanced ...

Properties

Name	MyMultiplicatorWS
Extension	java
All Files	/home/henry/N...
File Size	237
Modification Time	15 oct. 2010 11:5...

MyMultiplicatorWS.java

Ajout d'opération
i.e. de méthode à la
classe à asservir

Members View

- MyMultiplicatorWS





- MyMultiplicatorWSApplic
 - Web Pages
 - WEB-INF
 - index.jsp
 - Web Services
 - Configuration Files
 - Server Resources
 - Source Packages
 - Test Packages
 - Libraries
 - Test Libraries

Source Design 100%

Add Operation...

Name: multiply

Return Type: java.lang.String Browse...

Parameters Exceptions

Name	Type	Final
parameter1	int	<input type="checkbox"/>
parameter2	int	<input type="checkbox"/>

Add Remove Up Down

OK Cancel

Définition des paramètres de la tâche élémentaire à effectuer

Properties

Name	MyMultiplicatorWS
Extension	java
All Files	/home/henry/N...
File Size	237
Modification Time	15 oct. 2010 11:5...

MyMultiplicatorWS.java

- MyMultiplicatorWS



Search (Ctrl+I)

Page de démarrage x index.jsp x MyMultiplicatorWS.java x

- MyMultiplicatorWSApplic
- Web Pages
 - WEB-INF
 - index.jsp
- Web Services
- Configuration Files
- Server Resources
- Source Packages
- Test Packages
- Libraries
- Test Libraries

Source Design 100%

MyMultiplicatorWSService

Operations (1) Add Operation... Remove Operation

multiply

Parameters	Output	Faults	Description
Parameter Name	Parameter Type		
parameter1	int		
parameter2	int		

Quality Of Service

- Optimize Transfer Of Binary Data (MTOM)
- Reliable Message Delivery
- Secure Service

Advanced ...

MyMultiplicatorWS.java - Proper...

Properties

Name	MyMultiplicatorWS
Extension	java
All Files	/home/henry/N...
File Size	591
Modification Time	15 oct. 2010 12:0...

MyMultiplicatorWS.java

MyMultiplicatorWS.java ...

Members View

- MyMultiplicatorWS
 - multiply(int parameter...

Search Results



File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+I)

Page de démarrage x index.jsp x MyMultipliatorWS.java x

MyMultipliatorWSApplic

- Web Pages
 - WEB-INF
 - index.jsp
 - Web Services
 - Configuration Files
 - Server Resources
 - Source Packages
 - Test Packages
 - Libraries
 - Test Libraries

Source Design

```
4  L  */
5
6  package org.me.calculator;
7
8  import javax.jws.WebMethod;
9  import javax.jws.WebParam;
10 import javax.jws.WebService;
11
12 /**
13  *
14  * @author henry
15  */
16 @WebService()
17 public class MyMultipliatorWS {
18
19     /**
20      * Web service operation
21      */
22     @WebMethod(operationName = "multiply")
23     public String multiply(@WebParam(name = "parameter1")
24 int parameter1, @WebParam(name = "parameter2")
25 int parameter2) {
26         //TODO write your implementation code here:
27         return null;
28     }
29
30 }
```

écriture « à la main »
du code de la tâche à effectuer

MyMultipliatorWS.java - Proper... x

Properties

Name	MyMultipliatorWS
Extension	java
All Files	/home/henry/N... x
File Size	591
Modification Time	15 oct. 2010 12:0...

MyMultipliatorWS.java

Members View

- MyMultipliatorWS
 - multiply(int parameter...

Search Results



Search (Ctrl+I)

Page de démarrage x index.jsp x MyMultiplicatorWS.java * x

MyMultiplicatorWSApplic

- Web Pages
 - WEB-INF
 - index.jsp
- Web Services
- Configuration Files
- Server Resources
- Source Packages
- Test Packages
- Libraries
- Test Libraries

Source Design

```
4  L  */
5
6  package org.me.calculator;
7
8  import javax.jws.WebMethod;
9  import javax.jws.WebParam;
10 import javax.jws.WebService;
11
12 /**
13  *
14  * @author henry
15  */
16 @WebService()
17 public class MyMultiplicatorWS {
18
19     /**
20     * Web service operation
21     */
22     @WebMethod(operationName = "multiply")
23     public int multiply(@WebParam(name = "parameter1")
24     int parameter1, @WebParam(name = "parameter2")
25     int parameter2) {
26         int k = parameter1 * parameter2;
27         return k;
28     }
29
30 }
```

Bogues ?

MyMultiplicatorWS.java - Proper... x

Properties

Name	MyMultiplicatorWS
Extension	java
All Files	/home/henry/N... ..
File Size	591
Modification Time	15 oct. 2010 12:0...

MyMultiplicatorWS.java

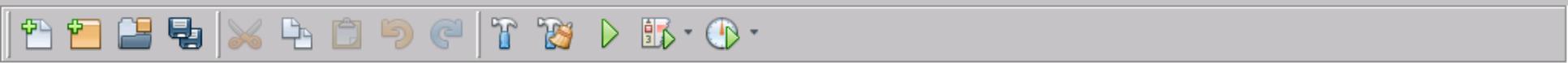
MyMultiplicatorWS.java ... x

Members View

MyMultiplicatorWS

- multiply(int parameter1

Search Results



MyMulti
Web F
W
in
Web S
M
Confic
Serve
Sourc
or
Test F
Librar
Test L

MyMultiplierWS
Members View
MyMultipli
multip

- New
- Build
- Clean and Build
- Clean
- Verify
- Generate Javadoc
- Run
- Undeploy and Deploy**
- Debug
- Profile
- Test RESTful Web Services
- Set as Main Project
- Open Required Projects
- Close
- Rename...
- Move...
- Copy...
- Delete Supprimer
- Find... Ctrl+F
- Reverse Engineer...
- Versioning
- Local History
- Properties

```
/*  
 * To change this template, choose Tools | Templates  
 * and open the template in the editor.  
 */  
  
package org.me.calculator;  
  
import javax.jws.WebMethod;  
import javax.jws.WebParam;  
import javax.jws.WebService;  
  
/**  
 *  
 * @author bcg  
 */  
@WebService()  
public class MyMultiplierWS {  
  
    /**  
     * Web service operation  
     */  
    @WebMethod(operationName = "multiply")  
    public int multiply(@WebParam(name = "parameterI")  
        int parameterI, @WebParam(name = "parameterJ")  
        int parameterJ) {  
        //TODO write your implementation code here:  
        int k = parameterI * parameterJ ;  
        return k ;  
    }  
  
}
```

Compilation,
déploiement
sur le serveur



Search (Ctrl+I)

Projects Files Services Output Favorites

```

GlassFish v2.1 x MyMultiplicatorWSApplication (clean,dist) x
check-clean:
clean:
init:
deps-module-jar:
deps-ear-jar:
deps-jar:
Created dir: /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
Created dir: /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
Copying 1 file to /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
Copying 3 files to /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
library-inclusion-in-archive:
library-inclusion-in-manifest:
Created dir: /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
Compiling 1 source file to /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
compile:
compile-jsp:
Created dir: /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
Building jar: /home/henry/NetBeansProjects/MyMultiplicatorWSApplication
do-dist:
dist:
BUILD SUCCESSFUL (total time: 1 second)

```

MyMultiplicatorWS.java x

```

Source Design
4  L  */
5
6  package org.me.calculator;
7
8  import javax.jws.WebMethod;
9  import javax.jws.WebParam;
10 import javax.jws.WebService;
11
12 /**
13  *
14  * @author henry
15  */
16 @WebService()
17 public class MyMultiplicatorWS {
18
19     /**
20      * Web service operation
21      */
22     @WebMethod(operationName = "multiply")
23     public int multiply(@WebParam(name = "parameter1")
24                       int parameter1, @WebParam(name = "parameter2")
25                       int parameter2) {
26         int k = parameter1 * parameter2;
27         return k;
28     }
29
30 }

```

MyMultiplicatorWSApplication [...]

<No Properties>

MyMultiplicatorWSApplication

Navigators

<No View Available>

Search Results

Relation de l'exécution des tâches

Si tout se passe bien...

Ce qu'a effectué Netbeans à cette étape :

- La compilation du code de la classe Java du service,
- Le déploiement de l'exécutable sur le serveur d'application
- Un enregistrement des paramètres du service à exposer par le serveur dans une ressource WSDL
- Un test élémentaire de démarrage

The screenshot shows the NetBeans IDE interface. On the left, the 'Projects' view shows a project named 'MyMultiplicatorWS'. A context menu is open over this project, with the 'Test Web Service' option highlighted. The main editor window displays the source code for 'MyMultiplicatorWS.java', which includes a package declaration, imports for 'javax.jws', and the start of a 'public class MyMultiplicatorWS'.

The 'Output' window at the bottom shows the following log messages:

```
Java DB Database Process x MyMultiplicatorWSApplication (run-deploy) x GlassFish V2 x
La tâche Déploiement de l'application dans le domaine a été accomplie avec succès
La tâche Tentative de création de la référence d'application sur la cible server a été accomplie avec succès
La tâche Tentative de démarrage de l'application sur la cible server a été accomplie avec succès
La tâche Déploiement de l'application MyMultiplicatorWSApplication a été accomplie avec succès
La tâche Enable de MyMultiplicatorWSApplication sur la cible server a été accomplie avec succès
La tâche Enable d'application sur toutes les cibles a été accomplie avec succès
Toutes les opérations ont été correctement effectuées.
run-deploy:
BUILD SUCCESSFUL (total time: 23 seconds)
```

A callout bubble labeled 'Test' points to the 'Test Web Service' option in the context menu.

MyMultiplicatorWSService 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 org.me.calculator.MyMultiplicatorWS.multiply(int,int)
```

multiply (,)

Visualisation de la ressource
WSDL

Génération automatique d'une page HTML de test

```
-<!--
  Published by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is JAX-WS RI 2.1.3.1-hudson-417-SNAPSHOT.
-->
-<!--
  Generated by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is JAX-WS RI 2.1.3.1-hudson-417-SNAPSHOT.
-->
- <definitions targetNamespace="http://calculator.me.org/" name="MyMultiplicatorWSService">
- <types>
- <xsd:schema>
  <xsd:import namespace="http://calculator.me.org/" schemaLocation="http://localhost:8080/MyMultiplicatorWSApplication/MyMultiplicatorWSService?xsd=1"/>
</xsd:schema>
</types>
- <message name="multiply">
  <part name="parameters" element="tns:multiply"/>
</message>
- <message name="multiplyResponse">
  <part name="parameters" element="tns:multiplyResponse"/>
</message>
- <portType name="MyMultiplicatorWS">
  - <operation name="multiply">
    <input message="tns:multiply"/>
    <output message="tns:multiplyResponse"/>
  </operation>
  <portType>
- <binding name="MyMultiplicatorWSPortBinding" type="tns:MyMultiplicatorWS">
  <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
  - <operation name="multiply">
    <soap:operation soapAction="">
    - <input>
      <soap:body use="literal"/>
    </input>
    - <output>
      <soap:body use="literal"/>
    </output>
    </operation>
  </binding>
- <service name="MyMultiplicatorWSService">
  - <port name="MyMultiplicatorWSPort" binding="tns:MyMultiplicatorWSPortBinding">
    <soap:address location="http://localhost:8080/MyMultiplicatorWSApplication/MyMultiplicatorWSService"/>
  </port>
</service>
</definitions>
```

Visualisation de la ressource WSDL

Messages

Typage de Port d'accès au service
Affectation des messages

Accrochage de l'opération 'multiply'

Définition du service avec instanciation
de port, et localisation du service

multiply Appel de méthode

Page de Résultat standard généré par le test

Method parameter(s)

Type	Value
int	3
int	7

Rappel des choix de valeurs

Méthode retournée

int : "21"

Résultat

Demande SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Header/>
  <S:Body>
    <ns2:multiply xmlns:ns2="http://calculator.me.org/">
      <parameterI>3</parameterI>
      <parameterJ>7</parameterJ>
    </ns2:multiply>
  </S:Body>
</S:Envelope>
```

Message XML SOAP envoyé

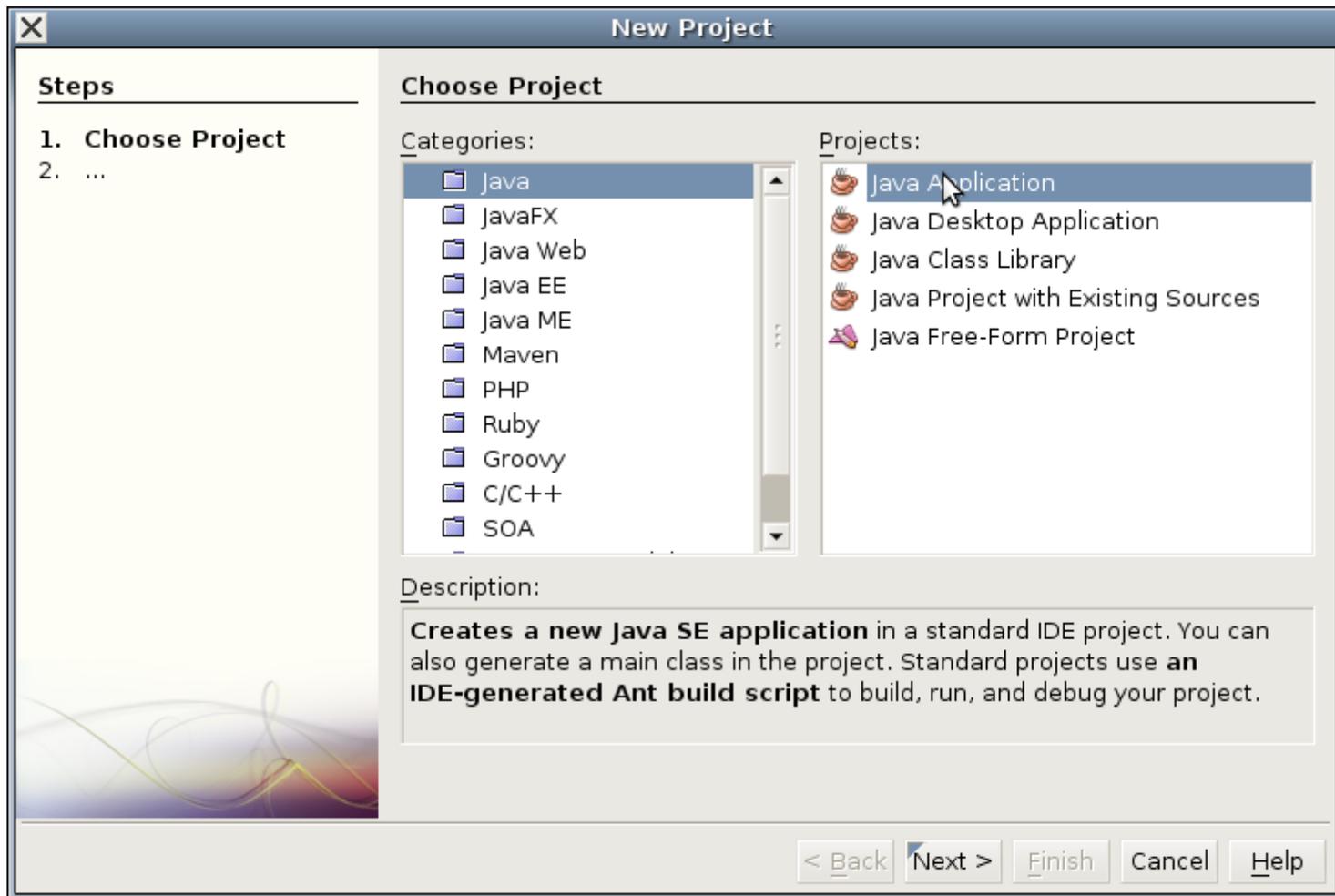
Réponse SOAP

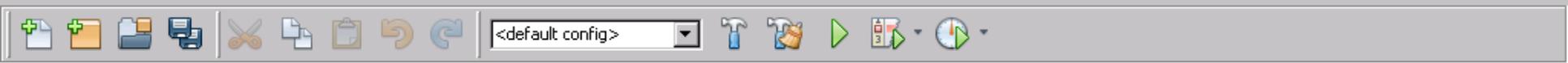
```
<?xml version="1.0" encoding="UTF-8"?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns2:multiplyResponse xmlns:ns2="http://calculator.me.org/">
      <return>21</return>
    </ns2:multiplyResponse>
  </S:Body>
</S:Envelope>
```

Message XML SOAP reçu

Création d'un premier client pour un service

Une application Java utilisant un service Web





Projects Files Services index.jsp x MyMultiplierWS.java x Main.java * x



- New
- Build
- Clean and Build
- Clean
- Generate Javadoc
- Run
- Debug
- Profile
- Test Alt+F6
- Set Configuration
- Set as Main Project
- Open Required Projects
- Close
- Rename...
- Move...
- Copy...
- Delete Supprimer
- Find... Ctrl+F
- Reverse Engineer...
- Versioning
- Local History
- Properties

```

/*
 * To change this template, choose Tools | Templates
 * and open the template in the editor.
 */

package mymultiplierclient;

/**
 *
 * @author bcbg
 */
public class Main {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {

        // TODO code application logic here

    }

}

```

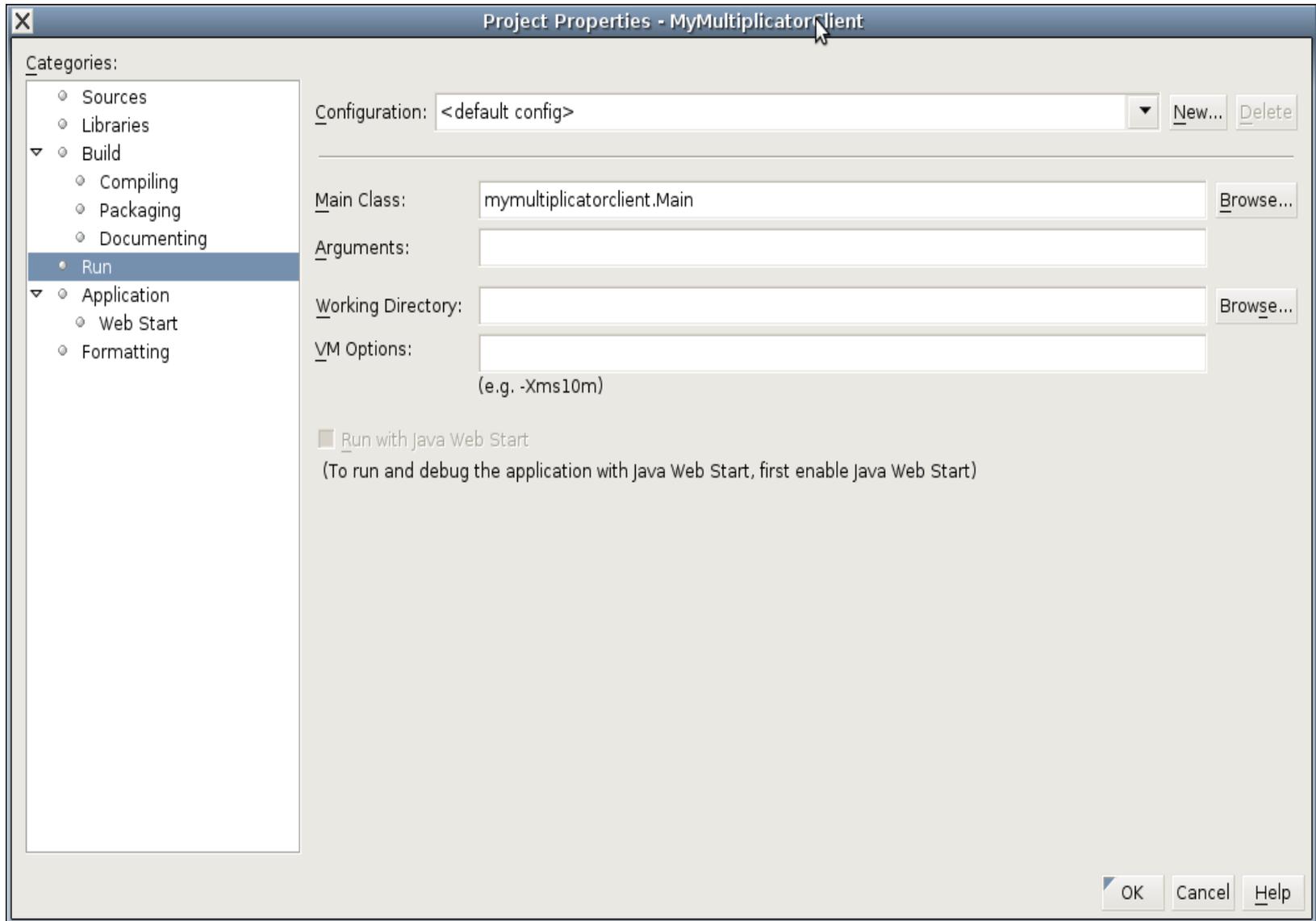
Output HTTP Monitor

Java DB Database Process x GlassFish V2 x Retriever Output x MyMultiplierClient-impl (wsimport-client-MyMultiplierWSService,wsimport-client-compile) x

```

25 sept. 2008 08:30:52 : Retrieving Location: http://localhost:8080/MyMultiplierWSApplication/MyMultiplierWSService?wsdl
Retrieved : http://localhost:8080/MyMultiplierWSApplication/MyMultiplierWSService?wsdl
Saved at: C:\Home\NetBeansProjects\MyMultiplierClient\xml-resources\web-service-references\MyMultiplierWSService\wsdl\local

```





- New
 - Java Class...
 - Java Package...
 - Java Interface...
 - JPanel Form...
 - JFrame Form...
 - Entity Class...
 - Entity Classes from Database...
 - Web Service Client...
 - Other...
- Build
- Clean and Build
- Clean
- Generate Javadoc
- Run
- Debug
- Profile
- Test Alt+F6
- Set Configuration
- Set as Main Project
- Open Required Projects
- Close
- Rename...
- Move...
- Copy...
- Delete Supprimer
- Find... Ctrl+F
- Reverse Engineer...
- Versioning
- Local History
- Properties

```
template, choose Tools | Templates  
template in the editor.  
  
catorclient;  
  
*/  
public class Main {  
    /**  
     * @param args the command line arguments  
     */  
    public static void main(String[] args) {  
        // TODO code application logic here  
    }  
}
```

Introduction de l'appel à un service

```
---Log File Rotated---  
24 sept. 2008 09:24:32 com.sun.enterprise.admin.servermgmt.launch.ASLauncher buildCommand  
INFO:  
C:/Program Files/Java/jdk1.6.0_07/bin/java  
-Dcom.sun.aas.instanceRoot=C:/Program Files/glassfish-v2ur2/domains/domain1  
-Dcom.sun.aas.ClassPathPrefix=  
-Dcom.sun.aas.ClassPathSuffix=  
-Dcom.sun.aas.ServerClassPath=
```

MyMultiplicatorClient

- Source Packages
 - mymultiplicatorclient
 - Main.java
- Test Packages
- Libraries
- Test Libraries
- MyMultiplicatorWSApplication
 - Web Pages
 - WEB-INF
 - index.jsp
 - Web Services
 - MyMultiplicatorWS
 - Configuration Files
 - Server Resources
 - Source Packages
 - Test Packages
 - Libraries
 - Test Libraries

New Web Service Client

Steps

- Choose File Type
- WSDL and Client Location**

WSDL and Client Location

Specify the WSDL file of the Web Service.

Project: Browse...
 Local File: Browse...
 WSDL URL: Set Proxy...

Specify a location for the client.

Project: MyMultiplicatorClient
 Package: <default package>
 Client Style: JAX-WS Style
 Generate Dispatch code

Enter the URL of the service you wish to

Browse Web Services

Web Services:

- MyMultiplicatorWSApplication
 - MyMultiplicatorWS
 - multiply: int

OK Cancel

Sélection parmi les services disponibles

Adresse URL déduite
du descriptif WSDL

Steps

1. Choose File Type
2. **WSDL and Client Location**

WSDL and Client Location

Specify the WSDL file of the Web Service.

Project:

Local File:

WSDL URL:

Specify a location for the client.

Project:

Package:

Client Style:

Generate Dispatch code

< Back Next > Finish Cancel Help

MyMultiplicatorClient

- Source Packages
 - META-INF
 - META-INF.wsdl.localhost_8080.M
 - mymultiplicatorclient
 - Main.java
- Test Packages
- Generated Sources (jax-ws)
- Web Service References
 - MyMultiplicatorWSService
 - MyMultiplicatorWSService
 - MyMultiplicatorWSPort
 - multiply
- Libraries
- Test Libraries
- MyMultiplicatorWSApplication
 - Web Pages
 - WEB-INF
 - index.jsp
 - Web Services
 - MyMultiplicatorWS
 - Configuration Files

```
11  */
12  public class Main {
13
14      /**
15       * @param args the command line arguments
16       */
17      public static void main(String[] args) {
18
19          try { // Call ... Service Operation
20              org.me.calculator.MyMultiplicatorWSService service = new org.me.calculator.MyM
21              org.me.calculator.MyMultiplicatorWSPort port = service.getMyMultiplicatorWSPort();
22              // TODO initialize WS operation arguments here
23              int parameter1 = 0;
24              int parameter2 = 0;
25              // TODO process result here
26              int result = port.multiply(parameter1, parameter2);
27              System.out.println("Result = "+result);
28          } catch (Exception ex) {
29              // TODO handle custom exceptions here
30          }
31          // TODO code application logic here
32      }
33
34  }
```

Drag and Drop !

Navigators

Members View

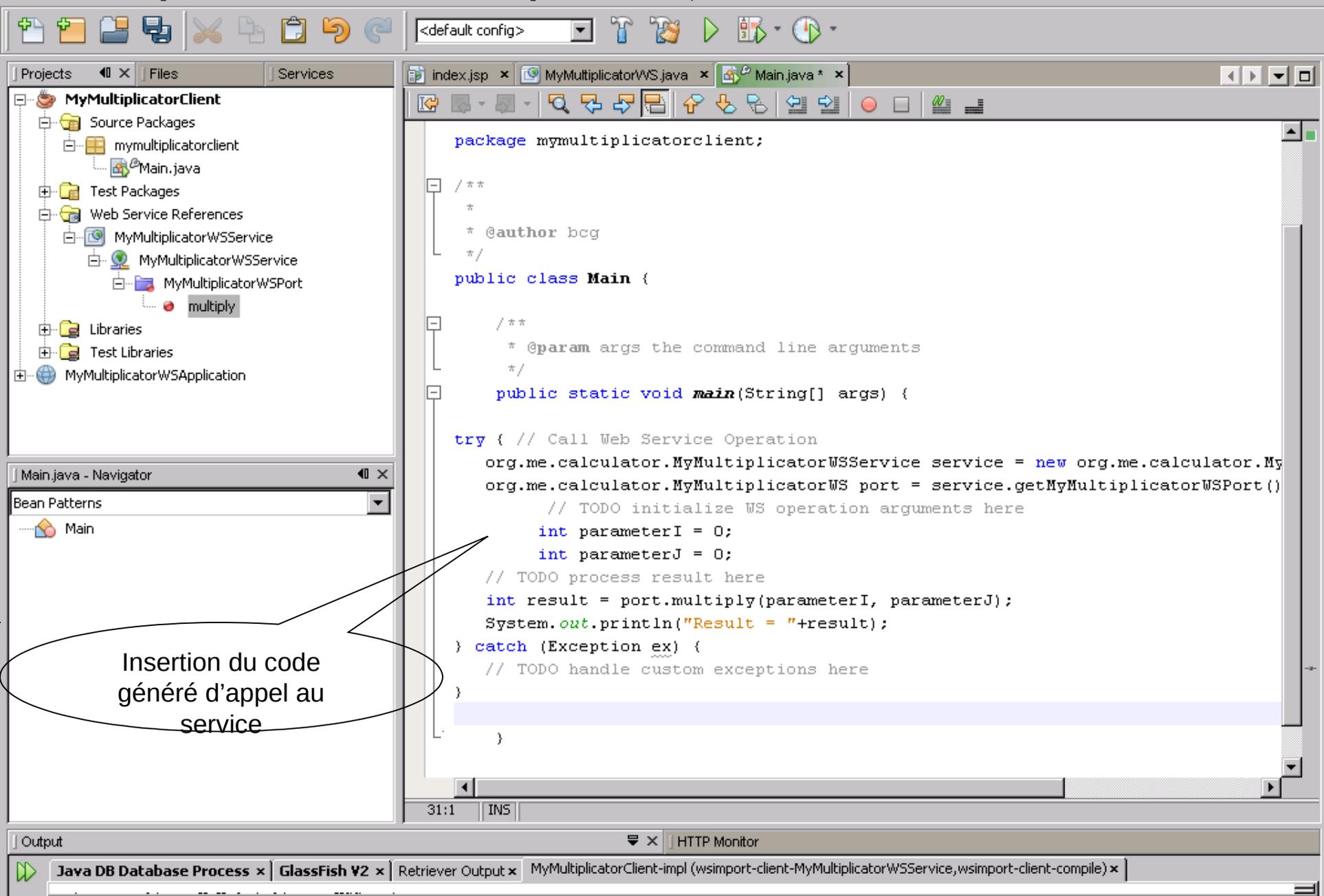
- Main
 - main(String[] args)

Search Results

Test Results

0,0 %

No tests executed.(0,0 s)



The screenshot displays the NetBeans IDE interface. The left sidebar shows the project structure for **MyMultiplierClient**, including source packages, test packages, and web service references. The main editor window shows the source code for **Main.java**. The code defines a **Main** class with a **main** method that calls a web service operation. A callout bubble points to the code, indicating the insertion of generated service call code.

```
package mymultiplierclient;

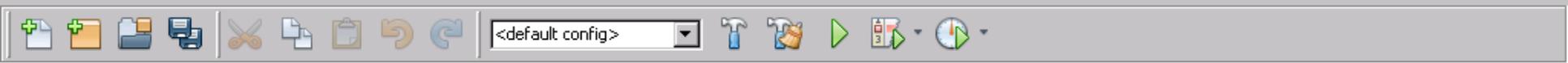
/**
 *
 * @author bcg
 */
public class Main {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {

        try { // Call Web Service Operation
            org.me.calculator.MyMultiplierWSService service = new org.me.calculator.My
            org.me.calculator.MyMultiplierWS port = service.getMyMultiplierWSPort()
                // TODO initialize WS operation arguments here
            int parameterI = 0;
            int parameterJ = 0;
            // TODO process result here
            int result = port.multiply(parameterI, parameterJ);
            System.out.println("Result = "+result);
        } catch (Exception ex) {
            // TODO handle custom exceptions here
        }

    }
}
```

Insertion du code
g n r  d'appel au
service



Projects | Files | Services

MyMultiplicatorClient

- New
- Build
- Clean and Build
- Clean
- Generate Javadoc
- Run**
- Debug
- Profile
- Test Alt+F6
- Set Configuration
- Set as Main Project
- Open Required Projects
- Close
- Rename...
- Move...
- Copy...
- Delete Supprimer
- Find... Ctrl+F
- Reverse Engineer...
- Versioning
- Local History
- Properties

Main.java - Navig

Bean Patterns

- Main

```
index.jsp x MyMultiplicatorWSS.java x Main.java * x
```

```
package mymultiplicatorclient;

/**
 *
 * @author bcg
 */

public class Main {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {

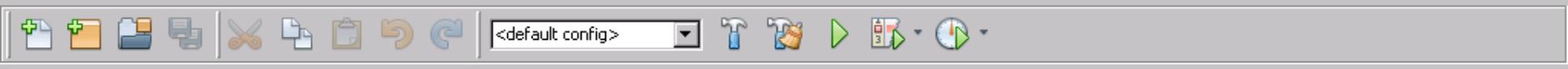
try { // Call Web Service Operation
    org.me.calculator.MyMultiplicatorWSService service = new org.me.calculator.My
    org.me.calculator.MyMultiplicatorWS port = service.getMyMultiplicatorWSPort()
        // TODO initialize WS operation arguments here
        int parameterI = 0;
        int parameterJ = 0;
        // TODO process result here
        int result = port.multiply(parameterI, parameterJ);
        System.out.println("Result = "+result);
} catch (Exception ex) {
    // TODO handle custom exceptions here
}

}

}
```

31:1 | INS

Lancement, après compilation



Projects | Files | Services

- MyMultiplierClient
 - Source Packages
 - mymultiplierclient
 - Main.java
 - Test Packages
 - Web Service References
 - MyMultiplierWSService
 - MyMultiplierWSPort
 - multiply
 - Libraries
 - Test Libraries

Main.java - Navigator

Bean Patterns

- Main

```

package mymultiplierclient;

/**
 *
 * @author bcg
 */
public class Main {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {

try { // Call Web Service Operation
    org.me.calculator.MyMultiplierWSService service = new org.me.calculator.My
    org.me.calculator.MyMultiplierWS port = service.getMyMultiplierWSPort()
        // TODO initialize WS operation arguments here
        int parameterI = 0;
        int parameterJ = 0;
        // TODO process result here
        int result = port.multiply(parameterI, parameterJ);
        System.out.println("Result = " + result);
}
    
```

Output | HTTP Monitor

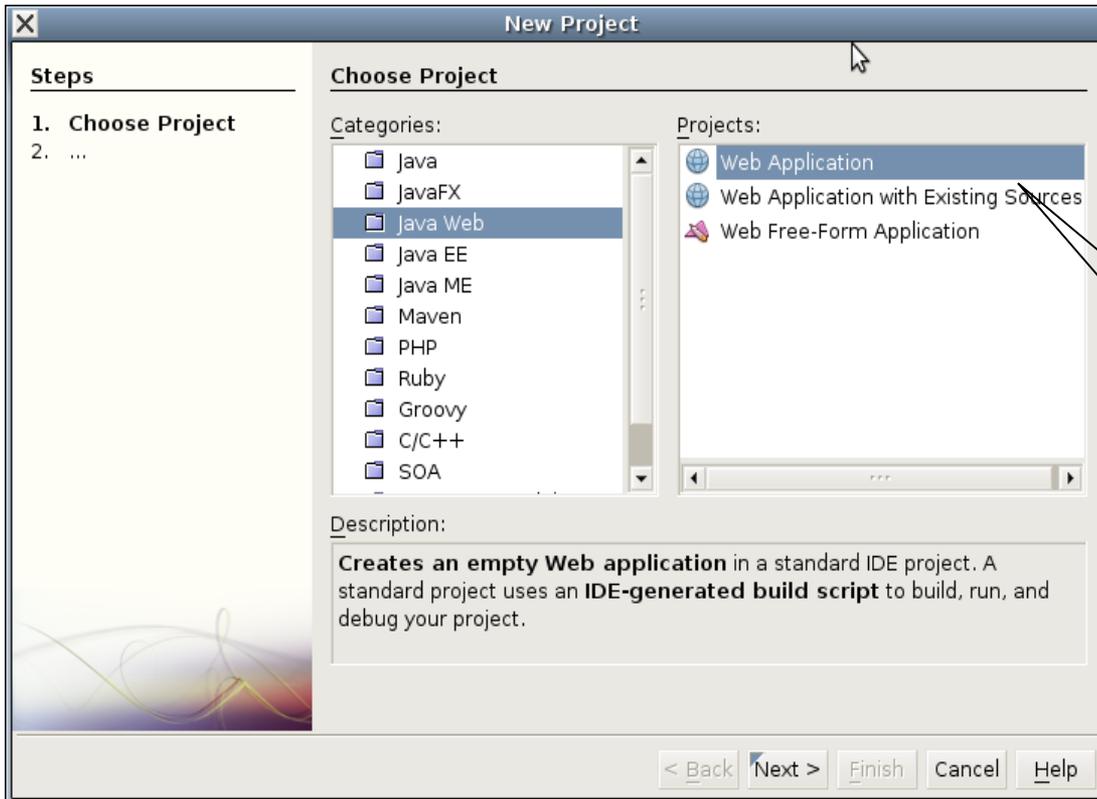
Java DB Database Process x | GlassFish V2 x | Retriever Output x | MyMultiplierClient (run) x

```

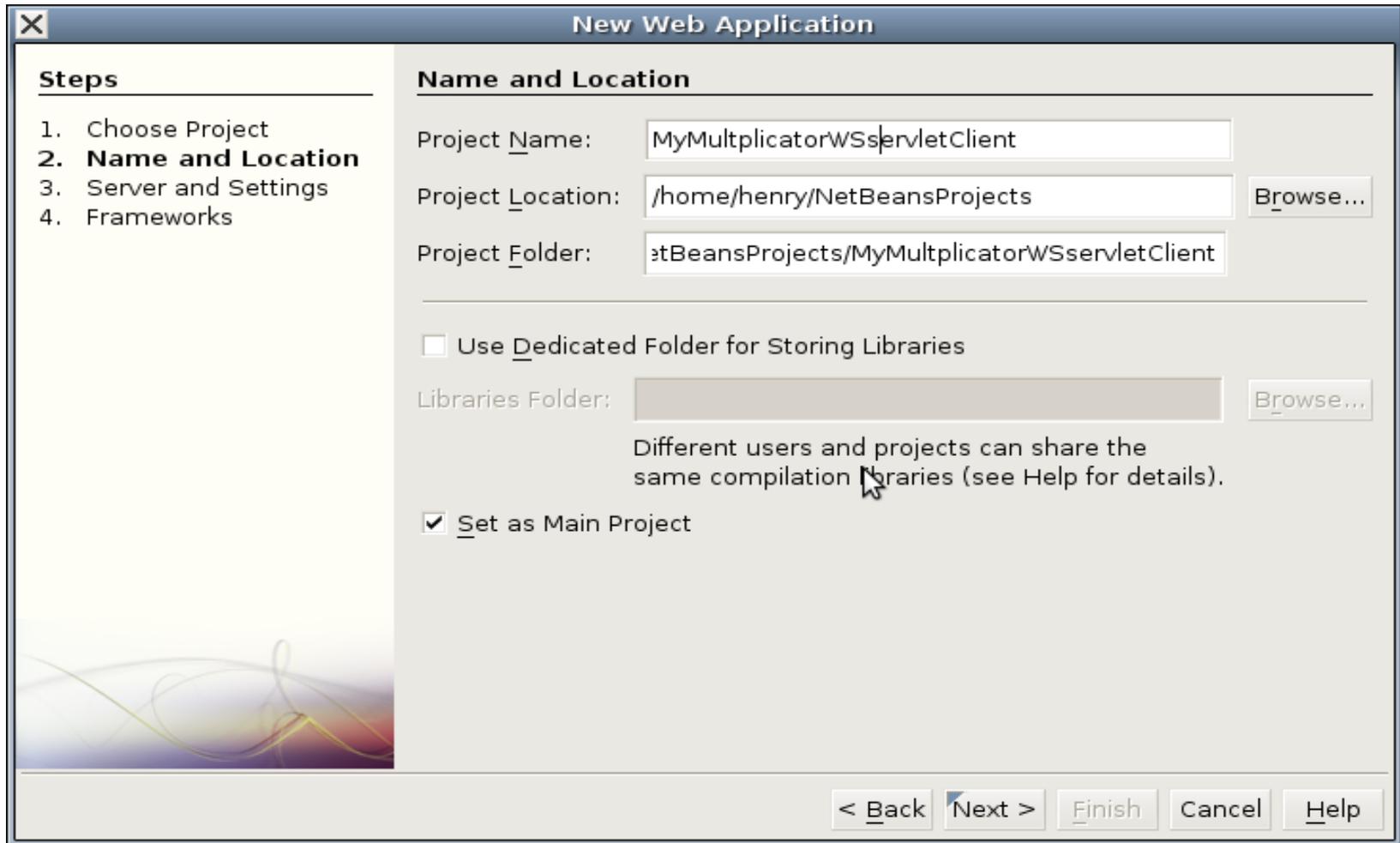
wsimport-client-MyMultiplierWSService:
wsimport-client-generate:
wsimport-client-compile:
Compiling 1 source file to C:\Home\NetBeansProjects\MyMultiplierClient\build\classes
compile:
run:
Result = 0
BUILD SUCCESSFUL (total time: 22 seconds)
    
```

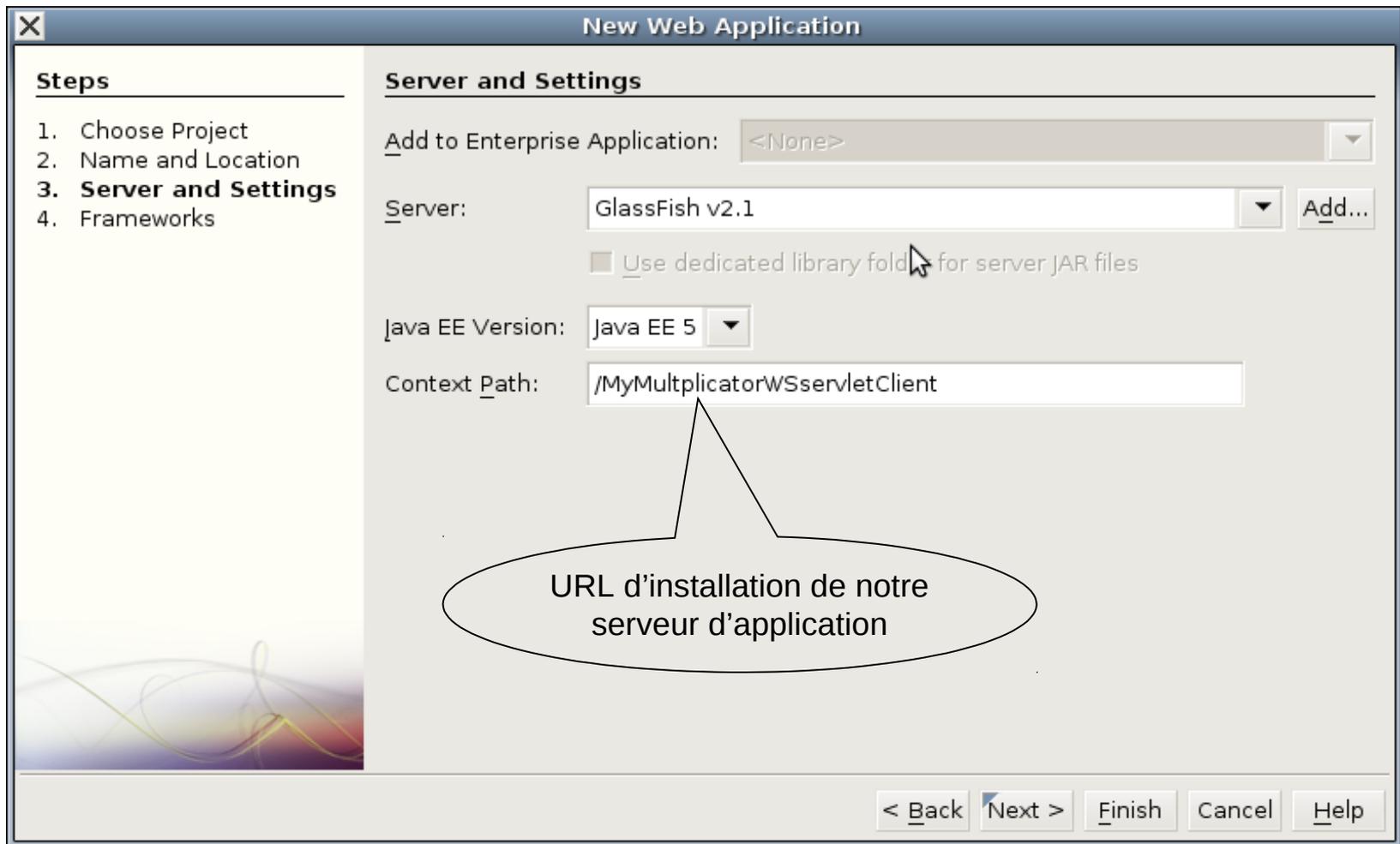


Création d'un second client, une servlet dans une application Web



Création d'une Application Web

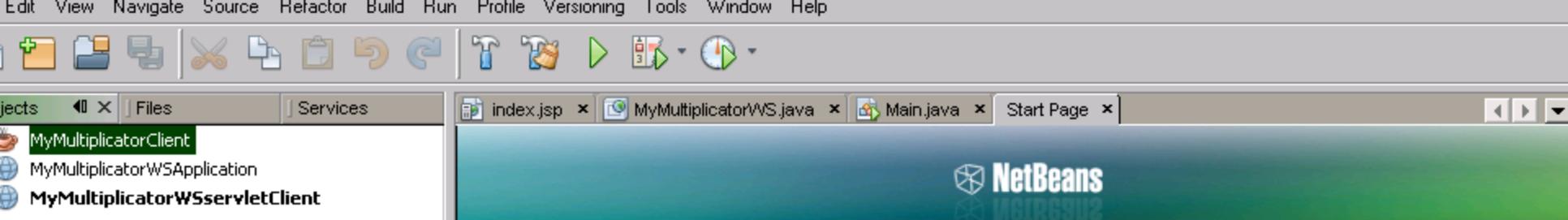






- New
 - Web Service Client...
 - Java Class...
 - Java Package...
 - Java Interface...
 - JPanel Form...
 - JFrame Form...
 - Entity Class...
 - Entity Classes from Database...
 - Other...
- Build
- Clean and Build
- Clean
- Generate Javadoc
- Run
- Debug
- Profile
- Test Alt+F6
- Set Configuration
- Set as Main Project
- Open Required Projects
- Close
- Rename...
- Move...
- Copy...
- Delete Supprimer
- Find... Ctrl+F
- Reverse Engineer...
- Versioning
- Local History
- Properties

NetBeans
My NetBeans
News & Tutorial
Cannot connect to internet.
Proxy Configuration...
Association de l'appel à un web service
Featured Demo
Cannot connect to internet.
ALL NEWS >>
ALL ARTICLES >
Blog
ALL BLOGS >
Sun
microsystems
Show On Startup
HTTP Monitor



New Web Service Client

Steps

1. Choose File Type
2. **WSDL and Client Location**

WSDL and Client Location

Specify the WSDL file of the Web Service.

Project:

Local File:

WSDL URL:

Specify a location for the WSDL file:

Project:

Package:

Client Style:

Generate Dispatch

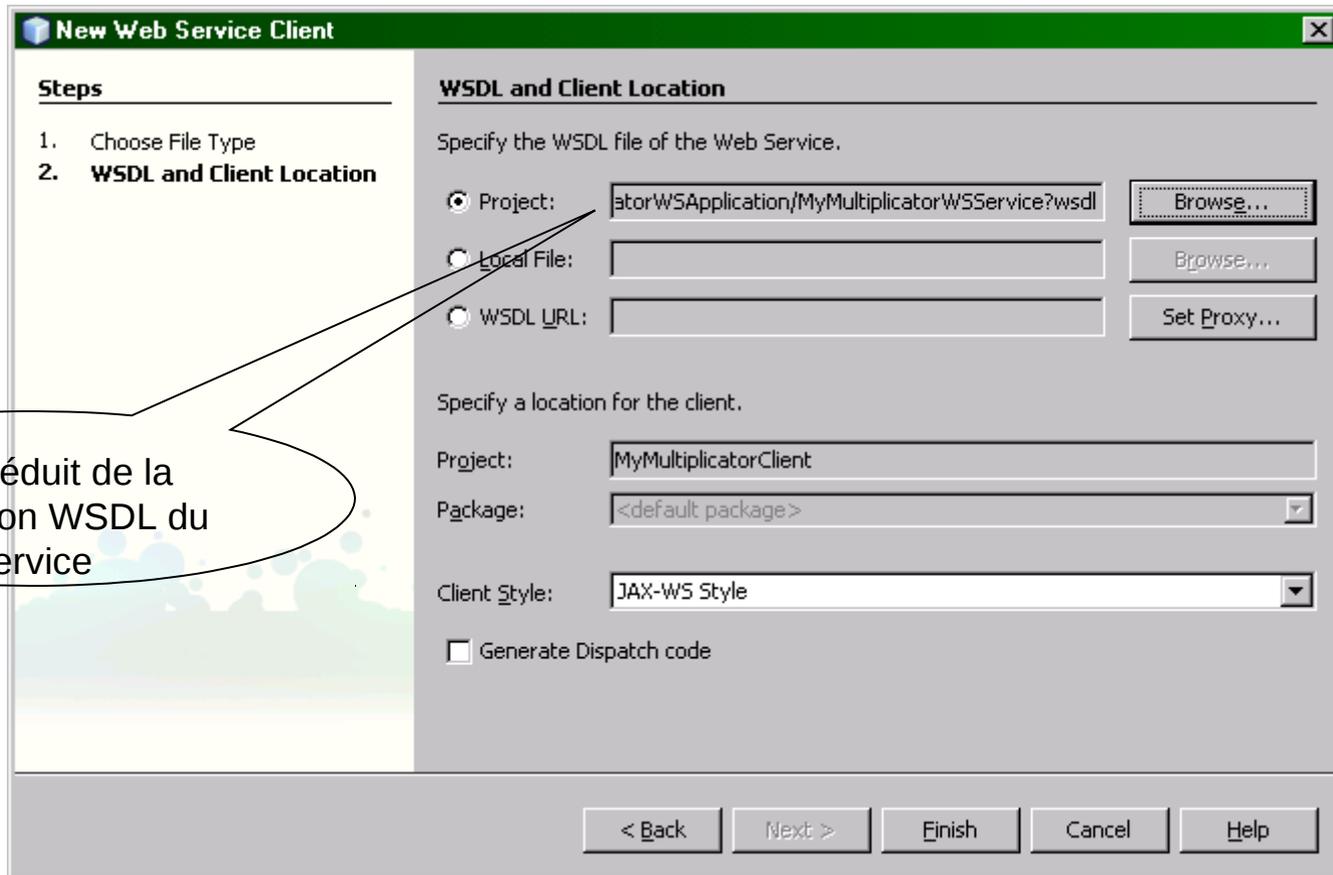
Enter the URL of the WSDL file

Sélection du web service

Browse Web Services

Web Services:

- MyMultiplicatorWSApplication
 - MyMultiplicatorWS**



URL déduit de la description WSDL du service



Projects | Files | Services

- MyMultiplicatorClient
- MyMultiplicatorWSApplication
- MyMu...

index.jsp - Nav

Output

Supprimer

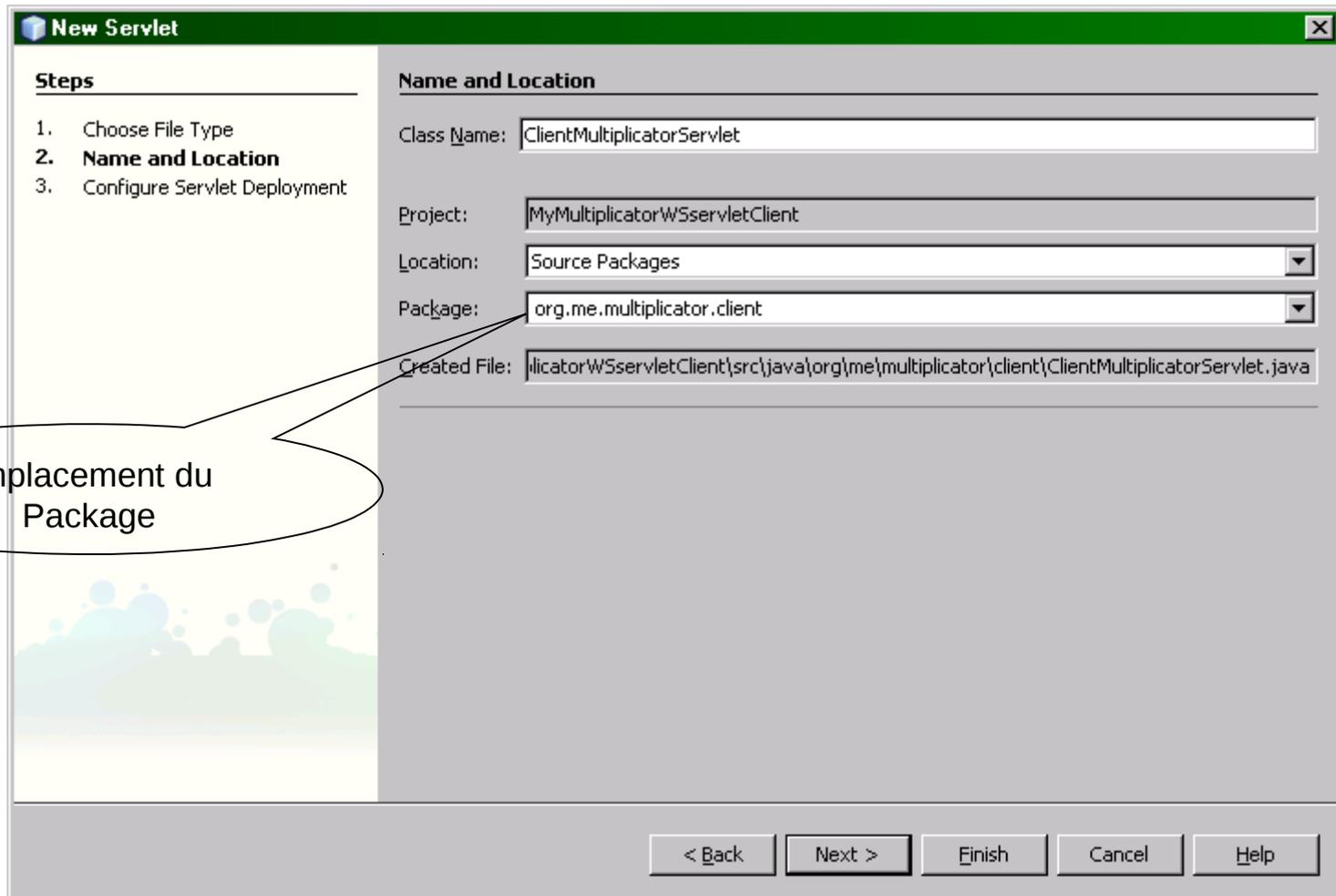
Ctrl+F

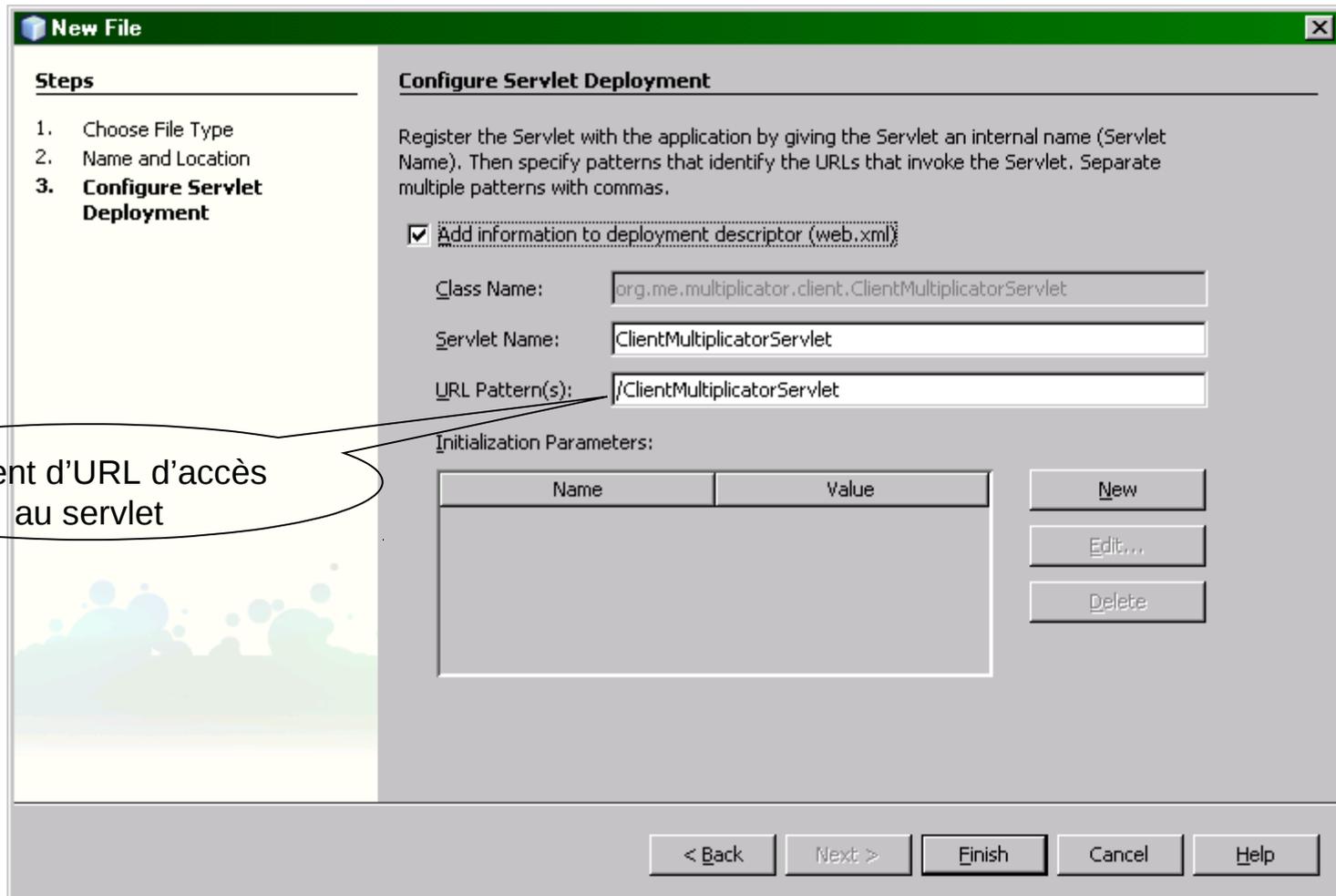
index.jsp x MyMultiplicatorWS.java x Main.java x Start Page x

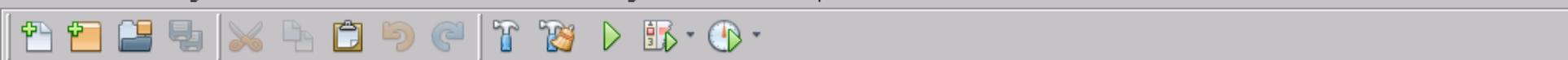
New

- Web Service Client...
- Web Service...
- Visual Web JSF Page...
- Visual Web JSF Page Fragment...
- JSP...
- HTML...
- Servlet...**
- Java Class...
- Java Package...
- Entity Class...
- Entity Classes from Database...
- JSF Pages from Entity Classes...
- Web Service from WSDL...
- RESTful Web Services from Entity Classes...
- RESTful Web Services from Patterns...
- Other...

Création de Servlet







Projects | Files | Services

- MyMultiplierClient
- MyMultiplierWSApplication
- MyMultiplierWSservletClient**
 - Web Pages
 - Configuration Files
 - Server Resources
 - Source Packages
 - org.me.multiplier.client
 - ClientMultiplierServlet.java**
 - Test Packages
 - Libraries
 - Test Libraries

Navigator

Members View

- ClientMultiplierServlet :: HttpServlet
 - doGet(HttpServletRequest request, HttpServletResponse response)
 - doPost(HttpServletRequest request, HttpServletResponse response)
 - getServletInfo() : String
 - processRequest(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

```
index.jsp x MyMultiplierWS.java x Main.java x Start Page x ClientMultiplierServlet.java x
```

```
/*
 * To change this template, choose Tools | Templates
 * and open the template in the editor.
 */

package org.me.multiplier.client;

import java.io.*;
import java.net.*;

import javax.servlet.*;
import javax.servlet.http.*;

/**
 *
 * @author bcg
 */
public class ClientMultiplierServlet extends HttpServlet {

    /**
     * Processes requests for both HTTP GET and POST methods
     * @param request servlet request
     * @param response servlet response
     */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
    }
}
```

1:1 | INS

Output | HTTP Monitor

Categories:

- Sources
- Frameworks
- Libraries
- ▼ ○ Build
 - Compiling
 - Packaging
 - Documenting
- Run
- Debug
- Formatting

Server:

Java EE Version:

Context Path:

Display Browser on Run

Specify the URL relative to the context path to run:

Relative URL:
(e.g. /admin/login.jsp)

Deploy on Save

If selected, files are compiled and deployed when you save them.
This option saves you time when you run or debug your application in the IDE.

VM Options:
(used for running main classes or unit tests; e.g. -Xms10m)



Projects | Files | Services

- Server Resources
- Source Packages
- Test Packages
- Libraries
- Test Libraries
- MyMultiplierWSservletClient**
 - Web Pages
 - Web Service References
 - MyMultiplierWSService
 - MyMultiplierWSService
 - MyMultiplierWSPort
 - multiply
- Configuration Files
- Server Resources
- Source Packages

processRequest - Navigator

Members View

- ClientMultiplierServlet :: HttpServlet
 - doGet(HttpServletRequest request, HttpServletResponse response)
 - doPost(HttpServletRequest request, HttpServletResponse response)
 - getServletInfo() : String
 - processRequest(HttpServletRequest request, HttpServletResponse response)**

```
...sp MyMultiplierWS.java x Main.java x Start Page x ClientMultiplierServlet.java x
```

```
/**  
 * Processes requests for both HTTP GET and POST requests  
 * @param request servlet request  
 * @param response servlet response  
 */  
protected void processRequest(HttpServletRequest request, HttpServletResponse response)  
    throws ServletException, IOException {  
    response.setContentType("text/html; charset=UTF-8");  
    PrintWriter out = response.getWriter();  
    try {  
        out.println("<html>");  
        out.println("<head>");  
        out.println("<title>Servlet ClientMultiplierServlet</title>");  
        out.println("</head>");  
        out.println("<body>");  
        out.println("<h1>Servlet ClientMultiplierServlet at " + request.getRequestURL().toString() + "</h1>");  
        out.println("</body>");  
        out.println("</html>");  
    } finally {  
        out.close();  
    }  
}
```

Drag and Drop

Output

Click or press C-T to hide/show when the Navigator is active

Retriever Output x MyMultiplierWSservletClient-impl (wsimport-client-MyMultiplierWSService,wsimport-client-compile) x

BUILD SUCCESSFUL (total time: 37 seconds)

The screenshot displays the NetBeans IDE interface. The main editor window shows the code for `ClientMultiplicatorServlet.java`. The code includes a `processRequest` method that sets the content type to `text/html; charset=UTF-8` and prints an HTML response. The response includes a title `Servlet ClientMultiplicatorServlet` and a body that displays the servlet name and the request parameters. The code also shows a call to a web service operation `multiply` from the `MyMultiplicatorWSService` interface.

```


    */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html; charset=UTF-8");
        PrintWriter out = response.getWriter();
        try {
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Servlet ClientMultiplicatorServlet</title>");
            out.println("</head>");
            out.println("<body>");
            out.println("<h1>Servlet ClientMultiplicatorServlet at " + request.getRequestURL().toString() + "</h1>");

            QName portQName = new QName("http://calculator.me.org/" , "MyMultiplicator");
            String req = "<multiply xmlns=\"http://calculator.me.org/\"><parameterI>E";

            try { // Call Web Service Operation
                Dispatch<Source> sourceDispatch = null;
                sourceDispatch = service.createDispatch(portQName, Source.class, Service.Mode.MESSAGE);
                Source result = sourceDispatch.invoke(new StreamSource(new StringReader(req)));
            } catch (Exception ex) {
                // TODO handle custom exceptions here
            }
        }
    }


```

The `Members View` window shows the `ClientMultiplicatorServlet` class with the following members:

- `doGet(HttpServletRequest request, HttpServletResponse response)`
- `doPost(HttpServletRequest request, HttpServletResponse response)`
- `getServletInfo(): String`
- `processRequest(HttpServletRequest request, HttpServletResponse response)`
- `service: MyMultiplicatorWSService`

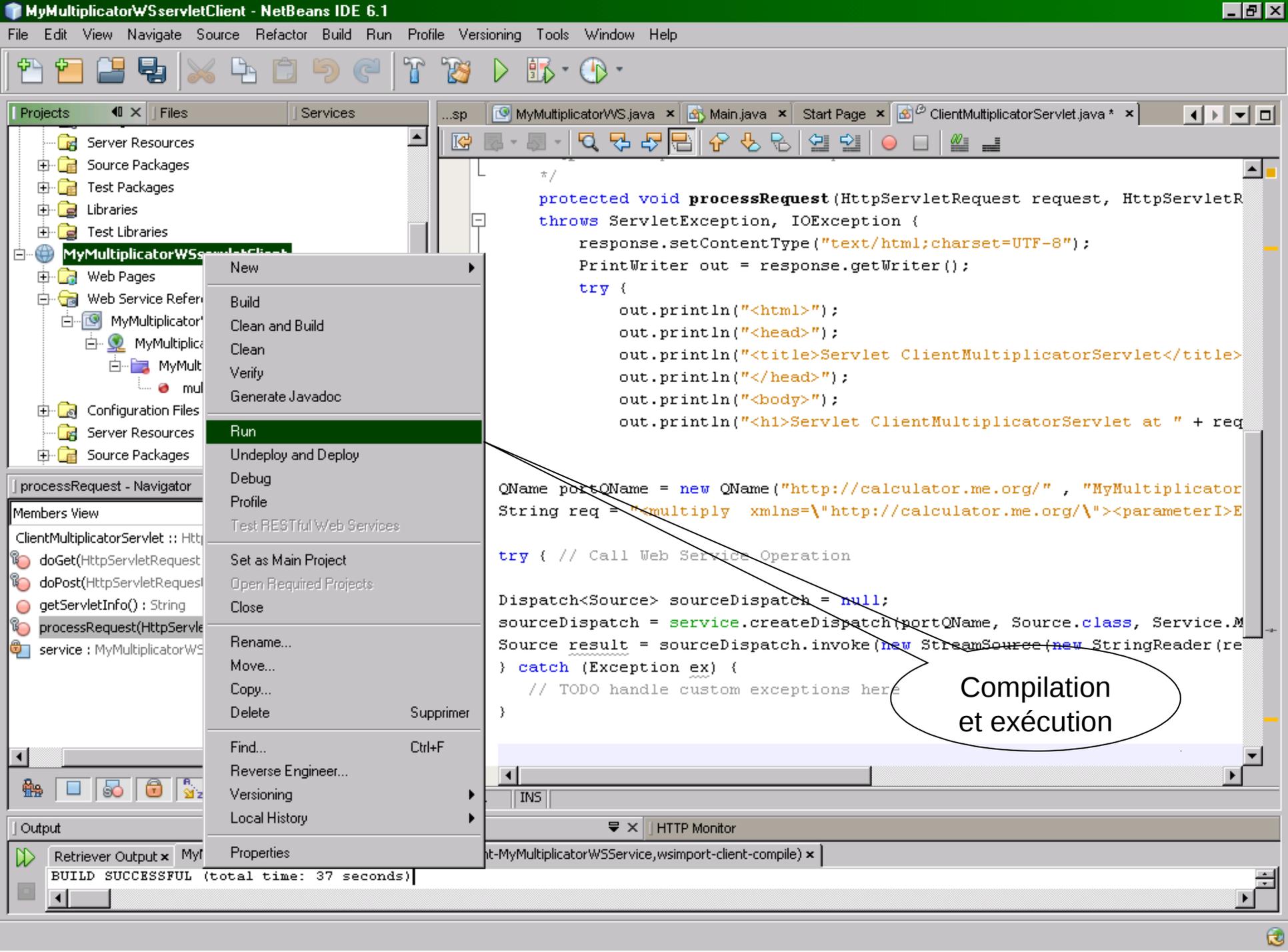
A callout bubble points to the `processRequest` method in the `Members View` window with the text: **Code généré à l'emplacement**

The `Output` window shows the following message:

```


Retriever Output x MyMultiplicatorWSservletClient-impl (wsimport-client-MyMultiplicatorWSService,wsimport-client-compile) x
BUILD SUCCESSFUL (total time: 37 seconds)


```



The screenshot displays the NetBeans IDE interface. The top toolbar contains icons for file operations and development tools. The left sidebar shows the project structure for 'MyMultiplierWSservletClient', including 'Server Resources', 'Source Packages', 'Test Packages', 'Libraries', and 'Test Libraries'. The 'Members View' for 'ClientMultiplierServlet :: HttpServlet' is visible, listing methods 'doGet' and 'doPost'. The main editor window shows the code for 'processRequest' in 'ClientMultiplierServlet.java', which sets the content type to 'text/html; charset=UTF-8' and prints an HTML response. The bottom pane shows the 'Output' window with the following text:

```
Retriever Output x MyMultiplierWSservletClient (run) x GlassFish V2 x
In-place deployment at C:\Home\NetBeansProjects\MyMultiplierWSservletClient\build\web
Start registering the project's server resources
Finished registering server resources
moduleID=MyMultiplierWSservletClient
deployment started : 0%
deployment finished : 100%
La tâche Déploiement de l'application dans le domaine a été accomplie avec succès
La tâche Tentative de création de la référence d'application sur la cible server a été accomplie avec succès
La tâche Tentative de démarrage de l'application sur la cible server a été accomplie avec succès
La tâche Déploiement de l'application MyMultiplierWSservletClient a été accomplie avec succès
La tâche Enable de MyMultiplierWSservletClient sur la cible server a été accomplie avec succès
La tâche Enable d'application sur toutes les cibles a été accomplie avec succès
Toutes les opérations ont été correctement effectuées.
run-deploy:
Browsing: http://localhost:8080/MyMultiplierWSservletClient/ClientServlet
run-display-browser:
run:
BUILD SUCCESSFUL (total time: 40 seconds)
```

Fin du module