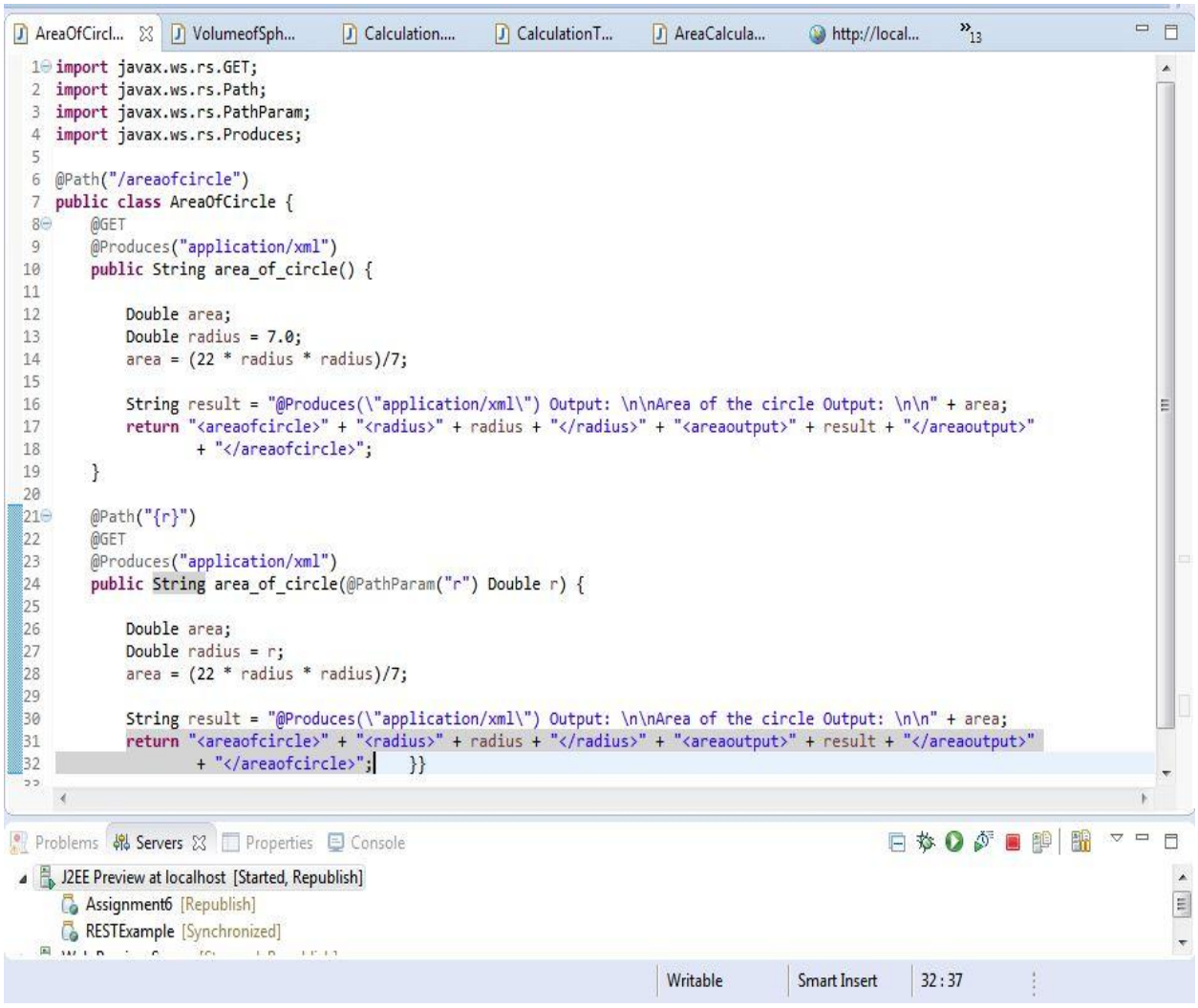
ASSIGNMENT 6

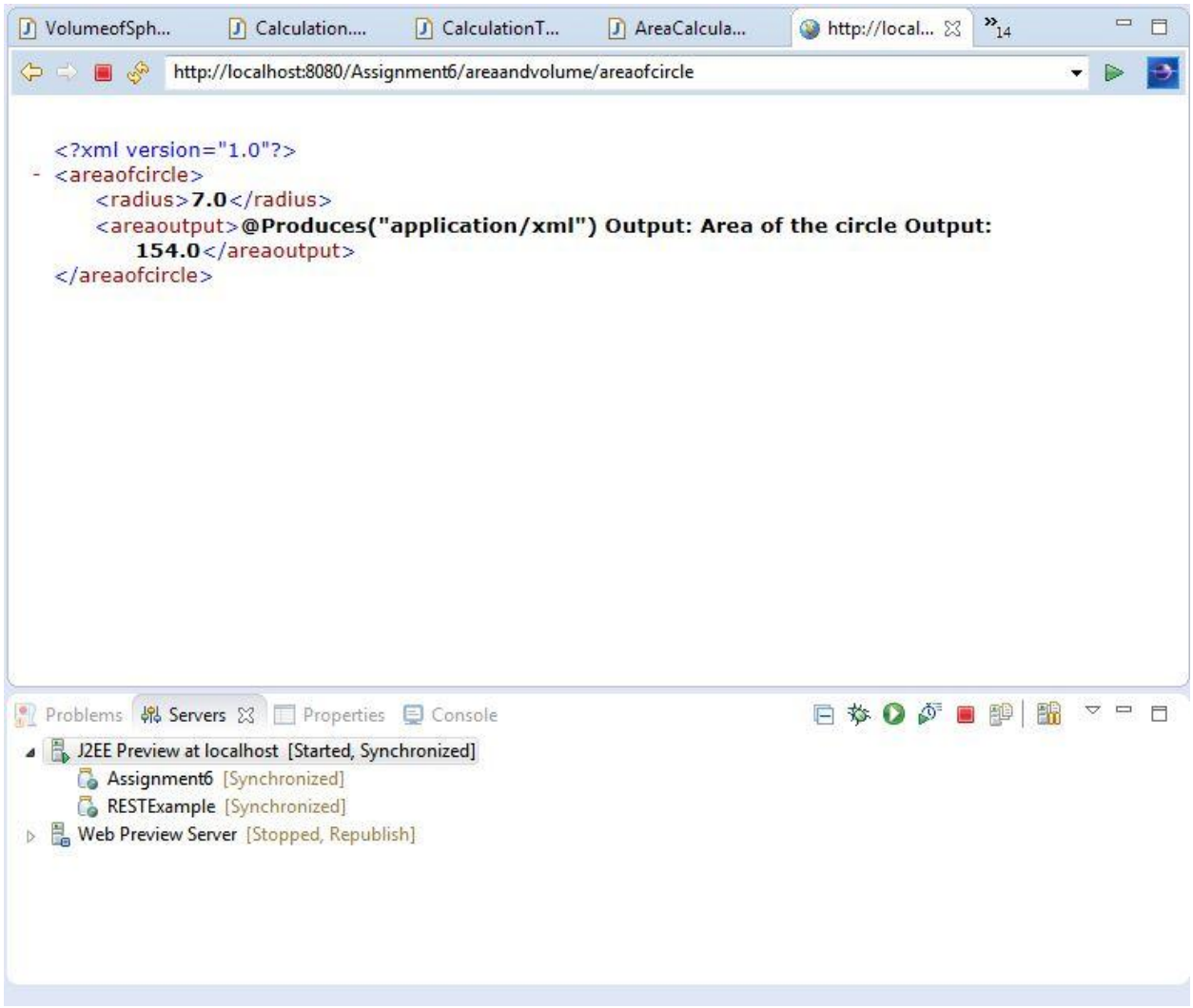
Rest Service for Area of a Circle:

Code:




```java
import javax.ws.rs.GET;
import javax.ws.rs.Path;
import javax.ws.rs.PathParam;
import javax.ws.rs.Produces;

@Path("/areaofcircle")
public class AreaOfCircle {
    @GET
    @Produces("application/xml")
    public String area_of_circle() {

        Double area;
        Double radius = 7.0;
        area = (22 * radius * radius)/7;

        String result = "@Produces(\"application/xml\") Output: \n\nArea of the circle Output: \n\n" + area;
        return "<areaofcircle>" + "<radius>" + radius + "</radius>" + "<areaoutput>" + result + "</areaoutput>"
               + "</areaofcircle>";
    }

    @Path("{r}")
    @GET
    @Produces("application/xml")
    public String area_of_circle(@PathParam("r") Double r) {

        Double area;
        Double radius = r;
        area = (22 * radius * radius)/7;

        String result = "@Produces(\"application/xml\") Output: \n\nArea of the circle Output: \n\n" + area;
        return "<areaofcircle>" + "<radius>" + radius + "</radius>" + "<areaoutput>" + result + "</areaoutput>"
               + "</areaofcircle>";    }}
```

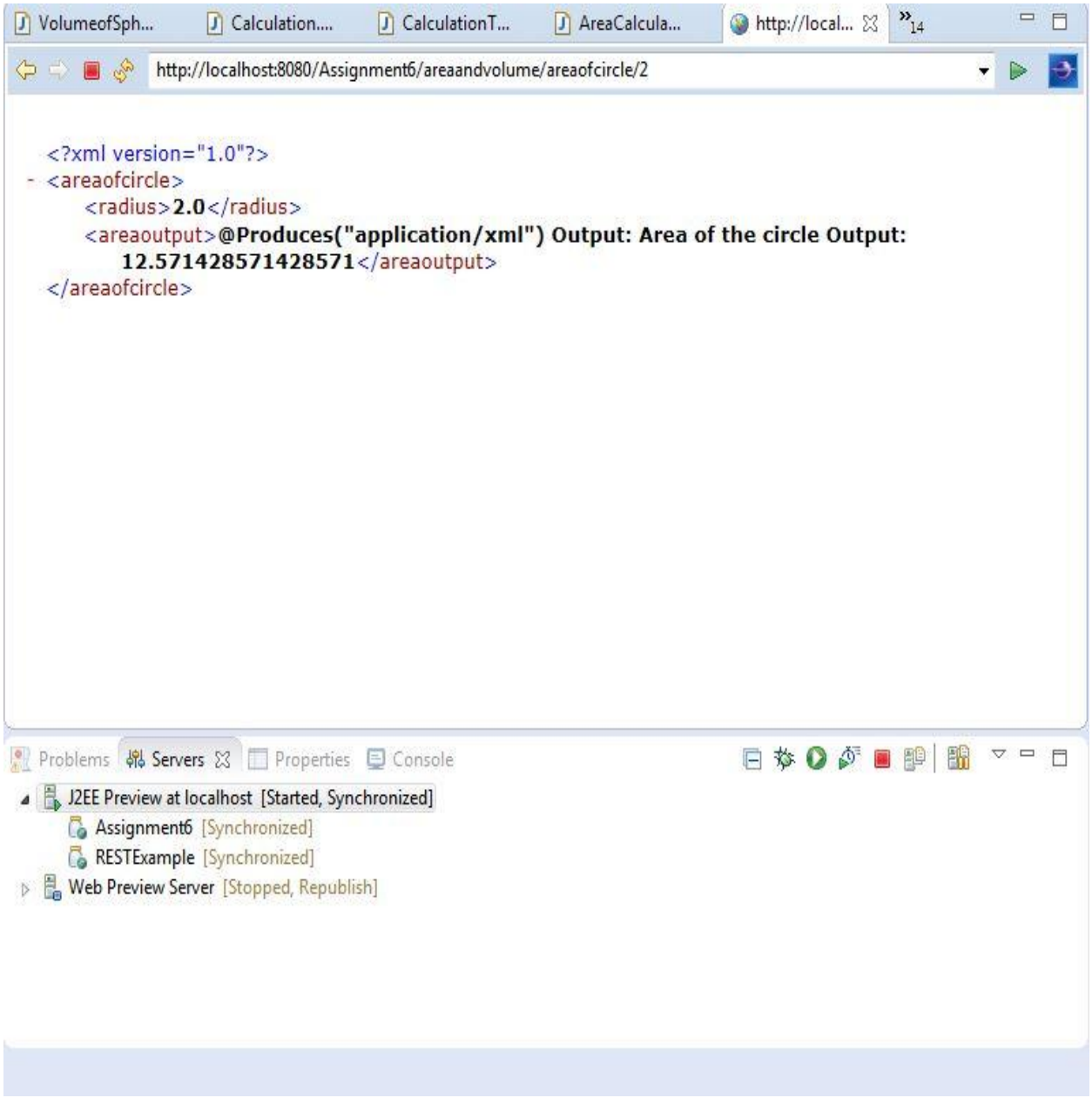
Output for Default radius:



Output for variable radius:

Value of the Radius is provided in the url.

You can find the url in the screenshot



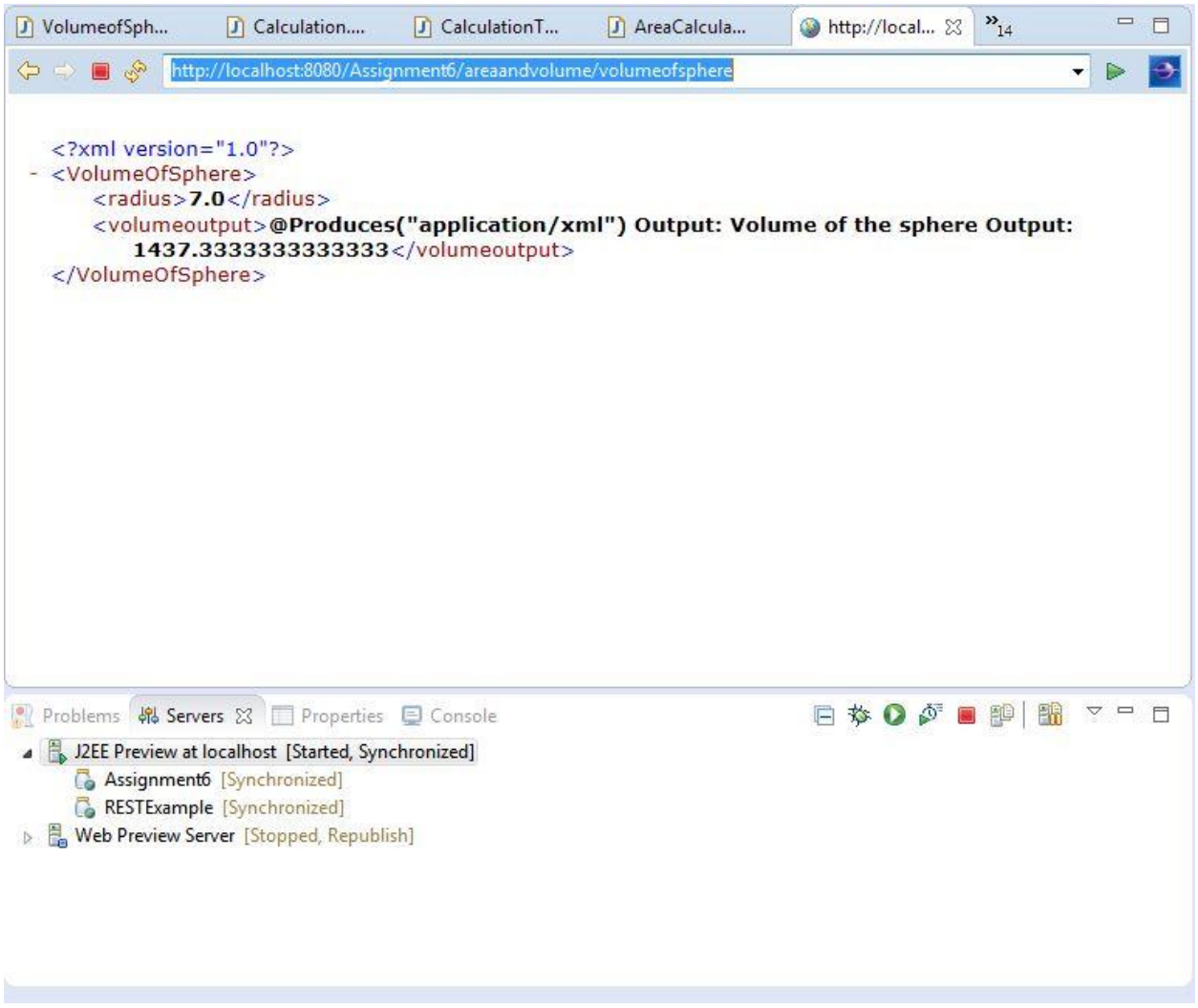
Volume of a sphere:

Code:

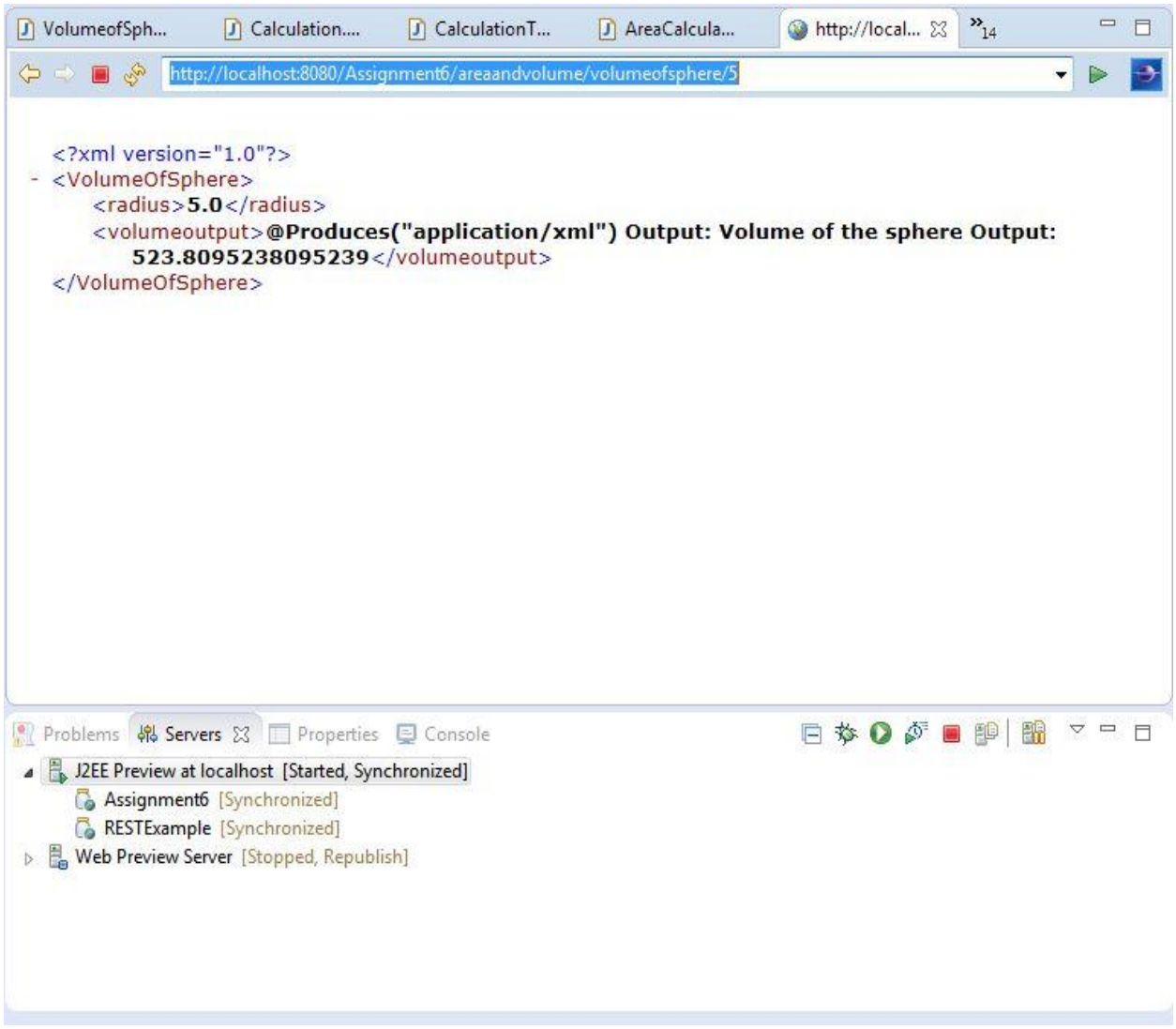
```
import javax.ws.rs.GET;
import javax.ws.rs.Path;
import javax.ws.rs.PathParam;
import javax.ws.rs.Produces;

@Path("/volumeofsphere")
public class VolumeofSphere {
    @GET
    @Produces("application/xml")
    public String volume_of_sphere() {

        Double volume;
        Double radius = 7.0;
        volume = (4 * 22 * radius * radius * radius)/(7*3);

        String result = "@Produces(\"application/xml\") Output: \n\nVolume of the sphere Output: \n\n" + volume;
        return "<VolumeOfSphere>" + "<radius>" + radius + "</radius>" + "<volumeoutput>" + result + "</volumeoutput>" + "</Vo
    }

    @Path("{r}")
    @GET
    @Produces("application/xml")
    public String volume_of_sphere(@PathParam("r") Double r) {

        Double volume;
        Double radius = r;
        volume = (4 * 22 * radius * radius * radius)/(7*3);

        String result = "@Produces(\"application/xml\") Output: \n\nVolume of the sphere Output: \n\n" + volume;
        return "<VolumeOfSphere>" + "<radius>" + radius + "</radius>" + "<volumeoutput>" + result + "</volumeoutput>" + "</Vo
    }}
```

Screenshots:

Volume of sphere for default radius:



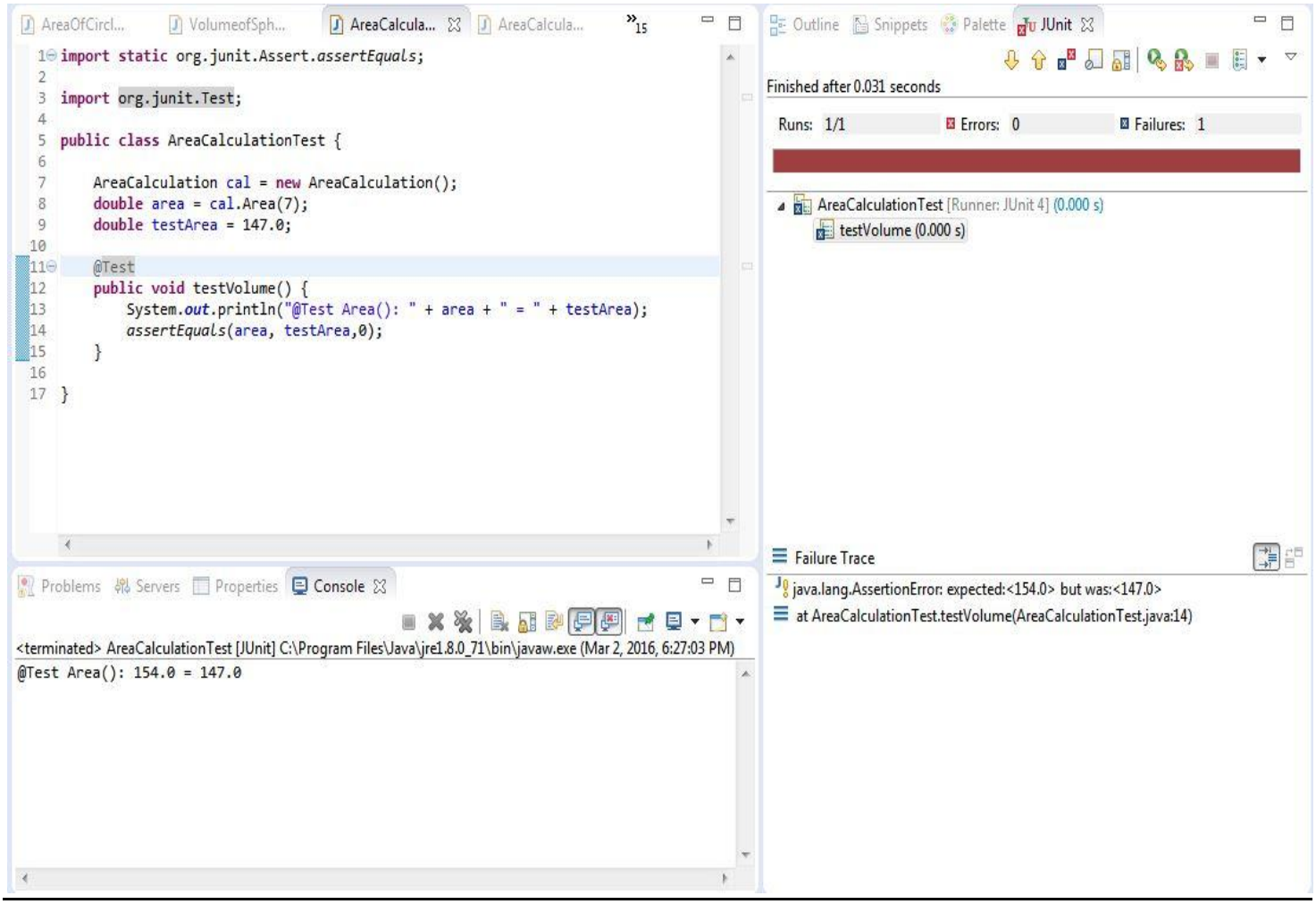
Volume of sphere with variable radius:



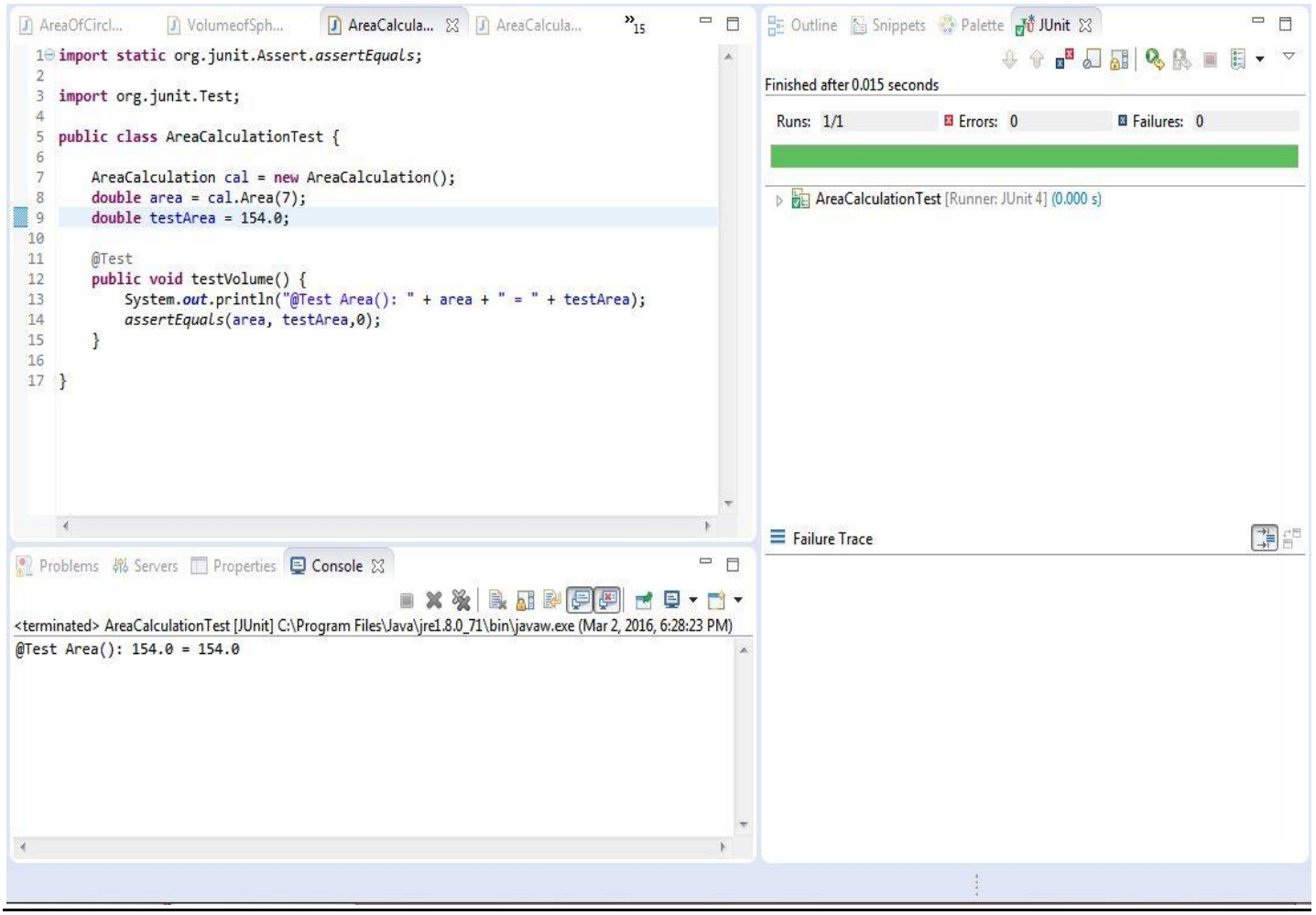
JUNIT Test Cases:

Test case for area of a circle

<u>Failure:</u>

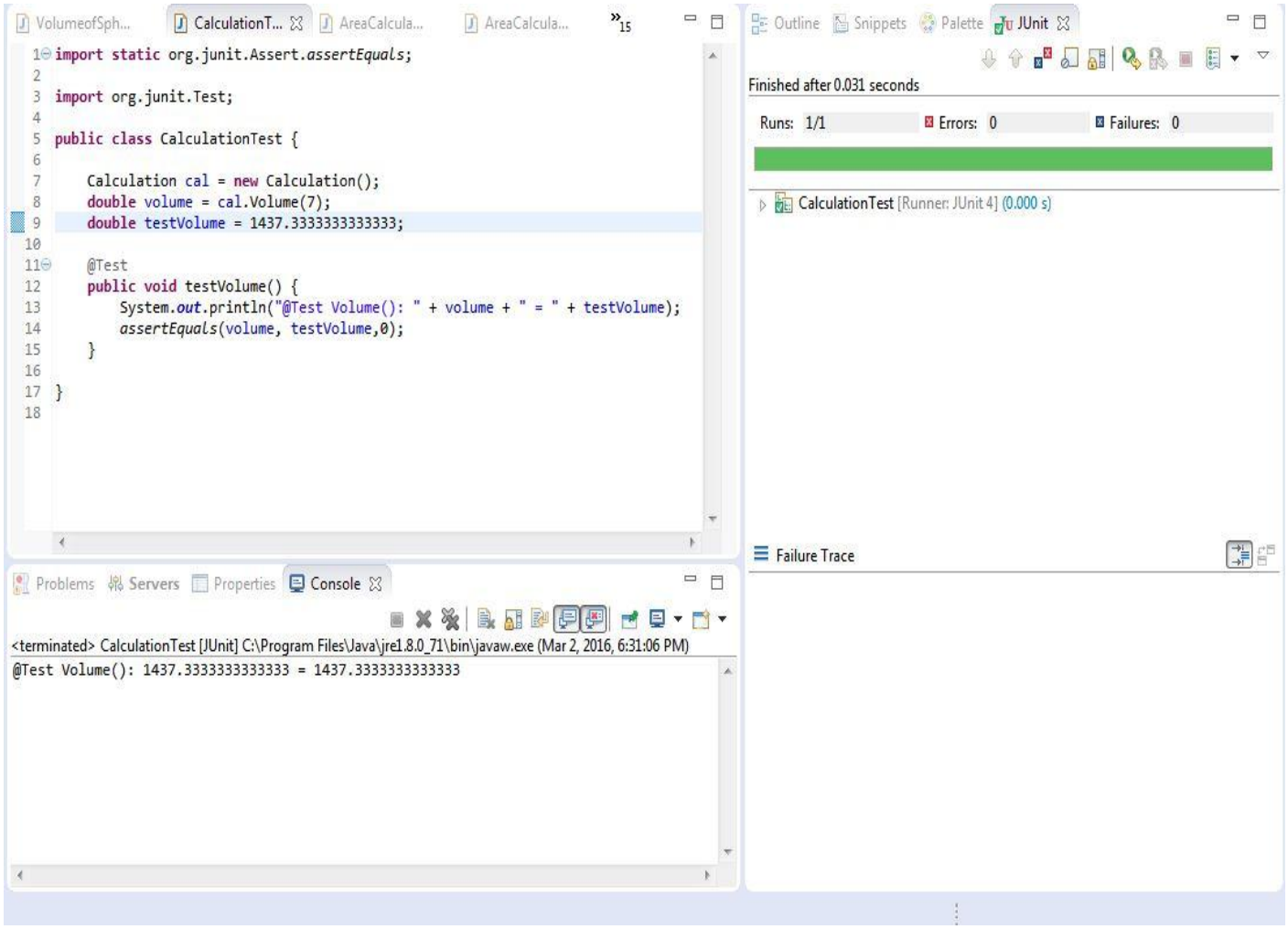


Success:

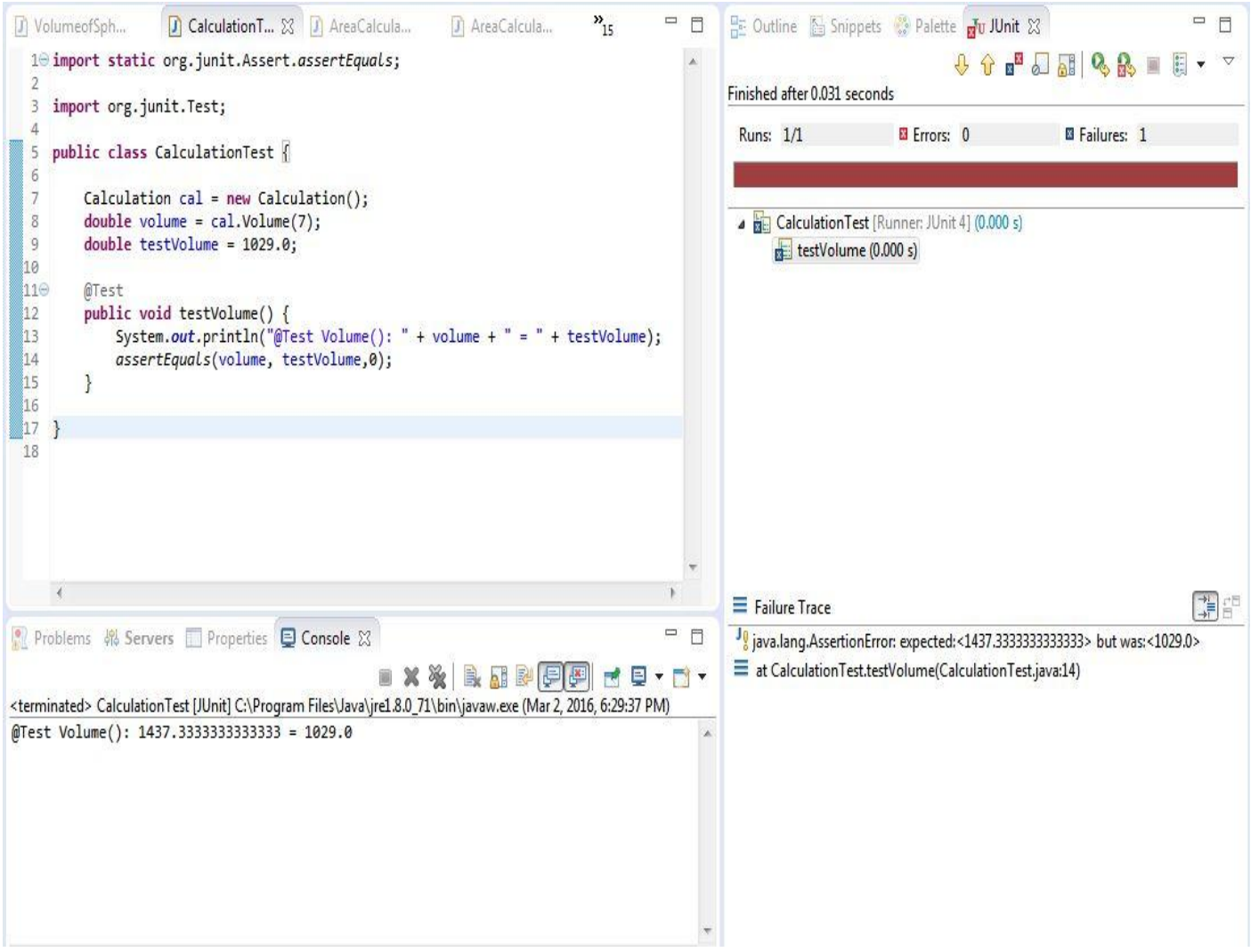

AreaOfCircl...
VolumeofSph...
AreaCalcula...
AreaCalcula...
1 import static org.junit.Assert.assertEquals;
2
3 import org.junit.Test;
4
5 public class AreaCalculationTest {
6
7 AreaCalculation cal = new AreaCalculation();
8 double area = cal.Area(7);
9 double testArea = 154.0;
10
11 @Test
12 public void testVolume() {
13 System.out.println("@Test Area(): " + area + " = " + testArea);
14 assertEquals(area, testArea,0);
15 }
16
17 }
Outline
Snippets
Palette
JUnit
Finished after 0.015 seconds
Runs: 1/1
Errors: 0
Failures: 0
AreaCalculationTest [Runner: JUnit 4] (0.000 s)
Failure Trace
Problems
Servers
Properties
Console
<terminated> AreaCalculationTest [JUnit] C:\Program Files\Java\jre1.8.0_71\bin\javaw.exe (Mar 2, 2016, 6:28:23 PM)
@Test Area(): 154.0 = 154.0

Test case for Volume of a sphere:

Success



Failure


VolumeofSph...
CalculationT...
AreaCalcula...
AreaCalcula...
»15
1 import static org.junit.Assert.assertEquals;
2
3 import org.junit.Test;
4
5 public class CalculationTest {
6
7 Calculation cal = new Calculation();
8 double volume = cal.Volume(7);
9 double testVolume = 1029.0;
10
11 @Test
12 public void testVolume() {
13 System.out.println("@Test Volume(): " + volume + " = " + testVolume);
14 assertEquals(volume, testVolume,0);
15 }
16
17 }
18
Outline
Snippets
Palette
JUnit
Finished after 0.031 seconds
Runs: 1/1
Errors: 0
Failures: 1
CalculationTest [Runner: JUnit 4] (0.000 s)
testVolume (0.000 s)
Failure Trace
java.lang.AssertionError: expected:<1437.3333333333333> but was:<1029.0>
at CalculationTest.testVolume(CalculationTest.java:14)
Problems
Servers
Properties
Console
<terminated> CalculationTest [JUnit] C:\Program Files\Java\jre1.8.0_71\bin\javaw.exe (Mar 2, 2016, 6:29:37 PM)
@Test Volume(): 1437.3333333333333 = 1029.0