

The image displays a development environment with three main components:

1. Source Code (TriangleArea.java)

```
1  package ec.edu.espe.areatriangle.view;
2
3  import ec.edu.espe.areatriangle.model.MongoDBConnect;
4  import ec.edu.espe.areatriangle.model.TriangleArea;
5  import javax.swing.*;
6  import java.awt.*;
7  import java.awt.event.ActionEvent;
8  import java.awt.event.ActionListener;
9
10 /*
11  * Author Leidy Saraguro,Paradigms Pioneers Squad, D
12  */
13
14 public class TriangleAreaGUI extends JFrame {
15     private JTextField baseField;
16     private JTextField heightField;
17     private JTextField areaField;
18     private JButton calculateButton;
19     private JButton saveButton;
20
21     private MongoDBConnection mongoDBConnection;
22
23     public TriangleAreaGUI() {
24         setTitle("Triangle Area Calculator");
25         setSize(300, 200);
26         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
27         setLayout(new GridLayout(5, 2));
28
29         mongoDBConnection = new MongoDBConnection();
30
31         // Create components
32         baseField = new JTextField();
33         heightField = new JTextField();
34     }
35 }
```

2. MongoDB Compass (TriangleAreas Collection)

Documents:

- `{ "_id": ObjectId("66aa7180ba2291503989623d"), "base": 25, "height": 45.2, "area": 565 }`
- `{ "_id": ObjectId("66aa71a8ba2291503989623e"), "base": 63.24, "height": 5, "area": 158.1 }`

3. Apache NetBeans IDE 21

Output - Test (TriangleAreaTest)

```
cd C:\Users\User\Documents\NetBeansProjects\AreaTriangle; "JAVA_HOME=C:\Program Files\Java\jdk-22" cmd /c "%C:\Program Files\NetBeans-21\netbeans\java\maven\bin\mvn.cmd" %*
Scanning for projects...
Building TriangleArea 1.0-SNAPSHOT
from pom.xml
[ jar ]
--- resources:3.3.1:resources (default-resources) @ AreaTriangle ---
skip non existing resourceDirectory C:\Users\User\Documents\NetBeansProjects\AreaTriangle\src\main\resources
--- compiler:3.11.0:compile (default-compile) @ AreaTriangle ---
Nothing to compile - all classes are up to date
--- resources:3.3.1:testResources (default-testResources) @ AreaTriangle ---
skip non existing resourceDirectory C:\Users\User\Documents\NetBeansProjects\AreaTriangle\src\test\resources
--- compiler:3.11.0:testCompile (default-testCompile) @ AreaTriangle ---
Changes detected - recompiling the module source

Test Results
ec.edu.espe.AreaTriangleJar1.0-SNAPSHOT (Unit)
Tests passed: 60.00 %
6 tests passed, 4 tests failed. (0.121 s)
- ec.edu.espe.areatriangle.TriangleAreaTest Failed
  > testCalculateAreaNegativeBaseAndHeight Failed: Expected java.lang.IllegalArgumentException to be thrown, but nothing was thrown.
  > testCalculateAreaNegativeBase Failed: Expected java.lang.IllegalArgumentException to be thrown, but nothing was thrown.
  > testCalculateAreaNegativeHeight Failed: Expected java.lang.IllegalArgumentException to be thrown, but nothing was thrown.
  > testCalculateAreaSmallValues Failed: expected: <0.01> but was: <0.010000000000000002>
```