

UNIVERSITY OF THE ARMED FORCES – ESPE
WS34 – SINGLETON PATTERN

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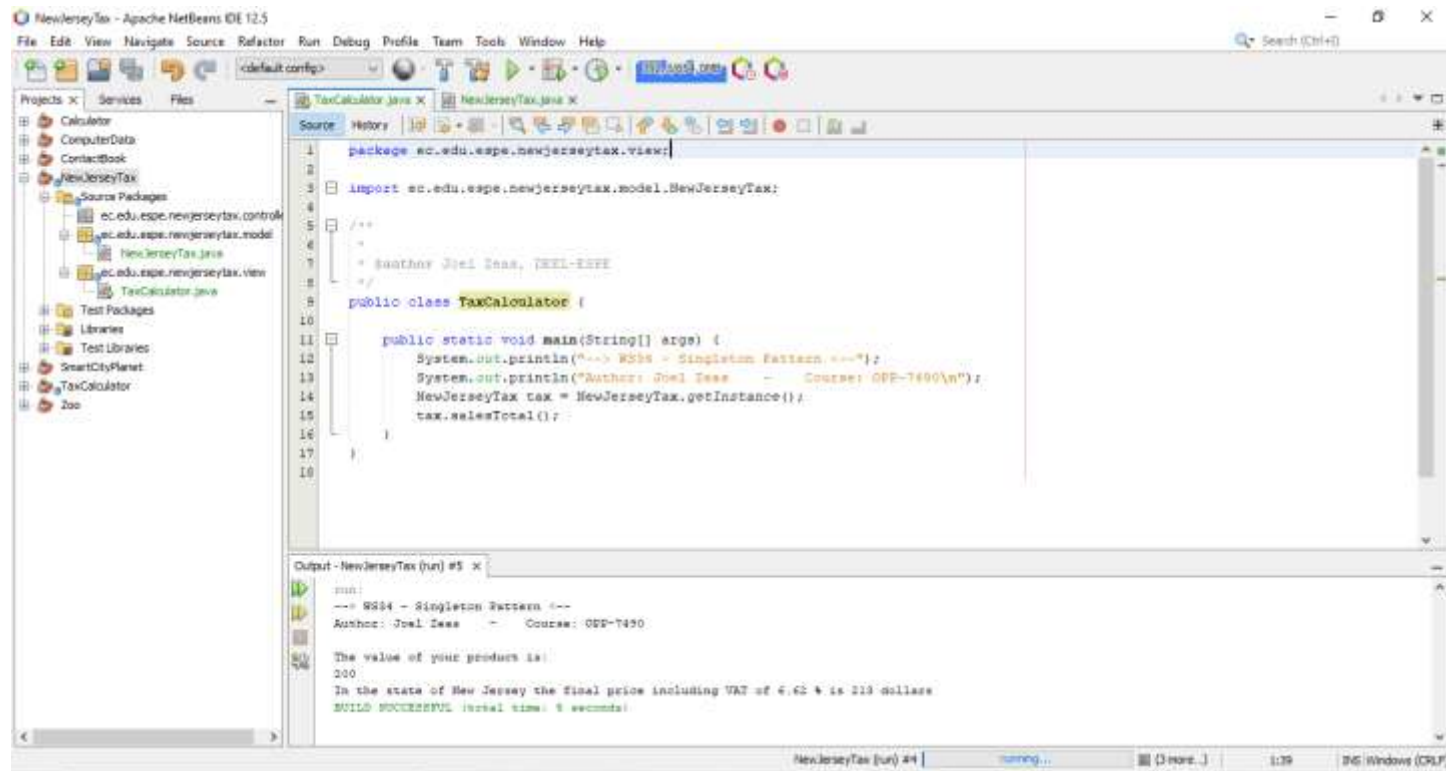
Date: 15th February 2022

NRC: 7490

Career: Telecommunications

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The main purpose of the Singleton Pattern is to have a single instance of a class during programming or application code. Where the object is instantiated only once and is available to any user, when they need this information they just ask for it and everyone gets it equally.



The screenshot displays the Apache NetBeans IDE 12.5 interface. The left sidebar shows a project tree with a package structure: `ec.edu.espe.newjerseytax` containing `control`, `model`, and `view` sub-packages. The main editor window shows the source code for `TaxCalculator.java` in the `ec.edu.espe.newjerseytax.view` package. The code implements the Singleton Pattern for the `TaxCalculator` class. The `main` method prints the Singleton Pattern name, author information, and calculates the total price including VAT for a product valued at 200 dollars. The output window at the bottom shows the execution results, confirming the successful build and the printed output.

```
package ec.edu.espe.newjerseytax.view;

import ec.edu.espe.newjerseytax.model.NewJerseyTax;

/**
 * @author Joel Zeas, [XEL-ESPE]
 */
public class TaxCalculator {

    public static void main(String[] args) {
        System.out.println("--- WS34 - Singleton Pattern ---");
        System.out.println("Author: Joel Zeas - Course: OPE-7490\n");
        NewJerseyTax tax = NewJerseyTax.getInstance();
        tax.salesTotal();
    }
}
```

Output - NewJerseyTax (run) #5 x

```
run:
--- WS34 - Singleton Pattern ---
Author: Joel Zeas - Course: OPE-7490

The value of your products is:
200
In the state of New Jersey the final price including VAT of 6.62 % is 213 dollars
BUILD SUCCESSFUL (total time: 8 seconds)
```

NewJerseyTax - Apache NetBeans IDE 12.5

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

Search (Ctrl+F)

Projects Services Files

Calculator
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ContactBook
NewJerseyTax
Source Packages
ec.edu.espe.newjerseytax.controlle
ec.edu.espe.newjerseytax.model
NewJerseyTax.java
ec.edu.espe.newjerseytax.view
TaxCalculator.java
Test Packages
Libraries
Test Libraries
SmartCityPlanet
TaxCalculator
Zoo

Source History

```
1 package ec.edu.espe.newjerseytax.model;
2
3 import java.util.Scanner;
4
5 /**
6  *
7  * @author Joel Zeas, DEEL-ESPE
8  */
9 public class NewJerseyTax {
10     private static NewJerseyTax instance;
11     float taxRate;
12
13     private NewJerseyTax() {
14         taxRate = 6.62F;
15     }
16
17     public static NewJerseyTax getInstance() {
18         if (instance == null) {
19             instance = new NewJerseyTax();
20         }
21         return instance;
22     }
23 }
```

Output - NewJerseyTax (run) #5

```
run:
--> WS34 - Singleton Pattern <--
Author: Joel Zeas - Course: OPP-7490

The value of your product is:
200
In the state of New Jersey the final price including VAT of 6.62 % is 213 dollars
BUILD SUCCESSFUL (total time: 5 seconds)
```

NewJerseyTax (run) #4 running... (3 more...) 28:40 INS | Windows (CRLF)