JUNIT

Step 1: Download the JAR Files

- **junit-4.13.2.jar**
  📌 ***Purpose:*** **Provides core testing features (@Test, assertEquals(), etc.)**

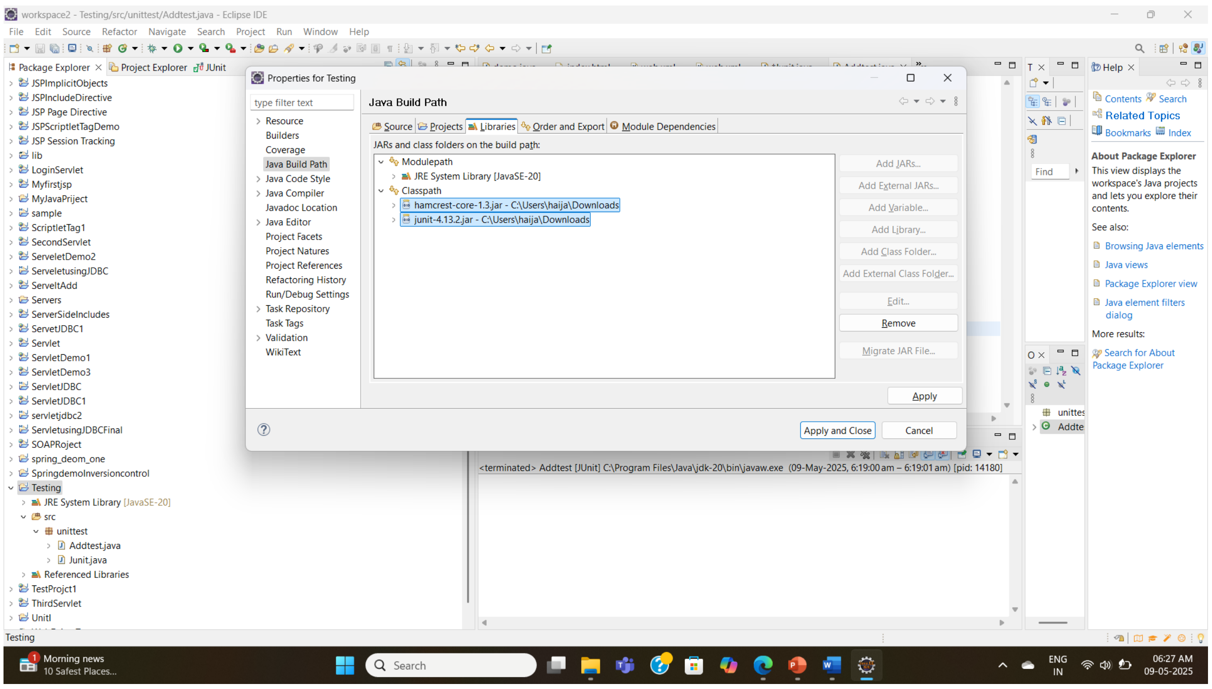
- **hamcrest-core-1.3.jar**

  📌 ***Purpose:*** **Supports assertThat() by supplying readable matchers like is(), equalTo()**

- **Unit** uses **Hamcrest** internally to support advanced assertions.
- **JUnit 4.13.2 requires hamcrest-core-1.3.jar** as a companion JAR for full functionality.

Step 2: Add JARs to Your Eclipse Project

1. **Open Eclipse → Right-click your project → Build Path → Configure Build Path**
2. **Click the Libraries tab → Click Add External JARs**
3. **Select both downloaded JARs**
4. **Click Apply and Close**



workspace2 - Testing/src/unittest/Addtest.java - Eclipse IDE

Properties for Testing — Java Build Path — Libraries

JARs and class folders on the build path:

```
Modulepath
  JRE System Library [JavaSE-20]
Classpath
  hamcrest-core-1.3.jar - C:\Users\haija\Downloads
  junit-4.13.2.jar - C:\Users\haija\Downloads
```

```
<terminated> Addtest [JUnit] C:\Program Files\Java\jdk-20\bin\javaw.exe  (09-May-2025, 6:19:00 am – 6:19:01 am) [pid: 14180]
```

public class Junit {

```
        public int Add(int one, int two)
        {
         return one + two;
        }


}

import static org.junit.Assert.*;
import org.junit.Test;

public class Addtest {
        @Test
        public void testadd()
        {
                Junit test1 = new Junit();
                int result = test1.Add(5, 5);
                assertEquals(10,result);
        }


}
```

import static org.junit.Assert.*;

- **Purpose**: Gives access to JUnit **assertion methods** like:
  - assertEquals()
  - assertTrue()
  - assertFalse()
- Used to **verify test results**.

import org.junit.Test;

- **Purpose**: Allows you to use the @Test annotation.
- @Test tells JUnit to **run the method as a test case**.

Run the method as a test case" means:

JUnit will **automatically execute** the method and **check if it passes or fails** based on the assertions inside.

```
public class Addtest {
        @Test
        public void testadd()
        {
                Junit test1 = new Junit();
                int result = test1.Add(5, 5);
                assertEquals(10,result);
        }

}
```

✅ **Explanation:**

- **@Test**: Marks testadd() as a JUnit test case — JUnit will run this method during testing.
- **Junit test1 = new Junit();**: Creates an object of the class being tested.
- **test1.Add(5, 5)**: Calls the Add() method with values 5 and 5.
- **assertEquals(10, result);**: Checks if the method returns 10.
  ✅ Passes if true, ❌ fails if not.

📌

✅ **assertEquals(expected, actual)**

Checks if two values are equal.

✅ Test passes if both values match.
❌ Test fails if they are different.

Example:

assertEquals(10, result); // Passes if result is 10