E - Library Management System

JUnit Testing:

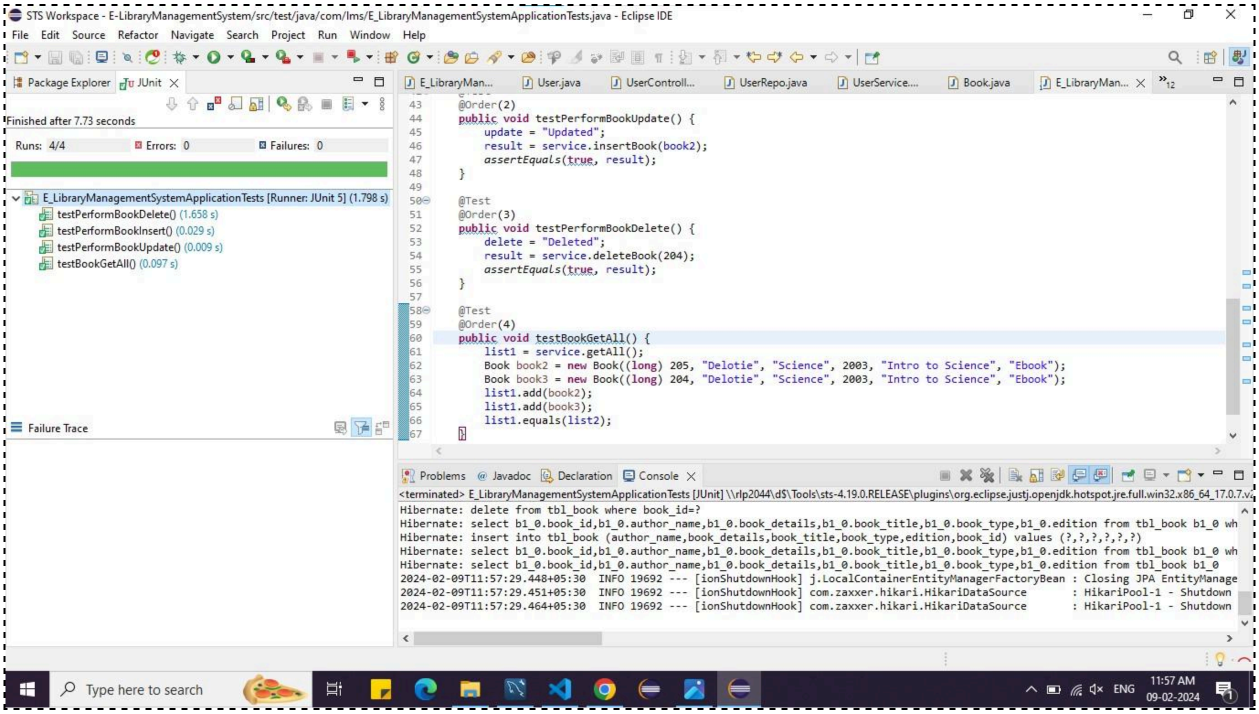
E_LibraryManagementSystemApplicationTests.java

```
package com.lms;
import java.util.ArrayList;
import java.util.List;
import static org.junit.Assert.assertEquals;
import static org.testng.Assert.assertEquals;
import org.junit.jupiter.api.Order;
import org.junit.jupiter.api.Test;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.test.context.SpringBootTest;
import com.lms.bean.Book;
import com.lms.bean.Response;
import com.lms.bean.User;
import com.lms.service.BookService;
import com.lms.service.LoginService;
import com.lms.service.RegisterService;
import com.lms.service.UserService;
@SpringBootTest
class E_LibraryManagementSystemApplicationTests {
        @Autowired
        BookService service;
        String insert;
        String update;
        String delete;
        boolean result;
        boolean result1;
        List<Book> list1 = new ArrayList<>();
        List<Book> list2 = new ArrayList<>();
        Book book1 = new Book((long) 204, "Jenish", "English", 2003, "Intro to English", "Ebook");
        Book book2 = new Book((long) 205, "Delotie", "Science", 2003, "Intro to Science", "Ebook");
        Book book3;
        Book book4;
        @Test
        @Order(1)
        public void testPerformBookInsert() {
                insert = "Inserted";
                result = service.insertBook(book1);
                assertEquals(true, result);
        }
        @Test
        @Order(2)
        public void testPerformBookUpdate() {
                update = "Updated";
                result = service.insertBook(book2);
                assertEquals(true, result);
        }
        @Test
```

```
	@Order(3)
	public void testPerformBookDelete() {
		delete = "Deleted";
		result = service.deleteBook(204);
		assertEquals(true, result);
	}
	@Test
	@Order(4)
	public void testBookGetAll() {
		list1 = service.getAll();
		Book book2 = new Book((long) 205, "Delotie", "Science", 2003, "Intro to Science",
"Ebook");
		Book book3 = new Book((long) 204, "Delotie", "Science", 2003, "Intro to Science",
"Ebook");
		list1.add(book2);
		list1.add(book3);
		list1.equals(list2);
	}
	@Autowired
	UserService service1;
	String insertUser;
	String updateUser;
	String deleteUser;
	boolean result1User;
	boolean result2User;
	List<User> listUser1 = new ArrayList<>();
	List<User> listUser2 = new ArrayList<>();
	User user1 = new User(101, "abcde", "abcde@gmail.com", "1234567890", "user", "salem",
"1212");
	User user2 = new User(102, "aabbcc", "aabbcc@gmail.com", "1234567890", "user", "erode",
"1213");
	User user3;
	User user4;
	@Test
	@Order(5)
	public void testPreformUserInsert() {
		insertUser = "Inserted";
		result1User = service1.insertUser(user1);
		assertEquals(true, result1User);
	}
	@Test
	@Order(6)
	public void testPerformUserUpdate() {
		updateUser = "Updated";
		result1User = service1.updateUser(user2);
		assertEquals(true, result1User);
	}
	@Test
	@Order(7)
	public void testPerformUserDelete() {
		deleteUser = "Deleted";
		result1User = service1.deleteUser(101);
```

```
				result2User = service1.deleteUser(102);
				assertEquals(true, result1User);
			}
			@Test
			@Order(8)
			public void testPerformUserGetAll() {
				listUser1 = service1.getAll();
				User user1 = new User(103, "Meow", "meow@gmail.com", "1234567890", "user",
"salem", "1212");
				User user3 = new User(104, "Zita", "zoya@gmail.com", "1234567890", "user",
"erode", "1213");
				listUser1.add(user1);
				listUser1.add(user3);
				listUser1.equals(listUser1);
			}
			@Autowired
			LoginService loginservice;
			@Autowired
			RegisterService registerService;
			boolean res;
			boolean val;
			User log = new User(1, "Raja", "rajamani@gmail.com", "1234567890", "user", "raja", "1234");
			@Test
			@Order(9)
			void performLogin() {
				Response res1 = new Response("User Success");
				Response res = loginservice.login(log);
				res1.equals(res);
			}
			@Test
			@Order(10)
			void performRegister() {
				val = true;
				res = registerService.Register(log);
				assertEquals(val, res);
			}
}
```

<u>Outputs:</u>



STS Workspace - E-LibraryManagementSystem/src/test/java/com/lms/E_LibraryManagementSystemApplicationTests.java - Eclipse IDE

Finished after 7.73 seconds

Runs: 4/4   Errors: 0   Failures: 0

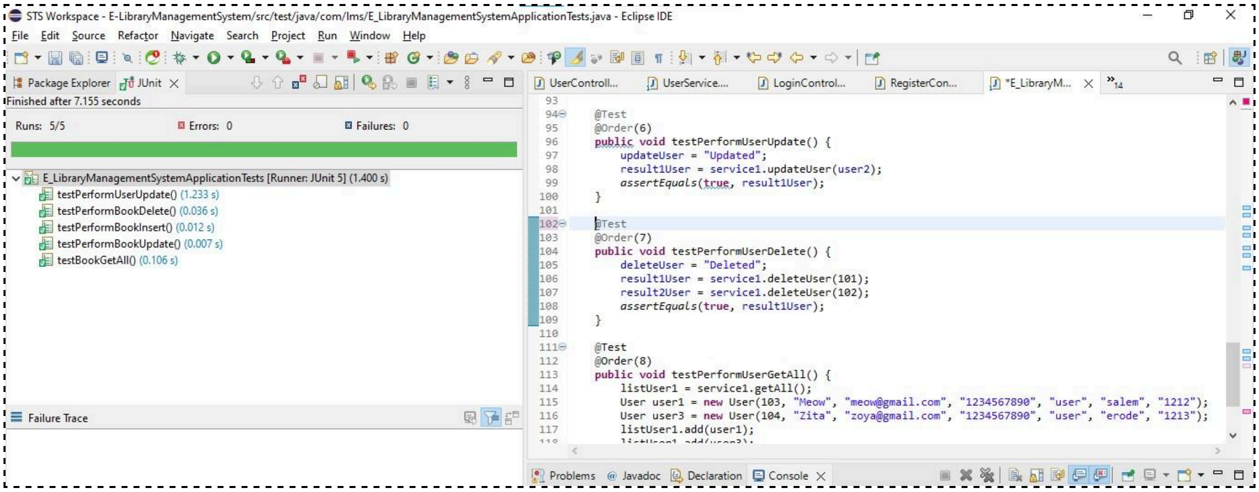
- E_LibraryManagementSystemApplicationTests [Runner: JUnit 5] (1.798 s)
  - testPerformBookDelete() (1.658 s)
  - testPerformBookInsert() (0.029 s)
  - testPerformBookUpdate() (0.009 s)
  - testBookGetAll() (0.097 s)

```
    @Order(2)
    public void testPerformBookUpdate() {
        update = "Updated";
        result = service.insertBook(book2);
        assertEquals(true, result);
    }

    @Test
    @Order(3)
    public void testPerformBookDelete() {
        delete = "Deleted";
        result = service.deleteBook(204);
        assertEquals(true, result);
    }

    @Test
    @Order(4)
    public void testBookGetAll() {
        list1 = service.getAll();
        Book book2 = new Book((long) 205, "Delotie", "Science", 2003, "Intro to Science", "Ebook");
        Book book3 = new Book((long) 204, "Delotie", "Science", 2003, "Intro to Science", "Ebook");
        list1.add(book2);
        list1.add(book3);
        list1.equals(list2);
    }
```

```
<terminated> E_LibraryManagementSystemApplicationTests [JUnit] \\rlp2044\d$\Tools\sts-4.19.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.7.v
Hibernate: delete from tbl_book where book_id=?
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition from tbl_book b1_0 wh
Hibernate: insert into tbl_book (author_name,book_details,book_title,book_type,edition,book_id) values (?,?,?,?,?,?)
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition from tbl_book b1_0 wh
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition from tbl_book b1_0
2024-02-09T11:57:29.448+05:30  INFO 19692 --- [ionShutdownHook] j.LocalContainerEntityManagerFactoryBean : Closing JPA EntityManage
2024-02-09T11:57:29.451+05:30  INFO 19692 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Shutdown
2024-02-09T11:57:29.464+05:30  INFO 19692 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Shutdown
```



STS Workspace - E-LibraryManagementSystem/src/test/java/com/lms/E_LibraryManagementSystemApplicationTests.java - Eclipse IDE

Finished after 7.155 seconds

Runs: 5/5   Errors: 0   Failures: 0

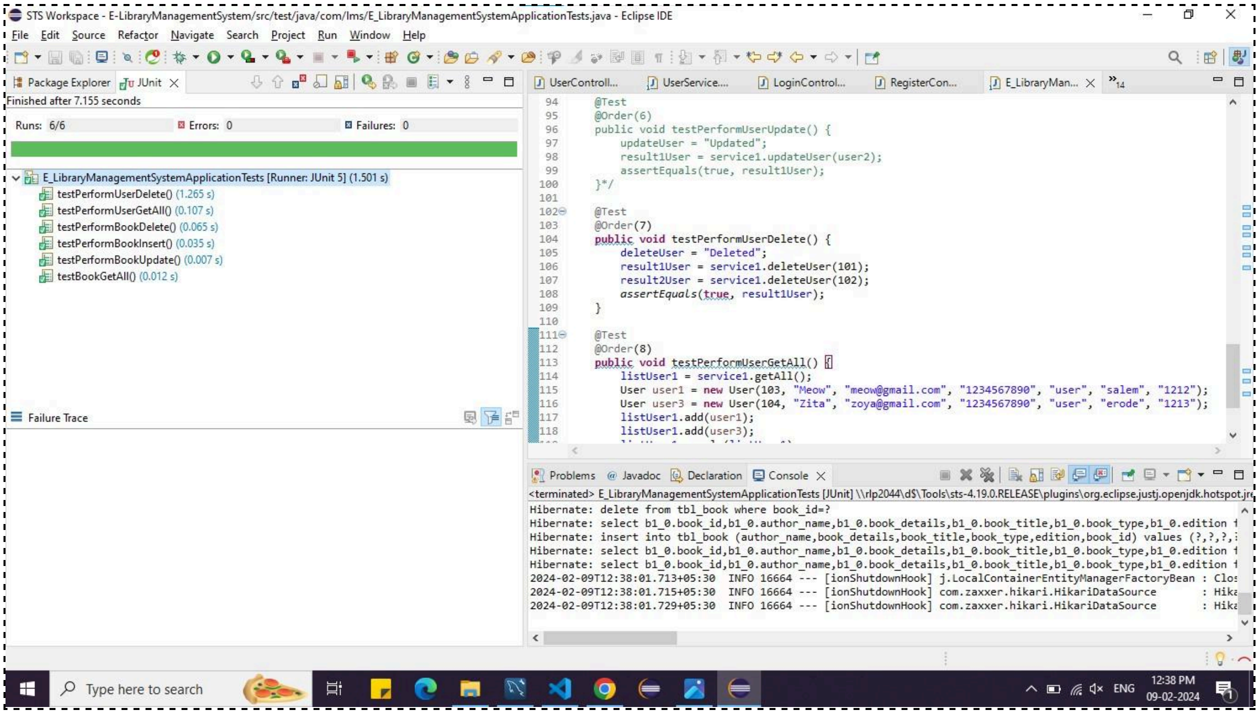
- E_LibraryManagementSystemApplicationTests [Runner: JUnit 5] (1.400 s)
  - testPerformUserUpdate() (1.233 s)
  - testPerformBookDelete() (0.036 s)
  - testPerformBookInsert() (0.012 s)
  - testPerformBookUpdate() (0.007 s)
  - testBookGetAll() (0.106 s)

```

    @Test
    @Order(6)
    public void testPerformUserUpdate() {
        updateUser = "Updated";
        result1User = service1.updateUser(user2);
        assertEquals(true, result1User);
    }

    @Test
    @Order(7)
    public void testPerformUserDelete() {
        deleteUser = "Deleted";
        result1User = service1.deleteUser(101);
        result2User = service1.deleteUser(102);
        assertEquals(true, result1User);
    }

    @Test
    @Order(8)
    public void testPerformUserGetAll() {
        listUser1 = service1.getAll();
        User user1 = new User(103, "Meow", "meow@gmail.com", "1234567890", "user", "salem", "1212");
        User user3 = new User(104, "Zita", "zoya@gmail.com", "1234567890", "user", "erode", "1213");
        listUser1.add(user1);
        listUser1.add(user3);
```



STS Workspace - E-LibraryManagementSystem/src/test/java/com/lms/E_LibraryManagementSystemApplicationTests.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
JUnit
UserControll...
UserService....
LoginControl...
RegisterCon...
E_LibraryMan...
Problems
Javadoc
Declaration
Console
Failure Trace
Type here to search
ENG
12:38 PM
09-02-2024

Finished after 7.155 seconds

Runs: 6/6 Errors: 0 Failures: 0

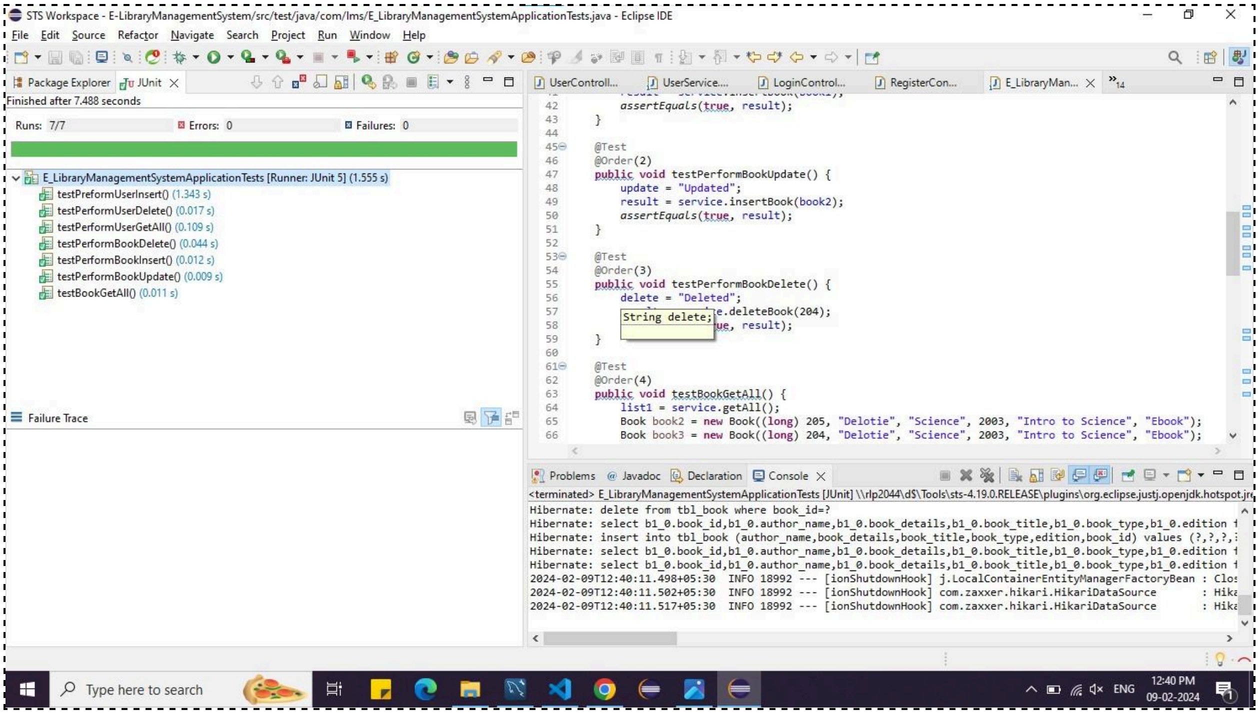
```
E_LibraryManagementSystemApplicationTests [Runner: JUnit 5] (1.501 s)
    testPerformUserDelete() (1.265 s)
    testPerformUserGetAll() (0.107 s)
    testPerformBookDelete() (0.065 s)
    testPerformBookInsert() (0.035 s)
    testPerformBookUpdate() (0.007 s)
    testBookGetAll() (0.012 s)
```

```java
    @Test
    @Order(6)
    public void testPerformUserUpdate() {
        updateUser = "Updated";
        result1User = service1.updateUser(user2);
        assertEquals(true, result1User);
    }*/

    @Test
    @Order(7)
    public void testPerformUserDelete() {
        deleteUser = "Deleted";
        result1User = service1.deleteUser(101);
        result2User = service1.deleteUser(102);
        assertEquals(true, result1User);
    }

    @Test
    @Order(8)
    public void testPerformUserGetAll() {
        listUser1 = service1.getAll();
        User user1 = new User(103, "Meow", "meow@gmail.com", "1234567890", "user", "salem", "1212");
        User user3 = new User(104, "Zita", "zoya@gmail.com", "1234567890", "user", "erode", "1213");
        listUser1.add(user1);
        listUser1.add(user3);
```

```
<terminated> E_LibraryManagementSystemApplicationTests [JUnit] \\rlp2044\d$\Tools\sts-4.19.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jr
Hibernate: delete from tbl_book where book_id=?
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition
Hibernate: insert into tbl_book (author_name,book_details,book_title,book_type,edition,book_id) values (?,?,?,
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition
2024-02-09T12:38:01.713+05:30  INFO 16664 --- [ionShutdownHook] j.LocalContainerEntityManagerFactoryBean : Clos
2024-02-09T12:38:01.715+05:30  INFO 16664 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : Hika
2024-02-09T12:38:01.729+05:30  INFO 16664 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : Hika
```



STS Workspace - E-LibraryManagementSystem/src/test/java/com/lms/E_LibraryManagementSystemApplicationTests.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
JUnit
UserControll...
UserService....
LoginControl...
RegisterCon...
E_LibraryMan...
Problems
Javadoc
Declaration
Console
Failure Trace
Type here to search
ENG
12:40 PM
09-02-2024

Finished after 7.488 seconds

Runs: 7/7 Errors: 0 Failures: 0

```
E_LibraryManagementSystemApplicationTests [Runner: JUnit 5] (1.555 s)
    testPreformUserInsert() (1.343 s)
    testPerformUserDelete() (0.017 s)
    testPerformUserGetAll() (0.109 s)
    testPerformBookDelete() (0.044 s)
    testPerformBookInsert() (0.012 s)
    testPerformBookUpdate() (0.009 s)
    testBookGetAll() (0.011 s)
```

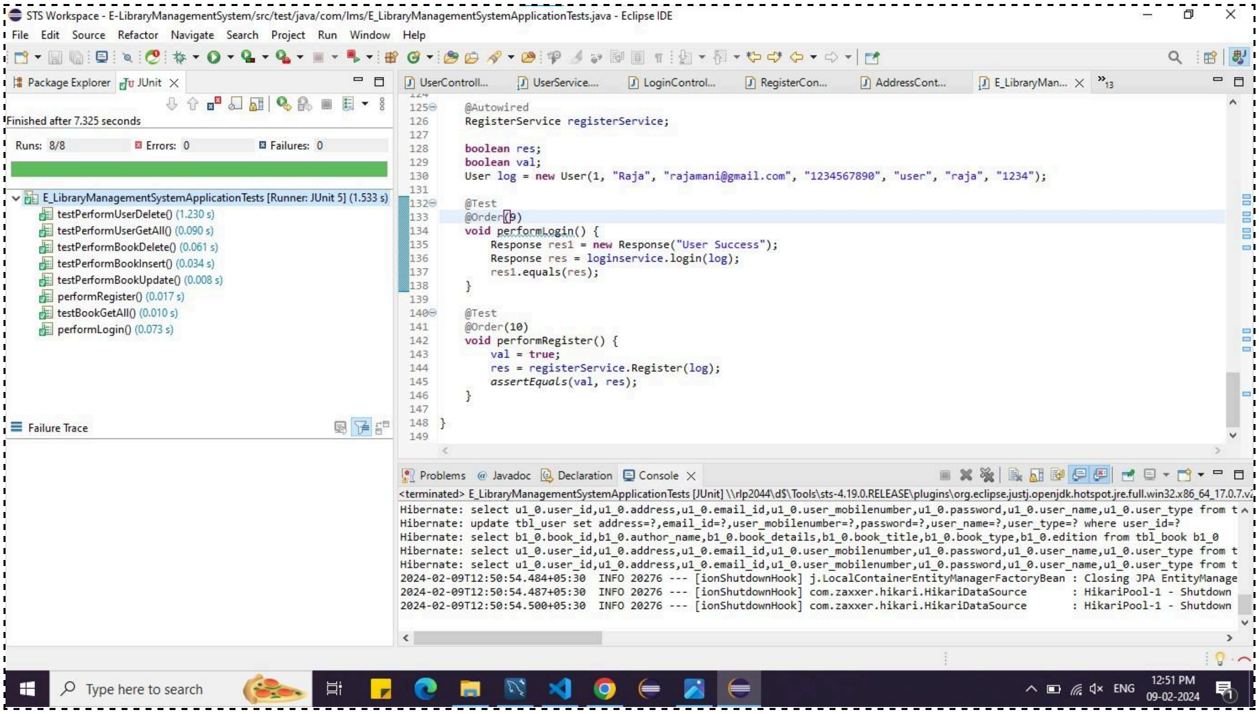
```java
        assertEquals(true, result);
    }

    @Test
    @Order(2)
    public void testPerformBookUpdate() {
        update = "Updated";
        result = service.insertBook(book2);
        assertEquals(true, result);
    }

    @Test
    @Order(3)
    public void testPerformBookDelete() {
        delete = "Deleted";
        String delete;e.deleteBook(204);
                      ue, result);
    }

    @Test
    @Order(4)
    public void testBookGetAll() {
        list1 = service.getAll();
        Book book2 = new Book((long) 205, "Delotie", "Science", 2003, "Intro to Science", "Ebook");
        Book book3 = new Book((long) 204, "Delotie", "Science", 2003, "Intro to Science", "Ebook");
```

```
<terminated> E_LibraryManagementSystemApplicationTests [JUnit] \\rlp2044\d$\Tools\sts-4.19.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jr
Hibernate: delete from tbl_book where book_id=?
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition
Hibernate: insert into tbl_book (author_name,book_details,book_title,book_type,edition,book_id) values (?,?,?,
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition
2024-02-09T12:40:11.498+05:30  INFO 18992 --- [ionShutdownHook] j.LocalContainerEntityManagerFactoryBean : Clos
2024-02-09T12:40:11.502+05:30  INFO 18992 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : Hika
2024-02-09T12:40:11.517+05:30  INFO 18992 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : Hika
```



STS Workspace - E-LibraryManagementSystem/src/test/java/com/lms/E_LibraryManagementSystemApplicationTests.java - Eclipse IDE

```
Finished after 7.325 seconds

Runs: 8/8        Errors: 0        Failures: 0

E_LibraryManagementSystemApplicationTests [Runner: JUnit 5] (1.533 s)
    testPerformUserDelete() (1.230 s)
    testPerformUserGetAll() (0.090 s)
    testPerformBookDelete() (0.061 s)
    testPerformBookInsert() (0.034 s)
    testPerformBookUpdate() (0.008 s)
    performRegister() (0.017 s)
    testBookGetAll() (0.010 s)
    performLogin() (0.073 s)
```

```java
    @Autowired
    RegisterService registerService;

    boolean res;
    boolean val;
    User log = new User(1, "Raja", "rajamani@gmail.com", "1234567890", "user", "raja", "1234");

    @Test
    @Order(9)
    void performLogin() {
        Response res1 = new Response("User Success");
        Response res = loginservice.login(log);
        res1.equals(res);
    }

    @Test
    @Order(10)
    void performRegister() {
        val = true;
        res = registerService.Register(log);
        assertEquals(val, res);
    }

}
```

```
<terminated> E_LibraryManagementSystemApplicationTests [JUnit] \\rlp2044\d$\Tools\sts-4.19.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.7.v
Hibernate: select u1_0.user_id,u1_0.address,u1_0.email_id,u1_0.user_mobilenumber,u1_0.password,u1_0.user_name,u1_0.user_type from t
Hibernate: update tbl_user set address=?,email_id=?,user_mobilenumber=?,password=?,user_name=?,user_type=? where user_id=?
Hibernate: select b1_0.book_id,b1_0.author_name,b1_0.book_details,b1_0.book_title,b1_0.book_type,b1_0.edition from tbl_book b1_0
Hibernate: select u1_0.user_id,u1_0.address,u1_0.email_id,u1_0.user_mobilenumber,u1_0.password,u1_0.user_name,u1_0.user_type from t
Hibernate: select u1_0.user_id,u1_0.address,u1_0.email_id,u1_0.user_mobilenumber,u1_0.password,u1_0.user_name,u1_0.user_type from t
2024-02-09T12:50:54.484+05:30  INFO 20276 --- [ionShutdownHook] j.LocalContainerEntityManagerFactoryBean : Closing JPA EntityManage
2024-02-09T12:50:54.487+05:30  INFO 20276 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Shutdown
2024-02-09T12:50:54.500+05:30  INFO 20276 --- [ionShutdownHook] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Shutdown
```

It ends here... Thank you...!