Sprint 4: Test Unitarios backend equipo 9

Configuraciones previas

```
package com.grupo9.digitalBooking.music.model.controller;


import com.grupo9.digitalBooking.music.model.DTO.BookingDTO;
import com.grupo9.digitalBooking.music.model.DTO.BookingResponseDTO;
import com.grupo9.digitalBooking.music.model.DTO.CategoryDTO;
import com.grupo9.digitalBooking.music.model.entities.Booking;
import
com.grupo9.digitalBooking.music.model.service.InterfacesService.IBookingS
ervice;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.*;

import java.util.Collection;
import java.util.Set;
```

A. Class BookingControllerTest

```
class BookingControllerTest {
    @Mock
    private IBookingService bookingService;

    @InjectMocks
    private BookingController bookingController;

    @BeforeEach
    void setUp() {
        MockitoAnnotations.openMocks(this);
    }
```

1. createBooking_ValidBooking_ReturnsOkResponse()

Este test verifica el comportamiento del método "createBooking" en la clase "BookingController" y valida la correcta creacion de una reserva dentro de la API.

```
@Test
void createBooking_ValidBooking_ReturnsOkResponse() {
    // Arrange
    BookingDTO bookingDTO = new BookingDTO();
    bookingDTO.setId(1L);
    bookingDTO.setStartDate(LocalDate.now());
    bookingDTO.setFinalDate(LocalDate.now().plusDays(1));

    BookingResponseDTO bookingResponseDTO = new BookingResponseDTO();
    bookingResponseDTO.setId(1L);
```

```
    bookingResponseDTO.setStartDate(LocalDate.now());
    bookingResponseDTO.setFinalDate(LocalDate.now().plusDays(1));


when(bookingService.createBooking(any(BookingDTO.class))).thenReturn(book
ingResponseDTO);

    // Act
    ResponseEntity<?> response =
bookingController.createBooking(bookingDTO);

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertEquals(bookingResponseDTO, response.getBody());
}
```

2. createBooking_ExistingBooking_ReturnsBadRequestResponse()

Este test verifica el comportamiento del método "createBooking" en la clase "BookingController" y valida lo que ocurre cuando no se crea correctamente la reserva.

```
@Test
void createBooking_ExistingBooking_ReturnsBadRequestResponse() {
    // Arrange
    BookingDTO bookingDTO = new BookingDTO();


when(bookingService.createBooking(any(BookingDTO.class))).thenReturn(null
);

    // Act
    ResponseEntity<?> response =
bookingController.createBooking(bookingDTO);

    // Assert
    assertEquals(HttpStatus.BAD_REQUEST, response.getStatusCode());
    assertEquals("Message: The Reservation already exists",
response.getBody());
}
```

3. getBooking_ExistingId_ReturnsOkResponse()

Este test verifica el comportamiento del método "getBooking" en la clase "BookingController" y valida que este devuelva una reserva, utilizando el ID.

```
@Test
void getBooking_ExistingId_ReturnsOkResponse() {
    // Arrange
    Long bookingId = 1L;

    BookingResponseDTO bookingResponseDTO = new BookingResponseDTO();
    bookingResponseDTO.setId(bookingId);
```

```
when(bookingService.readBooking(anyLong())).thenReturn(bookingResponseDTO
);

    // Act
    ResponseEntity<?> response = bookingController.getBooking(bookingId);

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertEquals(bookingResponseDTO, response.getBody());
}
```

4. getBooking_NonExistingId_ReturnsBadRequestResponse()

Este test verifica el comportamiento del método "getBooking" en la clase "BookingController" y valida que se devuelva una respuesta negativa, si se busca una reserva con un numero de ID que no existe

```
@Test
void getBooking_NonExistingId_ReturnsBadRequestResponse() {
    // Arrange
    Long bookingId = 1L;

    when(bookingService.readBooking(anyLong())).thenReturn(null);

    // Act
    ResponseEntity<?> response = bookingController.getBooking(bookingId);

    // Assert
    assertEquals(HttpStatus.BAD_REQUEST, response.getStatusCode());
    assertEquals("Message: The Reservation with " + bookingId + " does
not exist", response.getBody());
}
```

5. modifyBooking_ExistingBooking_ReturnsOkResponse()

Este test verifica el comportamiento del método "modifyBooking" en la clase "BookingController" y valida que al modificar una reserva esta se guarde de manera exitosa

```
@Test
void modifyBooking_ExistingBooking_ReturnsOkResponse() {
    // Arrange
    BookingDTO bookingDTO = new BookingDTO();
    bookingDTO.setId(1L);


when(bookingService.modifyBooking(any(BookingDTO.class))).thenReturn(new
BookingResponseDTO());

    // Act
    ResponseEntity<?> response =
bookingController.modifyBooking(bookingDTO);

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
}
```

6. removeBooking_ExistingBooking_ReturnsOkResponse()

Este test verifica el comportamiento del método "removeBooking" en la clase "BookingController" y valida si al ejecutar el metodo, se elimina la reserva.

```
@Test
void removeBooking_ExistingBooking_ReturnsOkResponse() {
    // Arrange
    Long bookingId = 1L;

    when(bookingService.removeBooking(anyLong())).thenReturn(true);

    // Act
    ResponseEntity<?> response =
bookingController.removeBooking(bookingId);

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertEquals("Message: Booking was delete", response.getBody());
}
```

7. removeBooking_NonExistingBooking_ReturnsNotFoundResponse()

Este test verifica el comportamiento del método "removeBooking" en la clase "BookingController" y valida que envie un error si la reserva que se esta intentando borrar no existe.

```
@Test
void removeBooking_NonExistingBooking_ReturnsNotFoundResponse() {
    // Arrange
    Long bookingId = 1L;

    when(bookingService.removeBooking(anyLong())).thenReturn(false);

    // Act
    ResponseEntity<?> response =
bookingController.removeBooking(bookingId);

    // Assert
    assertEquals(HttpStatus.NOT_FOUND, response.getStatusCode());
    assertEquals("Message: The Reservation with " + bookingId + " does
not exist", response.getBody());
}
```

8. getAllBookings_ExistingBookings_ReturnsOkResponse()

Este test verifica el comportamiento del método "getallBooking" en la clase "BookingController" y valida que este devuelva todas reservas creadas.

```
@Test
void getAllBookings_ExistingBookings_ReturnsOkResponse() {
    // Arrange
    BookingResponseDTO bookingResponseDTO = new BookingResponseDTO();
```

```
    bookingResponseDTO.setId(1L);

    Set<BookingResponseDTO> bookings =
Collections.singleton(bookingResponseDTO);

    when(bookingService.getAll()).thenReturn(bookings);

    // Act
    ResponseEntity<?> response = bookingController.getallBookings();

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertEquals(bookings, response.getBody());
}
```

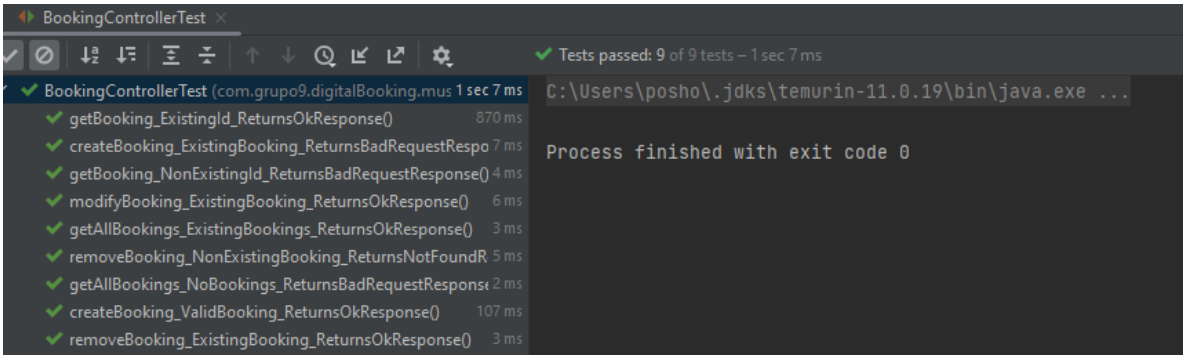
9. getAllBookings_NoBookings_ReturnsBadRequestResponse()

Este test verifica el comportamiento del método "getallBooking" en la clase "BookingController" y verifica cuando hay algun error en el envio de cada una de las reservas.

```
@Test
void getAllBookings_NoBookings_ReturnsBadRequestResponse() {
    // Arrange
    when(bookingService.getAll()).thenReturn(Collections.emptySet());

    // Act
    ResponseEntity<?> response = bookingController.getallBookings();

    // Assert
    assertEquals(HttpStatus.BAD_REQUEST, response.getStatusCode());
    assertEquals("Message: There are not information",
response.getBody());
}
```



Configuraciones Previas

```
package com.grupo9.digitalBooking.music.controllerTest;

import com.grupo9.digitalBooking.music.model.DTO.UserDTO;
import com.grupo9.digitalBooking.music.model.DTO.UserResponseDTO;
```

```
import com.grupo9.digitalBooking.music.model.controller.UserController;
import com.grupo9.digitalBooking.music.model.entities.Rol;
import com.grupo9.digitalBooking.music.model.service.UserServiceApi;
import com.grupo9.digitalBooking.music.model.service.RolService;
import com.grupo9.digitalBooking.music.model.repository.IUser;
import org.junit.jupiter.api.BeforeEach;
import org.junit.jupiter.api.Test;
import org.mockito.Mock;
import org.mockito.MockitoAnnotations;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.mockito.InjectMocks;


import java.util.Collections;
import java.util.HashSet;
import java.util.Set;

import static org.junit.jupiter.api.Assertions.assertEquals;
import static org.junit.jupiter.api.Assertions.assertNotNull;
import static org.mockito.Mockito.*;
```

B. Class UserControllerTest

```
public class UserControllerTest {
    @InjectMocks
    private UserController userController;

    @Mock
    private UserServiceApi userService;

    @Mock
    private IUser userRepository;

    @Mock
    private RolService rolService;

    @BeforeEach
    public void setUp() {
        MockitoAnnotations.openMocks(this);
    }
```

1. createUser_RolDoesNotExist_ReturnsBadRequest()

Este test verifica el comportamiento del método "createUser" en la clase "UserController" y verifica que arroje un error cuando el rol que se intenta implementar no existe.

```
@Test
public void createUser_RolDoesNotExist_Returns400BadRequest() {
    // Arrange
    UserDTO userDTO = new UserDTO();
    userDTO.setId(1L);
    userDTO.setName("John");
    userDTO.setLastName("Doe");
```

```
    userDTO.setDni("123456789");
    userDTO.setPassword("password");
    userDTO.setAddress("123 Main St");
    userDTO.setEmail("john.doe@example.com");
    Rol rolDTO = new Rol();
    rolDTO.setId(1L);
    rolDTO.setName("RoleName");
    userDTO.setRol(rolDTO);

    when(rolService.existById(rolDTO.getId())).thenReturn(false);

    // Act
    ResponseEntity<?> response = userController.createUser(userDTO);

    // Assert
    assertEquals(HttpStatus.BAD_REQUEST, response.getStatusCode());

    String message = (String) response.getBody();
    assertEquals("Message: The rol does not exist", message);

}
```

2. getUser_ExistingUserId_ReturnsOK()

Este test verifica el comportamiento del método "getUser" en la clase "UserController" y verifica la correcta obtencion de un usuario por su ID.

```
@Test
public void getUser_ExistingUserId_Returns200OK() {
    // Arrange
    Long userId = 1L;

    UserDTO userDTO = new UserDTO();
    userDTO.setId(userId);
    userDTO.setName("John");
    userDTO.setLastName("Doe");
    userDTO.setDni("123456789");
    userDTO.setPassword("password");
    userDTO.setAddress("123 Main St");
    userDTO.setEmail("john.doe@example.com");
    Rol rolDTO = new Rol();
    rolDTO.setId(1L);
    rolDTO.setName("RoleName");
    userDTO.setRol(rolDTO);

    when(userService.readUser(userId)).thenReturn(userDTO);

    // Act
    ResponseEntity<?> response = userController.getUser(userId);

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertNotNull(response.getBody());

    UserDTO retrievedUser = (UserDTO) response.getBody();
```

```
    assertEquals(userDTO.getName(), retrievedUser.getName());
    assertEquals(userDTO.getLastName(), retrievedUser.getLastName());

}
```

3. getUser_NonExistingUserId_ReturnsBadRequest()

Este test verifica el comportamiento del método "getUser" en la clase "UserController" y verifica que se arroje un error cuando se busca un usuario por medio de su ID que no existe.

```
@Test
public void getUser_NonExistingUserId_Returns400BadRequest() {
    // Arrange
    Long userId = 1L;

    when(userService.readUser(userId)).thenReturn(null);

    // Act
    ResponseEntity<?> response = userController.getUser(userId);

    // Assert
    assertEquals(HttpStatus.BAD_REQUEST, response.getStatusCode());

    String message = (String) response.getBody();
    assertEquals("Message: The user with " + userId + " does not exist",
message);

}
```

4. modifyUser_ValidUserDTO_ReturnsOK()

Este test verifica el comportamiento del método "modifyUser" en la clase "UserController" y verifica que cuando se modifique un usuario este se guarde correctamente.

```
@Test
public void modifyUser_ValidUserDTO_Returns200OK() {
    // Arrange
    UserDTO userDTO = new UserDTO();
    userDTO.setId(1L);
    userDTO.setName("John");
    userDTO.setLastName("Doe");
    userDTO.setDni("123456789");
    userDTO.setPassword("password");
    userDTO.setAddress("123 Main St");
    userDTO.setEmail("john.doe@example.com");
    Rol rolDTO = new Rol();
    rolDTO.setId(1L);
    rolDTO.setName("RoleName");
```

```
    userDTO.setRol(rolDTO);

    when(rolService.existById(rolDTO.getId())).thenReturn(true);
    when(userService.modifyUser(userDTO)).thenReturn(userDTO);

    // Act
    ResponseEntity<?> response = userController.modifyUser(userDTO);

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertNotNull(response.getBody());

    UserDTO modifiedUser = (UserDTO) response.getBody();
    assertEquals(userDTO.getName(), modifiedUser.getName());
    assertEquals(userDTO.getLastName(), modifiedUser.getLastName());

}
```

5. modifyUser_RolDoesNotExist_ReturnsBadRequest()

Este test verifica el comportamiento del método "modifyUser" en la clase "UserController" y verifica que si se modifica un usuario a un rol que no exista este arroje un error.

```
@Test
public void modifyUser_RolDoesNotExist_ReturnsBadRequest() {
    // Arrange
    UserDTO userDTO = new UserDTO();
    userDTO.setId(1L);
    userDTO.setName("John");
    userDTO.setLastName("Doe");
    userDTO.setDni("123456789");
    userDTO.setPassword("password");
    userDTO.setAddress("123 Main St");
    userDTO.setEmail("john.doe@example.com");
    Rol rolDTO = new Rol();
    rolDTO.setId(1L);
    rolDTO.setName("RoleName");
    userDTO.setRol(rolDTO);

    when(rolService.existById(rolDTO.getId())).thenReturn(false);

    // Act
    ResponseEntity<?> response = userController.modifyUser(userDTO);

    // Assert
    assertEquals(HttpStatus.BAD_REQUEST, response.getStatusCode());

    String message = (String) response.getBody();
    assertEquals("Message: The rol does not exist", message);

}
```

6. removeUser_ExistingUserId_ReturnsOK()

Este test verifica el comportamiento del método "removeUser" en la clase "UserController" y comprueba que se elimine un usuario al buscarlo por el ID .

```
@Test
public void removeUser_ExistingUserId_ReturnsOK() {
    // Arrange
    Long userId = 1L;

    when(userService.removeUser(userId)).thenReturn(true);

    // Act
    ResponseEntity<?> response = userController.removeUser(userId);

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertNotNull(response.getBody());

    String message = (String) response.getBody();
    assertEquals("Message: User was delete", message);

}
```

7. removeUser_NonExistingUserId_ReturnsBadRequest()

Este test verifica el comportamiento del método "removeUser" en la clase "UserController" y prueba que arroje un error al intentar eliminar un usuario que no existe.

```
@Test
public void removeUser_NonExistingUserId_ReturnsBadRequest() {
    // Arrange
    Long userId = 1L;

    when(userService.removeUser(userId)).thenReturn(false);

    // Act
    ResponseEntity<?> response = userController.removeUser(userId);

    // Assert
    assertEquals(HttpStatus.NOT_FOUND, response.getStatusCode());

    String message = (String) response.getBody();
    assertEquals("Message: The user " + userId + " does not exist",
message);

}
```

8. getallUsers_UsersExist_ReturnsOK()

Este test verifica el comportamiento del método "getallUsers" en la clase "UserController" y prueba que llame a todos los usuarios existentes.

```
@Test
public void getallUsers_UsersExist_ReturnsOK() {
    // Arrange
    UserDTO userDTO = new UserDTO();
    userDTO.setId(1L);
    userDTO.setName("John");
    userDTO.setLastName("Doe");
    userDTO.setDni("123456789");
    userDTO.setPassword("password");
    userDTO.setAddress("123 Main St");
    userDTO.setEmail("john.doe@example.com");
    Rol rolDTO = new Rol();
    rolDTO.setId(1L);
    rolDTO.setName("RoleName");
    userDTO.setRol(rolDTO);

    Set<UserDTO> users = new
HashSet<>(Collections.singletonList(userDTO));

    when(userService.getAll()).thenReturn(users);

    // Act
    ResponseEntity<?> response = userController.getallUsers();

    // Assert
    assertEquals(HttpStatus.OK, response.getStatusCode());
    assertNotNull(response.getBody());

    Set<UserDTO> retrievedUsers = (Set<UserDTO>) response.getBody();
    assertEquals(1, retrievedUsers.size());
    UserDTO retrievedUser = retrievedUsers.iterator().next();
    assertEquals(userDTO.getName(), retrievedUser.getName());
    assertEquals(userDTO.getLastName(), retrievedUser.getLastName());

}
```

9. getallUsers_NoUsersExist_ReturnsBadRequest()

Este test verifica el comportamiento del método "getallUsers" en la clase "UserController" y prueba lo que ocurre si no ha sido generado la coleccion de usuarios.

```
@Test
public void getallUsers_NoUsersExist_ReturnsBadRequest() {
    // Arrange
    when(userService.getAll()).thenReturn(Collections.emptySet());

    // Act
    ResponseEntity<?> response = userController.getallUsers();

    // Assert
```

```
    assertEquals(HttpStatus.BAD_REQUEST, response.getStatusCode());

    String message = (String) response.getBody();
    assertEquals("Message: There are not information", message);

}
```