



The image shows two side-by-side IDE windows. The left window, titled 'CabController.java', displays the following code:

```

1 package com.tms.controller;
2 import java.util.List;
3
4 @RestController
5 @RequestMapping(value = "cab")
6 public class CabController {
7     @Autowired CabService cabService;
8
9     @PostMapping(value = "create", consumes = MediaType.APPLICATION_JSON_VALUE)
10    public String addCab(@RequestBody Cab cab) {
11        return cabService.addCab(cab);
12    }
13
14    @DeleteMapping(value = "delete/{cid}")
15    public String deleteCab(@PathVariable("cid") int cid) {
16        return cabService.deleteCab(cid);
17    }
18
19    @PutMapping(value = "update", consumes = MediaType.APPLICATION_JSON_VALUE)
20    public String updateCab(@RequestBody Cab cab) {
21        return cabService.updateCab(cab);
22    }
23
24    @GetMapping(value = "search/{cid}")
25    public String searchCab(@PathVariable("cid") int cid) {
26        return cabService.findCab(cid);
27    }
28
29    @GetMapping(value = "search/allCabs", produces = MediaType.APPLICATION_JSON_VALUE)
30    public List<Cab> findAllCabs() {
31        return cabService.findAllCabs();
32    }
33
34    @GetMapping(value = "search/allCabs/{type}", produces = MediaType.APPLICATION_JSON_VALUE)
35    public List<Cab> findCabsByType(@Param("type") String type) {
36        return cabService.findCabsByType(type);
37    }
38 }

```

The right window, titled 'CabRepository.java', displays the following code:

```

1 package com.tms.repository;
2
3 import java.util.List;
4
5 @Repository
6 public interface CabRepository extends JpaRepository<Cab, Integer> {
7
8     @Query("Select b from Cab b where b.type = :type and status = \"available\"")
9     List<Cab> findAllCabsByType(@Param("type") String type);
10 }

```

```
BookingController.java X
1 BookingManagementSoftware > src/main/java > com.bms.controller > BookingController >
2 package com.bms.controller;
3
4 import org.springframework.beans.factory.annotation.Autowired;
5
6 @RestController
7 @RequestMapping(value="/booking")
8 public class BookingController {
9     @Autowired BookingService bookingService;
10
11     @PostMapping(value="bookCab", consumes = MediaType.APPLICATION_JSON_VALUE)
12     public String bookCab(@RequestBody Booking book) {
13         return bookingService.createBooking(book);
14     }
15
16     @DeleteMapping(value="deleteCab/{bid}")
17     public String deleteCab(@PathVariable("bid") int bid) {
18         return bookingService.cancelBooking(bid);
19     }
20
21     @GetMapping(value="findCab/{bid}")
22     public String findBooking(@PathVariable("bid") int bid) {
23         return bookingService.findBooking(bid);
24     }
25 }

Booking.java X
1 BookingManagementSoftware > src/main/java > com.bms.entity > Booking >
2 package com.bms.entity;
3
4 import jakarta.persistence.Column;
5
6 /*ALTER TABLE Booking ADD CONSTRAINT cid FOREIGN KEY (cid) REFERENCES Cab(cid);*/
7
8 @Entity
9 public class Booking {
10     @Id
11     @GeneratedValue(strategy = GenerationType.IDENTITY)
12     private int bid;
13     private String type;
14     private String source;
15     private String destination;
16     private int distance;
17     private int amount;
18     private int cid;
19     public int getBid() {
20         return bid;
21     }
22     public void setBid(int bid) {
23         this.bid = bid;
24     }
25     public String getSource() {
26         return source;
27     }
28     public void setSource(String source) {
29         this.source = source;
30     }
31     public String getDestination() {
32         return destination;
33     }
34     public void setDestination(String destination) {
35         this.destination = destination;
36     }
37 }
```

```
BookingService.java
package com.bms.service;

import java.util.List;

@Service
public class BookingService {
    @Autowired BookingRepository bookingRepository;
    @Autowired RestTemplate restTemplate;

    public String createBooking(Booking book) {
        Map<String, Object> response = restTemplate.getForObject("http://localhost:8080/api/booking", Map.class, book);
        int Totalamount = book.getDistance()*(Integer)(response.get("baseFare"));
        book.setAmount(Totalamount);
        book.setCid((Integer)(response.get("cid")));
        bookingRepository.save(book);
        return "Booking successfull!";
    }

    public String cancelBooking(int bid) {
        if (bookingRepository.existsById(bid)) {
            bookingRepository.deleteById(bid);
            return "Booking cancelled";
        } else {
            return "Can't find the booking. Check the booking id!!!";
        }
    }

    public String findBooking(int bid) {
        if (bookingRepository.existsById(bid)) {
            return bookingRepository.findById(bid).get().toString();
        } else {
            return "Can't find the booking. Check the booking id!!!";
        }
    }
}

BookingRepository.java
package com.bms.repository;

import org.springframework.data.jpa.repository.JpaRepository;

public interface BookingRepository extends JpaRepository<Booking,Integer> {
}
```

```
BookingControllerTest.java
package com.bms.controller;

import static org.junit.jupiter.api.Assertions.*;

import org.junit.jupiter.api.Disabled;
import org.junit.jupiter.api.Test;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.test.context.SpringBootTest;

import com.bms.entity.Booking;

@SpringBootTest
class BookingControllerTest {
    @Autowired BookingController bookingController;

    @Test
    void testBookCab1() {
        Booking booking = new Booking();
        booking.setDestination("Home");
        booking.setDistance(5);
        booking.setSource("Work");
        booking.setType("Auto");
        String result = bookingController.bookCab(booking);
        assertEquals("Booking successfull!", result);
    }

    @Test
    void testBookCab2() {
        Booking booking = new Booking();
        booking.setDestination("Home");
        booking.setDistance(5);
        booking.setSource("Work");
        booking.setType("Micro");
        String result = bookingController.bookCab(booking);
        assertEquals("Please try again!!!. Check with different type", result);
    }

    @Test
    void testDeleteCab1() {
        String result = bookingController.deleteCab(3);
        assertEquals("Booking cancelled", result);
    }

    @Test
    void testDeleteCab2() {
        String result = bookingController.deleteCab(3);
        assertEquals("Can't find the booking. Check the booking id!!!", result);
    }

    @Test
    void testFindBooking1() {
        String result = bookingController.findBooking(18);
        assertEquals("Can't find the booking. Check the booking id!!!", result);
    }

    @Test
    void testFindBooking2() {
        String result = bookingController.findBooking(5);
        assertEquals("Booking: \n" + " bid=5,\n" + " type=Auto,\n" + " source=Work,\n" + " destination=Home,\n" + " distance=5,\n" + " amount=135,\n" + " cid=4\n", result);
    }
}
```

BookingControllerTest.java

```
34 booking.setType("taxi");
35 String result = bookingController.bookCab(booking);
36 assertEquals("Please try again!!!. Check with different type", result);
37 }
38
39 @Test
40 void testDeleteCab1() {
41     String result = bookingController.deleteCab(3);
42     assertEquals("Booking cancelled", result);
43 }
44
45 @Test
46 void testDeleteCab2() {
47     String result = bookingController.deleteCab(3);
48     assertEquals("Can't find the booking. Check the booking id!!!", result);
49 }
50
51 @Test
52 void testFindBooking1() {
53     String result = bookingController.findBooking(18);
54     assertEquals("Can't find the booking. Check the booking id!!!", result);
55 }
56
57 @Test
58 void testFindBooking2() {
59     String result = bookingController.findBooking(5);
60     assertEquals("Booking: \n" + "bid=5,\n" + "type=Auto,\n" + "source=Work,\n"
61                 + "destination=Home,\n" + "distance=5,\n" + "amount=135,\n" + "cid=4\n", result);
62 }
63
64 }
65
```

JUnit

Finished after 13.177 seconds

Runs: 6/6 Errors: 0 Failures: 0

Failure Trace