

#####IRCTC Application.java#####

```
package com.cts.irctc;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

import com.cts.irctc.skeletonvalidator.SkeletonValidator;

@SpringBootApplication
public class IrctcApplication {

    public static void main(String[] args) {
        SpringApplication.run(IrctcApplication.class,
            args);
    }
}
```

#####IRCTC CONTROLLER.JAVA#####

```
package com.cts.irctc.controller;

import java.time.LocalDate;
import java.util.ArrayList;
import java.util.List;

import javax.validation.Valid;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.ModelMap;
import org.springframework.validation.BindingResult;
import org.springframework.web.bind.annotationModelAttribute;
```

```

import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;

import com.cts.irctc.exception.ApplicationException;
import com.cts.irctc.model.TicketBooking;
import com.cts.irctc.model.TrainInfo;
import com.cts.irctc.service.IrctcService;

@Controller
public class IrctcController {
    @Autowired
    private IrctcService service;

    @Autowired
    public IrctcController(IrctcService service) {
        this.service = service;
    }

    @Autowired
    Private TicketBooking ticketbooking;
    @RequestMapping(value = "/showTicketBookingForm", method = RequestMethod.GET)
    public String showTicketBookingForm(@ModelAttribute("ticketBooking") TicketBooking ticketBooking) {
        ticketBooking = new TicketBooking();

        return "ticketBooking";
    }

    @RequestMapping(value="/getTicketBookingResultPage",method=RequestMethod.POST)
    public String getCarSearchResultForm(@Valid @ModelAttribute("ticketBooking")
    TicketBooking ticketBooking,BindingResult result,ModelMap map) throws
    ApplicationException {

        //Add code here..
        if(result.hasErrors())
        {
            return "ticketBooking";
        }

        TrainInfo ti = service.getTicketBookingResult(ticketBooking);
        if(ti==null) {
            // map.addAttribute(Sorry, No train available for given time.)
            return "trainNotAvailable";
        }else {
            String pnr = service.getPNRNumber(ticketBooking);
            String completePNR = ti.getTrainNumber().substring(0,3).concat(pnr);

            map.addAttribute("pnr",completePNR);
            map.addAttribute("tno",ti.getTrainNumber());
            map.addAttribute("tname",ti.getTrainName());
            map.addAttribute("dot",ticketBooking.getDateOfTravel());
            map.addAttribute("dept",ti.getDeparture());
            map.addAttribute("duration",ti.getDuration());
            map.addAttribute("a",ti.getArrival());
            map.addAttribute("price",ti.getFarePerPassenger() *
            ticketBooking.getNoOfTickets());
        }
        return "ticketBookingResult"; // TODO, modify this value
    }
}

```

```

@ModelAttribute("fromCity")
public List<String> populateFromCities() {
List<String> fromCities = new ArrayList<String>();

fromCities.add("Chennai");
fromCities.add("Delhi");
fromCities.add("Bangalore");
fromCities.add("Pune");

return fromCities;
}

@ModelAttribute("toCity")
public List<String> populateToCities() {
List<String> toCities = new ArrayList<String>();

toCities.add("Chennai");
toCities.add("Delhi");
toCities.add("Bangalore");
toCities.add("Pune");

return toCities;
}

@ModelAttribute("travelClass")
public List<String> populateClassType() {
List<String> classTypes = new ArrayList<String>();

classTypes.add("AC First Class (1A)");
classTypes.add("AC 2 Tier (2A)");
classTypes.add("AC 3 Tier (3A)");
classTypes.add("Sleeper (SL)");
classTypes.add("Second Sitting (2S)");

return classTypes;
}

}

```

#####EXCEPTION HANDLER CONTROLLER ADVICE.JAVA#####

```

package com.cts.irctc.exception;

import javax.servlet.http.HttpServletRequest;

```

```

import org.springframework.http.HttpStatus;
import org.springframework.ui.Model;
import org.springframework.web.bind.annotation.ControllerAdvice;
import org.springframework.web.bind.annotation.ExceptionHandler;
import org.springframework.web.bind.annotation.ResponseStatus;
import org.springframework.web.servlet.ModelAndView;
@ControllerAdvice
public class ExceptionHandlerControllerAdvice {

    @ExceptionHandler(ApplicationException.class)
    @ResponseStatus(value = HttpStatus.INTERNAL_SERVER_ERROR)
    public ModelAndView handleResourceNotFound(final ApplicationException exception,
    final HttpServletRequest request,final Model model) {

        //Add code here..
        ModelAndView mv=new ModelAndView();
        mv.setViewName("error");
        mv.addObject("errorMessage","From and to city can't be same");
        //add attribute error and timestamp
        mv.addObject("responseCode","400");
        return mv; //TODO, modify return value
    }
}

```

#####TICKET BOOKING .JAVA#####

```

package com.cts.irctc.model;

import java.time.LocalDate;
import java.time.LocalDateTime;

import javax.validation.constraints.Max;
import javax.validation.constraints.Min;
import javax.validation.constraints.NotBlank;
import javax.validation.constraints.NotEmpty;
import javax.validation.constraints.Pattern;

public class TicketBooking {
// Use validation annotations as per the requirement
@NotEmpty(message="Customer name is required")
private String customerName;
@NotEmpty(message="Mobile number is required")
@Pattern(regexp="[7-9]{1}[0-9]{9}",message="Mobile number should be 10 digits and
starting with digit 7/8/9")
private String mobileNumber;
private String fromCity;
private String toCity;
private String travelClass;
@Max(value=4, message="No. of tickets must be less than 5")
@Min(value=1, message="No. of tickets must be more than 0")
private int noOfTickets;
private LocalDate dateOfTravel;

```

```
private String pnrNumber;
private double totalfareAmount;

public TicketBooking() {
// TODO Auto-generated constructor stub
LocalDate today = LocalDate.now();
today = today.plusDays(1);
dateOfTravel = (today);
}

public TicketBooking(String customerName, String mobileNumber, String fromCity,
String toCity, String travelClass,
int noOfTickets, LocalDate dateOfTravel, String pnrNumber, double totalfareAmount)
{
super();
this.customerName = customerName;
this.mobileNumber = mobileNumber;
this.fromCity = fromCity;
this.toCity = toCity;
this.travelClass = travelClass;
this.noOfTickets = noOfTickets;
this.dateOfTravel = dateOfTravel;
this.pnrNumber = pnrNumber;
this.totalfareAmount = totalfareAmount;
}

public String getCustomerName() {
return customerName;
}

public void setCustomerName(String customerName) {
this.customerName = customerName;
}

public String getMobileNumber(){
return mobileNumber;
}

public void setMobileNumber(String mobileNumber) {
this.mobileNumber = mobileNumber;
}

public String getFromCity() {
return fromCity;
}

public void setFromCity(String fromCity) {
this.fromCity = fromCity;
}

public String getToCity() {
return toCity;
}

public void setToCity(String toCity) {
this.toCity = toCity;
}

public String getTravelClass() {
```

```

return travelClass;
}

public void setTravelClass(String travelClass) {
this.travelClass = travelClass;
}

public int getNoOfTickets() {
return noOfTickets;
}

public void setNoOfTickets(int noOfTickets) {
this.noOfTickets = noOfTickets;
}

public LocalDate getDateOfTravel() {
return dateOfTravel;
}

public void setDateOfTravel(LocalDate dateOfTravel) {
this.dateOfTravel = dateOfTravel;
}

public String getPnrNumber(){
return pnrNumber;
}

public void setPnrNumber(String pnrNumber) {
this.pnrNumber = pnrNumber;
}

public double getTotalFareAmount() {
return totalfareAmount;
}

public void setTotalFareAmount(double totalfareAmount) {
this.totalfareAmount = totalfareAmount;
}

}

```

#####TRAIN INFO.JAVA#####

```

package com.cts.irctc.model;

public class TrainInfo {
private String trainNumber;
private String trainName;
private String from;
private String to;

```

```
private String tavelClass;
private String departure;
private String duration;
private String arrival;
private double farePerPassenger;

public TrainInfo() {
// TODO Auto-generated constructor stub
}

public TrainInfo(String trainNumber, String trainName, String from, String to,
String tavelClass, String departure,
String duration, String arrival, double farePerPassenger) {
super();
this.trainNumber = trainNumber;
this.trainName = trainName;
this.from = from;
this.to = to;
this.tavelClass = tavelClass;
this.departure = departure;
this.duration = duration;
this.arrival = arrival;
this.farePerPassenger = farePerPassenger;
}

public String getTrainNumber() {
return trainNumber;
}

public void setTrainNumber(String trainNumber) {
this.trainNumber = trainNumber;
}

public String getTrainName() {
return trainName;
}

public void setTrainName(String trainName) {
this.trainName = trainName;
}

public String getFrom() {
return from;
}

public void setFrom(String from) {
this.from = from;
}

public String getTo() {
return to;
}

public void setTo(String to) {
this.to = to;
}

public String getTavelClass() {
return tavelClass;
}
```

```

}

public void setTavelClass(String tavelClass) {
this.tavelClass = tavelClass;
}

public String getDeparture() {
return departure;
}

public void setDeparture(String departure) {
this.departure = departure;
}

public String getDuration() {
return duration;
}

public void setDuration(String duration) {
this.duration = duration;
}

public String getArrival() {
return arrival;
}

public void setArrival(String arrival) {
this.arrival = arrival;
}

public double getFarePerPassenger() {
return farePerPassenger;
}

public void setFarePerPassenger(double farePerPassenger) {
this.farePerPassenger = farePerPassenger;
}
}

```

IRCTC SERVICE

```

package com.cts.irctc.service;

import java.util.ArrayList;
import java.util.List;

import org.springframework.stereotype.Service;

import com.cts.irctc.exception.ApplicationException;
import com.cts.irctc.model.TicketBooking;

```

```

import com.cts.irctc.model.TrainInfo;

@Service
public class IrctcService {

public TrainInfo getTicketBookingResult(TicketBooking ticketBooking) throws
ApplicationException {

List<TrainInfo> list1 = buildTrains();

if(ticketBooking.getFromCity().equalsIgnoreCase(ticketBooking.getToCity())) {
throw new ApplicationException();
}
else {

String travelClass=ticketBooking.getTravelClass();
String trv=travelClass.substring(travelClass.length()-3,travelClass.length()-1).trim();

for(TrainInfo ti:list1) {

if(ti.getTravelClass().equalsIgnoreCase(trv)&&ti.getFrom().equalsIgnoreCase(ticketBooking.getFromCity()) && ti.getTo().equalsIgnoreCase(ticketBooking.getToCity())) {

return ti;
}
}
}
return null;
}

public String getPNRNumber(TicketBooking ticketBooking) throws
ApplicationException {

String firstend = ticketBooking.getMobileNumber().substring(0,7);
// String secend = t.getTrainNumber().substring(0,3);
if(ticketBooking.getFromCity().equalsIgnoreCase(ticketBooking.getToCity())) {
throw new ApplicationException();
}
else {
return "-" +firstend;
}

}

// DO NOT MODIFY THIS METHOD
    //DO NOT MODIFY CODE WITHIN METHOD
private List<TrainInfo> buildTrains() {
List<TrainInfo> trains = new ArrayList<TrainInfo>();
//pune to bangalore
TrainInfo trainInfo1=new TrainInfo("01013", "LTT CBE SPL", "Pune", "Bangalore",
"1A", "1:55 AM", "20 hr 30 min", "10:25 PM", 3080);
TrainInfo trainInfo2=new TrainInfo("01013", "LTT CBE SPL", "Pune", "Bangalore",
"2A", "1:55 AM", "20 hr 30 min", "10:25 PM", 1825);
TrainInfo trainInfo3=new TrainInfo("01013", "LTT CBE SPL", "Pune", "Bangalore",
"3A", "1:55 AM", "20 hr 30 min", "10:25 PM", 1150);
TrainInfo trainInfo4=new TrainInfo("01013", "LTT CBE SPL", "Pune", "Bangalore",
"SL", "1:55 AM", "20 hr 30 min", "10:25 PM", 475);
}

```

```
TrainInfo trainInfo5=new TrainInfo("01013", "LTT CBE SPL", "Pune", "Bangalore",  
"2S", "1:55 AM", "20 hr 30 min", "10:25 PM", 285);
```

//bagalore to pune

```
TrainInfo trainInfo6=new TrainInfo("01302", "UDYAN EXP", "Bangalore",  
"Pune", "1A", "8:20 PM", "19 hr 40 min", "4:00 PM", 3080);  
TrainInfo trainInfo7=new TrainInfo("01302", "UDYAN EXP", "Bangalore", "Pune",  
"2A", "8:20 PM", "19 hr 40 min", "4:00 PM", 1825);  
TrainInfo trainInfo8=new TrainInfo("01302", "UDYAN EXP", "Bangalore", "Pune",  
"3A", "8:20 PM", "19 hr 40 min", "4:00 PM", 1275);  
TrainInfo trainInfo9=new TrainInfo("01302", "UDYAN EXP", "Bangalore", "Pune",  
"SL", "8:20 PM", "19 hr 40 min", "4:00 PM", 475);  
TrainInfo trainInfo10=new TrainInfo("01302", "UDYAN EXP", "Bangalore", "Pune",  
"2S", "8:20 PM", "19 hr 40 min", "4:00 PM", 285);
```

//chennai to pune

```
TrainInfo trainInfo11=new TrainInfo("02164", "MAS LTT EXPRESS", "Chennai", "Pune",  
"2A", "6:25 PM", "16 hr 45 min", "11:10 AM", 2440);  
TrainInfo trainInfo12=new TrainInfo("02164", "MAS LTT EXPRESS", "Chennai", "Pune",  
"3A", "6:25 PM", "16 hr 45 min", "11:10 AM", 1785);  
TrainInfo trainInfo13=new TrainInfo("02164", "MAS LTT EXPRESS", "Chennai", "Pune",  
"SL", "6:25 PM", "16 hr 45 min", "11:10 AM", 685);  
TrainInfo trainInfo14=new TrainInfo("02164", "MAS LTT EXPRESS", "Chennai", "Pune",  
"2S", "6:25 PM", "16 hr 45 min", "11:10 AM", 335);
```

//bangalore to chennai

```
TrainInfo trainInfo15=new TrainInfo("02295", "SANGHAMITRA EXP",  
"Bangalore", "Chennai", "2A", "9:00 AM", "6 hr 15 min", "3:15 PM", 945);  
TrainInfo trainInfo16=new TrainInfo("02295", "SANGHAMITRA EXP", "Bangalore",  
"Chennai", "3A", "9:00 AM", "6 hr 15 min", "3:15 PM", 625);  
TrainInfo trainInfo17=new TrainInfo("02295", "SANGHAMITRA EXP",  
"Bangalore", "Chennai", "SL", "9:00 AM", "6 hr 15 min", "3:15 PM", 265);  
TrainInfo trainInfo18=new TrainInfo("02295", "SANGHAMITRA EXP", "Bangalore",  
"Chennai", "2S", "9:00 AM", "6 hr 15 min", "3:15 PM", 160);
```

//chennai to bangalore

```
TrainInfo trainInfo19=new TrainInfo("02296", "DNR SBC SPL",  
"Chennai", "Bangalore", "2A", "1:55 PM", "6 hr 25 min", "8:20 PM", 945);  
TrainInfo trainInfo20=new TrainInfo("02296", "DNR SBC SPL",  
"Chennai", "Bangalore", "3A", "1:55 PM", "6 hr 25 min", "8:20 PM", 680);  
TrainInfo trainInfo21=new TrainInfo("02296", "DNR SBC SPL",  
"Chennai", "Bangalore", "SL", "1:55 PM", "6 hr 25 min", "8:20 PM", 265);  
TrainInfo trainInfo22=new TrainInfo("02296", "DNR SBC SPL",  
"Chennai", "Bangalore", "2S", "1:55 PM", "6 hr 25 min", "8:20 PM", 160);
```

```
trains.add(trainInfo1);  
trains.add(trainInfo2);  
trains.add(trainInfo3);  
trains.add(trainInfo4);  
trains.add(trainInfo5);  
trains.add(trainInfo6);  
trains.add(trainInfo7);  
trains.add(trainInfo8);  
trains.add(trainInfo9);  
trains.add(trainInfo10);  
trains.add(trainInfo11);  
trains.add(trainInfo12);  
trains.add(trainInfo13);  
trains.add(trainInfo14);
```

```
trains.add(trainInfo15);
trains.add(trainInfo16);
trains.add(trainInfo17);
trains.add(trainInfo18);
trains.add(trainInfo19);
trains.add(trainInfo20);
trains.add(trainInfo21);
trains.add(trainInfo22);

return trains;
}
}
```

APPLICATION.PROPERTIES#####

```
server.port=2020
spring.mvc.view.prefix=WEB-INF/views/
spring.mvc.view.suffix=.jsp
```

#####ERROR.JSP

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1" isErrorPage="true" isELIgnored="false"%>
<%@ taglib prefix="spring" uri="http://www.springframework.org/tags"%>
<%@ taglib prefix="sf" uri="http://www.springframework.org/tags/form"%>
<%@ taglib uri="http://www.springframework.org/tags/form" prefix="form"%>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core"%>

<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>error page</title>
</head>
<body style="background-color: rgb(200, 240, 300)">
<br>
<br>
<sf:form id="error">
<h3>Unable to book ticket.Below are the error details:</h3>
<h3>Response Code : ${responseCode}</h3>
<h3>Error Message : ${errorMessage}</h3>
</sf:form>
<br/>
<a href="showTicketBookingForm" id="bookTicket">Book Ticket</a>
</body>
```

```
</html>
```

```
##### TICKET BOOKING.JSP#####
```

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<%@ taglib prefix="sf" uri="http://www.springframework.org/tags/form"%>

<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>ticket booking</title>
</head>
<body style="background-color: #f0f0f0">
<br>
<br>
<!-- Add code here.. -->
<h1 id="heading" >Indian Railway System</h1>
<sf:form name="form" action="getTicketBookingResultPage"
modelAttribute="ticketBooking" method="post">
<table>
<caption style="font-weight:bold;">Book Your Tatkal Ticket</caption>
<tr>
<td>
<sf:label path="customerName">Customer Name:</sf:label>
</td>
<td>
<sf:input path="customerName" id="customerName" />
</td>
```

```
<td>

<sf:errors path="customerName" cssStyle="color:red;" />

</td>

</tr>

<tr>

<td>

<sf:label path="mobileNumber">Mobile Number:</sf:label>

</td>

<td>

<sf:input path="mobileNumber" id="mobileNumber" />

</td>

<td>

<sf:errors path="mobileNumber" cssStyle="color:red;" />

</td>

</tr>

<tr>

<td>

<sf:label path="fromCity">From:</sf:label>

</td>

<td>

<sf:select path="fromCity" id="fromCity">

<sf:options items="${fromCity}" />

</sf:select>

</td>

</tr>

<tr>

<td>

<sf:label path="toCity">To:</sf:label>

</td>

<td>
```

```
<sf:select path="toCity" id="toCity">
<sf:options items="${toCity}" />
</sf:select>
</td>
</tr>
<tr>
<td>
<sf:label path="travelClass">Class:</sf:label>
</td>
<td>
<sf:select path="travelClass" id="travelClass">
<sf:options items="{travelClass}" />
</sf:select>
</td>
</tr>
<tr>
<td>
<sf:label path="noOfTickets">No. of Tickets:</sf:label>
</td>
<td>
<sf:input path="noOfTickets" id="noOfTickets" />
</td>
<td>
<sf:errors path="noOfTickets" cssStyle="color:red;" />
</td>
</tr>
<tr>
<td>
<input type="submit" id="submit" name="submit" value="Book" />
</td>
```

```
<td>  
<input type="reset" value="Clear" />  
</td>  
</tr>  
</table>  
</sf:form>  
</body>  
</html>
```

TICKET BOOKING RESULT.JSP#####

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"  
pageEncoding="ISO-8859-1" isELIgnored="false"%>  
<%@ taglib prefix="spring" uri="http://www.springframework.org/tags"%>  
<%@ taglib prefix="sf" uri="http://www.springframework.org/tags/form"%>  
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core"%>  
<!DOCTYPE html>  
<html>  
<head>  
<meta charset="ISO-8859-1">  
<title>ticket booking result</title>  
</head>  
<body style="background-color: #rgb(200, 240, 300)">  
<br>  
<br>  
< add code here>
```

```
<h3 id="ticket" >Congratulations, your ticket got booked!!</h3>  
<table border="1">  
<tr style="background-color:yellow">
```

```
<td>PNR Number:</td>
<td>${pnr}</td>
</tr>
<tr>
<td>Train Number:</td>
<td>${tno}</td>
</tr>
<tr>
<td>Train Name:</td>
<td>${tname}</td>
</tr>
<tr>
<td>Date of Travel:</td>
<td>${dot}</td>
</tr>
<tr>
<td>Depature:</td>
<td>${dept}</td>
</tr>
<tr>
<td>Duration:</td>
<td>${duration}</td>
</tr>
<tr>
<td>Arrival:</td>
<td>${a}</td>
</tr>
<tr>
<td>Total Fare Amount:</td>
<td>${price}</td>
```

```
</tr>
<tr>
</table>
<br/>
Book Another Ticket
</body>
</html>
```

TRAIN NOT AVAILABLE.JSP#####

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body style="background-color: #rgb(200, 240, 300)">
<br>
<br>
<!--Add code here -->
```

[Book Different Ticket](showTicketBookingForm)

```
</body>
</html>
```

