AIRLINE MANAGEMENT SYSTEM

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Overview

The Airline Management System is a web based application. The main purpose of "Airline management system" is to provide a convenient way to manages a flight by scheduling, airports, employee working in airports, customers information and their travel details

Software Description

1. **Express** (front end) is a web application framework for Node.js, released as free and open-source software. It is designed for building web application and APIs

2. **Node js** (Back end) Node.js is an open-source and cross-platform JavaScript runtime environment. It is a popular tool for almost any kind of project. Node.js uses JavaScript on the server.Node.js runs on various platforms (Windows, Linux, Unix, Mac OS X, etc.).

3. **Orient DB** is an Open Source NoSQL Database Management System, which contains the features of traditional DBMS along with the new features of both Document and Graph DBMS. It is written in Java and is amazingly fast. It can store 220,000 records per second on commodity hardware. Orient DB is NoSQL Database technologies which deals with the Documents, Graphs and traditional database components, like Schema and relation.

Specifications

Airport
Details of airport can be added for Airlines permitted to landing and the Passenger travel from one airport to another .The details of Airports can viewed and maintained

Flight
Details of Flights can be added, which passenger can choose their suitable flight to travel with theirs suitable airlines, timings, place. The details of Flights can be viewed and maintained

Employee
Employee details and their jobs type will be added, and which airport the employee should work is also assigned. The details of Employees can be viewed and maintained

Passenger
The details of passengers and their booking details are viewed and maintained

Screens

1. ## Home Screen
   It displays home page of the Airline Management System. In header flight, airport, employee, passenger choose the one to be maintained.

2. ## Add Airport
   Airports details like, Airport name, which city the airport is located, and its state and country are stored in database and they are maintained

3. ## View Airport
   It display the airports details which added in the database. The airports details are maintained in this Screen.

4. Add Flight

Flight details like, Flight ID, Flight source, Flight destination, Flight arrival time, Flight departure time, and Airline ID to identify which airline the flight is, are stored in database and they are maintained

5. View Flight

It display the Flights details which added in the database. The Flights details are maintained in this Screen.

6. Add Employee

Employee details like, SSN, Employee name, Number, Age, Gender, Job type, and Airport Name are stored in database and they are maintained

7. View Employee

It display the Employees details which added in the database. The Employees details are maintained in this Screen.

8. Passenger Information

It display the information about the passenger like their name, passport number, age, gender, phone number. The passenger information are maintained in this screen.

9. Booking Details

It display the Booking details like ticket number, passport number, source, destination, date of travel, seat number, class, etc. The Booking details are maintained in this screen.

Orient DB

Airport class

```
orientdb {db=airlines}> select from airport

+----+-----+-------+-------------+------------------------------------------+----------+-------------+-----+
|#   |@RID |@CLASS |CNAME        |AP_NAME                                   |STATE     |COUNTRY      |AP   |
+----+-----+-------+-------------+------------------------------------------+----------+-------------+-----+
|0   |#17:0|airport|Louisville   |Louisville International Airport          |Kentucky  |United States|#15:0|
|1   |#17:1|airport|Fort Worth   |Dallas/Fort Worth International  airport  |Texas     |United States|#15:1|
|2   |#17:2|airport|Mumbai       |Chhatrapati Shivaji International  airport|Maharashtra|India       |#15:2|
|3   |#17:3|airport|Frankfurt    |Frankfurt  airport                        |Hesse     |Germany      |#15:3|
|4   |#17:4|airport|New York City|John F. Kennedy International  airport     |New York  |United States|     |
|5   |#17:7|airport|             |                                          |          |             |     |
|6   |#18:0|airport|Chandigarh   |Chandigarh International  airport         |Chandigarh|India        |#16:0|
|7   |#18:1|airport|Delhi        |Indira GandhiInternational  airport       |Delhi     |India        |#16:1|
|8   |#18:2|airport|San Francisco|San Francisco International  airport      |California |United States|#16:2|
|9   |#18:3|airport|Houston      |George Bush Intercontinental  airport     |Texas     |United States|#16:3|
|10  |#18:4|airport|Tampa        |Tampa International  airport              |Florida   |United States|#16:4|
|11  |#18:5|airport|Chennai      |Chennai International Airport             |Tamilnadu |India        |     |
+----+-----+-------+-------------+------------------------------------------+----------+-------------+-----+

12 item(s) found. Query executed in 0.184 sec(s).
```

Flight class

```
orientdb {db=airlines}> select from flight

+----+-----+------+-----------+------+-----------+-------+---------+---------+
|#   |@RID |@CLASS|flight_CODE|SOURCE|DESTINATION|ARRIVAL|DEPARTURE|AIRLINEID|
+----+-----+------+-----------+------+-----------+-------+---------+---------+
|0   |#23:1|flight|EY1234     |JFK   |TPA        |19:20  |20:05    |EY       |
|1   |#23:2|flight|BA1689     |FRA   |DEL        |10:20  |10:55    |BA       |
|2   |#23:3|flight|QR1902     |IXC   |IAH        |22:00  |22:50    |QR       |
|3   |#23:4|flight|EK3456     |BOM   |SFO        |18:50  |19:40    |EK       |
|4   |#23:6|flight|BS1229     |CHE   |DEL        |05:15  |08:05    |AI       |
|5   |#24:0|flight|QR2305     |BOM   |DFW        |13:00  |13:55    |QR       |
|6   |#24:1|flight|LH9876     |JFK   |BOM        |05:50  |06:35    |LH       |
|7   |#24:2|flight|AA4367     |SFO   |FRA        |18:10  |18:55    |AA       |
|8   |#24:3|flight|BA3056     |BOM   |DFW        |02:15  |02:55    |BA       |
|9   |#24:4|flight|9W2334     |IAH   |DEL        |23:00  |13:45    |9W       |
+----+-----+------+-----------+------+-----------+-------+---------+---------+

10 item(s) found. Query executed in 0.195 sec(s).
```

Airline class

```
orientdb {db=airlines}> select from airline

+----+-----+--------+---------+-----------------+----------------+
|#   |@RID |@CLASS  |airlineID|AL_NAME          |THREE_DIGIT_CODE|
+----+-----+--------+---------+-----------------+----------------+
|0   |#19:0|airline |AA       |American  airlines|001            |
|1   |#19:1|airline |LH       |Lufthansa        |220             |
|2   |#19:2|airline |QR       |Qatar Airways    |157             |
|3   |#19:3|airline |EK       |Emirates         |176             |
|4   |#20:0|airline |AI       |Air India Limited|098             |
|5   |#20:1|airline |BA       |British Airways  |125             |
|6   |#20:2|airline |9W       |Jet Airways      |589             |
|7   |#20:3|airline |EY       |Ethiad Airways   |607             |
+----+-----+--------+---------+-----------------+----------------+

8 item(s) found. Query executed in 0.17 sec(s).
```

Employee class

```
orientdb {db=airlines}> select from employee1

+----+-----+---------+---------+--------+----------+----+----+--------------------+---------------------------------------------+
|#   |@RID |@CLASS   |SSN      |FNAME   |PHONE     |AGE |SEX |JOBTYPE             |AP_NAME                                      |
+----+-----+---------+---------+--------+----------+----+----+--------------------+---------------------------------------------+
|0   |#33:0|employee1|123456789|LINDA   |4356789345|35  |F   |ADMINISTRATIVE SUPPORT|Louisville International Airport            |
|1   |#33:1|employee1|999887777|JAMES   |9834666995|50  |M   |ENGINEER            |Louisville International Airport              |
|2   |#33:2|employee1|666884444|SHELDON |1254678903|55  |M   |TRAFFIC MONITOR     |Frankfurt Airport                            |
|3   |#33:3|employee1|987987987|NIKITA  |5678904325|33  |F   |ENGINEER            |Dallas/Fort Worth International Airport       |
|4   |#33:4|employee1|125478909|PRATIK  |4444678903|56  |M   |TRAFFIC MONITOR     |John F. Kennedy International Airport         |
|5   |#33:6|employee1|123453456|Vicky   |2312456734|30  |M   |AIRPORT AUTHORITY   |Chennai International Airport                 |
|6   |#34:0|employee1|333445555|JOHNY   |9834561995|40  |M   |ADMINISTRATIVE SUPPORT|Louisville International Airport            |
|7   |#34:1|employee1|987654321|SHERLOCK|8089654321|47  |M   |TRAFFIC MONITOR     |San Francisco International Airport           |
|8   |#34:2|employee1|453453453|RAJ     |4326789031|35  |M   |AIRPORT AUTHORITY   |Chhatrapati Shivaji International Airport     |
|9   |#34:3|employee1|888665555|SHUBHAM |8566778890|39  |M   |ADMINISTRATIVE SUPPORT|Indira GandhiInternational Airport         |
|10  |#34:4|employee1|324567897|ADIT    |2244658909|36  |M   |TRAFFIC MONITOR     |Chandigarh International Airport              |
+----+-----+---------+---------+--------+----------+----+----+--------------------+---------------------------------------------+

11 item(s) found. Query executed in 0.176 sec(s).
```

Passenger class

```
orientdb {db=airlines}> select from passenger2

+----+-----+----------+----------+---------+--------+----------+----+----+
|#   |@RID |@CLASS    |PASSPORTNO|FNAME    |LNAME   |PHONE     |AGE |SEX |
+----+-----+----------+----------+---------+--------+----------+----+----+
|0   |#29:0|passenger2|A1234568  |ALEN     |SMITH   |8080367290|30  |M   |
|1   |#29:1|passenger2|C2345698  |KHYATI   |MISHRA  |8082267280|30  |F   |
|2   |#29:2|passenger2|X9324666  |TEJASHREE|PANDIT  |9004360125|28  |F   |
|3   |#29:3|passenger2|J9801235  |AKHILESH |JOSHI   |9080369290|29  |M   |
|4   |#29:4|passenger2|Q1243567  |KARAN    |MOTANI  |9727626643|22  |M   |
|5   |#29:5|passenger2|E3277889  |John     |GATES   |9724569986|10  |M   |
|6   |#29:6|passenger2|P3452390  |ALIA     |BHAT    |9734567800|10  |F   |
|7   |#29:7|passenger2|R8990566  |RIA      |GUPTA   |4724512343|10  |M   |
|8   |#30:0|passenger2|B9876541  |ANKITA   |AHIR    |8080367280|26  |F   |
|9   |#30:1|passenger2|D1002004  |ANKITA   |PATIL   |9080367266|23  |F   |
|10  |#30:2|passenger2|B8765430  |LAKSHMI  |SHARMA  |7666190505|30  |F   |
|11  |#30:3|passenger2|A1122334  |MANAN    |LAKHANI |9004335126|25  |F   |
|12  |#30:4|passenger2|S1243269  |ROM      |SOLANKI |9004568903|60  |M   |
|13  |#30:5|passenger2|K3212322  |SARA     |GOMES   |9024569226|15  |F   |
|14  |#30:6|passenger2|W7543336  |JOHN     |SMITH   |4624569986|55  |M   |
+----+-----+----------+----------+---------+--------+----------+----+----+

15 item(s) found. Query executed in 0.166 sec(s).
```

Booking class

```
orientdb {db=airlines}> select from ticket1

+----+-----+-------+-------------+------+-----------+---------------+--------------+------+-----------+----------+----+
|#   |@RID |@CLASS |TICKET_NUMBER|SOURCE|DESTINATION|DATE_OF_BOOKING|DATE_OF_TRAVEL|SEATNO|CLASS      |PASSPORTNO|PID |
+----+-----+-------+-------------+------+-----------+---------------+--------------+------+-----------+----------+----+
|0   |#39:0|ticket1|1248891474   |BOM   |DFW        |11-MAY-16      |15-DEC-16     |32A   |ECONOMY    |A1234568  |1   |
|1   |#39:1|ticket1|5890987441464|IXC   |IAH        |10-AUG-16      |12-JAN-17     |20C   |FIRST-CLASS|D1002004  |4   |
|2   |#39:2|ticket1|2206543545545|BOM   |DFW        |11-NOV-16      |12-FEB-17     |43B   |ECONOMY    |B8765430  |6   |
|3   |#39:3|ticket1|1571357215116|SFO   |FRA        |15-OCT-16      |18-DEC-16     |34E   |ECONOMY    |A1122334  |8   |
|4   |#39:4|ticket1|1579283997799|BOM   |SFO        |22-JAN-16      |15-DEC-16     |38A   |ECONOMY    |S1243269  |10  |
|5   |#39:5|ticket1|1251334499699|IXC   |IAH        |20-NOV-16      |12-JAN-17     |45D   |ECONOMY    |K3212322  |12  |
|6   |#39:6|ticket1|5891155114477|FRA   |DEL        |26-JUN-16      |23-DEC-16     |55C   |ECONOMY    |W7543336  |14  |
|7   |#40:0|ticket1|1768901333273|IAH   |DEL        |21-AUG-16      |25-DEC-16     |1A    |BUSINESS   |C2345698  |3   |
|8   |#40:1|ticket1|1577654664266|JFK   |TPA        |13-JUN-16      |10-DEC-16     |54E   |ECONOMY    |X9324666  |5   |
|9   |#40:2|ticket1|7064321779737|IAH   |DEL        |15-NOV-16      |25-DEC-16     |27B   |FIRST-CLASS|J9801235  |7   |
|10  |#40:3|ticket1|1570864987655|IXC   |IAH        |12-NOV-16      |30-DEC-16     |54C   |ECONOMY    |Q1243567  |9   |
|11  |#40:4|ticket1|1255701876107|FRA   |DEL        |19-OCT-16      |31-DEC-16     |57F   |ECONOMY    |E3277889  |11  |
|12  |#40:5|ticket1|1258776199490|BOM   |DFW        |13-MAY-16      |15-DEC-16     |37C   |ECONOMY    |P3452390  |13  |
|13  |#40:6|ticket1|5893069766787|BOM   |DFW        |11-AUG-16      |22-DEC-16     |33F   |ECONOMY    |R8990566  |15  |
+----+-----+-------+-------------+------+-----------+---------------+--------------+------+-----------+----------+----+

14 item(s) found. Query executed in 0.181 sec(s).
```

Passenger-flight class

```
orientdb {db=airlines}> select from passenger3

+----+-----+----------+----+-----------+
|#   |@RID |@CLASS    |PID |FLIGHT_CODE|
+----+-----+----------+----+-----------+
|0   |#31:0|passenger3|1   |AI2014     |
|1   |#31:1|passenger3|3   |9W2334     |
|2   |#31:2|passenger3|5   |EY1234     |
|3   |#31:3|passenger3|7   |9W2334     |
|4   |#31:4|passenger3|9   |QR1902     |
|5   |#31:5|passenger3|11  |BA1689     |
|6   |#31:6|passenger3|13  |AI2014     |
|7   |#31:7|passenger3|15  |QR2305     |
|8   |#32:0|passenger3|2   |LH9876     |
|9   |#32:1|passenger3|4   |QR1902     |
|10  |#32:2|passenger3|6   |BA3056     |
|11  |#32:3|passenger3|8   |AA4367     |
|12  |#32:4|passenger3|10  |EK3456     |
|13  |#32:5|passenger3|12  |QR1902     |
|14  |#32:6|passenger3|14  |BA1689     |
+----+-----+----------+----+-----------+

15 item(s) found. Query executed in 0.214 sec(s).
```

QUERY:

```javascript
var Orientdb = require('orientjs');
var express = require('express');
var session = require('express-session');
var bodyParser = require('body-parser');
var path = require('path');

var app = express();
app.set('view engine', 'ejs');
app.use(session({
  secret: 'secret',
  resave: true,
  saveUninitialized: true
}));
app.use(bodyParser.urlencoded({extended : true}));
app.use(bodyParser.json());
```

```javascript
app.set('views', path.join(__dirname, 'views'));
app.use(express.static('public'));

app.get('/', function(request, response) {
    response.render('index');
});

app.get('/index', function(request, response) {
  response.render('index');
});

app.get('/addflight', function(request, response) {
  response.render('addflight');
});

app.get('/addairport', function(request, response) {
  response.render('addairport');
});

app.get('/addemp', function(request, response) {
  response.render('addemp');
});

var server = Orientdb({
  host: 'localhost',
  port: 2424,
  username: 'root',
  password: 'bala'
});

var db = server.use({

    name:  'airlines',
    username: 'root',
    password: 'bala'

 });

 app.post('/addairport', function(request, response) {
   var con=request.body.country;
   var stat=request.body.state;
   var cna=request.body.c_name;
   var apna=request.body.ap_name;
  db.query('insert into airport (COUNTRY, STATE, CNAME, AP_NAME) values (:country, :state, :cname, :apname)' , {
    params: {
      country: con,
      state: stat,
```

```javascript
        cname: cna,
        apname: apna
    }}).then( function(data) {
    response.render('addairport');
 }
)
});

app.post('/addflight', function(request, response) {
  var arvl=request.body.arrival;
  var depart=request.body.departure;
  var flightcode=request.body.flight_code;
  var desti=request.body.destination;
  var airlid=request.body.airline_id;
  var source=request.body.source;
 db.query('insert into flight (ARRIVAL, DEPARTURE, flight_CODE, DESTINATION,AI
RLINEID,SOURCE) values (:arr, :dep, :fl_code, :des, :alid, :srce)' , {
    params: {
      arr: arvl,
      dep: depart,
      fl_code: flightcode,
      des: desti,
      alid:airlid,
      srce:source
    }}).then( function(data) {
    response.render('addflight');
}
)
});

app.post('/addemp', function(request, response) {
  var ssn=request.body.ssn;
  var name=request.body.ename;
  var phone=request.body.phone;
  var age=request.body.age;
  var sex=request.body.gender;
  var jobtype=request.body.jobtype;
  var apname=request.body.apname;
 db.query('insert into employee1 (SSN, FNAME, PHONE, AGE,SEX,JOBTYPE,AP_NAME)
values (:ssn, :name, :phone, :age, :sex, :jobtype, :apname)' , {
    params: {
      ssn: ssn,
      name: name,
      phone: phone,
      age: age,
      sex:sex,
      jobtype:jobtype,
      apname:apname
```

```javascript
    }}).then( function(data) {
  response.render('addemp');
}
)
});

app.get('/viewairport', function(request, response) {
  db.query(
 'SELECT FROM airport').then( function(data) {
   response.render('viewairport', {data:data});
 }
)
});

app.get('/viewemp', function(request, response) {
  db.query(
 'SELECT FROM employee1').then( function(data) {
   response.render('viewemp', {data:data});
 }
)
});

app.get('/viewflight', function(request, response) {
  db.query(
 'SELECT FROM flight').then( function(data) {
   response.render('viewflight', {data:data});
 }
)
});

app.get('/passinfo', function(request, response) {
  db.query(
 'SELECT FROM passenger2').then( function(data) {
   response.render('passinfo', {data:data});
 }
)
});

app.get('/bookdetails', function(request, response) {
  db.query(
 'SELECT FROM ticket1').then( function(data) {
   response.render('bookdetails', {data:data});
 }
)
});


app.post('/airline', function(request, response) {
  var alid=request.body.airid;
```

```
  db.query(
 'SELECT FROM airline where airlineID= :al',{params:{
  al:alid
}}).then( function(data) {
    response.render('airline', {data:data});
 }
)
});

app.post('/passflight', function(request, response) {
  var alid=request.body.pid;
  db.query(
 'SELECT FROM passenger3 where PID= :al',{params:{
  al:alid
}}).then( function(data) {
    response.render('passflight', {data:data});
 }
)
});

app.listen(3000);
```

Screenshots:
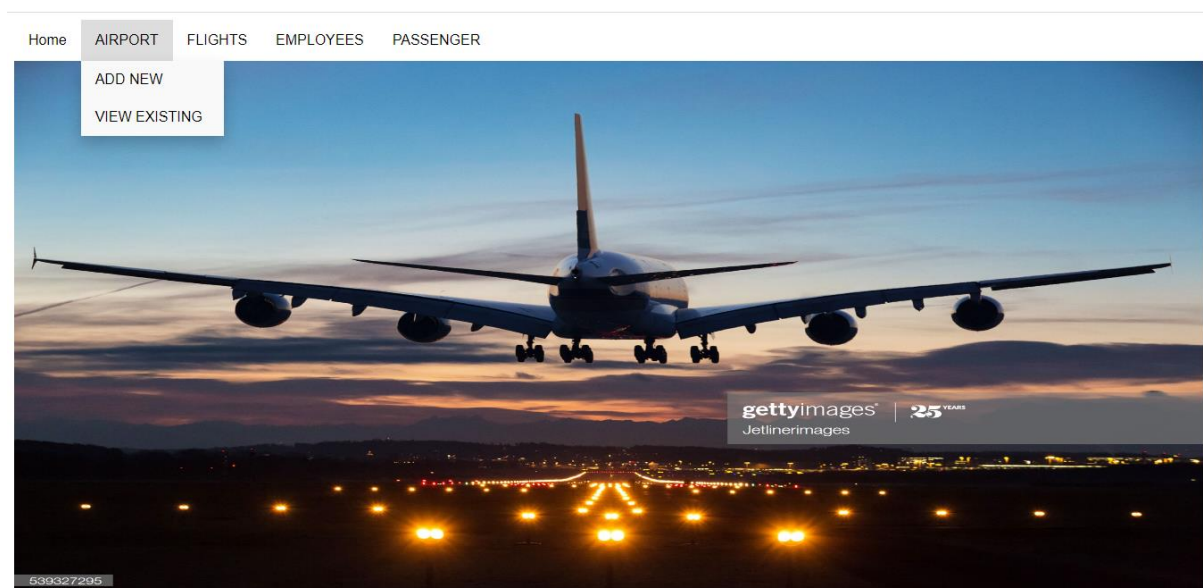
ADD AIRPORT

Airport-Name :

State :

Country :

City Name :

Reset All   Submit Form

localhost:3000/index

Display AIRPORTS

AIRPORT NAME	STATE	COUNTRY	CITY NAME
Louisville International Airport	Kentucky	United States	Louisville
Dallas/Fort Worth International airport	Texas	United States	Fort Worth
Chhatrapati Shivaji International airport	Maharashtra	India	Mumbai
Frankfurt airport	Hesse	Germany	Frankfurt
John F. Kennedy International airport	New York	United States	New York City
Chandigarh International airport	Chandigarh	India	Chandigarh
Indira GandhiInternational airport	Delhi	India	Delhi
San Francisco International airport	California	United States	San Francisco
George Bush Intercontinental airport	Texas	United States	Houston

ADD FLIGHTS

Flight-Code :

Source :

Destination :

Arrival :

--:-- --

Departure :

--:-- --

Airline-ID :

ocalhost:3000/index
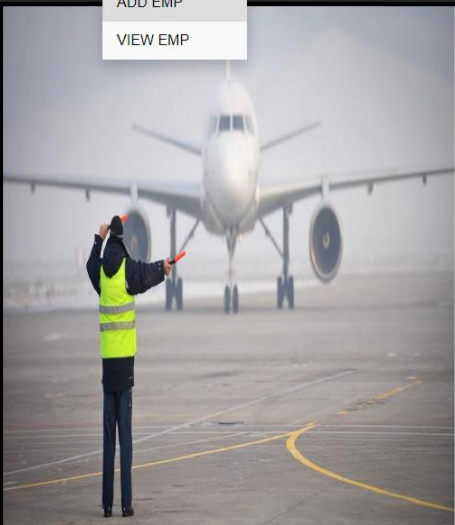
FLIGHTS DETAILS

FLIGHT-CODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	AIRLINE-ID
EY1234	JFK	TPA	19:20	20:05	EY
BA1689	FRA	DEL	10:20	10:55	BA
QR1902	IXC	IAH	22:00	22:50	QR
EK3456	BOM	SFO	18:50	19:40	EK
BS1229	CHE	DEL	05:15	08:05	AI
QR2305	BOM	DFW	13:00	13:55	QR
LH9876	JFK	BOM	05:50	06:35	LH

AIRLINE

Airline ID:
EY

Airline Name:
Ethiad Airways

Three Digit Code:
607

ADD EMP

VIEW EMP

ADD EMPLOYEE

SSN :

EName :

Phone-no :

Age :

Gender :

Job-Type :

Airport-name :

localhost:3000/addemp

ADD EMP

VIEW EMP

DETAILS OF EMPLOYE

SSN	ENAME	PHONE-NO	AGE	GENDER	JOB-TYPE	AIRPORT-NAME
123456789	LINDA	4356789345	35	F	ADMINISTRATIVE SUPPORT	Louisville International Airport
999887777	JAMES	9834666995	50	M	ENGINEER	Louisville International Airport
666884444	SHELDON	1254678903	55	M	TRAFFIC MONITOR	Frankfurt Airport
987987987	NIKITA	5678904325	33	F	ENGINEER	Dallas/Fort Worth International Airport
125478909	PRATIK	4444678903	56	M	TRAFFIC MONITOR	John F. Kennedy International Airport
123453456	Vicky	2312456734	30	M	AIRPORT AUTHORITY	Chennai International Airport
333445555	JOHNY	9834561995	40	M	ADMINISTRATIVE SUPPORT	Louisville International Airport
987654321	SHERLOCK	8089654321	47	M	TRAFFIC MONITOR	San Francisco International Airport
453453453	RAJ	4326789031	35	M	AIRPORT AUTHORITY	Chhatrapati Shivaji International Airport

localhost:3000/viewemp

INFO

BOOKING DETAILS

PASSENGER DETAILS

PASSPORTNO	FNAME	LNAME	AGE	SEX	PHONE
A1234568	ALEN	SMITH	30	M	8080367290
C2345698	KHYATI	MISHRA	30	F	8082267280
X9324666	TEJASHREE	PANDIT	28	F	9004360125
J9801235	AKHILESH	JOSHI	29	M	9080369290
Q1243567	KARAN	MOTANI	22	M	9727626643
E3277889	John	GATES	10	M	9724569986
P3452390	ALIA	BHAT	10	F	9734567800
R8990566	RIA	GUPTA	10	M	4724512343
B9876541	ANKITA	AHIR	26	F	8080367280

localhost:3000/passinfo

INFO

BOOKING DETAILS

BOOKING DETAILS

TICKETNO	PASSPORTNO	SOURCE	DESTINATION	DATE OF TRAVEL	SEAT NO	CLASS	DATE OF BOOKING	PID
1248891474	A1234568	BOM	DFW	15-DEC-16	32A	ECONOMY	11-MAY-16	1
5890987441464	D1002004	IXC	IAH	12-JAN-17	20C	FIRST-CLASS	10-AUG-16	4
2206543545545	B8765430	BOM	DFW	12-FEB-17	43B	ECONOMY	11-NOV-16	6
1571357215116	A1122334	SFO	FRA	18-DEC-16	34E	ECONOMY	15-OCT-16	8
1579283997799	S1243269	BOM	SFO	15-DEC-16	38A	ECONOMY	22-JAN-16	10
1251334499699	K3212322	IXC	IAH	12-JAN-17	45D	ECONOMY	20-NOV-16	12
	W7543336	FRA	DEL	23-DEC-16	55C	ECONOMY	26-JUN-16	14

localhost:3000/bookdetails

PASSENGER FLIGHT

PID:

1

FLIGHT CODE:

AI2014

localhost:3000/index