## "AIRLINE RESERVATION SYSTEM"

## **ABSTRACT:**

An airline is a company that provides air transport services for traveling passengers and/or freight. The airline industry encompasses a wide range of businesses, called airlines, which offer air transport services for paying customers or business partners. These air transport services are provided for both human travellers and cargo, and are most commonly offered via jets, although some airlines also use helicopters.

Airlines may offer scheduled and/or chartered services and the airline industry forms a key part of the wider travel industry, providing customers with the ability to purchase seats on flights and travel to different parts of the world.

Airline reservation system is web-based system that helps in consolidating flight data - flight schedules, seat availability, flight fares and reservations from all airlines with the help of global distribution systems and rates for customers.

Airline Reservation System contains the details about flight schedules and its price, passenger details and ticket records, ticket cancelled records. It saves time as it allows online procedures as users no longer to wait in a queue to book the flights. It is automatically generated by the server.

### **OBJECTIVES:**

- 1. To search and book flight tickets online for specific seats from various flights.
- 2. To check available seats on flight.
- 3. It will give proper details about customers.

### **STRUCTURE OF TABLE:**

### Airline:

This Table contains the details of Airline Company and Airline code.

## Flight:

This table contain all information about flights, their takeoff timing, arriving time, Flight belong to which airline company, destination and source place. Passengers can check flight for a particular location and their timing.

```
mysql> desc flight;
 Field
                Type
                              | Null | Key | Default | Extra
 Flight_no
                 int
                                            NULL
 Source
                  varchar(20)
                               NO
                                            NULL
 Destination
                 varchar(20)
                               NO
                                            NULL
 Dep_time
                  time
                                YES
                                            NULL
 Arriving_time |
                 time
                               YES
                                            NULL
 Seat_Available
                 int
                               NO
                                            NULL
 Airline code
                varchar(5)
                              YES
                                      MUL
                                            NULL
```

### Class:

This table contains information about Class type like business or economic class and their price.

## Flight seats:

This tables contains information about flight no and seat number of flight.

### **Customers:**

This tables contains information about customer id, Date of birth, location etc.

They have account with Airline company.

Field	Type	Null	Key	Default	Extra
C_ID	int	NO	PRI	NULL	auto_increment
DOB	date	NO		NULL	1
NAME	varchar(40)	NO		NULL	- 1
Gender	varchar(10)	YES		NULL	1
CITY	varchar(20)	NO		NULL	1
State	varchar(20)	NO		NULL	1
country	varchar(20)	YES		India	1

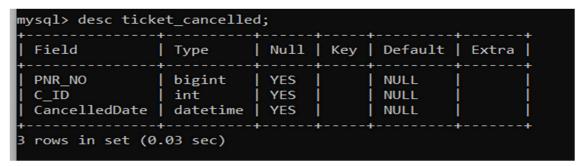
### Ticket booked:

This table contain information about Customer who have booked ticket, their class type, seat number, flight no and date of booked.

```
mysql> desc ticket booked;
                             | Null | Key | Default | Extra
 Field
              Type
 PNR_NO
               bigint
                                                       auto_increment
                              NO
                                      PRI
                                            NULL
 C_ID
                int
                              YES
                                      MUL
                                            NULL
                                            NULL
 Flight_no
                int
                              YES
                                      MUL
               int
                              YES
 seat_no
                                      MUL
                                            NULL
               varchar(10)
                              YES
                                      MUL
                                            NULL
 class
 BookingDate | datetime
                              YES
                                            NULL
 rows in set (0.01 sec)
```

## **Ticket cancelled:**

This table contains information about customer who cancelled Flight ticket.



# **CONTENTS OF TABLES:**

## Airline:

## Class:

Class_Type	Price	Flight_no
	+	+
Business	10000.00	101
Business	6814.00	102
Business	6800.00	103
Business	4700.00	201
Business	10000.00	202
Business	10500.00	301
Business	4700.00	302
Business	4000.00	401
Business	4947.00	501
Business	4947.00	502
Economic	4500.00	101
Economic	3814.00	102
Economic	3800.00	103
Economic	2850.00	201
Economic	4000.00	202
Economic	5000.00	301
Economic	2850.00	302
Economic	2970.00	401
Economic	3947.00	501
Economic	3947.00	502

# Flight:

light_no	Source	Destination	Dep_time	Arriving_time	Seat_Available	Airline_code
101	Mumbai	Delhi	19:00:00	21:00:00	5	AI
102	Mumbai	Chennai	17:50:00	20:15:00	5	AI
103	Chennai	Mumbai	06:10:00	08:10:00	5	AI
201	Mumbai	Banglore	23:10:00	12:00:00	5	6E
202	Delhi	Mumbai	06:10:00	08:10:00	5	6E
301	Mumbai	Delhi	22:55:00	01:05:00	5	UK
302	Banglore	Mumbai	18:00:00	19:10:00	5	UK
401	Banglore	Mumbai	18:35:00	20:35:00	5	G8
501	Mumbai	Nagpur	21:50:00	23:20:00	5	SG
502	Nagpur	Mumbai	13:35:00	15:00:00	5	SG

# **Customer:**

C_ID	DOB	NAME	Gender	CITY	State	country
8001	1993-02-19	Vaishnavi Adani	Female	Mumbai	Maharashtra	India
8002	1987-11-25	Mani Yadav	Male	Thane	Maharashtra	India
8003	1998-07-05	Praveen Kumar	Male	Borivali	Maharashtra	India
8004	1991-06-15	Ashwini Kangne	Female	kalyan	Maharashtra	India
8005	2000-02-14	Priya Randive	Female	kalyan	Maharashtra	India
8006	1997-05-09	Abhay Singh	Male	Mumbai	Maharashtra	India
8008	1988-08-23	Rama Gopal	Male	chennai	Tamil Nadu	India
8009	1998-03-01	Anjana Nair	Female	coimbatore	Tamil Nadu	India
8010	1982-04-07	Ritik Pillai	Male	Madurai	Tamil Nadu	India
8011	1989-05-19	Ram Gopal	Male	coimbatore	Tamil Nadu	India
8012	2007-02-07	Adity Shrama	Male	Banglore	Karnataka	India
8013	2002-09-30	Lara Dutta	Female	Mysore	Karnataka	India
8014	1997-09-29	Aishwarya Rai	Female	Mysore	Karnataka	India
8015	1980-05-02	Rahul Dravid	Male	Mysore	Karnataka	India
8016	1984-05-07	Heena Khan	Female	Mumai	Maharashtra	India
8017	1988-05-27	Parth Yadav	Male	Mumbai	Maharashtra	India
8018	1995-08-31	Dishant Mehta	Male	Borivali	Maharashtra	India
8019	1991-04-04	Dishant Mehta	Male	Mumbai	Maharashtra	India
8020	1991-04-04	Sangeeta Naik	Female	Chennai	Tamil Nadu	India
8021	1998-02-03	Divya Randive	Female	Chennai	Tamil Nadu	India
8022	1993-12-09	Shahid Khan	Male	Mumbai	Maharashtra	India
8023	2011-04-21	Sneha salvi	Female	Mumbai	Maarashtra	India
8024	2013-05-22	vineet vagh	Male	Chennai	Tamil Nadu	India
8025	2014-05-01	Divya vaitya	Female	Chennai	Tamil Nadu	India
8026	2000-02-12	Bala	Male	Chennai	Tamil Nadu	India
8027	1996-05-19	Shraddha Kapoor	Female	coimbatore	Tamil Nadu	India
8028	1996-05-19	Rohit Shetty	Male	Mysore	Karnataka	India
8029	2000-07-04	Rohit Shetty	Male	Mysore	Karnataka	India
8030	2009-06-09	anisha Gupta	Female	coimbatore	Tamil Nadu	India
8031	2007-07-04	Innaya Kapoor	Female	Coimbatore	Tamil Nadu	India

# Flight seats:

mysql> sele	ect * from f	light_seats;
+   Seat_no	flight_no	
+		
1011	101	
1012	101	
1013	101	
1014	101	
1015	101	
1021	102	
1022	102	
1023	102	
1024	102	
1025	102	
1031	103	
1032	103	
1033	103	
1034	103	
1035	103	
2011	201	
2012	201	
2013	201	
2014	201	
2015	201	
2021	202	
2022	202	
2023	202	
2024	202	
2025	202	
3011	301	
3012	301	
3013	301	
3014	301	
3015	301	
3021	302	
3022	302	
3023	302	
3024	302	
3025	302	
4011	401	
4012	401	
4013		
4014	401	
4015	401	
10 pour :-	sot (0.00	26)
40 rows in	set (0.00 se	·c)

# Ticket booked:

PNR_NO	C_ID	Flight_no	seat_no	class	BookingDate
900001	8002	102	1022	Business	2023-02-02 00:00:00
900002	8017	102	1021	Business	2023-02-02 00:00:00
900003	8011	102	1023	Business	2023-02-02 00:00:00
900004	8015	102	1024	Business	2023-02-02 00:00:00
900005	8006	102	1025	Economic	2023-02-03 00:00:00
900007	8002	103	1031	Economic	2023-02-07 00:00:00
900008	8019	301	3011	Business	2023-02-01 00:00:00
900009	8019	202	2021	Business	2023-02-05 00:00:00
900010	8022	202	2022	Economic	2023-02-05 00:00:00
900011	8015	301	3012	Economic	2023-02-01 00:00:00
900012	8008	301	3013	Economic	2023-02-01 00:00:00
900013	8001	302	3021	Economic	2023-02-04 00:00:00
900014	8003	302	3022	Business	2023-02-04 00:00:00
900015	8009	103	1031	Economic	2023-02-03 00:00:00
900016	8013	103	1032	Economic	2023-02-03 00:00:00
900017	8020	202	2023	Economic	2023-02-05 00:00:00
900018	8017	202	2024	Economic	2023-02-03 00:00:00
900020	8015	202	2025	Economic	2023-02-03 00:00:00
900021	8011	101	1011	Economic	2023-02-06 00:00:00
900022	8005	101	1012	Economic	2023-02-06 00:00:00
900023	8002	101	1013	Economic	2023-02-06 00:00:00
900024	8002	302	3021	Business	2023-02-05 00:00:00
900025	8003	202	2021	Economic	2023-02-04 00:00:00
900026	8004	102	1021	Economic	2023-02-03 00:00:00
900027	8020	102	1022	Economic	2023-02-03 00:00:00
900028	8020	302	3021	Economic	2023-02-01 00:00:00
900030	8019	302	3022	Business	2023-02-01 00:00:00
900031	8013	302	3023	Economic	2023-02-03 00:00:00

## **SUBQUERIES:**

1. Select all the customer details who are going to Mumbai.

SELECT \* FROM CUSTOMER WHERE C\_ID IN (select c\_ID FROM TICKET\_BOOKED WHERE FLIGHT\_NO IN (select flight\_no from flight where destination = 'Mumbai'));



2. Show all details of customers who have not booked any tickets.

select \* from customer where c id not in (select c id from ticket booked);



# 3. Show all those flights and their details which are not booked by any customer.

select \* from flight where flight\_no not in (select flight\_no from ticket\_booked);

```
mysql> select * from flight where flight_no not in (select flight_no from ticket_booked);

| Flight_no | Source | Destination | Dep_time | Arriving_time | Seat_Available | Airline_code |

| 201 | Mumbai | Banglore | 23:10:00 | 12:00:00 | 5 | 6E |

| 401 | Banglore | Mumbai | 18:35:00 | 20:35:00 | 5 | G8 |

| 501 | Mumbai | Nagpur | 21:50:00 | 23:20:00 | 5 | SG |

| 502 | Nagpur | Mumbai | 13:35:00 | 15:00:00 | 5 | SG |

4 rows in set (0.03 sec)
```

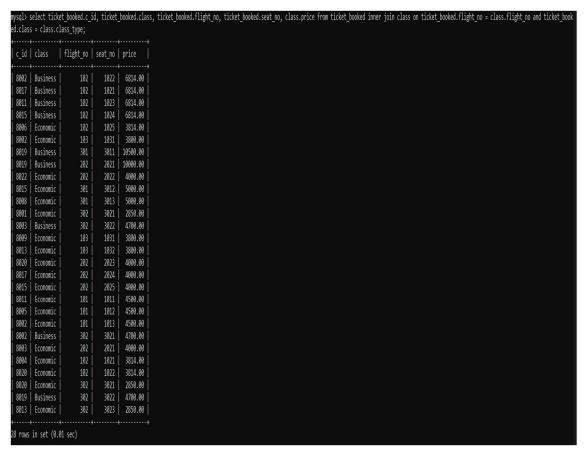
# 4. Select flight\_no, their class type of customer who belongs to Mumbai and female

select c\_ID, flight\_no, Seat\_no from Ticket\_booked where c\_id = any (select c id from customer where city= 'Mumbai' and gender= 'Female');

# <mark>JOINS:</mark>

1. Show all customers who have booked ticket and their class and ticket price.(three table join)

select ticket\_booked.c\_id, ticket\_booked.class, ticket\_booked.flight\_no, ticket\_booked.seat\_no, class.price from ticket\_booked inner join class on ticket\_booked.flight\_no = class.flight\_no and ticket\_booked.class = class.class\_type;



## 2. Show flight and their airline company

select flight.flight\_no, flight.source, airline.airline\_name from flight left join airline on flight.airline code = airline.airline code;

```
ysql> select flight.flight_no, flight.source, airline.airline_name from flight left join airline on flight.airline_code = airline.airline_code;
flight_no | source | airline_name
      101 | Mumbai
102 | Mumbai
                       Air India
                       Air India
      103 | Chennai
                       Air India
            Mumbai
                       Indigo
            Delhi
                       Indigo
            Mumbai
                       Vistara
           Banglore
                       Vistara
                       Go First
          Banglore
            Mumbai
                        SpiceJet
          Nagpur
0 rows in set (0.00 sec)
```

3. Show all the details of customer like customer ID, customer name, Flight number, class, price, source and destination.

select ticket\_booked.C\_ID, customer.name, flight.source, flight.destination, class.price, ticket\_booked.class from ticket\_booked inner join customer on ticket\_booked.c\_id= customer.c\_id inner join flight on ticket\_booked.flight\_no= flight.flight\_no inner join class on ticket\_booked.flight\_no = class.flight\_no and ticket\_booked.class = class.class\_type;

CIC	tet_booked.Tllgnt_r	10= T11gnt.1	riignt_no inne +	+	s on ticket_booked ++
_ID	name	source	destination	price	class
002	Mani Yadav	Mumbai	   Chennai	+   6814.00	Business
017	Parth Yaday	Mumbai	Chennai	6814.00	Business
011	Ram Gopal	Mumbai	Chennai	6814.00	Business
015	Rahul Dravid	Mumbai	Chennai	6814.00	Business
006	Abhay Singh	Mumbai	Chennai	3814.00	Economic
002	Mani Yadav	Chennai	Mumbai	3800.00	Economic
019	Dishant Mehta	Mumbai	Delhi	10500.00	Business
019	Dishant Mehta	Delhi	Mumbai	10000.00	Business
022	Shahid Khan	Delhi	Mumbai	4000.00	Economic
015	Rahul Dravid	Mumbai	Delhi	5000.00	Economic
008	Rama Gopal	Mumbai	Delhi	5000.00	Economic
001	Vaishnavi Adani	Banglore	Mumbai	2850.00	Economic
003	Praveen Kumar	Banglore	Mumbai	4700.00	Business
009	Anjana Nair	Chennai	Mumbai	3800.00	Economic
013	Lara Dutta	Chennai	Mumbai	3800.00	Economic
020	Sangeeta Naik	Delhi	Mumbai	4000.00	Economic
017	Parth Yaday	Delhi	Mumbai	4000.00	Economic
015	Rahul Dravid	Delhi	Mumbai	4000.00	Economic
011	Ram Gopal	Mumbai	Delhi	4500.00	Economic
005	Priya Randive	Mumbai	Delhi	4500.00	Economic
002	Mani Yadav	Mumbai	Delhi	4500.00	Economic
002	Mani Yadav	Banglore	Mumbai	4700.00	Business
003	Praveen Kumar	Delhi	Mumbai	4000.00	Economic
004	Ashwini Kangne	Mumbai	Chennai	3814.00	Economic
020	Sangeeta Naik	Mumbai	Chennai	3814.00	Economic
020	Sangeeta Naik	Banglore	Mumbai	2850.00	Economic
019	Dishant Mehta	Banglore	Mumbai	4700.00	Business
013	Lara Dutta	Banglore	Mumbai	2850.00	Economic

### **VIEW:**

# Create a table for customer who have booked ticket on 01-02-2023 and 02-02-2023

create view booking as select pnr\_no, c\_id, flight\_no, seat\_no, bookingdate from ticket\_booked where bookingdate between "2023-02-01" and "2023-02-02";

show tables;

## Select \* from booking;

```
mysql> select * from booking;
 PNR_NO | C_ID | Flight_no | seat_no | BOOKINGDATE
                  102 |
102 |
102 |
 900001 | 8002 |
                               1022 | 2023-02-02 00:00:00
 900002 | 8017 |
                                1021 | 2023-02-02 00:00:00
          8011
 900003
                                1023
                                       2023-02-02 00:00:00
 900004 | 8015 |
                       102
                                1024
                                       2023-02-02 00:00:00
 900008 | 8019 |
                       301
                                3011 | 2023-02-01 00:00:00
 900011 | 8015 |
                       301
                                3012
                                      2023-02-01 00:00:00
 900012 | 8008 |
                       301
                                3013
                                       2023-02-01 00:00:00
 900028 | 8020 |
                       302
                                3021 | 2023-02-01 00:00:00
 900030 | 8019 |
                                3022 | 2023-02-01 00:00:00
                       302
9 rows in set (0.01 sec)
```

# 2. create a view as Economic\_class for customer who had booked Economic class seats

create view Economic\_class as select ticket\_booked.c\_id
,ticket\_booked.flight\_no, customer.name, ticket\_booked.class from
ticket\_booked , customer where ticket\_booked.c\_id = customer.c\_id and class =
"Economic";

Select \* from economic class;

```
mysql> select * from economic_class;
 c_id | flight_no |
                     name
                                       class
                      Abhay Singh
 8006
               102
                                         Economic
 8002
               103
                     Mani Yadav
                                         Economic
 8022
               202
                      Shahid Khan
                                         Economic
 8015
               301
                      Rahul Dravid
                                         Economic
 8008
               301
                      Rama Gopal
                                         Economic
  8001
               302
                      Vaishnavi Adani
                                         Economic
  8009
               103
                      Anjana Nair
                                         Economic
                      Lara Dutta
 8013
               103
                                         Economic
 8020
               202
                      Sangeeta Naik
                                         Economic
 8017
               202
                      Parth Yadav
                                         Economic
 8015
               202
                      Rahul Dravid
                                         Economic
               101
 8011
                      Ram Gopal
                                         Economic
 8005
               101
                      Priya Randive
                                         Economic
 8002
               101
                      Mani Yadav
                                         Economic
 8003
               202
                      Praveen Kumar
                                         Economic
 8004
               102
                      Ashwini Kangne
                                         Economic
 8020
               102
                      Sangeeta Naik
                                         Economic
 8020
               302
                      Sangeeta Naik
                                         Economic
 8013
               302
                      Lara Dutta
                                         Economic
19 rows in set (0.01 sec)
mysql>
```

### **Stored Procedure:**

#### Seats available:

To check many how seats are available in flight.

```
CREATE DEFINER='root'@'localhost' PROCEDURE 'new_procedure'(L_Flight_no int, L_Date date)
```

**BEGIN** 

declare A int;

declare B int;

set A = (Select seat available from flight where flight no = L flight no);

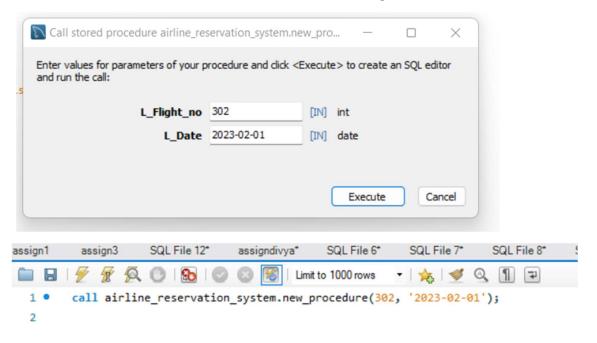
set B = (select count(\*) from ticket\_booked where flight\_no = L\_flight\_no and bookingdate = L\_date);

SELECT (A-B) AS seat available;

**END** 

## Example:

If we want to check available number of seats for flight no. 302 on 01-02-2023.





# Trigger:

If any Customer Cancelled ticket then their c\_id, PNR no and Cancellation date will directly inserted into Ticket cancelled table.

```
CREATE DEFINER=`root`@`localhost` TRIGGER `ticket_booked_AFTER_DELETE` AFTER DELETE ON `ticket_booked` FOR EACH ROW BEGIN insert into ticket_cancelled values (old.PNR_NO, old.c_id, now());

END
```

If customer no 8003 want to cancel ticket of flight no 202 on dt 04-02-2023

## Then

Delete from ticket\_booked where flight\_no = 202 and bookingdate= "2023-02-04";

```
      mysql> Delete from ticket_booked where flight_no = 202 and bookingdate = "2023-02-04";

      Query OK, 1 row affected (0.03 sec)

      mysql> show ticket_cancelled;

      ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that correspon

      mysql> select * from ticket_cancelled;

      +-----+

      | PNR_NO | C_ID | CancelledDate |

      +----+

      | 900025 | 8003 | 2023-01-28 23:17:13 |

      +-----+

      1 row in set (0.00 sec)
```