

# Flight DB

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## FLIGHT DATABASE

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### CUSTOMER

custid	cutname
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### FLIGHT

Flightid	FlightName	Flight Type	Source	Destination
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### BOOKING

Bookingid	FlightId	CustId	TravelClass	FlightCharge	Booking Date
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## Queries Used to CREATE and INSERT

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```
create table customer(custid int primary key, custname varchar(10));
create table flight(flightid int primary key, flightname
varchar(20),flighttype varchar(2),sourcee varchar(20), destination
varchar(20),Totalcharge int);
create table booking(bookingid int primary key, travelclass varchar(20),
flightcharge int, bookingdate date,flightid int foreign key references
flight, custid int foreign key references customer);

insert into customer values (1001,'Vikas');
insert into customer values (1002,'Simhan');
insert into customer values (1003,'Kishore');
insert into customer values (1004,'Aneesh');
insert into customer values (1005,'Chandan');

insert into flight values(2001, 'Air Asia', 'D', 'Bangalore' , '
Mumbai',0);
insert into flight values(2002, 'Indigo', 'D ',' Mumbai' , ' Chennai',0);
insert into flight values(2003, 'Jet airways', 'I' , 'Bangalore' ,
'Singapore',0);
```

```
insert into flight values(2004,' Air Asia', 'D ',' Kelara' ,
'Hydrabad',0);
insert into flight values(2005,' Vistara', 'I ',' Mumbai' , ' US',0);
insert into flight values(2006,' Goair',' D' , 'Chennai' , ' Delhi',0);
insert into flight values(2007,' Vistara',' I ', 'Bangalore' , 'United
States',0);

insert into booking values(3001,'Buisness',40000,'2020-12-
20',2002,1001);
insert into booking values(3002,'Economy',30000,'2020-04-19',2004,1003);
insert into booking values(3003,'Economy',30000,'2020-07-25',2001,1004);
insert into booking values(3004,'Premium Eco',4000,'2020-08-
21',2005,1004);
insert into booking values(3005,'Buisness',50000,'2020-05-
15',2007,1002);
insert into booking values(3006,'Firstclass',70000,'2020-07-
17',2006,1005);
```

## WEBSITE USED FOR MYSQL

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Link : <http://sqlfiddle.com/>

## Queries

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1. Write a query to Identify the customer(s) who have paid the overall total flight chareg less than the average flight charge of all bookings belonging to the travel class '**Buisness**'. Write a SQL query to display the id and the name of the identified customers.

```
select custid, custname from customer
where custid in
(select custid from booking
where flightcharge < (select avg(flightcharge) from booking where
travelclass = 'Buisness'));
```

custid	custname
1001	Vikas
1003	Kishore
1004	Aneesh

2. Create a view to display the id and name of the international flight(s) which are booked the maximum number of times.

```
select top 1 flightid, count(*) from booking
where flightid in
(select flightid from flight where flighttype = 'I')
group by flightid
order by count(*) desc;
```

flightid	count(*)
2005	2

3. Create a new entity that contains the **Totalflightcharge** collected wrt each flight and demonstrate trigger such that on new booking **Totalflightcharge** should be computed.

### STEP 1 ( Creating Entity )

```
create table totalflightcharge(charge int,flight id int);
```

### STEP 2 ( Applying trigger )

```
delimiter $$
create trigger Flightcharge_update
after insert on booking
for each row
BEGIN

DECLARE fcharge int;
DECLARE fid int;
```

```

set fcharge = (select flightcharge from booking
               where bookingid = new.bookingid);
set fid = (select flightid from booking
           where bookingid = new.bookingid);

if not exists (select flightid from totalflightcharge
               where flightid = fid)
then
insert into totalflightcharge values(fcharge,fid);

else
update totalflightcharge
set charge = charge + fcharge
where flightid = fid;

end if;
END$$

delimiter ;

```

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4. Demonstrate the working of procedure to display the id and name of the customer(s) who have paid the highest flight charge for the travel class economy.

```

select c.custid,c.custname from
customer c
where custid in
(select b.custid from booking b
where flightcharge in
(select max(flightcharge) from booking));

```

custid	custname
1005	Chandan

- 
5. Demonstrate the on Delete/Update cascade with simple query.

## STEP 1 :

Get the **foreign key constraint name** using the below query.

```
show create table booking; //Get the FK_ConstraintName
```

## STEP 2:

Drop the constraint from the attribute that has foreign key constraint.

Here in booking table :

- Flightid
- Custid

Has the foreign key constraint. We do this in order to add the cascade property to these attributes, as cascade is to be applied to Foreign keys. We cannot update the foreign keys to cascade using alter, here we drop the constraint instead of the whole attribute and reassign the constraint to them with the cascade property.

We can drop the constraint with the below query.

```
alter table booking  
drop constraint FK_ConstraintName;
```

## STEP 3:

We reassign the foreign key status to the attribute with the below query.

```
alter table booking  
add constraint FK_FlightID  
foreign key (flightid)  
references flight (flightid)  
on delete cascade;
```

---

## Table Before Delete

( Here flightid in booking is the foreign key referencing the flight table )

## Flight

flightid	flightname	flighttype	sourcee	destination
2001	Air Asia	D	Bangalore	Mumbai
2002	Indigo	D	Mumbai	Chennai
2003	Jet airways	I	Bangalore	Singapore
2004	Air Asia	D	Kelara	Hydrabad
2005	Vistara	I	Mumbai	US
2006	Goair	D	Chennai	Delhi
2007	Vistara	I	Bangalore	United States

## Booking

bookingid	travelclass	flightcharge	bookingdate	flightid	custid
3001	Buisness	40000	2020-12-20	2002	1001
3002	Economy	30000	2020-04-19	2004	1003
3003	Economy	30000	2020-07-25	2001	1004
3004	Premium Eco	4000	2020-08-21	2005	1004
3005	Buisness	50000	2020-05-15	2005	1002
3006	Firstclass	70000	2020-07-17	2006	1005

### STEP 4:

Delete a row from the table , having the foreign key of another table as the primary key, to demonstrate cascading.

```
delete from flight where flightid = 2002;
```

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## Table After Delete

( Here flightid in booking is the foreign key referencing the flight table )

## Flight

flightid	flightname	flighttype	sourcee	destination
2001	Air Asia	D	Bangalore	Mumbai
2003	Jet airways	I	Bangalore	Singapore
2004	Air Asia	D	Kelara	Hydrabad
2005	Vistara	I	Mumbai	US
2006	Goair	D	Chennai	Delhi
2007	Vistara	I	Bangalore	United States

## Booking

bookingid	travelclass	flightcharge	bookingdate	flightid	custid
3002	Economy	30000	2020-04-19	2004	1003
3003	Economy	30000	2020-07-25	2001	1004
3004	Premium Eco	4000	2020-08-21	2005	1004
3005	Buisness	50000	2020-05-15	2005	1002
3006	Firstclass	70000	2020-07-17	2006	1005

**Note that the row with Flightid = 2002 has been deleted from Flight table , and so is deleted from the bookign table as well. This helps ensure that there is no redundancy and maintain consistency in the database.**