

MySQL Workbench

Local Server

File Edit View Query Database Server Tools Scripting Help

Navigator

airlines*

SCHEMAS

Filter objects

airline

- Tables
 - aircraft
 - certified
 - employees
 - flights
- Views
- Stored Procedures
- Functions

banking

book_dealer

details

faculty_login

insurance

movie

order_processing

student_enrol

sys

Administration Schemas

Information

No object selected

```
1 • create database airline;
2 • use airline;
3 • create table FLIGHTS(flno int,flight_from varchar(20),flight_to varchar(20),distance int,departs timestamp,arrives timestamp,price int,primary key(flno));
4 • create table AIRCRAFT(aid int,aname varchar(20),cruisingrange int,primary key(aid));
5 • create table EMPLOYEES(eid int,ename varchar(20),salary int,primary key(eid));
6 • create table CERTIFIED(eid int,aid int,primary key(eid,aid),foreign key(eid) references employees(eid),
7 • foreign key(aid) references aircraft(aid));
8 • insert into FLIGHTS values(101,'BANGALORE','DELHI',2500,'2007-06-12 07:15:33','2007-06-12 14:11:31',5000);
9 • insert into FLIGHTS values(102,'BANGALORE','LUCKNOW',3000,'2007-06-12 08:10:33','2007-06-12 15:12:31',6000);
10 • insert into FLIGHTS values(103,'MADISON','NEWYORK',500,'2007-06-12 07:10:33','2007-06-12 17:12:35',3000);
11 • insert into FLIGHTS values(107,'BANGALORE','FRANKFURT',8000,'2007-06-12 07:10:33','2007-06-12 16:15:31',60000);
12 • insert into FLIGHTS values(104,'BANGALORE','FRANKFURT',8500,'2007-06-12 07:10:33','2007-06-12 19:15:31',75000);
13 • insert into FLIGHTS values(105,'MADISON','NEWYORK',3400,'2007-06-12 05:10:33','2007-06-12 15:15:33',7000);
14 • commit;
15 • select*from FLIGHTS;
16 • insert into AIRCRAFT values(101,'FLYAIR',3000);
17 • insert into AIRCRAFT values(102,'BOEING',900);
18 • insert into AIRCRAFT values(103,'SKYJET',800);
19 • insert into AIRCRAFT values(104,'SKYLINE',10000);
20 • insert into AIRCRAFT values(105,'BOEING',3500);
21 • insert into AIRCRAFT values(106,'AIRGO',1500);
22 • insert into AIRCRAFT values(107,'AIRGO',120000);
23 • commit;
24 • select*from AIRCRAFT;
25 • insert into EMPLOYEES values(1101,'SURESH',50000);
26 • insert into EMPLOYEES values(1102,'SHIEZA',100000);
27 • insert into EMPLOYEES values(1103,'NEELIMA',150000);
28 • insert into EMPLOYEES values(1104,'EKANTH',90000);
29 • insert into EMPLOYEES values(1105,'SUMUKHI',40000);
```

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Navigator

airlines*

Limit to 1000 rows

SCHEMAS

Filter objects

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banking

book_dealer

details

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student_enrol

sys

Administration Schemas

Information

No object selected

```
28 • insert into EMPLOYEES values(1104,'EKANTH',90000);
29 • insert into EMPLOYEES values(1105,'SUMUKHI',40000);
30 • insert into EMPLOYEES values(1106,'RAJESH',60000);
31 • insert into EMPLOYEES values(1107,'KOYAL',90000);
32 • commit;
33 • select*from EMPLOYEES;
34 • insert into CERTIFIED values('1101',106);
35 • insert into CERTIFIED values('1101',105);
36 • insert into CERTIFIED values('1102',104);
37 • insert into CERTIFIED values('1103',104);
38 • insert into CERTIFIED values('1104',104);
39 • insert into CERTIFIED values('1102',107);
40 • insert into CERTIFIED values('1103',107);
41 • insert into CERTIFIED values('1104',107);
42 • insert into CERTIFIED values('1102',101);
43 • insert into CERTIFIED values('1103',105);
44 • insert into CERTIFIED values('1104',105);
45 • insert into CERTIFIED values('1105',103);
46 • commit;
47 • select*from CERTIFIED;
48
49 • select distinct a.aname from aircraft a where a.aid in(select c.aid from certified c,employees e where c.eid=e.eid and not exists
50 (select* from employees s where s.eid=e.eid and s.salary<80000));
51
52 • select c.eid,max(a.cruisingrange) from certified c,aircraft a where c.aid=a.aid group by c.eid having count(*)=3;
53
54 • select distinct e.ename from employees e where e.salary<(select min(f.price) from flights f where f.flight_from ='BANGALORE' and f.flight_to ='FRANKFURT');
55
56 • select n.name,n.AvgSalary from(select a.aid,a.aname as name,avg(e.salary) as avgsalary from aircraft a,certified c,employees e where a.aid=c.aid and c.eid=e.eid
```

```
53
54 • select distinct e.ename from employees e where e.salary<(select min(f.price) from flights f where f.flight_from='BANGALORE' and f.flight_to='FRANKFURT');
55
56 • select n.name,n.AvgSalary from(select a.aid,a.aname as name,avg(e.salary) as avgsalary from aircraft a,certified c,employees e where a.aid=c.aid and c.eid=e.eid
57 and a.cruisingrange>1000 group by a.aid,a.aname) as n;
58
59 • select distinct e.ename from employees e ,certified c,aircraft a where e.eid=c.eid and c.aid=a.aid and a.aname='BOEING';
60
61 • select a.aid from aircraft a where a.cruisingrange >(select min(f.distance)from flights f where f.flight_from='BANGALORE' and flight_to='DELHI');
62
63 • select f.departs from flights f where f.flno in ((select ff.flno from flights ff where ff.flight_from='MADISON' and ff.flight_to='NEWYORK' and extract(hour from ff.arrives)<18)
64 union
65 (select ff.flno from flights ff,flights f1 where ff.flight_from='MADISON' and ff.flight_to <>'NEWYORK' and ff.flight_to=f1.flight_from and f1.flight_to='NEWYORK'
66 and f1.departs>ff.arrives and extract(hour from f1.arrives)<18)
67 union
68 (select ff.flno from flights ff,flights f1,flights f2 where ff.flight_from='MADISON'
69 and ff.flight_to=f1.flight_from
70 and f1.flight_to=f2.flight_from
71 and f2.flight_to='NEWYORK'
72 and ff.flight_to <>'NEWYORK'
73 and f1.flight_to <>'NEWYORK'
74 and f1.departs >ff.arrives
75 and f2.departs>f1.arrives
76 and extract(hour from f2.arrives)<18));
77
78 • select e.ename,e.salary from employees e where e.eid not in(select distinct c.eid from certified c)
79 and e.salary>(select avg(ee.salary) from employees ee where ee.eid in (select distinct cc.eid from certified cc));
80
81
```




Navigator

SCHEMAS

Filter objects

- airline
 - Tables
 - aircraft
 - certified
 - employees
 - flights
 - Views
 - Stored Procedures
 - Functions
- banking
- book_dealer
- details
- faculty_login
- insurance
- movie
- order_processing
- student_enrol
- sys

Administration Schemas

Information

No object
selected

airlines x

Limit to 1000 rows

```
14 • commit;
15 • select*from FLIGHTS;
16 • insert into AIRCRAFT values(101,'FLYAIR',3000);
17 • insert into AIRCRAFT values(102,'BOEING',900);
18 • insert into AIRCRAFT values(103,'SKYJET',800);
```

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:

	fno	flight_from	flight_to	distance	departs	arrives	price
▶	101	BANGALORE	DELHI	2500	2007-06-12 07:15:33	2007-06-12 14:11:31	5000
	102	BANGALORE	LUCKNOW	3000	2007-06-12 08:10:33	2007-06-12 15:12:31	6000
	103	MADISON	NEWYORK	500	2007-06-12 07:10:33	2007-06-12 17:12:35	3000
	104	BANGALORE	FRANKFURT	8500	2007-06-12 07:10:33	2007-06-12 19:15:31	75000
	105	MADISON	NEWYORK	3400	2007-06-12 05:10:33	2007-06-12 15:15:33	7000
	107	BANGALORE	FRANKFURT	8000	2007-06-12 07:10:33	2007-06-12 16:15:31	60000
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

FLIGHTS 45 x

Apply

```
22 • insert into AIRCRAFT values(107, 'AIRGO', 120000);
23 • commit;
24 • select*from AIRCRAFT;
25 • insert into EMPLOYEES values(1101, 'SURESH', 50000);
26 • insert into EMPLOYEES values(1102, 'SHIEZA', 100000);
```

	aid	aname	cruisingrange
▶	101	FLYAIR	3000
	102	BOEING	900
	103	SKYJET	800
	104	SKYLINE	10000
	105	BOEING	3500
	106	AIRGO	1500
	107	AIRGO	120000
*	NULL	NULL	NULL

Local Server x

File Edit View Query Database Server Tools Scripting Help

Navigator

airlines*

Limit to 1000 rows

```
30 • insert into EMPLOYEES values(1106,'RAJESH',60000);
31 • insert into EMPLOYEES values(1107,'KOYAL',90000);
32 • commit;
33 • select*from EMPLOYEES;
34 • insert into CERTIFIED values('1101',106);
```

Result Grid

Filter Rows:

Edit: Export/Import: Wrap Cell Content:

	eid	ename	salary
▶	1101	SURESH	50000
	1102	SHIEZA	100000
	1103	NEELIMA	150000
	1104	EKANTH	90000
	1105	SUMUKHI	40000
	1106	RAJESH	60000
	1107	KOYAL	90000
*	NULL	NULL	NULL

Administration Schemas

The screenshot shows a database management tool interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. Below the menu is a toolbar with various icons. The left sidebar shows a 'SCHEMAS' tree with a search filter 'Filter objects'. Under the 'airline' schema, there are folders for 'Tables' (containing aircraft, certified, employees, flights) and 'Views'. Below these are 'Stored Procedures' and 'Functions'. The main area is a SQL editor with a query window titled 'airlines*'. The query contains the following SQL statements:

```

44 • insert into CERTIFIED values('1104',105);
45 • insert into CERTIFIED values('1105',103);
46 • commit;
47 • select*from CERTIFIED;
48

```

Below the SQL editor is a 'Result Grid' section. It includes a 'Filter Rows' input field, an 'Edit' button, and an 'Export/Import' button. The result grid displays the following data:

eid	aid
1102	101
1105	103
1102	104
1103	104
1104	104
1101	105
1103	105
1104	105
1101	106
1102	107
1103	107
1104	107
NULL	NULL



SCHEMAS

Filter objects

- airline
 - Tables
 - aircraft
 - certified
 - employees
 - flights
 - Views
 - Stored Procedures
 - Functions
- banking
- book_dealer
- details
- faculty_login
- insurance
- movie
- order_processing
- student_enrol
- sys

airlines x



Limit to 1000 rows

47 • select*from CERTIFIED;

48

```
49 • select distinct a.aname from aircraft a where a.aid in(select c.aid from certified c,employees e where c.eid=e.eid and not exists
50 (select* from employees s where s.eid=e.eid and s.salary<80000));
51
```

Result Grid Filter Rows: Export: Wrap Cell Content:

	aname
▶	FLYAIR
	SKYLINE
	BOEING
	AIRGO



SCHEMAS

Filter objects

- airline
 - Tables
 - aircraft
 - certified
 - employees
 - flights
 - Views
 - Stored Procedures
 - Functions
- banking
- book_dealer
- details
- faculty_login
- insurance
- movie
- order_processing
- student_enrol
- sys

airlines*

Limit to 1000 rows

```
49 • select distinct a.aname from aircraft a where a.aid in(select c.aid from certified c,employees e where c.eid=e.eid and not exists
50 (select* from employees s where s.eid=e.eid and s.salary<80000));
51
52 • select c.eid,max(a.cruisingrange) from certified c,aircraft a where c.aid=a.aid group by c.eid having count(*)=3;
53
```

Result Grid Filter Rows: Export: Wrap Cell Content:

	eid	max(a.cruisingrange)
▶	1102	120000
	1103	120000
	1104	120000



SCHEMAS

Filter objects

- airline
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 - Functions
- banking
- book_dealer
- details
- faculty_login
- insurance
- movie
- order_processing
- student_enrol
- sys

airlines x



51

52 • `select c.eid,max(a.cruisingrange) from certified c,aircraft a where c.aid=a.aid group by c.eid having count(*)=3;`

53

54 • `select distinct e.ename from employees e where e.salary<(select min(f.price) from flights f where f.flight_from ='BANGALORE' and f.flight_to ='FRANKFURT');`

55

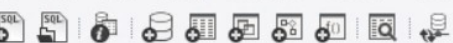
Result Grid

	ename
▶	SURESH
	SUMUKHI

Filter Rows:

Export:

Wrap Cell Content: [F12](#)



Navigator

CHEMAS

Filter objects

airline

Tables

aircraft
certified
employees
flights

Views

Stored Procedures

Functions

banking
book_dealer
details
faculty_login
insurance
movie
order_processing
student_enrol
sys

airlines x



Limit to 1000 rows

```
54 • select distinct e.name from employees e where e.salary < (select min(f.price) from flights f where f.flight_from = 'BANGALORE' and f.flight_to = 'FRANKFURT');  
55  
56 • select n.name, n.AvgSalary from (select a.aid, a.name as name, avg(e.salary) as avgSalary from aircraft a, certified c, employees e where a.aid = c.aid and c.eid = e.eid  
57 and a.cruisingrange > 1000 group by a.aid, a.name) as n;  
58
```

Result Grid

Filter Rows: Export: Wrap Cell Content:

	name	AvgSalary
▶	FLYAIR	100000.0000
	SKYLINE	113333.3333
	BOEING	96666.6667
	AIRGO	50000.0000
	AIRGO	113333.3333

MySQL Workbench

Local Server x

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airlines*

SCHEMAS

Filter objects

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- Functions

banking

book_dealer

details

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sys

55

56 • select n.name,n.AvgSalary from(select a.aid,a.aname as name,avg(e.salary) as avgsalary from aircraft a,certified c,employees e where a.aid=c.aid and c.eid=e.eid

57 and a.cruisingrange>1000 group by a.aid,a.aname) as n;

58

59 • select distinct e.ename from employees e ,certified c,aircraft a where e.eid=c.eid and c.aid=a.aid and a.aname = 'BOEING';

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

ename
SURESH
NEELIMA
EKANTH



SCHEMAS

Filter objects

- airline
 - Tables
 - aircraft
 - certified
 - employees
 - flights
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 - Functions
- banking
- book_dealer
- details
- faculty_login
- insurance
- movie
- order_processing
- student_enrol
- sys

airlines*



Limit to 1000 rows

```
57 and a.cruisingrange>1000 group by a.aid,a.aname) as n;  
58  
59 • select distinct e.ename from employees e ,certified c,aircraft a where e.eid=c.eid and c.aid=a.aid and a.aname ='BOEING';  
60  
61 • select a.aid from aircraft a where a.cruisingrange >(select min(f.distance)from flights f where f.flight_from='BANGALORE' and flight_to='DELHI');
```

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:

	aid
▶	101
	104
	105
	107
*	NULL



SCHEMAS

Filter objects

- airline
 - Tables
 - aircraft
 - certified
 - employees
 - flights
 - Views
 - Stored Procedures
 - Functions
- banking
- book_dealer
- details
- faculty_login
- insurance
- movie
- order_processing
- student_enrol
- sys

airlines x



Limit to 1000 rows

62

```
63 • select f.departs from flights f where f.flno in ((select ff.flno from flights ff where ff.flight_from='MADISON' and ff.flight_to='NEWYORK' and extract(hour from ff.arrives)<18)
64 union
65 (select ff.flno from flights ff,flights f1 where ff.flight_from='MADISON' and ff.flight_to <>'NEWYORK' and ff.flight_to=f1.flight_from and f1.flight_to='NEWYORK'
66 and f1.departs>ff.arrives and extract(hour from f1.arrives)<18)
67 union
68 (select ff.flno from flights ff,flights f1,flights f2 where ff.flight_from='MADISON'
69 and ff.flight_to=f1.flight_from
70 and f1.flight_to=f2.flight_from
71 and f2.flight_to='NEWYORK'
72 and ff.flight_to <> 'NEWYORK'
73 and f1.flight_to <> 'NEWYORK'
74 and f1.departs >ff.arrives
75 and f2.departs>f1.arrives
76 and extract(hour from f2.arrives)<18));|
77
```

<

Result Grid Filter Rows: Export: Wrap Cell Content: [F](#)

departs
2007-06-12 07:10:33
2007-06-12 05:10:33



Navigator

SCHEMAS

Filter objects

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 - aircraft
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 - Stored Procedures
 - Functions
- banking
- book_dealer
- details
- faculty_login
- insurance
- movie
- order_processing
- student_enrol
- sys

airlines*



```
77
78 • select e.ename,e.salary from employees e where e.eid not in(select distinct c.eid from certified c)
79 and e.salary>(select avg(ee.salary) from employees ee where ee.eid in (select distinct cc.eid from certified cc));
80
81
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	ename	salary
▶	KOYAL	90000