

```
Setting environment for using XAMPP for Windows.
rauf@RAUFBISWAS c:\xampp
# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.32-MariaDB mariadb.org binary distribution

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]>
```

Command:

```
mysql -u root -p
```

```
show databases;
```

```
create database l3;
```

```
use l3;
```

```
create table employee
(
  employee_id char(10),
  first_name varchar(20),
  last_name varchar(20),
  email varchar(60),
  phone_number char(14),
  hire_date date,
  job_id char(10),
  salary int,
  commission_pct decimal(5,3),
  manager_id char(10),
```

```
department_id char(10)
);
```

```
INSERT INTO employee VALUES
```

```
('EMP001', 'Ani', 'Otwell', 'aniot@laravel.com', '1234569360',
'2015-06-10', 'JOB002', 30000, 2.000, 'MNG001', 'DPT003'),
('EMP002', 'Ryan', 'Rauf', 'rauf@nodejs.org', '87321633632',
'2021-04-22', 'JOB008', 20000, 0.000, 'MNG002', 'DPT001'),
('EMP003', 'Rafi', 'Resig', 'john@jquery.com', '6546546543',
'2022-06-12', 'JOB018', 5000, 0.002, 'MNG002', 'DPT005'),
('EMP004', 'Khaled', 'Eich', 'eich@javascript.com',
'43278939570', '2021-05-07', 'JOB009', 30000, 0.000, 'MNG001',
'DPT002'),
('EMP005', 'Linus', 'Biswas', 'linus@linux.com', '9879879876',
'2021-08-08', 'JOB015', 2000, 0.050, 'MNG002', 'DPT006'),
('EMP006', 'Evan', 'Me', 'mEe@vuejs.org', '4321876530', '2016-06-
11', 'JOB003', 40000, 8.245, 'MNG002', 'DPT005'),
('EMP007', 'Anymos', 'Lerdorf', 'lerdorf@php.net', '9876637927',
'2020-06-03', 'JOB006', 25000, 0.852, 'MNG001', 'DPT001'),
('EMP008', 'Guido', 'Vanule', 'guido@python.org', '88765438827',
'2020-07-18', 'JOB007', 25000, 1.000, 'MNG002', 'DPT001'),
('EMP009', 'Madroni', 'Holovaty', 'madroni@djangoproject.com',
'12269570724', '2019-05-07', 'JOB004', 50000, 4.205, 'MNG001',
'DPT002'),
('EMP010', 'Simpson', 'Willison', 'simpson@djangoproject.com',
'87432864615', '2015-04-30', 'JOB001', 50000, 12.500, 'MNG002',
'DPT001'),
('EMP011', 'James', 'Gosl', 'james@java.com', '7896549491',
'2020-05-18', 'JOB005', 7000, 0.000, 'MNG002', 'DPT004'),
```

```
('EMP012', 'Kenoi', 'Thomps', 'kenoi@unix.com', '1231231234',  
'2021-06-18', 'JOB013', 7000, 0.023, 'MNG002', 'DPT005'),  
( 'EMP013', 'Roddil', 'Johnson', 'roddil@spring.io', '4543601744',  
'2021-05-18', 'JOB012', 2000, 0.000, 'MNG002', 'DPT003'),  
( 'EMP014', 'Anderson', 'Hejls', 'anderson@csharp.com',  
'7657657654', '2022-05-18', 'JOB017', 1200, 0.230, 'MNG002',  
'DPT007'),  
( 'EMP015', 'Faltu', 'Nakami', 'nakami@blockchain.com',  
'98165630488', '2021-05-10', 'JOB011', 1500, 0.234, 'MNG001',  
'DPT004'),  
( 'EMP016', 'Dennis', 'Rich', 'dennis69@unix.com', '4324324324',  
'2021-08-08', 'JOB014', 1000, 0.023, 'MNG002', 'DPT007'),  
( 'EMP017', 'Bjarne', 'Poor', 'bjarne@cpp.com', '8768768765',  
'2021-12-25', 'JOB016', 1500, 0.500, 'MNG002', 'DPT007'),  
( 'EMP018', 'Richie', 'Hockey', 'rich@clojure.com', '5435435432',  
'2023-10-08', 'JOB019', 1000, 0.009, 'MNG002', 'DPT007'),  
( 'EMP019', 'Yukini', 'Natonumi', 'yukinato690@gmail.com',  
'98488840488', '2020-12-10', 'JOB010', 10000, 0.234, 'MNG001',  
'DPT005'),  
( 'EMP020', 'Marga', 'Ton', 'marga@apollo.com', '7767767768',  
'2023-11-17', 'JOB020', 35000, 0.001, 'MNG002', 'DPT007');
```

- `select * from employee;`

```
MariaDB [l3]> select * from employee;
```

employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	commission_pct	manager_id	department_id
EMP001	Ani	Otwell	aniot@laravel.com	1234569360	2015-06-10	JOB002	30000	2.000	MNG001	DPT003
EMP002	Ryan	Rauf	rauf@nodejs.org	87321633632	2021-04-22	JOB008	20000	0.000	MNG002	DPT001
EMP003	Rafi	Resig	john@jquery.com	6546546543	2022-06-12	JOB018	5000	0.002	MNG002	DPT005
EMP004	Khaled	Eich	eich@javascript.com	43278939570	2021-05-07	JOB009	30000	0.000	MNG001	DPT002
EMP005	Linus	Biswas	linus@linux.com	9879879876	2021-08-08	JOB015	2000	0.050	MNG002	DPT006
EMP006	Evan	Me	mEe@vuejs.org	4321876530	2016-06-11	JOB003	40000	8.245	MNG002	DPT005
EMP007	Anyos	Lerdorf	lerdorf@php.net	9876637927	2020-06-03	JOB006	25000	0.852	MNG001	DPT001
EMP008	Guido	Vanule	guido@python.org	88765438827	2020-07-18	JOB007	25000	1.000	MNG002	DPT001
EMP009	Madroni	Holovaty	madroni@django.org	12269570724	2019-05-07	JOB004	50000	4.205	MNG001	DPT002
EMP010	Simpson	Willison	simpson@django.org	87432864615	2015-04-30	JOB001	50000	12.500	MNG002	DPT001
EMP011	James	Gosl	james@java.com	7896549491	2020-05-18	JOB005	7000	0.000	MNG002	DPT004
EMP012	Kenoi	Thomps	kenoi@unix.com	1231231234	2021-06-18	JOB013	7000	0.023	MNG002	DPT005
EMP013	Roddil	Johnson	roddil@spring.io	4543601744	2021-05-18	JOB012	2000	0.000	MNG002	DPT003
EMP014	Anderson	Hejls	anderson@cssharp.com	7657657654	2022-05-18	JOB017	1200	0.230	MNG002	DPT007
EMP015	Faltu	Nakami	nakami@blockchain.co	98165630488	2021-05-10	JOB011	1500	0.234	MNG001	DPT004
EMP016	Dennis	Rich	dennis@unix.com	4324324324	2021-08-08	JOB014	1000	0.023	MNG002	DPT007
EMP017	Bjarne	Poor	bjarne@cpp.com	8768768765	2021-12-25	JOB016	1500	0.500	MNG002	DPT007
EMP018	Richie	Hockey	rich@clojure.com	5435435432	2023-10-08	JOB019	1000	0.009	MNG002	DPT007
EMP019	Yukini	Natonumi	yukinato690@gmail.co	9848880488	2020-12-10	JOB010	10000	0.234	MNG001	DPT005
EMP020	Marga	Ton	marga@apollo.com	7767767768	2023-11-17	JOB020	35000	0.001	MNG002	DPT007

20 rows in set (0.001 sec)

Answers of the queries:

- `select first_name, last_name, email, phone_number, hire_date, department_id from employee where hire_date = (select max(hire_date) from employee);`

```
MariaDB [l3]> select first_name, last_name, email, phone_number, hire_date, department_id from employee where hire_date = (select max(hire_date) from employee);
```

first_name	last_name	email	phone_number	hire_date	department_id
Marga	Ton	marga@apollo.com	7767767768	2023-11-17	DPT007

1 row in set (0.055 sec)

- `select first_name, last_name, employee_id, phone_number, salary, department_id from employee e1 where salary = (select min(salary) from employee e2 where e1.department_id = e2.department_id);`

```
MariaDB [l3]> select first_name, last_name, employee_id, phone_number, salary, department_id from employee e1 where salary = (select min(salary) from employee e2 where e1.department_id = e2.department_id);
```

first_name	last_name	employee_id	phone_number	salary	department_id
Ryan	Rauf	EMP002	87321633632	20000	DPT001
Rafi	Resig	EMP003	6546546543	5000	DPT005
Khaled	Eich	EMP004	43278939570	30000	DPT002
Linus	Biswas	EMP005	9879879876	2000	DPT006
Roddil	Johnson	EMP013	4543601744	2000	DPT003
Faltu	Nakami	EMP015	98165630488	1500	DPT004
Dennis	Rich	EMP016	4324324324	1000	DPT007
Richie	Hockey	EMP018	5435435432	1000	DPT007

8 rows in set (0.001 sec)

- `select first_name, last_name, employee_id, commission_pct, department_id from employee where department_id = 'dpt007' and commission_pct < all(select min(commission_pct) from employee where department_id = 'dpt005');`

```
MariaDB [l3]> select first_name, last_name, employee_id, commission_pct, department_id from employee where department_id = 'dpt007' and commission_pct < all(select min(commission_pct) from employee where department_id = 'dpt005');
```

first_name	last_name	employee_id	commission_pct	department_id
Marga	Ton	EMP020	0.001	DPT007

1 row in set (0.007 sec)

- select department_id, count(*) from employee group by department_id having max(salary) <= 30000;

```
MariaDB [l3]> select department_id, count(*) from employee group by department_id having max(salary) <= 30000;
```

department_id	count(*)
DPT003	2
DPT004	2
DPT006	1

3 rows in set (0.001 sec)

- select department_id, job_id, commission_pct from employee e1 where commission_pct < (select max(commission_pct) from employee e2 where e1.department_id = e2.department_id and e1.commission_pct < e2.commission_pct);

```
MariaDB [l3]> select department_id, job_id, commission_pct from employee e1 where commission_pct < ( select max(commission_pct) from employee e2 where e1.department_id = e2.department_id and e1.commission_pct < e2.commission_pct );
```

department_id	job_id	commission_pct
DPT001	JOB008	0.000
DPT005	JOB018	0.002
DPT002	JOB009	0.000
DPT001	JOB006	0.852
DPT001	JOB007	1.000
DPT004	JOB005	0.000
DPT005	JOB013	0.023
DPT003	JOB012	0.000
DPT007	JOB017	0.230
DPT007	JOB014	0.023
DPT007	JOB019	0.000
DPT005	JOB010	0.234
DPT007	JOB020	0.001

13 rows in set (0.001 sec)

- select manager_id from employee group by manager_id having min(salary) >= 3500;

```
MariaDB [l3]> select manager_id from employee group by manager_id having min(salary) >= 3500;
```

Empty set (0.001 sec)

- select first_name, last_name, employee_id, email, salary, department_id and commission_pct from employee e1 where commission_pct = (select min(commission_pct) from employee e2 where e1.manager_id = e2.manager_id);

```
MariaDB [l3]> select first_name, last_name, employee_id, email, salary, department_id and commission_pct from employee e1 where commission_pct = (select min(commission_pct) from employee e2 where e1.manager_id = e2.manager_id);
```

first_name	last_name	employee_id	email	salary	department_id and commission_pct
Ryan	Rauf	EMP002	rauf@nodejs.org	20000	0
Khaleed	Eich	EMP004	eich@javascript.com	30000	0
James	Gosl	EMP011	james@java.com	7000	0
Roddil	Johnson	EMP013	roddil@spring.io	2000	0

4 rows in set, 4 warnings (0.001 sec)