

1. vaihe

```
mysql> CREATE TABLE owner
-> (
-> first_name varchar(25),
-> last_name varchar(25),
-> address varchar(255),
-> ownerID int PRIMARY KEY AUTO_INCREMENT
-> );
```

Query OK, 0 rows affected (0.03 sec)

```
mysql> DESC owner;
```

Field	Type	Null	Key	Default	Extra
first_name	varchar(25)	YES		NULL	
last_name	varchar(25)	YES		NULL	
address	varchar(255)	YES		NULL	
ownerID	int	NO	PRI	NULL	auto_increment

4 rows in set (0.01 sec)

2. vaihe

```
mysql> ALTER TABLE pet DROP COLUMN owner;
```

Query OK, 0 rows affected (0.04 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE pet ADD COLUMN petID PRIMARY KEY AUTO_INCREMENT;
```

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'PRIMARY KEY AUTO_INCREMENT' at line 1

```
mysql> ALTER TABLE pet ADD COLUMN petID INT PRIMARY KEY AUTO_INCREMENT;
```

Query OK, 0 rows affected (0.06 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE pet ADD COLUMN ownerID INT;
```

Query OK, 0 rows affected (0.04 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE pet ADD CONSTRAINT FOREIGN KEY(ownerID) REFERENCES owner(ownerID);
```

Query OK, 8 rows affected (0.05 sec)

Records: 8 Duplicates: 0 Warnings: 0

```
mysql> DESC pet;
```

Field	Type	Null	Key	Default	Extra
name	varchar(20)	YES		NULL	
species	varchar(20)	YES		NULL	
sex	char(1)	YES		NULL	
birth	date	YES		NULL	
death	date	YES		NULL	
petID	int	NO	PRI	NULL	auto_increment
ownerID	int	YES	MUL	NULL	

7 rows in set (0.00 sec)

3. vaihe

```
mysql> INSERT INTO owner VALUES ('Harold','Lloyd','Someaddress 1',NULL);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO owner VALUES ('Gwen','Stefani','Someaddress 2',NULL);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO owner VALUES ('Benny','Hill','Someaddress 3',NULL);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO owner VALUES ('Diane','Keaton','Someaddress 4',NULL);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM owner;
+-----+-----+-----+-----+
| first_name | last_name | address      | ownerID |
+-----+-----+-----+-----+
| Harold     | Lloyd    | Someaddress 1 | 1       |
| Gwen       | Stefani  | Someaddress 2 | 2       |
| Benny      | Hill     | Someaddress 3 | 3       |
| Diane      | Keaton   | Someaddress 4 | 4       |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

4. vaihe

```
mysql> UPDATE pet SET ownerID=1 WHERE name='Fluffy';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE pet SET ownerID=3 WHERE name='Claws';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE pet SET ownerID=1 WHERE name='Buffy';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE pet SET ownerID=3 WHERE name='Fang';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE pet SET ownerID=2 WHERE name='Claws';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE pet SET ownerID=4 WHERE name='Bowser';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE pet SET ownerID=2 WHERE name='Chirpy' OR name='Whistler';
Query OK, 2 rows affected (0.01 sec)
Rows matched: 2  Changed: 2  Warnings: 0

mysql> UPDATE pet SET ownerID=3 WHERE name='Slim';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM pet;
+-----+-----+-----+-----+-----+-----+-----+
| name    | species | sex | birth      | death      | petID | ownerID |
+-----+-----+-----+-----+-----+-----+-----+
| Fluffy  | cat     | f   | 1993-02-04 | NULL       | 1      | 1       |
| Claws   | cat     | m   | 1994-03-17 | NULL       | 2      | 2       |
| Buffy   | dog     | f   | 1989-05-13 | NULL       | 3      | 1       |
| Fang    | dog     | m   | 1990-08-27 | NULL       | 4      | 3       |
| Bowser  | dog     | m   | 1989-08-31 | 1995-07-29 | 5      | 4       |
| Chirpy  | bird    | f   | 1998-09-11 | 2000-09-15 | 6      | 2       |
| Whistler | bird    | NULL | 1997-12-09 | NULL       | 7      | 2       |
| Slim    | snake   | m   | 1996-04-29 | NULL       | 8      | 3       |
+-----+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

5. vaihe

```
mysql> SELECT * FROM owner JOIN pet ON owner.ownerID = pet.ownerID;
```

first_name	last_name	address	ownerID	name	species	sex	birth	death	petID	ownerID
Harold	Lloyd	Someaddress 1	1	Fluffy	cat	f	1993-02-04	NULL	1	1
Harold	Lloyd	Someaddress 1	1	Buffy	dog	f	1989-05-13	NULL	3	1
Gwen	Stefani	Someaddress 2	2	Claws	cat	m	1994-03-17	NULL	2	2
Gwen	Stefani	Someaddress 2	2	Chirpy	bird	f	1998-09-11	2000-09-15	6	2
Gwen	Stefani	Someaddress 2	2	Whistler	bird	NULL	1997-12-09	NULL	7	2
Benny	Hill	Someaddress 3	3	Fang	dog	m	1990-08-27	NULL	4	3
Benny	Hill	Someaddress 3	3	Slim	snake	m	1996-04-29	NULL	8	3
Diane	Keaton	Someaddress 4	4	Bowser	dog	m	1989-08-31	1995-07-29	5	4

8 rows in set (0.00 sec)

6. vaihe

```
mysql> SELECT name,species FROM pet JOIN owner ON pet.ownerID = owner.ownerID WHERE first_name='Harold';
```

name	species
Fluffy	cat
Buffy	dog

2 rows in set (0.00 sec)