



# Databases with MySQL

## Exercises

### *SQL - DDL (Solutions)*

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1. Use the following database design from previous normalization exercises to create the database "Vet" in SQL. Use *MYSQL Workbench* to execute the SQL commands.

a.

**Pet** [pet\_id, pet\_name, pet\_type\_id, pet\_birth\_date, owner\_id]

**Pet\_Visit** [ pet\_id, visitdate, procedure no]

**Procedure1** [ procedure no, procedure\_name ]

**Owner1** [owner\_id, owner\_name]

**Pet\_type** [pet type id, pet\_type\_description]

```
CREATE DATABASE VET;  
USE VET;
```

```
CREATE TABLE OWNER1  
(OWNER_ID INT(4) PRIMARY KEY AUTO_INCREMENT,  
OWNER_NAME VARCHAR(30) NOT NULL);
```

```
CREATE TABLE  
PET_TYPE (PET_TYPE_ID INT(4) PRIMARY KEY AUTO_INCREMENT,  
PET_TYPE_DESCRIPTION VARCHAR(30) NOT NULL);
```

```
CREATE TABLE PET  
(PET_ID INT(4) PRIMARY KEY AUTO_INCREMENT,  
PET_NAME VARCHAR(15) NOT NULL,  
PET_TYPE_ID INT(4) ,  
PET_BIRTH_DATE DATE,  
OWNER_ID INT(4),  
FOREIGN KEY (PET_TYPE_ID) REFERENCES PET_TYPE (PET_TYPE_ID),  
FOREIGN KEY (OWNER_ID) REFERENCES OWNER1(OWNER_ID));
```

```
CREATE TABLE PROCEDURE1  
(PROCEDURE_NO INT(4) PRIMARY KEY AUTO_INCREMENT,
```



```
PROCEDURE_NAME VARCHAR(30) NOT NULL);
```

```
CREATE TABLE PET_VISIT  
(PET_ID INT(4),  
VISITDATE DATE,  
PROCEDURE_NO INT(4),  
PRIMARY KEY(PET_ID, VISITDATE, PROCEDURE_NO),  
FOREIGN KEY (PET_ID) REFERENCES PET (PET_ID),  
FOREIGN KEY (PROCEDURE_NO) REFERENCES  
PROCEDURE1 (PROCEDURE_NO));
```

**b.**

```
Invoice [invoice_no, invoice_date, owner_id]
```

```
Invoice_pet_procedure [ invoice_no, pet_id, , procedure_id,  
amount]
```

```
Pet [ pet_id, pet_name ]
```

```
Procedure1 [procedure_id, procedure_name]
```

```
Owner1 [owner_id, owner_name, owner_addr]
```

```
ALTER TABLE OWNER1  
ADD (OWNER_ADDR VARCHAR(45));
```

```
CREATE TABLE INVOICE  
(INVOICE_NO INT(8) AUTO_INCREMENT PRIMARY KEY,  
INVOICE_DATE DATE,  
OWNER_ID INT(4),  
FOREIGN KEY (OWNER_ID) REFERENCES OWNER1 (OWNER_ID));
```



```
CREATE TABLE INVOICE_PET_PROCEDURE
(INVOICE_NO INT(8),
PET_ID INT(4),
PROCEDURE_NO INT(4),
AMOUNT NUMERIC(10,2) CHECK (AMOUNT>0),
PRIMARY KEY (INVOICE_NO, PET_ID, PROCEDURE_NO),
FOREIGN KEY (PET_ID) REFERENCES PET (PET_ID),
FOREIGN KEY (PROCEDURE_NO) REFERENCES
PROCEDURE1 (PROCEDURE_NO));
```

## 2. Drop all tables from the database.

```
-- DROP TABLES
DROP TABLE INVOICE_PET_PROCEDURE;
DROP TABLE INVOICE;
DROP TABLE PET_VISIT;
DROP TABLE PET;
DROP TABLE PET_TYPE;
DROP TABLE OWNER1;
DROP TABLE PROCEDURE1;
```