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- <mark>Создать таблицы, соответствующие иерархии из вашей диаграммы классов.</mark>

db@db-linux:~$ sudo mysql -u root
[sudo] password for db:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.40 MySQL Community Server - GPL
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owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql> CREATE TABLE Animal(id INT AUTO_INCREMENT PRIMARY KEY, name VARCHAR(55) NOT NULL, birthDate DATE NOT NULL, commands TEXT);
Query OK, 0 rows affected (0,04 sec)
mysql> CREATE TABLE Pets (PetID INT AUTO_INCREMENT PRIMARY KEY, AnimalID INT, FOREIGN KEY (AnimalID) REFERENCES Animal(id));
Query OK, 0 rows affected (0,02 sec)
mysql> CREATE TABLE Packs (PackID INT AUTO_INCREMENT PRIMARY KEY, AnimalID INT, FOREIGN KEY (Animalid) REFERENCES Animal(id));
Query OK, 0 rows affected (0,03 sec)
mysql> CREATE TABLE Dog (DogID INT AUTO_INCREMENT PRIMARY KEY, PetID INT, FOREIGN KEY (PetID) REFERENCES Pets(PetID));
Query OK, 0 rows affected (0,03 sec)
mysql> CREATE TABLE Cat (CatID INT AUTO_INCREMENT PRIMARY KEY, PetID INT, FOREIGN KEY (PetID) REFERENCES Pets(PetID));
Query OK, 0 rows affected (0,04 sec)
mysql> CREATE TABLE Hamster (HamsterID INT AUTO_INCREMENT PRIMARY KEY, PetID INT, FOREIGN KEY (PetID) REFERENCES Pets(PetID));
Query OK, 0 rows affected (0,02 sec)
mysql> CREATE TABLE Horse (HorseID INT AUTO_INCREMENT PRIMARY KEY, PackID INT, FOREIGN KEY (PackID) REFERENCES Packs(PackID));
Query OK, 0 rows affected (0,03 sec)
mysql> CREATE TABLE Camel (CamelID INT AUTO_INCREMENT PRIMARY KEY, PackID INT, FOREIGN KEY (PackID) REFERENCES Packs(PackID));
Query OK, 0 rows affected (0,04 sec)
mysql> CREATE TABLE Donkey (DonkeyID INT AUTO_INCREMENT PRIMARY KEY, PackID INT, FOREIGN KEY (PackID) REFERENCES Packs(PackID));
Query OK, 0 rows affected (0,03 sec)

- <mark>Заполнить таблицы данными о животных, их командах и датами рождения.</mark>

mysql> INSERT INTO Animal (name, birthDate, commands) VALUES ('Rex', '2020-05-10', '["Eat", "Stay", "Fetch"]'), ('Muhtar', '2021-02-14', '["Bark", "Roll Over", "Drink"]'), ('Sharik', '2022-03-21', '["Sleep", "Jump", "Run"]'), ('Pushok', '2021-07-19', '["Purr", "Eat", "Scratch"]'), ('Barsik', '2023-01-11', '["Jump", "Catch", "Drink"]'), ('Markiz', '2019-08-23', '["Meow", "Sleep", "Play"]'), ('Chicha', '2022-11-30', '["Run", "Eat", "Sleep"]'), ('Pluh', '2021-04-25', '["Chill", "Hide", "Explore"]'), ('Rizik', '2020-08-09', '["Dig", "Drink", "Chew"]'), ('Molniya', '2019-12-03', '["Gallop", "Jump", "Drink"]'), ('Kometa', '2020-06-17', '["Sleep",

"Trot", "Turn"]'), ('Zvezda', '2021-03-12', '["Stand", "Eat", "Nod"]'), ('Pesok', '2022-07-29', '["Carry", "Kneel", "Move"]'), ('Gorb', '2021-05-18', '["Walk", "Sit", "Stand"]'), ('Duna', '2020-09-04', '["Eat", "Carry", "Rest"]'), ('Ia', '2021-10-20', '["Eat", "Stop", "Sleep"]'), ('Poker', '2019-11-15', '["Walk", "Wait", "Drink"]'), ('Serga', '2023-02-05', '["Pull", "Carry", "Rest"]');
Query OK, 18 rows affected (0,01 sec)
Records: 18 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Pets (AnimalID) VALUES (1), (2), (3), (4), (5), (6), (7), (8), (9);
Query OK, 9 rows affected (0,01 sec)
mysql> INSERT INTO Packs (AnimalID) VALUES (10), (11), (12), (13), (14), (15), (16), (17), (18);
Query OK, 9 rows affected (0,01 sec)
INSERT INTO Dog (PetID) VALUES (1), (2), (3);
mysql> INSERT INTO Dog (PetID) VALUES (1), (2), (3);
Query OK, 3 rows affected (0,01 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Cat (PetID) VALUES (4), (5), (6);
Query OK, 3 rows affected (0,01 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Hamster (PetID) VALUES (7), (8), (9);
Query OK, 3 rows affected (0,01 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Horse (PackID) VALUES (10), (11), (12);
Query OK, 3 rows affected (0,03 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Camel (PackID) VALUES (13), (14), (15);
Query OK, 3 rows affected (0,01 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Donkey (PackID) VALUES (16), (17), (18);
Query OK, 3 rows affected (0,01 sec)
Records: 3 Duplicates: 0 Warnings: 0

- Удаляем записи о верблюдах

mysql> DELIMITER $$
mysql> CREATE TRIGGER after_delete_camel
    -> AFTER DELETE ON Camel
    -> FOR EACH ROW
    -> BEGIN
    ->   DELETE FROM Packs WHERE PackID = OLD.PackID;
    -> END$$
Query OK, 0 rows affected (0,02 sec)
mysql> DELIMITER $$
mysql> CREATE TRIGGER after_delete_packs
    -> AFTER DELETE ON Packs
    -> FOR EACH ROW
    -> BEGIN
    ->   DELETE FROM Animal WHERE id = OLD.AnimalID;
    -> END$$
Query OK, 0 rows affected (0,00 sec)
mysql> DELIMITER ;
mysql> DELETE FROM Camel;

Query OK, 3 rows affected (0,02 sec)

- Объединяем таблицы лошадей и ослов.

mysql> CREATE TABLE Ungulate (UngulateID INT AUTO_INCREMENT PRIMARY KEY, PackID INT, Type ENUM('Horse', 'Donkey'), FOREIGN KEY (PackID) REFERENCES Packs(PackID));
Query OK, 0 rows affected (0,02 sec)
mysql> INSERT INTO Ungulate (PackID, Type) SELECT PackID, 'Horse' FROM Horse;
Query OK, 3 rows affected (0,02 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Ungulate (PackID, Type) SELECT PackID, 'Donkey' FROM Donkey;
Query OK, 3 rows affected (0,00 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> DROP TABLE Horse;
Query OK, 0 rows affected (0,02 sec)
mysql> DROP TABLE Donkey;
Query OK, 0 rows affected (0,01 sec)

- Создаем новую таблицу для животных в возрасте от 1 до 3 лет и вычисляем их возраст с точностью до месяца.

mysql> CREATE TABLE Age(AnimalID INT PRIMARY KEY, Name VARCHAR(55) NOT NULL, BirthDate DATE NOT NULL, Commands TEXT, AgeInMonths INT);
Query OK, 0 rows affected (0,02 sec)
mysql> INSERT INTO Age (AnimalID, Name, BirthDate, Commands, AgeInMonths) SELECT id, name, birthDate, commands, TIMESTAMPDIFF(MONTH, birthDate, CURDATE()) AS AgeInMonths FROM Animal WHERE TIMESTAMPDIFF(MONTH, birthDate, CURDATE()) BETWEEN 12 AND 36;
Query OK, 5 rows affected (0,02 sec)
Records: 5 Duplicates: 0 Warnings: 0

- Объединить созданные таблицы в одну, сохраняя информацию о принадлежности к исходным таблицам.

mysql> CREATE TABLE LastTable AS
    -> SELECT U.UngulateID, U.PackID, U.Type, NULL AS AnimalID, NULL AS Name, NULL AS BirthDate, NULL AS Commands, NULL AS AgeInMonths, 'Ungulate' AS SourceTable FROM Ungulate U
    -> UNION ALL
    -> SELECT NULL AS UngulateID, NULL AS PackID, NULL AS Type, A.AnimalID, A.Name, A.BirthDate, A.Commands, A.AgeInMonths, 'Age' AS SourceTable FROM Age A;
Query OK, 11 rows affected (0,03 sec)
Records: 11 Duplicates: 0 Warnings: 0