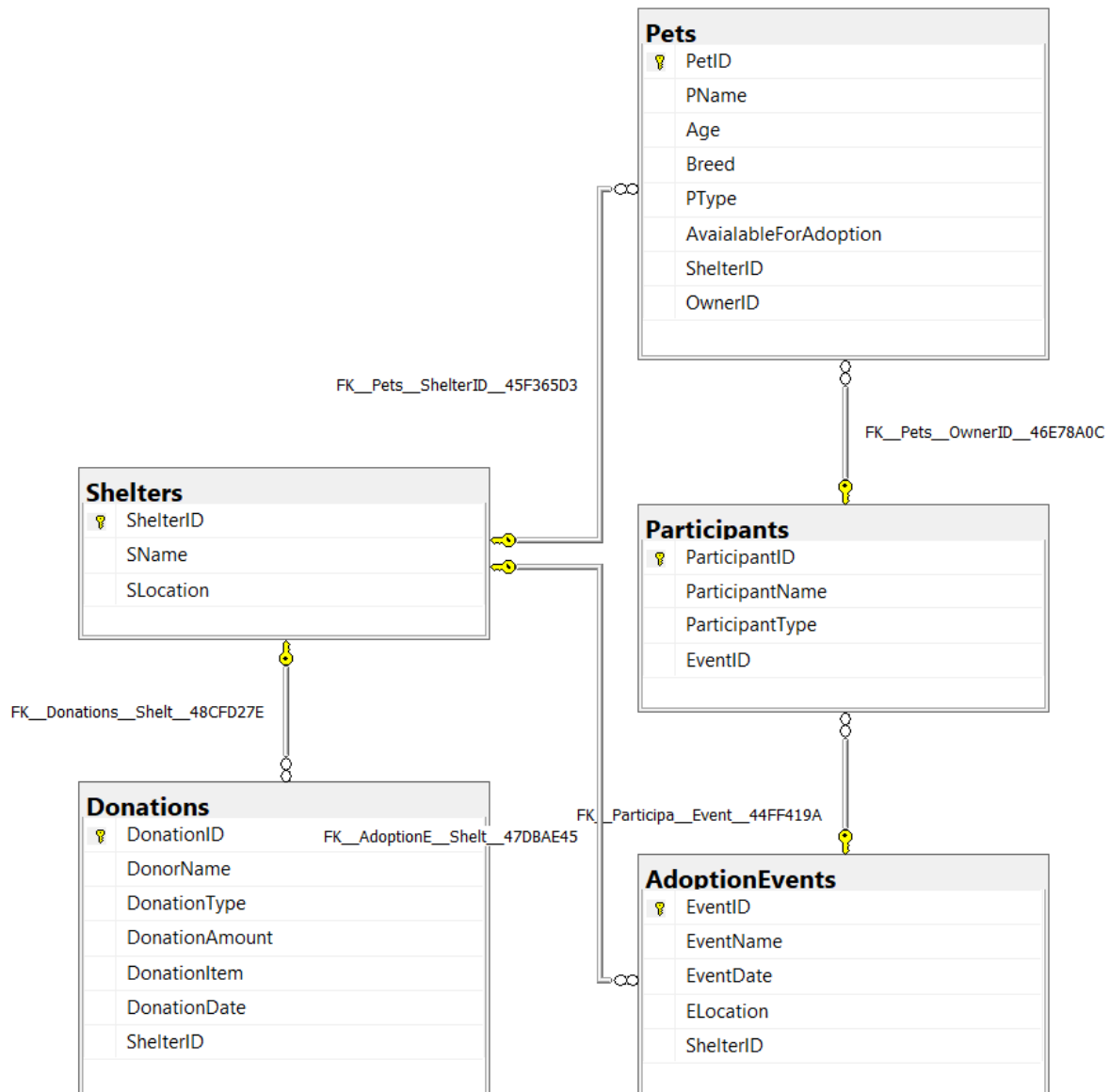


Mini Project - PetPals, The Pet Adoption Platform



1. Provide a SQL script that initializes the database for the Pet Adoption Platform” PetPals”.

```

1  --Task 1
2  USE master;
3
4  GO
5  DROP DATABASE IF EXISTS PetPals;
6  GO --Batch END indicator/ Execute the Prev queries
7
8  CREATE DATABASE PetPals;
9  GO
10 USE PetPals;
    
```

2. Create tables for pets, shelters, donations, adoption events, and participants.

```

36  --Task 2
37  CREATE TABLE Pets(
38      PetID INT IDENTITY(1,1) PRIMARY KEY,
39      PName varchar(50),
40      Age INT CHECK(Age>=0),
41      Breed varchar(50),
42      PType varchar(50),
43      AvailalableForAdoption BIT DEFAULT 0
44  );
45
46  CREATE TABLE Shelters(
47      ShelterID INT IDENTITY(1,1) PRIMARY KEY,
48      SName varchar(50),
49      SLocation varchar(50) NOT NULL
50  );
51
52  CREATE TABLE Donations(
53      DonationID INT IDENTITY(1,1) PRIMARY KEY,
54      DonorName varchar(50),
55      DonationType varchar(50),
56      DonationAmount DECIMAL(10,2),
57      DonationItem varchar(50),
58      DonationDate DATETIME DEFAULT GETDATE()
59  );
60
61  CREATE TABLE AdoptionEvents(
62      EventID INT IDENTITY(1,1) PRIMARY KEY,
63      EventName varchar(50),
64      EventDate DATETIME DEFAULT GETDATE(),
65      ELocation varchar(50) NOT NULL
66  );
67
68  CREATE TABLE Participants(
69      ParticipantID INT IDENTITY(1,1) PRIMARY KEY,
70      ParticipantName varchar(50),
71      ParticipantType varchar(50) CHECK(ParticipantType IN( 'Adopter','Shelter')),
72      EventID INT,
73      FOREIGN KEY(EventID) REFERENCES AdoptionEvents(EventID) ON DELETE SET NULL ON UPDATE CASCADE
74  );

```

3. Define appropriate primary keys, foreign keys, and constraints.

```

76  --Task 3 (Adding Appropriate Unique Constraints)
77  --Adding FK to Pets Table
78  ALTER TABLE Pets ADD ShelterID INT NULL;
79  GO
80  ALTER TABLE Pets ADD FOREIGN KEY(ShelterID) REFERENCES Shelters(ShelterID) ON DELETE SET NULL ON UPDATE CASCADE;
81  GO
82  ALTER TABLE Pets ADD OwnerID INT NULL;
83  GO
84  ALTER TABLE Pets ADD FOREIGN KEY(OwnerID) REFERENCES Participants(ParticipantID) ON DELETE SET NULL ON UPDATE CASCADE;
85  GO
86
87  --Adding FK to AdoptionEvents Table
88  ALTER TABLE AdoptionEvents ADD ShelterID INT NULL;
89  GO
90  ALTER TABLE AdoptionEvents ADD FOREIGN KEY(ShelterID) REFERENCES Shelters(ShelterID) ON DELETE NO ACTION;
91  GO
92
93  --Adding FK to Donations Table
94  ALTER TABLE Donations ADD ShelterID INT NULL;
95  GO
96  ALTER TABLE Donations ADD FOREIGN KEY(ShelterID) REFERENCES Shelters(ShelterID) ON DELETE SET NULL ON UPDATE CASCADE;
97  GO
98  --Adding UQ to Donations Table
99  ALTER TABLE Donations
100  ADD CONSTRAINT CK_DonationType_Data CHECK(
101      (DonationType = 'Amount' AND DonationAmount IS NOT NULL AND DonationItem IS NULL) OR
102      (DonationType = 'Item' AND DonationAmount IS NULL AND DonationItem IS NOT NULL)
103  );
104  GO

```

- Ensure the script handles potential errors, such as if the database or tables already exist.

```
--Task 4 (Handling preexisting UserDefined Tables)
GO
/*
Dosen't handle Foreign constraints
Make sure to drop the Child Table first
This Proc is susceptible to SQL Injection
*/
DROP PROC IF EXISTS DropTableIfExists;
GO
CREATE PROCEDURE DropTableIfExists @TableName varchar(50)
AS
BEGIN
EXEC('DROP TABLE ' + 'IF EXISTS ' + @TableName); --DDL cannot take a var
END;
GO

EXEC DropTableIfExists 'Shelters';
EXEC DropTableIfExists 'Participants';
EXEC DropTableIfExists 'Pets';
EXEC DropTableIfExists 'AdoptionEvents';
EXEC DropTableIfExists 'Donations';
```

- Write an SQL query that retrieves a list of available pets (those marked as available for adoption) from the "Pets" table. Include the pet's name, age, breed, and type in the result set. Ensure that the query filters out pets that are not available for adoption.

```
164 | --Task 5
165 | SELECT PName, Age, Breed, PType FROM Pets
166 | WHERE AvailableForAdoption = 1;
```

	PName	Age	Breed	PType
1	Kallu	2	Indian Pariah	Dog
2	Brow...	1	Pug	Dog
3	Billu	3	Bengal Cat	Cat
4	Kallu	2	Indian Pariah	Dog
5	Brow...	1	Pug	Dog
6	Billu	3	Bengal Cat	Cat
7	Meow...	4	Persian	Cat
8	Rocky	1	Labrador	Dog

- Write an SQL query that retrieves the names of participants (shelters and adopters) registered for a specific adoption event. Use a parameter to specify the event ID. Ensure that the query joins the necessary tables to retrieve the participant names and types.

```
168 | --Task 6
169 | --iTVF
170 | GO
171 | CREATE FUNCTION dbo.getParticipantsByEvent(@EventID INT) --Created a Function since, @EventID was required as Para.
172 | RETURNS TABLE
173 | AS
174 | RETURN(
175 |     SELECT ParticipantID, ParticipantName, ParticipantType, EventID FROM Participants
176 |     WHERE EventID = @EventID
177 | );
178 | GO
179 |
180 | DECLARE
181 | @EventID INT
182 | SET @EventID = 2
183 | SELECT e.EventName, p.ParticipantName, p.ParticipantType FROM AdoptionEvents e
184 | JOIN dbo.getParticipantsByEvent(@EventID) as p
185 | ON p.EventID=e.EventID
```

	EventName	ParticipantName	ParticipantType
1	Rescue Dog Meetup	Ritu	Shelter
2	Rescue Dog Meetup	Paws & Co.	Adopter

- Create a stored procedure in SQL that allows a shelter to update its information (name and location) in the "Shelters" table. Use parameters to pass the shelter ID and the new information. Ensure that the procedure performs the update and handles potential errors, such as an invalid shelter ID.

```

187 | --Task 7
188 | GO
189 | CREATE PROC updateShelterInfo
190 | @ShelterID INT,
191 | @newName varchar(50),
192 | @newLocation varchar(50)
193 | AS
194 | BEGIN
195 |     IF EXISTS (SELECT 1 FROM Shelters WHERE ShelterID=@ShelterID)
196 |     UPDATE Shelters
197 |     SET SName = @newName, SLocation=@newLocation
198 |     WHERE ShelterID=@ShelterID;
199 |     ELSE
200 |     PRINT concat('Invalid Shelter ID:',@ShelterID);
201 | END
202 | GO
203 |
204 | EXEC updateShelterInfo 6, 'Owlery', 'Mumbai';
205 |
206 | --Task 8

```

Messages

Invalid Shelter ID:6

Completion time: 2025-09-02T15:41:49.6310874+05:30

- Write an SQL query that calculates and retrieves the total donation amount for each shelter (by shelter name) from the "Donations" table. The result should include the shelter name and the total donation amount. Ensure that the query handles cases where a shelter has received no donations.

```

206 | --Task 8
207 | SELECT s.SName AS ShelterName, ISNULL(SUM(d.DonationAmount),0) AS TotalDonation FROM Donations d
208 | JOIN Shelters s
209 | ON s.ShelterID=d.ShelterID
210 | GROUP BY s.SName

```

	ShelterName	TotalDonation
1	Animal Sanctuary	0.00
2	Care for Critters	6000.00
3	Friends of Furballs	10500.00
4	Paws & Co.	0.00
5	Street Dog Welfare	0.00

- Write an SQL query that retrieves the names of pets from the "Pets" table that do not have an owner (i.e., where "OwnerID" is null). Include the pet's name, age, breed, and type in the result set.

```

212 | --Task 9
213 | SELECT p.PName, p.Age, p.Breed, PType FROM Pets p
214 | LEFT JOIN Participants pa
215 | ON pa.ParticipantID = p.OwnerID
216 | WHERE p.OwnerID IS NULL;

```

	PName	Age	Breed	PType
1	Kallu	2	Indian Pariah	Dog
2	Brownie	1	Pug	Dog
3	Billu	3	Bengal Cat	Cat

10. Write an SQL query that retrieves the total donation amount for each month and year (e.g., January 2023) from the "Donations" table. The result should include the month-year and the corresponding total donation amount. Ensure that the query handles cases where no donations were made in a specific month-year.

```

218 | --Task 10
219 | SELECT concat(MONTH(DonationDate), ' ', YEAR(DonationDate)) AS MonthYear,
220 | ISNULL(SUM(DonationAmount), 0) AS TotalDonationAmount FROM Donations
221 | GROUP BY YEAR(DonationDate), MONTH(DonationDate);

```

	MonthYear	TotalDonationAmount
1	9 2025	16500.00

11. Retrieve a list of distinct breeds for all pets that are either aged between 1 and 3 years or older than 5 years.

```

223 | --Task 11
224 | SELECT DISTINCT Breed, Age FROM Pets
225 | WHERE (Age BETWEEN 1 AND 3) OR (Age>5);

```

	Breed	Age
1	Bengal Cat	3
2	Indian Pariah	2
3	Labrador	1
4	Pug	1

12. Retrieve a list of pets and their respective shelters where the pets are currently available for adoption.

```

227 | --Task 12
228 | SELECT p.PetID, p.PName AS PetsAvailableForAdoption, s.SName AS ShelterName FROM Pets p
229 | JOIN Shelters s
230 | ON p.ShelterID=s.ShelterID
231 | WHERE p.AvaialableForAdoption = 1;

```

Results Messages			
	PetID	PetsAvilableForAdoption	ShelterName
1	1	Kallu	Animal Sanctuary
2	2	Brownie	Animal Sanctuary
3	3	Billu	Animal Sanctuary
4	4	Kallu	Friends of Furballs
5	5	Brownie	Paws & Co.
6	6	Billu	Street Dog Welfare
7	8	MeowMeow	Care for Critters
8	9	Rocky	Animal Sanctuary

13. Find the total number of participants in events organized by shelters located in specific city. Example: City=Chennai

233	--Task 13
234	DECLARE @city varchar(50)
235	SET @city = 'Mumbai'
236	
237	SELECT COUNT(*) AS TotalParticipants,e.ELocation FROM Participants p
238	JOIN AdoptionEvents e
239	ON e.EventID=p.EventID
240	JOIN Shelters s
241	ON s.ShelterID=e.ShelterID
242	GROUP BY e.ELocation
243	HAVING e.ELocation=@city
Results Messages	
	TotalParticipants ELocation
1	3 Mumbai

14. Retrieve a list of unique breeds for pets with ages between 1 and 5 years.

245	--Task 14
246	GO
247	CREATE VIEW displayBreed AS
248	SELECT DISTINCT Breed, Age FROM Pets
249	WHERE (Age BETWEEN 1 AND 5) ;
250	GO
251	SELECT * from displayBreed;
Results Messages	
	Breed Age
1	Bengal Cat 3
2	Golden Retriever 5
3	Indian Pariah 2
4	Labrador 1
5	Persian 4
6	Pug 1

15. Find the pets that have not been adopted by selecting their information from the 'Pet' table.

254	--Task 15
255	SELECT * FROM Pets
256	WHERE AvaialableForAdoption = 1 AND
257	OwnerID IS NULL;
Results Messages	
	PetID PName Age Breed PType AvaialableForAdoption ShelterID OwnerID
1	1 Kallu 2 Indian Pariah Dog 1 5 NULL
2	2 Brownie 1 Pug Dog 1 5 NULL
3	3 Billu 3 Bengal Cat Cat 1 5 NULL

16. Retrieve the names of all adopted pets along with the adopter's name from the 'Adoption' and 'User' tables.

```

259 --Task 16
260 SELECT p.PName AS PetName, pr.ParticipantName FROM Pets p
261 JOIN Participants pr
262 ON p.OwnerID = pr.ParticipantID
263 WHERE pr.ParticipantType = 'Adopter';

```

	PetName	ParticipantName
1	Kallu	Meera
2	Brownie	Aditya
3	MeowMeow	Bobby
4	Rocky	Meera

17. Retrieve a list of all shelters along with the count of pets currently available for adoption in each shelter.

```

265 --Task 17
266 SELECT s.SName AS ShelterName, COUNT(p.PetID) AS AvailablePets FROM Shelters s
267 JOIN Pets p
268 ON p.ShelterID=s.ShelterID
269 WHERE p.AvaialableForAdoption=1
270 GROUP BY s.SName;

```

	ShelterName	AvailablePets
1	Animal Sanctuary	4
2	Care for Critters	1
3	Friends of Furballs	1
4	Paws & Co.	1
5	Street Dog Welfare	1

18. Find pairs of pets from the same shelter that have the same breed.

```

272 --Task 18
273 /*
274 INSERT INTO Pets(PName, Age, Breed, PType, ShelterID) VALUES
275 ('Tom', 9, 'Bengal Cat', 'Cat', 5),
276 ('Meowwwth', 1, 'Bengal Cat', 'Cat', 5),
277 ('Bitti', 5, 'Bengal Cat', 'Cat', 5);
278 */
279 SELECT p1.PName AS Pet1Name, p2.PName AS Pet2Name, s.SName AS ShelterName, p1.Breed FROM Pets p1
280 JOIN Pets p2
281 ON
282     p1.ShelterID = p2.ShelterID AND
283     p1.Breed = p2.Breed AND
284     p1.PetID < p2.PetID
285 JOIN Shelters s
286 ON p1.ShelterID = s.ShelterID;

```

	Pet1Name	Pet2Name	ShelterName	Breed
1	Billu	Tom	Animal Sanctuary	Bengal Cat
2	Billu	Meowwwth	Animal Sanctuary	Bengal Cat
3	Billu	Bitti	Animal Sanctuary	Bengal Cat
4	Tom	Meowwwth	Animal Sanctuary	Bengal Cat
5	Tom	Bitti	Animal Sanctuary	Bengal Cat
6	Meowwwth	Bitti	Animal Sanctuary	Bengal Cat

19. List all possible combinations of shelters and adoption events.

```

282 --Task 19
283 SELECT s.ShelterID,s.SName AS ShelterName,e.EventID,e.EventName,e.EventDate FROM Shelters s
284 CROSS JOIN AdoptionEvents e
285 ORDER BY s.ShelterID,e.EventDate;

```

Results		Messages			
	ShelterID	ShelterName	EventID	EventName	EventDate
1	1	Friends of Furballs	6	Kitten and Puppies Fair	2015-11-20 00:00:00.000
2	1	Friends of Furballs	4	Pet Adoption Drive	2020-09-15 00:00:00.000
3	1	Friends of Furballs	5	Rescue Dog Meetup	2023-10-05 00:00:00.000
4	1	Friends of Furballs	1	Pet Adoption Drive	2025-09-15 00:00:00.000
5	1	Friends of Furballs	2	Rescue Dog Meetup	2025-10-05 00:00:00.000
6	1	Friends of Furballs	3	Kitten and Puppies Fair	2025-11-20 00:00:00.000
7	2	Paws & Co.	6	Kitten and Puppies Fair	2015-11-20 00:00:00.000
8	2	Paws & Co.	4	Pet Adoption Drive	2020-09-15 00:00:00.000
9	2	Paws & Co.	5	Rescue Dog Meetup	2023-10-05 00:00:00.000
10	2	Paws & Co.	1	Pet Adoption Drive	2025-09-15 00:00:00.000
11	2	Paws & Co.	2	Rescue Dog Meetup	2025-10-05 00:00:00.000
12	2	Paws & Co.	3	Kitten and Puppies Fair	2025-11-20 00:00:00.000
13	3	Street Dog Welf...	6	Kitten and Puppies Fair	2015-11-20 00:00:00.000
14	3	Street Dog Welf...	4	Pet Adoption Drive	2020-09-15 00:00:00.000
15	3	Street Dog Welf...	5	Rescue Dog Meetup	2023-10-05 00:00:00.000
16	3	Street Dog Welf...	1	Pet Adoption Drive	2025-09-15 00:00:00.000
17	3	Street Dog Welf...	2	Rescue Dog Meetup	2025-10-05 00:00:00.000
18	3	Street Dog Welf...	3	Kitten and Puppies Fair	2025-11-20 00:00:00.000
19	4	Care for Critters	6	Kitten and Puppies Fair	2015-11-20 00:00:00.000
20	4	Care for Critters	4	Pet Adoption Drive	2020-09-15 00:00:00.000
21	4	Care for Critters	5	Rescue Dog Meetup	2023-10-05 00:00:00.000
22	4	Care for Critters	1	Pet Adoption Drive	2025-09-15 00:00:00.000
23	4	Care for Critters	2	Rescue Dog Meetup	2025-10-05 00:00:00.000
24	4	Care for Critters	3	Kitten and Puppies Fair	2025-11-20 00:00:00.000
25	5	Animal Sanctuary	6	Kitten and Puppies Fair	2015-11-20 00:00:00.000
26	5	Animal Sanctuary	4	Pet Adoption Drive	2020-09-15 00:00:00.000
27	5	Animal Sanctuary	5	Rescue Dog Meetup	2023-10-05 00:00:00.000
28	5	Animal Sanctuary	1	Pet Adoption Drive	2025-09-15 00:00:00.000
29	5	Animal Sanctuary	2	Rescue Dog Meetup	2025-10-05 00:00:00.000
30	5	Animal Sanctuary	3	Kitten and Puppies Fair	2025-11-20 00:00:00.000

20. Determine the shelter that has the highest number of adopted pets.

```

294 --Task 20
295 SELECT TOP 1 s.SName , COUNT(p.PetID) AS NumberOfPets FROM Shelters s
296 JOIN Pets p
297 ON
298     p.ShelterID=s.ShelterID
299     AND p.AvailableForAdoption=0
300 GROUP BY s.ShelterID,s.SName
301 ORDER BY NumberOfPets DESC;

```

Results		Messages	
	SName	NumberOfPets	
1	Animal Sanctuary	3	