

## CREATE DATABASE :

Created a database named pet\_adoption and to make it active we write use database\_name;

```
CREATE DATABASE pet_adoption;  
USE pet_adoption;
```

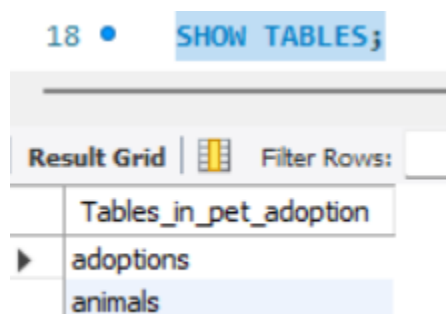
## CREATE TABLES

Created two tables animals and adoptions with corresponding attributes and primary keys. We made primary key in animals table to increment automatically.

```
4 • CREATE TABLE animals (  
5   id integer primary key auto_increment,  
6   name varchar(50),  
7   breed varchar(50),  
8   color varchar(50),  
9   gender varchar(50),  
10  status INTEGER);
```

```
CREATE TABLE adoptions (  
  animal_id integer primary key,  
  name varchar(50),  
  contact varchar(50),  
  date TIMESTAMP);
```

## SHOW TABLES & COLUMNS



```
19 • SHOW COLUMNS FROM animals;
```

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
name	varchar(50)	YES		NULL	
breed	varchar(50)	YES		NULL	
color	varchar(50)	YES		NULL	
gender	varchar(50)	YES		NULL	
status	int	YES		NULL	

```
20 • SHOW COLUMNS FROM adoptions;
```

Field	Type	Null	Key	Default	Extra
animal_id	int	NO	PRI	NULL	
name	varchar(50)	YES		NULL	
contact	varchar(50)	YES		NULL	
date	timestamp	YES		NULL	

**INSERT**

```
22 • INSERT INTO animals (name, breed, color, gender, status) VALUES ('Bellyflop', 'Beagle', 'Brown', 'Male', 0);
23 • INSERT INTO animals (name, breed, color, gender, status) VALUES ('Snowy', 'Husky', 'White', 'Female', 0);
24 • INSERT INTO animals (name, breed, color, gender, status) VALUES ('Princess', 'Pomeranian', 'Black', 'Female', 0);
25 • INSERT INTO animals (name, breed, color, gender, status) VALUES ('Cricket', 'Chihuahua', 'Brown', 'Male', 0);
26 • INSERT INTO animals (name, breed, color, gender, status) VALUES ('Princess', 'Poodle', 'Purple', 'Female', 0);
27 • INSERT INTO animals (name, breed, color, gender, status) VALUES ('Spot', 'Dalmation', 'Black and White', 'Male', 0);
28
```

## SELECT

## Get the full list of all properties of all dogs

Get the breeds of all dogs.



Get the names of only female dogs by including a WHERE clause.

Get the IDs of dogs up for adoption.

```
29 • SELECT * FROM animals;
```




Result Grid						
		Filter Rows:		Edit:		
	id	name	breed	color	gender	status
▶	1	Bellyflop	Beagle	Brown	Male	0
	2	Snowy	Husky	White	Female	0
	3	Princess	Pomeranian	Black	Female	0
	4	Cricket	Chihuahua	Brown	Male	0
	5	Princess	Poodle	Purple	Female	0
	6	Spot	Dalmation	Black and White	Male	0
	NULL	NULL	NULL	NULL	NULL	NULL

- 29 • `SELECT * FROM animals;`  
30 • `SELECT breed FROM animals;`

Result Grid   Filter Rows:





	breed
▶	Beagle
	Husky
	Pomeranian
	Chihuahua
	Poodle
	Dalmation

- 31 • `SELECT name FROM animals WHERE gender = 'Female';`

Result Grid   Filter Rows:  Export:  Wrap Cell Co

	name
▶	Snowy
	Princess
	Princess

- 32 • `SELECT id FROM animals WHERE status = 0;`

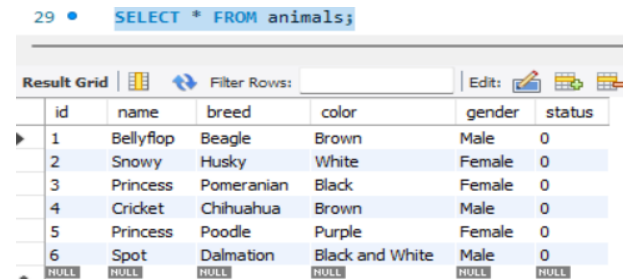
Result Grid   Filter Rows:  Edit:  

	id
▶	1
	2
	3
	4
	5
	6
•	NULL

## UPDATE & DELETE FROM

### BEFORE UPDATE AND DELETE:

29 • `SELECT * FROM animals;`

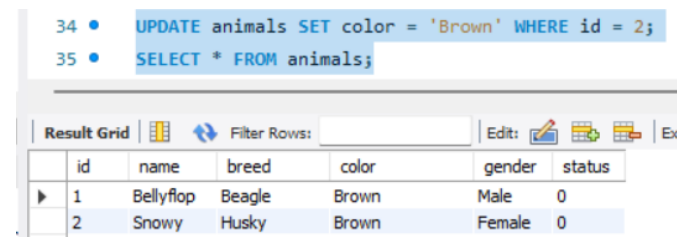


	id	name	breed	color	gender	status
▶	1	Bellyflop	Beagle	Brown	Male	0
	2	Snowy	Husky	White	Female	0
	3	Princess	Pomeranian	Black	Female	0
	4	Cricket	Chihuahua	Brown	Male	0
	5	Princess	Poodle	Purple	Female	0
	6	Spot	Dalmation	Black and White	Male	0
		NULL	NULL	NULL	NULL	NULL

### AFTER UPDATE AND DELETE:

Updated the color of animal with id = 2 from white to brown

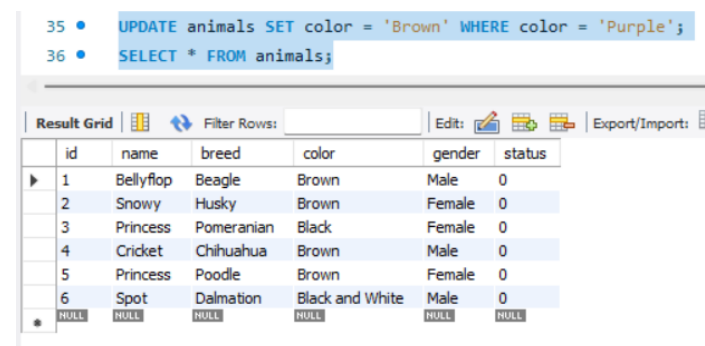
34 • `UPDATE animals SET color = 'Brown' WHERE id = 2;`  
35 • `SELECT * FROM animals;`



	id	name	breed	color	gender	status
▶	1	Bellyflop	Beagle	Brown	Male	0
	2	Snowy	Husky	Brown	Female	0

Updated the color from purple to brown






35 • `UPDATE animals SET color = 'Brown' WHERE color = 'Purple';`  
36 • `SELECT * FROM animals;`



	id	name	breed	color	gender	status
▶	1	Bellyflop	Beagle	Brown	Male	0
	2	Snowy	Husky	Brown	Female	0
	3	Princess	Pomeranian	Black	Female	0
	4	Cricket	Chihuahua	Brown	Male	0
	5	Princess	Poodle	Brown	Female	0
	6	Spot	Dalmation	Black and White	Male	0
*		NULL	NULL	NULL	NULL	NULL

Deleted animal with id=4

- 36 • `DELETE FROM animals WHERE id =4;`
- 37 • `SELECT * FROM animals;`

Result Grid									Filter Rows: <input type="text"/>	Edit:   
	id	name	breed	color	gender	status				
▶	1	Bellyflop	Beagle	Brown	Male	0				
	2	Snowy	Husky	Brown	Female	0				
	3	Princess	Pomeranian	Black	Female	0				
	5	Princess	Poodle	Brown	Female	0				
	6	Spot	Dalmation	Black and White	Male	0				
*	NULL	NULL	NULL	NULL	NULL	NULL				

## UPDATE & INSERT

- 38 • `UPDATE animals SET status = 1 WHERE id = 6;`
- 39 • `INSERT INTO adoptions (animal_id, name, contact, date) VALUES (6, 'Pinocchio', 'realboy@cockroachlabs.com', NOW());`
- 40 • `SELECT * FROM adoptions;`
- 41

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content: [↕](#)

name	contact	date	animal_id
▶ Pinocchio	realboy@cockroachlabs.com	2024-01-20 22:30:04	6
* NULL	NULL	NULL	NULL

- 41 • `UPDATE animals SET status = 1 WHERE id = 2;`
- 42 • `INSERT INTO adoptions (animal_id, name, contact, date) VALUES (2, 'Patalie', 'poodlequeen@cockroachlabs.com', NOW());`
- 43 • `UPDATE animals SET status = 1 WHERE id = 5;`
- 44 • `INSERT INTO adoptions (animal_id, name, contact, date) VALUES (5, 'Ella', 'ellacrew@cockroachlabs.com', NOW());`
- 45 • `SELECT * FROM adoptions;`
- 46

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

	name	contact	date	animal_id
	Patalie	poodlequeen@cockroachlabs.com	2024-01-20 22:32:38	2
	Ella	ellacrew@cockroachlabs.com	2024-01-20 22:32:38	5
	Pinocchio	realboy@cockroachlabs.com	2024-01-20 22:30:04	6
*		NULL	NULL	NULL

## ORDER BY

- 47 • `SELECT * FROM adoptions ORDER BY date ASC;`

Result Grid	Filter Rows:	Edit:	Export/Import:
name	contact	date	animal_id
Pinocchio	realboy@cockroachlabs.com	2024-01-20 22:30:04	6
Patalie	poodlequeen@cockroachlabs.com	2024-01-20 22:32:38	2
Ella	ellacrew@cockroachlabs.com	2024-01-20 22:32:38	5
*	NULL	NULL	NULL

## ALTER TABLE

```
50 • ALTER TABLE animals ADD COLUMN species VARCHAR(50);
51 • SHOW COLUMNS FROM animals;
```

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
name	varchar(50)	YES		NULL	
breed	varchar(50)	YES		NULL	
color	varchar(50)	YES		NULL	
gender	varchar(50)	YES		NULL	
status	int	YES		NULL	
species	varchar(50)	YES		NULL	

## SET & UPDATE

```
53 • SET sql_safe_updates = FALSE;
54 • UPDATE animals SET species = 'Dog';
55 • SELECT * FROM animals;
```

id	name	breed	color	gender	status	species
1	Bellyflop	Beagle	Brown	Male	0	Dog
2	Snowy	Husky	Brown	Female	1	Dog
3	Princess	Pomeranian	Black	Female	0	Dog
5	Princess	Poodle	Brown	Female	1	Dog
6	Spot	Dalmation	Black and White	Male	1	Dog
•	NULL	NULL	NULL	NULL	NULL	NULL

## Add All Cats to the Database

```
56 • INSERT INTO animals (name, species, breed, color, gender, status) VALUES ('Meowmix', 'Cat', 'Munchkin', 'Yellow', 'Female', 0);
57 • INSERT INTO animals (name, species, breed, color, gender, status) VALUES ('Ash', 'Cat', 'Persian', 'Gray', 'Female', 0);
58 • INSERT INTO animals (name, species, breed, color, gender, status) VALUES ('Tiger', 'Cat', 'Bengal', 'Brown', 'Male', 0);
59 • SELECT * FROM animals;
```

id	name	breed	color	gender	status	species
1	Bellyflop	Beagle	Brown	Male	0	Dog
2	Snowy	Husky	Brown	Female	1	Dog
3	Princess	Pomeranian	Black	Female	0	Dog
5	Princess	Poodle	Brown	Female	1	Dog
6	Spot	Dalmation	Black and White	Male	1	Dog
7	Meowmix	Munchkin	Yellow	Female	0	Cat
8	Ash	Persian	Gray	Female	0	Cat
9	Tiger	Bengal	Brown	Male	0	Cat
•	NULL	NULL	NULL	NULL	NULL	NULL

## Creating a Table for Shelters

```
61 • CREATE TABLE shelters (  
62     id INTEGER,  
63     name VARCHAR(50),  
64     location VARCHAR(50)  
65 );
```

## Inserting data into shelters table

```
67 • INSERT INTO shelters (id, name, location) VALUES (1, 'Animals 4 Homes', 'Red City');  
68 • INSERT INTO shelters (id, name, location) VALUES (2, 'Adopt A Buddy', 'Green Town');  
69 • INSERT INTO shelters (id, name, location) VALUES (3, 'Fluffy Animals', 'Blue Hills');
```

```
74 • SELECT * FROM shelters;
```

Result Grid

	id	name	location
▶	1	Animals 4 Homes	Red City
	2	Adopt A Buddy	Green Town
	3	Fluffy Animals	Blue Hills

## Alter and Update animals table

```
71 • ALTER TABLE animals ADD COLUMN shelter INTEGER;  
72 • UPDATE animals SET shelter = 1;
```

## Adding more animals

```

76 • INSERT INTO animals (name, shelter, species, breed, color, gender, status) VALUES ('Snoops', 2, 'Dog', 'Beagle', 'Brown', 'Male', 0);
77 • INSERT INTO animals (name, shelter, species, breed, color, gender, status) VALUES ('Salt', 2, 'Cat', 'Turkish Angora', 'White', 'Female', 0);
78 • INSERT INTO animals (name, shelter, species, breed, color, gender, status) VALUES ('Fuzz', 3, 'Dog', 'Papillon', 'Gray', 'Male', 0);
79 • SELECT * FROM animals;
80

```

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content: [IA](#)

	id	name	breed	color	gender	status	species	shelter
▶	1	Bellyflop	Beagle	Brown	Male	0	Dog	1
	2	Snowy	Husky	Brown	Female	1	Dog	1
	3	Princess	Pomeranian	Black	Female	0	Dog	1
	5	Princess	Poodle	Brown	Female	1	Dog	1
	6	Spot	Dalmation	Black and White	Male	1	Dog	1
	7	Meowmix	Munchkin	Yellow	Female	0	Cat	1
	8	Ash	Persian	Gray	Female	0	Cat	1
	9	Tiger	Bengal	Brown	Male	0	Cat	1
	10	Snoops	Beagle	Brown	Male	0	Dog	2
	11	Salt	Turkish Angora	White	Female	0	Cat	2
	12	Fuzz	Papillon	Gray	Male	0	Dog	3
*		NULL	NULL	NULL	NULL	NULL	NULL	NULL

## JOINS

```

82 • SELECT * FROM animals JOIN shelters ON animals.shelter = shelters.id;
83

```

Result Grid Filter Rows: Export: Wrap Cell Content: [IA](#)

	id	name	breed	color	gender	status	species	shelter	id	name	location
▶	1	Bellyflop	Beagle	Brown	Male	0	Dog	1	1	Animals 4 Homes	Red City
	2	Snowy	Husky	Brown	Female	1	Dog	1	1	Animals 4 Homes	Red City
	3	Princess	Pomeranian	Black	Female	0	Dog	1	1	Animals 4 Homes	Red City
	5	Princess	Poodle	Brown	Female	1	Dog	1	1	Animals 4 Homes	Red City
	6	Spot	Dalmation	Black and White	Male	1	Dog	1	1	Animals 4 Homes	Red City
	7	Meowmix	Munchkin	Yellow	Female	0	Cat	1	1	Animals 4 Homes	Red City
	8	Ash	Persian	Gray	Female	0	Cat	1	1	Animals 4 Homes	Red City
	9	Tiger	Bengal	Brown	Male	0	Cat	1	1	Animals 4 Homes	Red City
	10	Snoops	Beagle	Brown	Male	0	Dog	2	2	Adopt A Buddy	Green Town
	11	Salt	Turkish Angora	White	Female	0	Cat	2	2	Adopt A Buddy	Green Town
	12	Fuzz	Papillon	Gray	Male	0	Dog	3	3	Fluffy Animals	Blue Hills

getting a list of the adopted animals from the first shelter

```

83 • SELECT * FROM adoptions JOIN animals ON adoptions.animal_id = animals.id WHERE animals.shelter = 1;

```

Result Grid Filter Rows: Export: Wrap Cell Content: [IA](#)

	name	contact	date	animal_id	id	name	breed	color	gender	status	species	shelter
▶	Patalie	poodlequeen@cockroachlabs.com	2024-01-20 22:32:38	2	2	Snowy	Husky	Brown	Female	1	Dog	1
	Ella	ellacrew@cockroachlabs.com	2024-01-20 22:32:38	5	5	Princess	Poodle	Brown	Female	1	Dog	1
	Pinocchio	realboy@cockroachlabs.com	2024-01-20 22:30:04	6	6	Spot	Dalmation	Black and White	Male	1	Dog	1



## INNER JOIN:

```
SELECT ENAME,DNAME FROM [dbo].[EMPLOYEES] AS E  
INNER JOIN [dbo].[DEPARTMENT] AS D ON E.DNO = D.DNO;
```

117 %

Results Messages

	ENAME	DNAME
1	KARTIK	IT
2	SOMYA	SALES
3	RAJNIKANT	IT
4	PRABHAKARAN	IT
5	MANISH	ACCOUNT
6	KARTIK	ACCOUNT
7	RAJEEV	ADMIN
8	SAKTI	MARKETING

## LEFT JOIN:

```
SELECT ENAME,DNAME FROM [dbo].[EMPLOYEES] AS E  
LEFT JOIN [dbo].[DEPARTMENT] AS D ON E.DNO = D.DNO;
```

117 %

Results Messages

	ENAME	DNAME
1	KARTIK	IT
2	SOMYA	SALES
3	RAJNIKANT	IT
4	PRABHAKARAN	IT
5	MANISH	ACCOUNT
6	KARTIK	ACCOUNT
7	RAJEEV	ADMIN
8	SAKTI	MARKETING
9	NAMAN	NULL

## RIGHT JOIN:

SQL Query:

```
SELECT ENAME,DNAME FROM [dbo].[EMPLOYEES] AS E
RIGHT JOIN [dbo].[DEPARTMENT] AS D ON E.DNO = D.DNO;
```

117 %

Results Messages

	ENAME	DNAME
1	KARTIK	IT
2	RAJNIKANT	IT
3	PRABHAKARAN	IT
4	SOMYA	SALES
5	SAKTI	MARKETING
6	MANISH	ACCOUNT
7	KARTIK	ACCOUNT
8	RAJEEV	ADMIN
9	NULL	RD

### **FULL JOIN:**

SQL Query:

```
SELECT ENAME,DNAME FROM [dbo].[EMPLOYEES] AS E
FULL JOIN [dbo].[DEPARTMENT] AS D ON E.DNO = D.DNO;
```

117 %

Results Messages

	ENAME	DNAME
1	KARTIK	IT
2	SOMYA	SALES
3	RAJNIKANT	IT
4	PRABHAKARAN	IT
5	MANISH	ACCOUNT
6	KARTIK	ACCOUNT
7	RAJEEV	ADMIN
8	SAKTI	MARKETING
9	NAMAN	NULL
10	NULL	RD

## **Logical Operators in SQL**

**AND Operator:** The AND operator is used to combine two or more conditions but it is true when all the conditions are satisfied.

[illegible]

**IN Operator:**It is used to remove the multiple OR conditions in SELECT, INSERT, UPDATE, or DELETE.

[illegible]

## LIKE Operator

In SQL, the LIKE operator is used in the WHERE clause to search for a specified pattern in a column.

- % – It is used for zero or more than one character.
- \_ – It is used for only one character means fixed length.

[illegible]

## NOT Operator:

88 • `SELECT * FROM animals WHERE name NOT LIKE '%uzz';`

	id	name	breed	color	gender	status	species	shelter
▶	1	Bellyflop	Beagle	Brown	Male	0	Dog	1
	2	Snowy	Husky	Brown	Female	1	Dog	1
	3	Princess	Pomeranian	Black	Female	0	Dog	1
	5	Princess	Poodle	Brown	Female	1	Dog	1
	6	Spot	Dalmation	Black and White	Male	1	Dog	1
	7	Meowmix	Munchkin	Yellow	Female	0	Cat	1
	8	Ash	Persian	Gray	Female	0	Cat	1
	9	Tiger	Bengal	Brown	Male	0	Cat	1
	10	Snoops	Beagle	Brown	Male	0	Dog	2
	11	Salt	Turkish Angora	White	Female	0	Cat	2
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

## OR Operator

The OR operator is used to combines two or more conditions but if it is true when one of the conditions are satisfied.

89 • `SELECT * FROM animals WHERE breed = 'Beagle' OR gender = 'Male';`

	id	name	breed	color	gender	status	species	shelter
▶	1	Bellyflop	Beagle	Brown	Male	0	Dog	1
	6	Spot	Dalmation	Black and White	Male	1	Dog	1
	9	Tiger	Bengal	Brown	Male	0	Cat	1
	10	Snoops	Beagle	Brown	Male	0	Dog	2
	12	Fuzz	Papillon	Gray	Male	0	Dog	3
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

## ANY Operator

The ANY operator:

- It returns a boolean value as a result

It returns TRUE if ANY of the subquery values match the condition

91 • `SELECT * FROM animals WHERE id = ANY(SELECT id FROM animals WHERE shelter = 1);`

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

	id	name	breed	color	gender	status	species	shelter
▶	1	Bellyflop	Beagle	Brown	Male	0	Dog	1
	2	Snowy	Husky	Brown	Female	1	Dog	1
	3	Princess	Pomeranian	Black	Female	0	Dog	1
	5	Princess	Poodle	Brown	Female	1	Dog	1
	6	Spot	Dalmation	Black and White	Male	1	Dog	1
	7	Meowmix	Munchkin	Yellow	Female	0	Cat	1
	8	Ash	Persian	Gray	Female	0	Cat	1
	9	Tiger	Bengal	Brown	Male	0	Cat	1
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

**Distinct Clause** : We have two animals with same name = princess but distinct clause displayed unique name.

92 • `SELECT DISTINCT name FROM animals;`

Result Grid | Filter Rows: | Export

	name
▶	Bellyflop
	Snowy
	Princess
	Spot
	Meowmix
	Ash
	Tiger
	Snoops
	Salt
	Fuzz

95 • `SELECT COUNT(DISTINCT shelter) FROM animals ;`

	COUNT(DISTINCT shelter)
▶	3

**GROUP BY :** The GROUP BY clause is often used with aggregate functions (MAX, SUM, AVG) to group the results by one or more columns

96 • `SELECT COUNT(shelter) FROM animals GROUP BY shelter;`

	COUNT(shelter)
▶	8
	2
	1

**HAVING CLAUSE :** The HAVING clause is used instead of WHERE with aggregate functions.

96 • `SELECT COUNT(shelter) FROM animals GROUP BY shelter HAVING COUNT(shelter)>1;`

	COUNT(shelter)
▶	8
	2