

# Administración de base de datos:

## P101

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## INTRODUCCIÓN

En esta práctica nos enfocaremos en habilidades en MySQL, centrándonos en tareas clave. Aprenderemos a importar y respaldar bases de datos, realizar cambios, restaurar versiones anteriores y gestionar directorios en un repositorio Git. Estas competencias son fundamentales en la administración efectiva de bases de datos y en el uso práctico de herramientas como MySQL y Git. A través de pasos claros y documentación.

## OBJETIVO

El objetivo de esta práctica es que los estudiantes puedan realizar las siguientes tareas en MySQL:

Importar una base de datos

Realizar una copia de seguridad de una base de datos

Realizar cambios en una base de datos

Restaurar una base de datos a una versión anterior

Subir un directorio a un repositorio Git

```
adb@utez:~/base$ git clone https://github.com/oscarlugueib/oscarxibase.git
Cloning into 'oscarxibase'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
adb@utez:~/base$ ls
oscarxibase
adb@utez:~/base$ cd oscarbase
-bash: cd: oscarbase: No such file or directory
adb@utez:~/base$ cd oscarxibase
adb@utez:~/base/oscarxibase$ ls
Veterinaria.sql
adb@utez:~/base/oscarxibase$
```

importe con:

```
CREATE DATABASE IF NOT EXISTS Veterinaria;
```

```
USE Veterinaria;
```

```
SOURCE base/Veterinaria.sql;
```

```
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,00 sec)
Query OK, 1 row affected (0,02 sec)
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,00 sec)
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,01 sec)
Query OK, 1 row affected (0,00 sec)
Query OK, 1 row affected (0,01 sec)

mysql> show tables;
+-----+
| Tables_in_Veterinaria |
+-----+
| appointments          |
| appointments_vets     |
| clients               |
| pets                  |
| vets                  |
+-----+
5 rows in set (0,00 sec)

mysql> _
```

copia de seguridad:

se realizó la copia:

`sudo xtrabackup --backup --target-dir=/base`

`xtrabackup --verify --target-dir=/base`

`xtrabackup --flush-logs --target-dir=/base`

agregamos 3 registros en todas las tablas:

```
mysql> insert into clients values (null,'Miguel','Hidalgo',CURRENT_TIMESTAMP);  
Query OK, 1 row affected (0,01 sec)
```

```
mysql> select * from clients;
```

id	name	last_name	created_at
1	John	Doe	2024-01-20 01:46:13
2	Jane	Doe	2024-01-20 01:46:13
3	John	Smith	2024-01-20 01:46:13
4	Jane	Smith	2024-01-20 01:46:13
5	John	Johnson	2024-01-20 01:46:13
6	Jane	Johnson	2024-01-20 01:46:13
7	John	Williams	2024-01-20 01:46:13
8	Jane	Williams	2024-01-20 01:46:13
9	John	Brown	2024-01-20 01:46:13
10	Jane	Brown	2024-01-20 01:46:13
11	oscar	barrios	2024-01-20 01:55:49
12	Emiliano	Zapata	2024-01-20 02:00:03
13	Miguel	Hidalgo	2024-01-20 02:00:23

13 rows in set (0,00 sec)

```
mysql> select * from vets;
```

id	name	last_name	specialty	experience	created_at
1	John	Doe	Dentist	10	2024-01-20 01:46:13
2	Jane	Doe	Dentist	10	2024-01-20 01:46:13
3	John	Smith	Surgeon	15	2024-01-20 01:46:13
4	Jane	Smith	Surgeon	15	2024-01-20 01:46:13
5	John	Johnson	Dermatologist	20	2024-01-20 01:46:13
6	Jane	Johnson	Dermatologist	20	2024-01-20 01:46:13
7	John	Williams	Ophthalmologist	25	2024-01-20 01:46:13
8	Jane	Williams	Ophthalmologist	25	2024-01-20 01:46:13
9	John	Brown	Cardiologist	30	2024-01-20 01:46:13
10	Jane	Brown	Cardiologist	30	2024-01-20 01:46:13
11	Jose	Dominguez	Aves	23	2024-01-20 02:12:35
12	Rodrigo	Jasso	Peces	21	2024-01-20 02:13:07
13	Saul	Soto	Mamiferos	14	2024-01-20 02:13:31

13 rows in set (0,00 sec)

```
mysql> select * from pets;
```

id	name	type	breed	owner_id	created_at
1	Max	Dog	Labrador	1	2024-01-20 01:46:13
2	Buddy	Dog	Golden Retriever	2	2024-01-20 01:46:13
3	Charlie	Dog	French Bulldog	3	2024-01-20 01:46:13
4	Jack	Dog	German Shepherd	4	2024-01-20 01:46:13
5	Cooper	Dog	Poodle	5	2024-01-20 01:46:13
6	Milo	Cat	Persian	6	2024-01-20 01:46:13
7	Simba	Cat	Siamese	7	2024-01-20 01:46:13
8	Leo	Cat	Sphynx	8	2024-01-20 01:46:13
9	Lucy	Cat	Persian	6	2024-01-20 01:46:13
10	Luna	Cat	Siamese	7	2024-01-20 01:46:13
11	Nomi	Perrita	Vaca	11	2024-01-20 02:07:25
12	Zapatito	Perrito	Xoloescuintle	12	2024-01-20 02:08:19
13	Chilito	Pajarito	Perico	13	2024-01-20 02:08:51

13 rows in set (0,00 sec)

```
ERROR 1146 (42302): Table 'veterinaria.apointments' doesn't exist
mysql> select * from appointments;
```

id	pet_id	client_id	date	created_at
1	1	1	2021-01-01 10:00:00	2024-01-20 01:46:13
2	2	2	2021-01-01 11:00:00	2024-01-20 01:46:13
3	3	3	2021-01-01 12:00:00	2024-01-20 01:46:13
4	4	4	2021-01-01 13:00:00	2024-01-20 01:46:13
5	5	5	2021-01-01 14:00:00	2024-01-20 01:46:13
6	6	6	2021-01-01 15:00:00	2024-01-20 01:46:13
7	7	7	2021-01-01 16:00:00	2024-01-20 01:46:13
8	8	8	2021-01-01 17:00:00	2024-01-20 01:46:13
9	9	9	2021-01-01 18:00:00	2024-01-20 01:46:13
10	10	10	2021-01-01 19:00:00	2024-01-20 01:46:13
11	11	11	2024-01-19 00:00:00	2024-01-20 02:22:53
12	12	12	2024-01-26 00:00:00	2024-01-20 02:23:10
13	13	13	2024-01-20 00:00:00	2024-01-20 02:23:26

13 rows in set (0,00 sec)

```
mysql> select * from appointments_vets;
```

id	appointment_id	vet_id	created_at
1	1	1	2024-01-20 01:46:13
2	2	2	2024-01-20 01:46:13
3	3	3	2024-01-20 01:46:13
4	4	4	2024-01-20 01:46:13
5	5	5	2024-01-20 01:46:13
6	6	6	2024-01-20 01:46:13
7	7	7	2024-01-20 01:46:13
8	8	8	2024-01-20 01:46:13
9	9	9	2024-01-20 01:46:13
10	10	10	2024-01-20 01:46:13
11	11	11	2024-01-20 02:27:33
12	12	12	2024-01-20 02:27:41
13	13	13	2024-01-20 02:27:51

```
13 rows in set (0,00 sec)
```

se restaura:

```
sudo service mysql stop
```

```
sudo mv /var/lib/mysql /var/lib/mysql_backup
```

```
sudo rm -rf /var/lib/mysql
```

```
xtrabackup --prepare --target-dir=/ruta/base
```

```
sudo xtrabackup --copy-back --target-dir=/ruta/base --datadir=/var/lib/mysql
```

Restablecer permisos al datadir `sudo chown -R mysql:mysql /var/lib/mysql`

Reiniciar el servicio `sudo service mysql start`

```

2024-01-20T16:06:25.676113-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./performance_schema/table_lock_waits_109.sdi to /var/lib/mysql/performance_schema/table_lock_waits_109.sdi
2024-01-20T16:06:25.685848-00:00 1 [Note] [MY-011825] [Xtrabackup] Copying ./Veterinaria/clients.ibd to /var/lib/mysql/Veterinaria/clients.ibd
2024-01-20T16:06:25.688602-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./Veterinaria/clients.ibd to /var/lib/mysql/Veterinaria/clients.ibd
2024-01-20T16:06:25.699607-00:00 1 [Note] [MY-011825] [Xtrabackup] Copying ./Veterinaria/vets.ibd to /var/lib/mysql/Veterinaria/vets.ibd
2024-01-20T16:06:25.701828-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./Veterinaria/vets.ibd to /var/lib/mysql/Veterinaria/vets.ibd
2024-01-20T16:06:25.709332-00:00 1 [Note] [MY-011825] [Xtrabackup] Copying ./Veterinaria/pets.ibd to /var/lib/mysql/Veterinaria/pets.ibd
2024-01-20T16:06:25.710361-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./Veterinaria/pets.ibd to /var/lib/mysql/Veterinaria/pets.ibd
2024-01-20T16:06:25.716360-00:00 1 [Note] [MY-011825] [Xtrabackup] Copying ./Veterinaria/appointments.ibd to /var/lib/mysql/Veterinaria/appointments.ibd
2024-01-20T16:06:25.717671-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./Veterinaria/appointments.ibd to /var/lib/mysql/Veterinaria/appointments.ibd
2024-01-20T16:06:25.724481-00:00 1 [Note] [MY-011825] [Xtrabackup] Copying ./Veterinaria/appointments_vets.ibd to /var/lib/mysql/Veterinaria/appointments_vets.ibd
2024-01-20T16:06:25.725772-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./Veterinaria/appointments_vets.ibd to /var/lib/mysql/Veterinaria/appointments_vets.ibd
2024-01-20T16:06:25.732766-00:00 1 [Note] [MY-011825] [Xtrabackup] Copying ./ib_buffer_pool to /var/lib/mysql/ib_buffer_pool
2024-01-20T16:06:25.732867-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./ib_buffer_pool to /var/lib/mysql/ib_buffer_pool
2024-01-20T16:06:25.740200-00:00 1 [Note] [MY-011825] [Xtrabackup] Copying ./xtrabackup_info to /var/lib/mysql/xtrabackup_info
2024-01-20T16:06:25.740743-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: Copying ./xtrabackup_info to /var/lib/mysql/xtrabackup_info
2024-01-20T16:06:25.749436-00:00 1 [Note] [MY-011825] [Xtrabackup] Creating directory ./#innodb_redo
2024-01-20T16:06:25.749553-00:00 1 [Note] [MY-011825] [Xtrabackup] Done: creating directory ./#innodb_redo
2024-01-20T16:06:25.753169-00:00 0 [Note] [MY-011825] [Xtrabackup] completed OK!
adb@utez:~$ sudo chown -R mysql:mysql /var/lib/mysql
adb@utez:~$ sudo service mysql start
adb@utez:~$ _

```

comprarnos los datos:

```
Database changed
mysql> select * from clients;
```

id	name	last_name	created_at
1	John	Doe	2024-01-20 15:16:58
2	Jane	Doe	2024-01-20 15:16:58
3	John	Smith	2024-01-20 15:16:58
4	Jane	Smith	2024-01-20 15:16:58
5	John	Johnson	2024-01-20 15:16:58
6	Jane	Johnson	2024-01-20 15:16:58
7	John	Williams	2024-01-20 15:16:58
8	Jane	Williams	2024-01-20 15:16:58
9	John	Brown	2024-01-20 15:16:58
10	Jane	Brown	2024-01-20 15:16:58

```
10 rows in set (0,00 sec)

mysql>
```

```
mysql> select * from pets
-> ;
```

id	name	type	breed	owner_id	created_at
1	Max	Dog	Labrador	1	2024-01-20 15:16:58
2	Buddy	Dog	Golden Retriever	2	2024-01-20 15:16:58
3	Charlie	Dog	French Bulldog	3	2024-01-20 15:16:59
4	Jack	Dog	German Shepherd	4	2024-01-20 15:16:59
5	Cooper	Dog	Poodle	5	2024-01-20 15:16:59
6	Milo	Cat	Persian	6	2024-01-20 15:16:59
7	Simba	Cat	Siamese	7	2024-01-20 15:16:59
8	Leo	Cat	Sphynx	8	2024-01-20 15:16:59
9	Lucy	Cat	Persian	6	2024-01-20 15:16:59
10	Luna	Cat	Siamese	7	2024-01-20 15:16:59

```
10 rows in set (0,01 sec)

mysql> _
```



```
mysql> select * from vets;
```

id	name	last_name	specialty	experience	created_at
1	John	Doe	Dentist	10	2024-01-20 15:17:00
2	Jane	Doe	Dentist	10	2024-01-20 15:17:00
3	John	Smith	Surgeon	15	2024-01-20 15:17:00
4	Jane	Smith	Surgeon	15	2024-01-20 15:17:00
5	John	Johnson	Dermatologist	20	2024-01-20 15:17:00
6	Jane	Johnson	Dermatologist	20	2024-01-20 15:17:00
7	John	Williams	Ophthalmologist	25	2024-01-20 15:17:00
8	Jane	Williams	Ophthalmologist	25	2024-01-20 15:17:01
9	John	Brown	Cardiologist	30	2024-01-20 15:17:01
10	Jane	Brown	Cardiologist	30	2024-01-20 15:17:01

```
10 rows in set (0,00 sec)
```

```
mysql> _
```

```
mysql> select * from appointments
```

```
-> ;
```

id	pet_id	client_id	date	created_at
1	1	1	2021-01-01 10:00:00	2024-01-20 15:16:59
2	2	2	2021-01-01 11:00:00	2024-01-20 15:16:59
3	3	3	2021-01-01 12:00:00	2024-01-20 15:16:59
4	4	4	2021-01-01 13:00:00	2024-01-20 15:16:59
5	5	5	2021-01-01 14:00:00	2024-01-20 15:16:59
6	6	6	2021-01-01 15:00:00	2024-01-20 15:17:00
7	7	7	2021-01-01 16:00:00	2024-01-20 15:17:00
8	8	8	2021-01-01 17:00:00	2024-01-20 15:17:00
9	9	9	2021-01-01 18:00:00	2024-01-20 15:17:00
10	10	10	2021-01-01 19:00:00	2024-01-20 15:17:00

```
10 rows in set (0,00 sec)
```

```
mysql>
```

```
mysql> select * from appointments_vets
-> ;
+-----+-----+-----+-----+
| id | appointment_id | vet_id | created_at |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2024-01-20 15:17:01 |
| 2 | 2 | 2 | 2024-01-20 15:17:01 |
| 3 | 3 | 3 | 2024-01-20 15:17:01 |
| 4 | 4 | 4 | 2024-01-20 15:17:01 |
| 5 | 5 | 5 | 2024-01-20 15:17:01 |
| 6 | 6 | 6 | 2024-01-20 15:17:01 |
| 7 | 7 | 7 | 2024-01-20 15:17:01 |
| 8 | 8 | 8 | 2024-01-20 15:17:01 |
| 9 | 9 | 9 | 2024-01-20 15:17:02 |
| 10 | 10 | 10 | 2024-01-20 15:17:02 |
+-----+-----+-----+-----+
10 rows in set (0,00 sec)
```

al final le cambie el nombre y la moví pero nomas por gusto:

```
adb@utez:/home$ mv baseRespaldo adb
mv: cannot move 'baseRespaldo' to 'adb/baseRespaldo': Permission denied
adb@utez:/home$ sudo mv baseRespaldo adb
adb@utez:/home$ cd adb
adb@utez:~$ ls
base baseRespaldo
adb@utez:~$
```