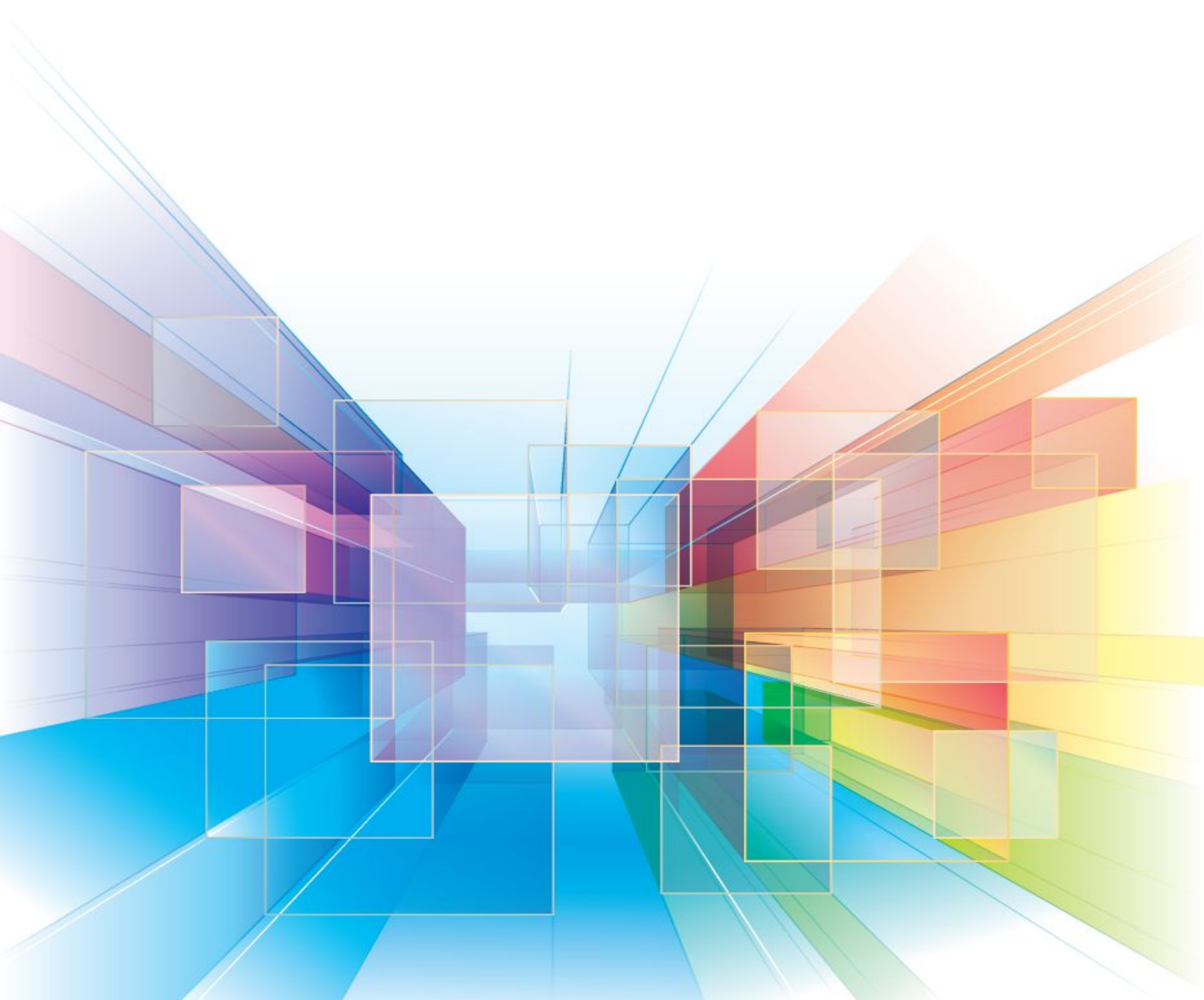


# Respaldos de bases de datos

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## RespalDOS binarios

### Respaldo binario completo

#### Comando

```
docker exec -i parcial2_db_1 mariabackup --backup --target-dir=dbbackups --user=root --password=123456
```

```
docker cp parcial2_db_1:/dbbackups dbbackups
```

#### Ejecución de comando

```

C:\Users\biosh\Desktop\Universidad\quinto parcial\Administración de base de datos\parcial2>docker exec -i parcial2_db_1 mariabackup --backup --target-dir=dbbackups --user=root --password=123456
[00] 2020-11-07 22:27:88 Connecting to MySQL server host: localhost, user: root, password: set, port: not set, socket: /run/mysqld/mysqld.sock
[00] 2020-11-07 22:27:88 Using server version 10.5.5-MariaDB-1:10.5.5-maria-focal
mariabackup based on MariaDB server 10.5.5-MariaDB debian-linux-gnu (x86_64)
[00] 2020-11-07 22:27:88 uses posix_fadvise().
[00] 2020-11-07 22:27:88 cd to /var/lib/mysql/
[00] 2020-11-07 22:27:88 open files: limit requested 0, set to 1048576
[00] 2020-11-07 22:27:88 mariabackup: using the following InnoDB configuration:
[00] 2020-11-07 22:27:88 innodb_data_home_dir =
[00] 2020-11-07 22:27:88 innodb_data_file_path = ibdata1:12M:autoextend
[00] 2020-11-07 22:27:88 innodb_log_group_home_dir = ./
[00] 2020-11-07 22:27:88 InnoDB: Using Linux native AIO
2020-11-07 22:27:88 [Note] InnoDB: Number of pools: 1
[00] 2020-11-07 22:27:88 mariabackup: Generating a list of tablespaces
2020-11-07 22:27:88 [Warning] InnoDB: Allocated tablespace ID 4 for mysql/gtid_slave_pos, old maximum was 0
[00] 2020-11-07 22:27:88 >> log scanned up to (70127)
[01] 2020-11-07 22:27:88 Copying ibdata1 to /dbbackups/ibdata1
[01] 2020-11-07 22:27:88 ...done
[01] 2020-11-07 22:27:88 Copying ./mysql/gtid_slave_pos.ibd to /dbbackups/mysql/gtid_slave_pos.ibd
[01] 2020-11-07 22:27:88 ...done
[01] 2020-11-07 22:27:88 Copying ./mysql/innodb_index_stats.ibd to /dbbackups/mysql/innodb_index_stats.ibd
[01] 2020-11-07 22:27:88 ...done
[01] 2020-11-07 22:27:88 Copying ./mysql/innodb_table_stats.ibd to /dbbackups/mysql/innodb_table_stats.ibd
[01] 2020-11-07 22:27:88 ...done
[01] 2020-11-07 22:27:88 Copying ./mysql/transaction_registry.ibd to /dbbackups/mysql/transaction_registry.ibd
[01] 2020-11-07 22:27:88 ...done
[01] 2020-11-07 22:27:88 Copying ./rincon_veracruzano/antojitos.ibd to /dbbackups/rincon_veracruzano/antojitos.ibd
[01] 2020-11-07 22:27:88 ...done
[00] 2020-11-07 22:27:88 >> log scanned up to (70127)
[00] 2020-11-07 22:27:89 Acquiring BACKUP LOCKS...
[00] 2020-11-07 22:27:89 Starting to backup non-InnoDB tables and files
[01] 2020-11-07 22:27:89 Copying ./myfirstdb/db.opt to /dbbackups/myfirstdb/db.opt
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/column_stats.MAD to /dbbackups/mysql/column_stats.MAD
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/column_stats.MAI to /dbbackups/mysql/column_stats.MAI
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/column_stats.frm to /dbbackups/mysql/column_stats.frm
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/columns_priv.MAD to /dbbackups/mysql/columns_priv.MAD
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/columns_priv.MAI to /dbbackups/mysql/columns_priv.MAI
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/columns_priv.frm to /dbbackups/mysql/columns_priv.frm
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/db.MAD to /dbbackups/mysql/db.MAD
[01] 2020-11-07 22:27:89 ...done
[01] 2020-11-07 22:27:89 Copying ./mysql/db.MAI to /dbbackups/mysql/db.MAI
[01] 2020-11-07 22:27:89 ...done

```

## Evidencia de Creación de respaldo

myFirstdb	07/11/2020 04:27 p. m.	Carpeta de archivos	
mysql	07/11/2020 04:27 p. m.	Carpeta de archivos	
performance_schema	07/11/2020 04:27 p. m.	Carpeta de archivos	
rincon_veracruzano	07/11/2020 04:27 p. m.	Carpeta de archivos	
aria_log.00000001	07/11/2020 04:27 p. m.	Archivo 00000001	32 KB
aria_log_control	07/11/2020 04:27 p. m.	Archivo	1 KB
backup-my.cnf	07/11/2020 04:27 p. m.	Archivo CNF	1 KB
ib_buffer_pool	07/11/2020 04:27 p. m.	Archivo	1 KB
ib_logfile0	07/11/2020 04:27 p. m.	Archivo	3 KB
ibdata1	07/11/2020 04:27 p. m.	Archivo	12,288 KB
xtrabackup_checkpoints	07/11/2020 04:27 p. m.	Archivo	1 KB
xtrabackup_info	07/11/2020 04:27 p. m.	Archivo	1 KB

## Respaldo binario incremental

### Comando

```
docker exec -i parcial2_db_1 mariabackup --backup --target-dir=inc --incremental-basedir=dbbackups --user=root --password=d=123456
```

### Ejecución de comando

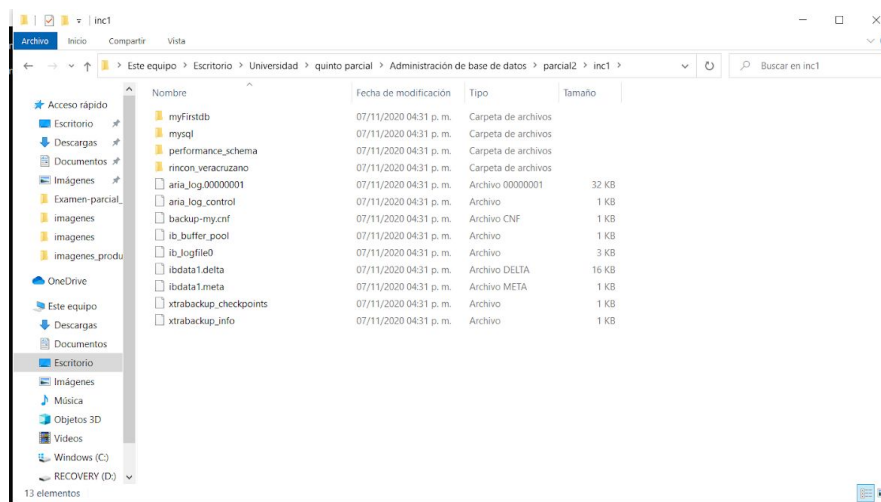
```

C:\Users\biosh\Desktop\Universidad\quinto parcial\Administración de base de datos\parcial2\docker exec -i parcial2_db_1 mariabackup --backup --target-dir=inc --incremental-basedir=dbbackups --user=root --password=d=123456
[00] 2020-11-07 22:31:57 Connecting to MySQL server host: localhost, user: root, password: set, port: not set, socket: /run/mysql/mysql.sock
[00] 2020-11-07 22:31:57 Using server version 10.5.5-MariaDB-1:10.5.5-maria-focal
mariabackup based on MariaDB server 10.5.5-MariaDB debian-linux-gnu (x86_64)
[00] 2020-11-07 22:31:57 Incremental backup from 70115 is enabled.
[00] 2020-11-07 22:31:57 uses posix_fadvise().
[00] 2020-11-07 22:31:57 cd to /var/lib/mysql/
[00] 2020-11-07 22:31:57 open files limit requested 0, set to 1048576
[00] 2020-11-07 22:31:57 mariabackup: using the following InnoDB configuration:
[00] 2020-11-07 22:31:57 innodb_data_home_dir =
[00] 2020-11-07 22:31:57 innodb_data_file_path = ibdata1:12M:autoextend
[00] 2020-11-07 22:31:57 innodb_log_group_home_dir = ./
[00] 2020-11-07 22:31:57 InnoDB: Using Linux native AIO
2020-11-07 22:31:57 0 [Note] InnoDB: Number of pools: 1
[00] 2020-11-07 22:31:57 mariabackup: Generating a list of tablespaces
2020-11-07 22:31:57 0 [Warning] InnoDB: Allocated tablespace ID 4 for mysql/gtid_slave_pos, old maximum was 0
[00] 2020-11-07 22:31:57 >> log scanned up to (70127)
[01] 2020-11-07 22:31:57 copying ibdata1 to /inc/ibdata1.delta
[01] 2020-11-07 22:31:57 ...done
[01] 2020-11-07 22:31:57 Copying ./mysql/gtid_slave_pos.ibd to /inc/mysql/gtid_slave_pos.ibd.delta
[01] 2020-11-07 22:31:57 ...done
[01] 2020-11-07 22:31:57 copying ./mysql/innodb_index_stats.ibd to /inc/mysql/innodb_index_stats.ibd.delta
[01] 2020-11-07 22:31:57 ...done
[01] 2020-11-07 22:31:57 copying ./mysql/innodb_table_stats.ibd to /inc/mysql/innodb_table_stats.ibd.delta
[01] 2020-11-07 22:31:57 ...done
[01] 2020-11-07 22:31:57 copying ./mysql/transaction_registry.ibd to /inc/mysql/transaction_registry.ibd.delta
[01] 2020-11-07 22:31:57 ...done
[01] 2020-11-07 22:31:57 Copying ./rincon_veracruzano/antojitos.ibd to /inc/rincon_veracruzano/antojitos.ibd.delta
[01] 2020-11-07 22:31:57 ...done
[00] 2020-11-07 22:31:58 >> log scanned up to (70127)
[00] 2020-11-07 22:31:58 Acquiring BACKUP LOCKS...
[00] 2020-11-07 22:31:58 Starting to backup non-InnoDB tables and files
[01] 2020-11-07 22:31:58 Copying ./myfirstdb/db.opt to /inc/myfirstdb/db.opt
[01] 2020-11-07 22:31:58 ...done
[01] 2020-11-07 22:31:58 Copying ./mysql/column_stats.MAD to /inc/mysql/column_stats.MAD
[01] 2020-11-07 22:31:58 ...done
[01] 2020-11-07 22:31:58 Copying ./mysql/column_stats.MAI to /inc/mysql/column_stats.MAI
[01] 2020-11-07 22:31:58 ...done
[01] 2020-11-07 22:31:58 Copying ./mysql/column_stats.frm to /inc/mysql/column_stats.frm
[01] 2020-11-07 22:31:58 ...done
[01] 2020-11-07 22:31:58 Copying ./mysql/columns_priv.MAD to /inc/mysql/columns_priv.MAD
[01] 2020-11-07 22:31:58 ...done
[01] 2020-11-07 22:31:58 Copying ./mysql/columns_priv.MAI to /inc/mysql/columns_priv.MAI
[01] 2020-11-07 22:31:58 ...done
[01] 2020-11-07 22:31:58 Copying ./mysql/columns_priv.frm to /inc/mysql/columns_priv.frm
[01] 2020-11-07 22:31:58 ...done
[01] 2020-11-07 22:31:58 Copying ./mysql/db.MAD to /inc/mysql/db.MAD
[01] 2020-11-07 22:31:58 ...done

```



## Evidencia de Creación de respaldo



## Proceso de importación de respaldo total ante una contingencia con evidencia Preparar la base de datos

```

C:\Users\biosh\Desktop\Universidad\quinto parcial\Administración de base de datos\parcial2>docker exec -i parcial2_db_1 mariabackup --prepare --target-dir=/dbbackups/
mariabackup based on MariaDB server 10.5.5-MariaDB debian-linux-gnu (x86_64)
[00] 2020-11-07 23:23:49 cd to /dbbackups/
[00] 2020-11-07 23:23:49 This target seems to be not prepared yet.
[00] 2020-11-07 23:23:49 mariabackup: using the following InnoDB configuration for recovery:
[00] 2020-11-07 23:23:49 innodb_data_home_dir = .
[00] 2020-11-07 23:23:49 innodb_data_file_path = ibdata1:12M:autoextend
[00] 2020-11-07 23:23:49 innodb_log_group_home_dir = .
[00] 2020-11-07 23:23:49 InnoDB: Using Linux native AIO
[00] 2020-11-07 23:23:49 Starting InnoDB instance for recovery.
[00] 2020-11-07 23:23:49 mariabackup: Using 104857600 bytes for buffer pool (set by --use-memory parameter)
[00] 2020-11-07 23:23:49 [Note] InnoDB: Uses event mutexes
[00] 2020-11-07 23:23:49 [Note] InnoDB: Compressed tables use zlib 1.2.11
[00] 2020-11-07 23:23:49 [Note] InnoDB: Number of pools: 1
[00] 2020-11-07 23:23:49 [Note] InnoDB: Using SSE4.2 crc32 instructions
mariabackup: 0 TMPFILE is not supported on /tmp (disabling future attempts)
[00] 2020-11-07 23:23:49 [Note] InnoDB: Initializing buffer pool, total size = 104857600, chunk size = 104857600
[00] 2020-11-07 23:23:49 [Note] InnoDB: Completed initialization of buffer pool
[00] 2020-11-07 23:23:49 [Note] InnoDB: If the mysql execution user is authorized, page cleaner thread priority can be changed. See the man page of setpriority().
[00] 2020-11-07 23:23:49 [Note] InnoDB: Starting crash recovery from checkpoint LSN=70115
[00] 2020-11-07 23:23:49 Last binlog file , position 0
[00] 2020-11-07 23:23:50 completed OK!
  
```

## Se ejecuta el comando de restauración incremental

```
docker exec -i parcial2_db_1 mariabackup --prepare --target-dir=/dbbackups/ --incremental-dir=inc
```

## Se ejecuta el comando de copyback

```

root@17bd7d22a42b: /
root@17bd7d22a42b: /# mariabackup --copy-back --target-dir=/dbbackups/
  
```

## Damos el permiso que necesitamos para ver la base de datos

```

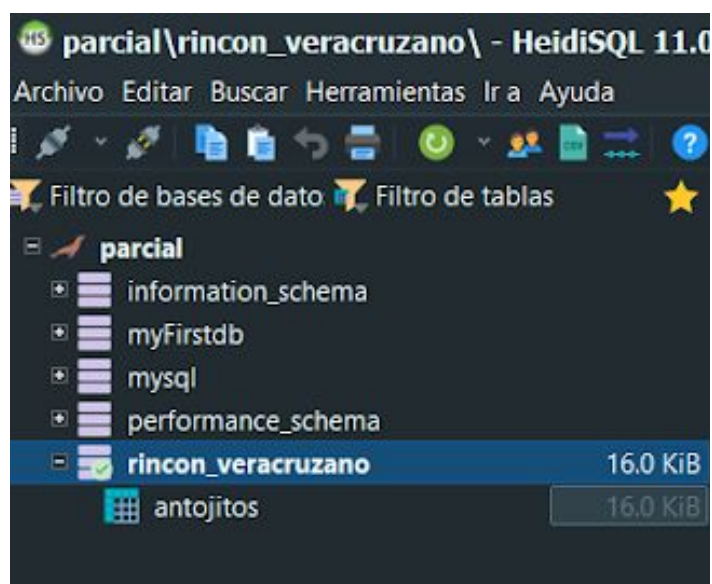
root@17bd7d22a42b: /
root@17bd7d22a42b: /# chown -R mysql:mysql /var/lib/mysql/
  
```

## Resultados

*Antes*



*Ahora*



## **Conclusiones**

En esta materia se me logro recalcar la importancia de la seguridad de la integridad de los datos, pues cuando se logra tener un nivel de conciencia alto con respecto a este tema se logra entender la razón del uso de los respaldos en las bases de datos, pues su uso logra hacer que ante cualquier contingencia o emergencia se logre recuperar todo lo dañado en el suceso, dando la posibilidad de contrarrestar todos los posibles escenarios que puedan llegar a darse en cuanto a la pérdida, secuestro o destrucción de la información que se encuentre en las bases de datos.