HSociety

CAT SHELTER

HANNA SIDDHARTTHA LIZARRAGA CEBALLOS

10 NOVIEMBRE 2020

Bitácora

Objetivo:

Se tiene como objetivo principal la ejecución y detalle de la ejecución y resultado de los respaldos para un buen control de seguridad de la información en cuestión plasmada en una base de datos SQL.

Alcance

Se detalla la información acerca de la creación de los respectivos respaldos, así como un respaldo en particular en caso de contingencia.

Respaldos
Dump

Comando y su ejecución:

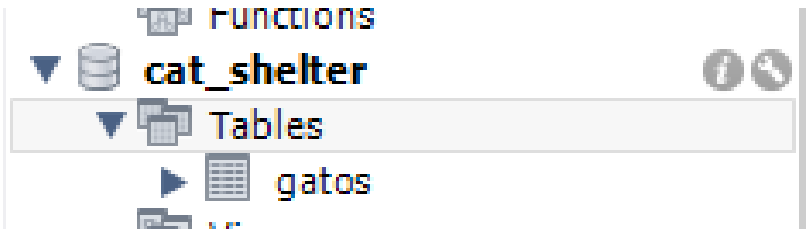
```
C:\Users\Siddhartha>docker exec -i parcial2 mysqldump -u root -p123456 --default-character-set=utf8 --routines --skip-triggers --add-drop-tale=false cat_shelter > respaldos.sql
```

Creación del respaldo:

```
-- Table structure for table 'gatos'
--

/*!40101 SET @saved_cs_cats           =@@character_set_cats  */;
/*!40101 SET  character_set_cat = utf8   */;
 create table if not exists gatos(
 id_cat int (10) Not null primary key,
 kind_cat varchar (30) Not null,
 price_cat varchar (20) Not null   ,
 unit_cat int not null) ENGINE = InnoDB DEFAULT CHARSET=utf8mb4;
/*!40101 SET character_set_cats = @saved_cs_cats   */;

--
-- Dumping data for table 'gatos'
--

LOCK TABLES  'gatos'    WRITE;
/*!40000 ALTER TABLE 'gatos' DISABLE KEYS     */;
INSERT INTO   'gatos'  VALUES (1,'persas',1300),(2,'angora',2300)(3,'bengali',5068);
/*!40000 ALTER TABLE 'gatos' ENABLE KEYS   */;
UNLOCK TABLES;

--
-- Dumping routines for database 'cat_shelter'
--
/*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;

/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/*!40101 SET CHARACTER_SET_CAT    -@OLD_CHARACTER_SET_       */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
/*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;

-- Dump completed on 2020-11-10
```

Restauración:

```
Siddharttha>docker exec -i parcial2 mysql gatos < respaldos.sql -p123478 -u root
```



Respaldos Binarios

Comando:

```
Siddharttha>docker exec -i parcial2 mariabackup --backup --target-dir-dbbackups --user=root --password=123478
```

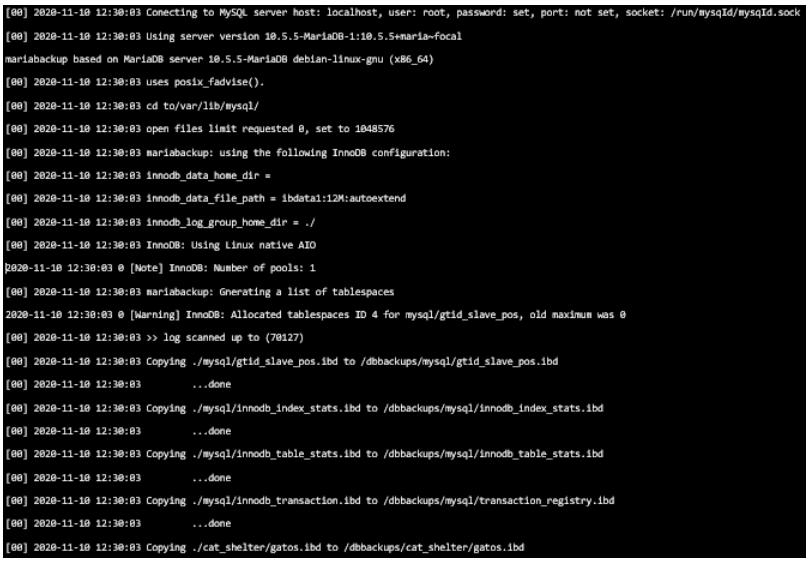
```
\Siddharttha>docker cp parcial2:/dbbackups dbbackups
```

Ejecución:

```
[00] 2020-11-10 12:30:03 Copying ./mysql/innodb_transaction.ibd to /dbbackups/mysql/transaction_registry.ibd
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:03 Copying ./cat_shelter/gatos.ibd to /dbbackups/cat_shelter/gatos.ibd
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:04 >> log scanned up to (70127)
[00] 2020-11-10 12:30:04 Acquiring to BACKUP LOCKS...
[00] 2020-11-10 12:30:04 Starting to backup non-InnoDB tables and files
[00] 2020-11-10 12:30:04 Copying ./myFirstdb/db.opt to /dbbackups/myFirstdb/db.opt
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_stats.MAD to /dbbackups/mysql/column_stats.MAD
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_stats.MAI to /dbbackups/mysql/column_stats.MAI
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_stats.frm to /dbbackups/mysql/column_stats.frm
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_priv.MAD to /dbbackups/mysql/column_priv.MAD
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_priv.MAI to /dbbackups/mysql/column_priv.MAI
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_priv.frm to /dbbackups/mysql/column_priv.frm
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/db.MAD to /dbbackups/mysql/db.MAD
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/db.MAI to /dbbackups/mysql/db.MAI
```

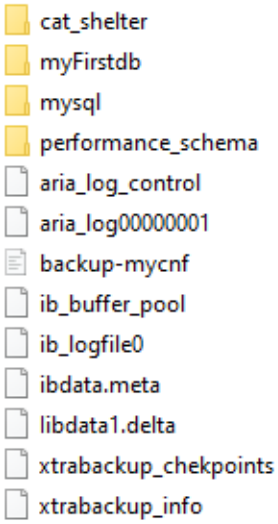
Respaldos Binarios

Ejecución:



```
[00] 2020-11-10 12:30:03 Conecting to MySQL server host: localhost, user: root, password: set, port: not set, socket: /run/mysqld/mysqld.sock
[00] 2020-11-10 12:30:03 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] 2020-11-10 12:30:03 uses posix_fadvise().
[00] 2020-11-10 12:30:03 cd to/var/lib/mysql/
[00] 2020-11-10 12:30:03 open files limit requested 0, set to 1048576
[00] 2020-11-10 12:30:03 mariabackup: using the following InnoDB configuration:
[00] 2020-11-10 12:30:03 innodb_data_home_dir =
[00] 2020-11-10 12:30:03 innodb_data_file_path = ibdata1:12M:autoextend
[00] 2020-11-10 12:30:03 innodb_log_group_home_dir = ./
[00] 2020-11-10 12:30:03 InnoDB: Using Linux native AIO
2020-11-10 12:30:03 0 [Note] InnoDB: Number of pools: 1
[00] 2020-11-10 12:30:03 mariabackup: Gnerating a list of tablespaces
2020-11-10 12:30:03 0 [Warning] InnoDB: Allocated tablespaces ID 4 for mysql/gtid_slave_pos, old maximum was 0
[00] 2020-11-10 12:30:03 >> log scanned up to (70127)
[00] 2020-11-10 12:30:03 Copying ./mysql/gtid_slave_pos.ibd to /dbbackups/mysql/gtid_slave_pos.ibd
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:03 Copying ./mysql/innodb_index_stats.ibd to /dbbackups/mysql/innodb_index_stats.ibd
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:03 Copying ./mysql/innodb_table_stats.ibd to /dbbackups/mysql/innodb_table_stats.ibd
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:03 Copying ./mysql/innodb_transaction.ibd to /dbbackups/mysql/transaction_registry.ibd
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:03 Copying ./cat_shelter/gatos.ibd to /dbbackups/cat_shelter/gatos.ibd
```

Creación del respaldo:



- cat_shelter
- myFirstdb
- mysql
- performance_schema
- aria_log_control
- aria_log00000001
- backup-mycnf
- ib_buffer_pool
- ib_logfile0
- ibdata.meta
- libdata1.delta
- xtrabackup_chekpoints
- xtrabackup_info

Respaldo
Binario Incremental

Comando:

```
Siddhartha>docker exec -i parcial2 mariabackup --backup --target-dir=inc --incremental-basedir=ddbackups --user=root --password d=1234578
```

Ejecución:

```
C:\Users\Siddhartha\Documents\Dockerfile\parcial2>docker exec -i parcial2 mariabackup --backup --tarjet-dir=inc --incremental-basedir=dbbackups --
user=root --password

d=123478

[00] 2020-11-10 12:30:03 Conecting to MySQL server host: localhost, user: root, password: set, port: not set, socket: /run/mysqId/mysqId.sock

[00] 2020-11-10 12:30:03 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] 2020-11-10 12:30:03 uses posix_fadvise().

[00] 2020-11-10 12:30:03 cd to/var/lib/mysql/

[00] 2020-11-10 12:30:03 open files limit requested 0, set to 1048576

[00] 2020-11-10 12:30:03 mariabackup: using the following InnoDB configuration:

[00] 2020-11-10 12:30:03 innodb_data_home_dir =

[00] 2020-11-10 12:30:03 innodb_data_file_path = ibdata1:12M:autoextend

[00] 2020-11-10 12:30:03 innodb_log_group_home_dir = ./

[00] 2020-11-10 12:30:03 InnoDB: Using Linux native AIO

2020-11-10 12:30:03 0 [Note] InnoDB: Number of pools: 1

[00] 2020-11-10 12:30:03 mariabackup: Gnerating a list of tablespaces

2020-11-10 12:30:03 0 [Warning] InnoDB: Allocated tablespaces ID 4 for mysql/gtid_slave_pos, old maximum was 0

[00] 2020-11-10 12:30:03 >> log scanned up to (70127)

[00] 2020-11-10 12:30:03 Copying ./mysql/gtid_slave_pos.ibd to /dbbackups/mysql/gtid_slave_pos.ibd.delta

[00] 2020-11-10 12:30:03         ...done

[00] 2020-11-10 12:30:03 Copying ./mysql/innodb_index_stats.ibd to /dbbackups/mysql/innodb_index_stats.ibd.delta

[00] 2020-11-10 12:30:03         ...done

[00] 2020-11-10 12:30:03 Copying ./mysql/innodb_table_stats.ibd to /dbbackups/mysql/innodb_table_stats.ibd.delta

[00] 2020-11-10 12:30:03         ...done
```

Respaldo Binario Incremental

Ejecución:

```
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:03 Copying ./cat_shelter/gatos.ibd to /dbbackups/cat_shelter/gatos.ibd.delta
[00] 2020-11-10 12:30:03         ...done
[00] 2020-11-10 12:30:04 >> log scanned up to (70127)
[00] 2020-11-10 12:30:04 Acquiring to BACKUP LOCKS...
[00] 2020-11-10 12:30:04 Starting to backup non-InnoDB tables and files
[00] 2020-11-10 12:30:04 Copying ./myFirstdb/db.opt to /inc/myFirstdb/db.opt
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_stats.MAD to /inc/mysql/column_stats.MAD
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_stats.MAI to /inc/mysql/column_stats.MAI
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_stats.frm to /inc/mysql/column_stats.frm
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_priv.MAD to /inc/mysql/column_priv.MAD
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_priv.MAI to /inc/mysql/column_priv.MAI
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/column_priv.frm to /inc/mysql/column_priv.frm
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/db.MAD to /inc/mysql/db.MAD
[00] 2020-11-10 12:30:04         ...done
[00] 2020-11-10 12:30:04 Copying ./mysql/db.MAI to /inc/mysql/db.MAI
[00] 2020-11-10 12:30:04         ...done
```

Respaldo:

- cat_shelter
- myFirstdb
- mysql
- performance_schema
- aria_log_control
- aria_log00000001
- backup-mycnf
- ib_buffer_pool
- ib_logfile0
- ibdata.meta
- libdata1.delta
- xtrabackup_chekpoints
- xtrabackup_info

Importación de datos en caso de contingencia

Preparar base de datos:

```
C:\Users\Siddhartttha\Documents\Dockerfile\parcial2>docker exec -i parcial2 mariabackup --prepare --tarjet-dir=/dbbackups/
mariabackup based on MariaDB server 10.5.5-MariaDB debian-linux-gnu (x86_64)
[00] 2020-11-10 12:30:03 cd to /dbbackups/
[00] 2020-11-10 12:30:03 This target seems to be not prepared yet.
[00] 2020-11-10 12:34:15 mariabackup: using the following InnoDB configuration for recovery:
[00] 2020-11-10 12:34:15 innodb_data_home_dir = .
[00] 2020-11-10 12:34:15 innodb_data_file_path = ibdata1:12M:autoextend
[00] 2020-11-10 12:34:15 innodb_log_group_home_dir = ./
[00] 2020-11-10 12:34:15 InnoDB: Using Linux native AIO
[00] 2020-11-10 12:34:15 Starting InnoDB instance for recovery.
[00] 2020-11-10 12:34:15 mariabackup: Using 104857600 bytes for buffer pool (set by --use-memory parameter)
2020-11-10 12:34:15 0 [Note] InnoDB: Uses event mutexes
2020-11-10 12:34:15 0 [Note] InnoDB: Compressed tables use zlib 1.2.11
2020-11-10 12:34:15 0 [Note] InnoDB: Number of pools: 1
2020-11-10 12:34:15 0 [Note] InnoDB: Using SSE4.2 crc32 instructions
mariabackup: O_TMPFILE is not supported on /tmp (disabling future attempts)
2020-11-10 12:34:15 0 [Note] InnoDB: Initializing buffer pool, total size = 104857600 chunk size = 104857600
2020-11-10 12:34:15 0 [Note] InnoDB: Completed initialization of buffer pool
2020-11-10 12:34:15 0 [Note] InnoDB: If the mysqld execution user is autorized, page cleaner thread priority can be changed. See the man page of
setpriority().
2020-11-10 12:34:15 0 [Note] InnoDB: Starting crash recovery form checkpoint LSN=70115
[00] 2020-11-10 12:34:15 Last binlog file , position 0
[00] 2020-11-10 12:34:15 completed OK!
```

Restauración incremental:

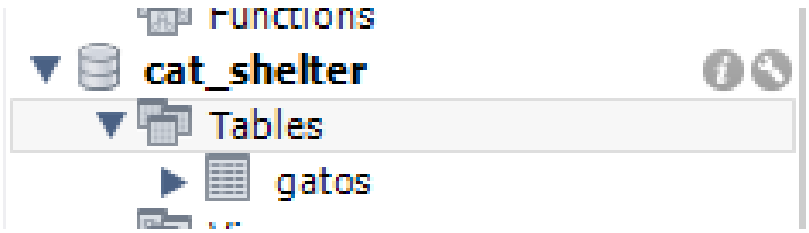
```
Siddhartttha>docker exec -i parcial2 mariabackup --prepare --target-dir=/dbbackups/ --incremental-dir=inc
```

Copyback:

```
@root13bd8d21a41b:/#mariabackup --copy-back --target-dir=/dbbackups/
```

Permisos para la base de datos:

```
@root13bd8d21a41b:/# chown -R mysql:mysql /var/lib/mysql/
```



Conclusión:

Es muy indispensable tener este conocimiento ya que tener respaldos de nuestra base de datos es muy importante, ya que en caso de que ocurriera una contingencia y esta se pierde por accidente ya no hay vuelta atrás es decir perderíamos toda la información y no podríamos recuperarla. Al saber como respaldar y que tipos de respaldos existen y como aplicarlos correctamente, estaremos asegurando la seguridad de nuestra base de datos.