

# MySQL



## Repaso

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Consultas Avanzadas: Between, Like, combinaciones del And y Or, el In.

Alias de Tablas y Campos.

Select entre tablas: Table Reference y Joins.

Llaves Primarias y Foráneas.

# Programa del Curso

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Clase 1: Introducción a BD + Mysql + Usos + Sentencias

Clase 2: Consultas Avanzadas + Joins + Llaves

Clase 3: Experticia en querys

Clase 4: Más Practicas + DML

Clase 5: Tipos de Datos + DER + Constraints + DDL

# Experticia en Querys

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1. Funciones de agregación.
2. Funciones típicas.
3. Group by.
4. Having.
5. Distinct.
6. Sub-queries.
7. Exists.

# Agrupación de datos

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Problemas a resolver:

- ¿Cuántas películas tengo?
- ¿Cuántas películas tengo del género X?
- ¿Cuál es el rating promedio de películas?
- ¿Cuál es el mínimo/máximo rating que tiene una película?

# Funciones de agregación

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- COUNT
- MIN
- MAX
- SUM
- AVG

# COUNT

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```
SELECT COUNT(*)  
FROM movies;
```

```
SELECT COUNT(id)  
FROM movies;
```

```
SELECT COUNT(id) AS total  
FROM movies  
WHERE genre_id = 3;
```



# AVG, SUM, MIN, MAX

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```
SELECT AVG(rating)
FROM movies;
```

```
SELECT SUM(length)
FROM movies;
```

```
SELECT MIN(rating)
FROM movies;
```

```
SELECT MAX(rating)
FROM movies;
```



# Más funciones interesantes

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- CONCAT
- COALESCE
- DATEDIFF
- EXTRACT
- LENGTH
- REPLACE
- DATE FORMAT
- CASE
- DISTINCT

<https://dev.mysql.com/doc/refman/5.7/en/func-op-summary-ref.html>

# CONCAT

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```
SELECT CONCAT('Hola ', 'a ', 'todos ', 'en ', 'Digital ', 'House!');
```

Resultado: Hola a todos en Digital House!

```
SELECT CONCAT('La respuesta es: ', 24);
```

Resultado: La respuesta es: 24

```
SELECT CONCAT('Uniendo dos campos: ', first_name, ' ', last_name)  
FROM actors;
```

Resultado: Uniendo dos campos: Billy Zane

```
SELECT CONCAT('Uniendo con NULL: ', NULL);
```

Resultado: NULL

# COALESCE

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## TABLE STRUCTURE

id	customername	mobile	home	work
1	Joe	123	456	789
2	Jane		654	987
3	John			321

```
SELECT id, customername, COALESCE(mobile, home, work) AS phone FROM customers
```

## RESULT

id	customername	phone
1	Joe	123
2	Jane	654
3	John	321

# DATEDIFF

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```
mysql> SELECT DATEDIFF('2014-01-28', '2014-01-27');
```

```
Result: 1
```

```
mysql> SELECT DATEDIFF('2014-01-28 11:41:14', '2014-01-27 12:10:08');
```

```
Result: 1
```

```
mysql> SELECT DATEDIFF('2014-01-28 11:41:14', '2014-01-27');
```

```
Result: 1
```

```
mysql> SELECT DATEDIFF('2014-02-15', '2014-02-10');
```

```
Result: 5
```

```
mysql> SELECT DATEDIFF('2014-01-28', '2013-12-31');
```

```
Result: 28
```

```
mysql> SELECT DATEDIFF('2013-12-31', '2014-01-28');
```

```
Result: -28
```

# EXTRACT

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```
mysql> SELECT EXTRACT(SECOND FROM '2014-02-13 08:44:21');  
Result: 21
```

```
mysql> SELECT EXTRACT(MINUTE FROM '2014-02-13 08:44:21');  
Result: 44
```

```
mysql> SELECT EXTRACT(HOUR FROM '2014-02-13 08:44:21');  
Result: 8
```

```
mysql> SELECT EXTRACT(DAY FROM '2014-02-13');  
Result: 13
```



# EXTRACT

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```
mysql> SELECT EXTRACT(WEEK FROM '2014-02-13');
```

```
Result: 6
```

```
mysql> SELECT EXTRACT(MONTH FROM '2014-02-13');
```

```
Result: 2
```

```
mysql> SELECT EXTRACT(QUARTER FROM '2014-02-13');
```

```
Result: 1
```

```
mysql> SELECT EXTRACT(YEAR FROM '2014-02-13');
```

```
Result: 2014
```

# REPLACE

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```
SELECT id,  
REPLACE(title, 'Harry', 'Pedro') AS titulo_manipulado  
FROM movies  
ORDER BY id;
```

```
SELECT REPLACE('abc abc', 'a', 'B');
```

Resultado: Bbc Bbc

```
SELECT REPLACE('abc abc', 'A', 'B');
```

Resultado: abc abc

```
SELECT REPLACE('123 123', '2', '5');
```

Resultado: 153 153



# DATE FORMAT

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```
3 • SELECT
4     id,
5     title,
6     rating,
7     release_date,
8     DATE_FORMAT(release_date, '%W %M %Y') AS fecha_de_estreno
9 FROM movies
10 ORDER BY rating
11
```

Result Grid  Filter Rows: <input type="text"/> Export:  Wrap Cell Content: 						
#	id	title	rating	release_date	fecha_de_estreno	
1	7	Transformers: el lado oscuro de la l...	0.9	2005-07-04 00:00:00	Monday July 2005	
2	14	Toy Story 2	3.2	2003-04-04 00:00:00	Friday April 2003	
3	16	Mi pobre angelito	3.2	1989-01-04 00:00:00	Wednesday January 1989	

# CASE

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```
SELECT
  id,
  title,
  rating,
  CASE
    WHEN rating < 4 THEN 'Mala'
    WHEN rating < 6 THEN 'Regular'
    WHEN rating < 8 THEN 'Buena'
    WHEN rating < 9.5 THEN 'Muy buena'
    ELSE 'Excelente'
  END AS rating_cat
FROM movies
ORDER BY rating
```

# DISTINCT

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```
SELECT DISTINCT actors.first_name, actors.last_name
FROM actors
    INNER JOIN actor_movie ON actors.id = actor_movie.actor_id
    INNER JOIN movies ON movies.id = actor_movie.movie_id
WHERE
    movies.title LIKE '%Harry Potter%';
```

nombre	apellido
▶ Daniel	Radcliffe
Emma	Watson
Helena	Bonham Carter
Rupert	Grint

# Group by - Sintaxis

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SELECT campo1 [,campo2,...]

FROM tabla

[where condiciones]

GROUP BY campo1[, campo2, ...]

<https://dev.mysql.com/doc/refman/5.7/en/group-by-functions.html>

# Group by - Sintaxis

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SELECT Marca

FROM Autos

**GROUP by**

**Marca**

id	Marca	Modelo	kilometros
1	Renault	Clio	10
2	Renault	Megane	23000
3	Seat	Ibiza	9000
4	Seat	Leon	20
5	Opel	Corsa	999
6	Renault	Clio	34000
7	Seat	Ibiza	2000
8	Seat	Cordoba	99999
9	Renault	Clio	88888

Marca
Opel
Renault
Seat

<https://dev.mysql.com/doc/refman/5.7/en/group-by-functions.html>



# Having - sintaxis

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SELECT campo1 [,campo2, ...]

FROM tabla

GROUP BY campo1 [, campo2, ...]

HAVING condición

<https://dev.mysql.com/doc/refman/5.7/en/group-by-functions.html>

AGENT_NAME	COMMISSION
Alex	.13
Subbarao	.14
Benjamin	.11
Ramasundar	.15
Alford	.12
Ravi Kumar	.15
Santakumar	.14
Lucida	.12
Anderson	.13
Mukesh	.11
McDen	.15
Ivan	.15

GROUP BY commission

COMMISSION	COUNT(*)
.15	4
.11	2
.14	2
.13	2
.12	2

HAVING COUNT (\*) &gt; 3;

COMMISSION	COUNT(*)
.15	4

COMMISSION	COUNT(*)
.15	4
.11	2
.14	2
.13	2
.12	2



# Having - sintaxis

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SELECT commision,  
count(\*)

FROM **agents**

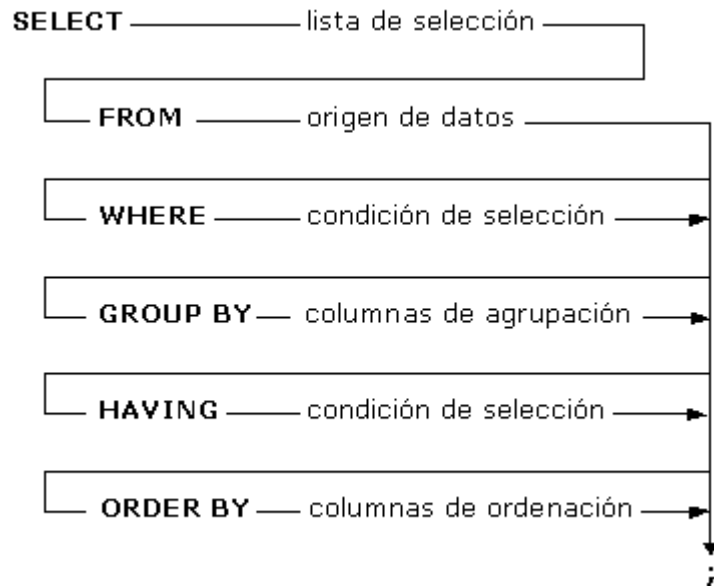
GROUP BY **commision**

HAVING **count(\*)>3**

<https://dev.mysql.com/doc/refman/5.7/en/group-by-functions.html>

# Estructura u orden de un Query

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Select **campos...**

From **tabla**

[Where condiciones]

[Group by columnas]

[Having condición]

[Order by columnas]

Importemos una  
BD para empezar  
a trabajar las  
consultas.



Usando  
MySQL  
Workbench

Ejecutemos  
sentencias

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Guía de ejercicios:  
“1. Agregación de datos”

A landscape photograph of mountains at sunset or sunrise. The sky is a gradient of orange and yellow, transitioning into a pale blue. The mountains are silhouetted in various shades of blue, with some peaks visible in the distance. A semi-transparent white rectangular box is centered over the image, containing the text "Receso 15 min" in a bold, black, sans-serif font.

**Receso  
15 min**

# Subqueries

# SUBQUERIES

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Un subquery es un SELECT dentro de otro SELECT.

Tambien llamado Inner Query o Inner Select.

En los subqueries podemos llamar por segunda vez a la misma tabla.



# SUBQUERIES - Sintaxis

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```
SELECT campos...  
FROM tabla1  
WHERE campo1 in (  
    SELECT campoA  
    FROM tablaA  
)
```

```
SELECT campos..., (  
    SELECT campoA  
    FROM tablaA  
) [AS aliasCampo]  
FROM tabla1
```

# SUBQUERIES - Sintaxis

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```
SELECT campos...,  
[alias.campoA]  
FROM tabla1, (  
    SELECT campoA  
    FROM tablaA  
) [alias]  
WHERE          condicion
```

# SUBQUERIES

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Traer la(s) película(s) que tengan un rating mejor que el promedio

```
SELECT id, title, rating
FROM movies
WHERE rating > (
    SELECT AVG(rating)
    FROM movies
);
```

# SUBQUERIES

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Obtener los actores, junto con la cantidad de episodios y la cantidad de películas en la que actuaron.

```
SELECT
    a.id, a.first_name, a.last_name,
    (SELECT COUNT(*) FROM actor_movie AS am WHERE am.actor_id = a.id)
    AS tot_peliculas,
    (SELECT COUNT(*) FROM actor_episode AS ae WHERE ae.actor_id = a.id)
    AS tot_episodios
FROM actors AS a
```

Ejecutemos  
sentencias



Guía de ejercicios:  
“2. Subqueries”

# Exists

# EXISTS

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Operador de comparación.

Se utiliza en la cláusula Where.

Validar o Negar una condición.



# EXISTS - Sintaxis

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SELECT campos...

FROM

tabla

WHERE

[NOT] EXISTS (subquery)

# EXISTS - Sintaxis

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SELECT campos...

FROM                      tabla

WHERE

[NOT] EXISTS ( subquery )

SELECT columna1

FROM tabla1

WHERE

EXISTS

(SELECT \* FROM tabla2);

# EXISTS - Sintaxis

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Obtener los actores cuyas películas preferidas duren 2hs.

```
SELECT a.first_name, a.last_name
FROM actors AS a
WHERE EXISTS (
    SELECT m.id FROM movies AS m
    WHERE m.id = a.favorite_movie_id
    AND length = 120
);
```

Ejecutemos  
sentencias

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Guía de ejercicios:  
“3. Exists”

**GRACIAS**

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**¿Que vimos hoy?**

**¿Preguntas?**