



TECNOLÓGICO
NACIONAL DE MÉXICO



Instituto Tecnológico Superior de Jerez – ITSJ

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5to Semestre Carrera: Ingeniería en sistemas
computacionales (ISC).

Materia: Taller de Base De Datos.

Actividad: Evidencia BD Empresa.

Docente: I.S.C. Salvador Acevedo Sandoval

Jerez de García Salinas Zacatecas

Se Creó base de datos empresa: (CREATE DATABASE Empresa;)

```
C:\windows\system32\cmd.exe - mysql -u root -p
Microsoft Windows [Versión 10.0.18362.1082]
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C:\Users\Bazán>mysql -u root -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 16
Server version: 8.0.19 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE Empresa;
Query OK, 1 row affected (0.57 sec)

mysql>
```

Se Seleccionó la Base de Datos Empresa: (USE Empresa;)

```
C:\windows\system32\cmd.exe - mysql -u root -p
Microsoft Windows [Versión 10.0.18362.1082]
(c) 2019 Microsoft Corporation. Todos los derechos reservados.

C:\Users\Bazán>mysql -u root -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 16
Server version: 8.0.19 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE Empresa;
Query OK, 1 row affected (0.57 sec)

mysql> USE Empresa;
Database changed
mysql>
```

Se creó la tabla Departamentos: (CREATE TABLE Departamentos);

```
C:\windows\system32\cmd.exe - mysql -u root -p

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE Empresa;
Query OK, 1 row affected (0.38 sec)

mysql> use empresa
Database changed
mysql> CREATE TABLE Departamento (NombreDpto VARCHAR(50),NumeroDpto TINYINT NOT NULL PRIMARY KEY,DniDirector VARCHAR(45), FechaIngresoDirector DATE);
Query OK, 0 rows affected (0.92 sec)

mysql> DESCRIBE Departamento;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NombreDpto | varchar(50) | YES | | NULL | |
| NumeroDpto | tinyint | NO | PRI | NULL | |
| DniDirector | varchar(45) | YES | | NULL | |
| FechaIngresoDirector | date | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql>
```

Se creó la tabla Empleados;

```
C:\windows\system32\cmd.exe - mysql -u root -p

+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NombreDpto | varchar(50) | YES | | NULL | |
| NumeroDpto | tinyint | NO | PRI | NULL | |
| DniDirector | varchar(45) | YES | | NULL | |
| FechaIngresoDirector | date | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> CREATE TABLE Empleado(Nombre VARCHAR(30),Apellido1 VARCHAR(30), Apellido2 VARCHAR(35),Dni VARCHAR(45) NOT NULL PRIMARY KEY,FechaNac DATE, Direccion VARCHAR(45), Sexo CHAR(3),Sueldo INT,SuperDNI VARCHAR(45));
Query OK, 0 rows affected (0.84 sec)

mysql> describe empleado;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Nombre | varchar(30) | YES | | NULL | |
| Apellido1 | varchar(30) | YES | | NULL | |
| Apellido2 | varchar(35) | YES | | NULL | |
| Dni | varchar(45) | NO | PRI | NULL | |
| FechaNac | date | YES | | NULL | |
| Direccion | varchar(45) | YES | | NULL | |
| Sexo | char(3) | YES | | NULL | |
| Sueldo | int | YES | | NULL | |
| SuperDNI | varchar(45) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)

mysql>
```

Se creó tabla subordinado:

```
C:\windows\system32\cmd.exe - mysql -u root -p

+-----+
| Nombre | varchar(30) | YES | | NULL | | |
| Apellido1 | varchar(30) | YES | | NULL | | |
| Apellido2 | varchar(35) | YES | | NULL | | |
| Dni | varchar(45) | NO | PRI | NULL | | |
| FechaNac | date | YES | | NULL | | |
| Direccion | varchar(45) | YES | | NULL | | |
| Sexo | char(3) | YES | | NULL | | |
| Sueldo | int | YES | | NULL | | |
| SuperDNI | varchar(45) | YES | | NULL | | |
+-----+
9 rows in set (0.00 sec)

mysql> CREATE TABLE Subordinado(DniEmpleado VARCHAR(45),NombreSubordinado VARCHAR(45) NOT NULL PRIMARY KEY,Sexo CHAR(5),
FechaNac DATE,Relacion VARCHAR(45));
Query OK, 0 rows affected (0.61 sec)

mysql> describe subordinado;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| DniEmpleado | varchar(45) | YES | | NULL | | |
| NombreSubordinado | varchar(45) | NO | PRI | NULL | | |
| Sexo | char(5) | YES | | NULL | | |
| FechaNac | date | YES | | NULL | | |
| Relacion | varchar(45) | YES | | NULL | | |
+-----+
5 rows in set (0.00 sec)

mysql>
```

Se creó tabla Proyecto:

```
C:\windows\system32\cmd.exe - mysql -u root -p

Query OK, 0 rows affected (0.61 sec)

mysql> describe subordinado;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| DniEmpleado | varchar(45) | YES | | NULL | | |
| NombreSubordinado | varchar(45) | NO | PRI | NULL | | |
| Sexo | char(5) | YES | | NULL | | |
| FechaNac | date | YES | | NULL | | |
| Relacion | varchar(45) | YES | | NULL | | |
+-----+
5 rows in set (0.00 sec)

mysql> CREATE TABLE Proyecto(NombreProyecto VARCHAR(45),NumProyecto TINYINT NOT NULL PRIMARY KEY,UbicacionProyecto VARCHAR(45),NumDptoProyecto TINYINT NOT NULL);
Query OK, 0 rows affected (0.81 sec)

mysql> DESCRIBE Proyecto;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| NombreProyecto | varchar(45) | YES | | NULL | | |
| NumProyecto | tinyint | NO | PRI | NULL | | |
| UbicacionProyecto | varchar(45) | YES | | NULL | | |
| NumDptoProyecto | tinyint | NO | | NULL | | |
+-----+
4 rows in set (0.11 sec)

mysql>
```

Se creó la tabla trabaja_en :

```
C:\windows\system32\cmd.exe - mysql -u root -p

mysql> CREATE TABLE Proyecto(NombreProyecto VARCHAR(45),NumProyecto TINYINT NOT NULL PRIMARY KEY,UbicacionProyecto VARCHAR(45),NumDptoProyecto TINYINT NOT NULL);
Query OK, 0 rows affected (0.81 sec)

mysql> DESCRIBE Proyecto;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NombreProyecto | varchar(45)   | YES  |     | NULL    |       |
| NumProyecto    | tinyint       | NO   | PRI | NULL    |       |
| UbicacionProyecto | varchar(45)   | YES  |     | NULL    |       |
| NumDptoProyecto | tinyint       | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.11 sec)

mysql> CREATE TABLE Trabaja_En(DniEmpleado VARCHAR(45),NumProyecto TINYINT,Horas DOUBLE);
Query OK, 0 rows affected (0.68 sec)

mysql> describe Proyecto;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NombreProyecto | varchar(45)   | YES  |     | NULL    |       |
| NumProyecto    | tinyint       | NO   | PRI | NULL    |       |
| UbicacionProyecto | varchar(45)   | YES  |     | NULL    |       |
| NumDptoProyecto | tinyint       | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

Se creó tabla localizaciones:

```
C:\windows\system32\cmd.exe - mysql -u root -p

4 rows in set (0.11 sec)

mysql> CREATE TABLE Trabaja_En(DniEmpleado VARCHAR(45),NumProyecto TINYINT,Horas DOUBLE);
Query OK, 0 rows affected (0.68 sec)

mysql> describe Proyecto;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NombreProyecto | varchar(45)   | YES  |     | NULL    |       |
| NumProyecto    | tinyint       | NO   | PRI | NULL    |       |
| UbicacionProyecto | varchar(45)   | YES  |     | NULL    |       |
| NumDptoProyecto | tinyint       | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> CREATE TABLE LocalizacionesDpto(UbicacionDpto VARCHAR(45),NumeroDpto TINYINT);
Query OK, 0 rows affected (0.83 sec)

mysql> describe localizacionesdpto;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| UbicacionDpto  | varchar(45)   | YES  |     | NULL    |       |
| NumeroDpto     | tinyint       | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>
```

Se modificó tabla Empleado;

```
C:\windows\system32\cmd.exe - mysql -u root -p

+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| UbicacionDpto | varchar(45) | YES  |     | NULL    |       |
| NumeroDpto   | tinyint    | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> ALTER TABLE Empleado ADD CONSTRAINT FOREIGN KEY (SuperDNI) REFERENCES Empleado(Dni) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.27 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe Empleado;

+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Nombre     | varchar(30) | YES  |     | NULL    |       |
| Apellido1   | varchar(30) | YES  |     | NULL    |       |
| Apellido2   | varchar(35) | YES  |     | NULL    |       |
| Dni         | varchar(45) | NO   | PRI | NULL    |       |
| FechaNac   | date       | YES  |     | NULL    |       |
| Direccion  | varchar(45) | YES  |     | NULL    |       |
| Sexo       | char(3)    | YES  |     | NULL    |       |
| Sueldo     | int        | YES  |     | NULL    |       |
| SuperDNI   | varchar(45) | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)

mysql>
```

```
C:\windows\system32\cmd.exe - mysql -u root -p

9 rows in set (0.00 sec)

mysql> ALTER TABLE Empleado ADD COLUMN Dno TINYINT;
Query OK, 0 rows affected (0.51 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE Empleado ADD CONSTRAINT FOREIGN KEY (Dno)REFERENCES Departamento(NumeroDpto) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (3.98 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
mysql> DESCRIBE EMPLEADO;

+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Nombre     | varchar(30) | YES  |     | NULL    |       |
| Apellido1   | varchar(30) | YES  |     | NULL    |       |
| Apellido2   | varchar(35) | YES  |     | NULL    |       |
| Dni         | varchar(45) | NO   | PRI | NULL    |       |
| FechaNac   | date       | YES  |     | NULL    |       |
| Direccion  | varchar(45) | YES  |     | NULL    |       |
| Sexo       | char(3)    | YES  |     | NULL    |       |
| Sueldo     | int        | YES  |     | NULL    |       |
| SuperDNI   | varchar(45) | YES  | MUL | NULL    |       |
| Dno        | tinyint    | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.02 sec)

mysql>
```

Se modificó la tabla subordinado:

```
C:\windows\system32\cmd.exe - mysql -u root -p

+-----+-----+-----+-----+-----+-----+
| Apellido2 | varchar(35) | YES | NULL | | |
| Dni | varchar(45) | NO | PRI | NULL | |
| FechaNac | date | YES | NULL | | |
| Direccion | varchar(45) | YES | NULL | | |
| Sexo | char(3) | YES | NULL | | |
| Sueldo | int | YES | NULL | | |
| SuperDNI | varchar(45) | YES | MUL | NULL | |
| Dno | tinyint | YES | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.02 sec)

mysql> ALTER TABLE Subordinado ADD CONSTRAINT FOREIGN KEY (DniEmpleado) REFERENCES Empleado(Dni) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.40 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
mysql> describe Subordinado;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DniEmpleado | varchar(45) | YES | MUL | NULL | |
| NombreSubordinado | varchar(45) | NO | PRI | NULL | |
| Sexo | char(5) | YES | NULL | NULL | |
| FechaNac | date | YES | NULL | NULL | |
| Relacion | varchar(45) | YES | NULL | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

Se modificó la tabla trabaja_en:

```
C:\windows\system32\cmd.exe - mysql -u root -p

+-----+-----+-----+-----+-----+-----+
| DniEmpleado | varchar(45) | YES | MUL | NULL | |
| NombreSubordinado | varchar(45) | NO | PRI | NULL | |
| Sexo | char(5) | YES | NULL | NULL | |
| FechaNac | date | YES | NULL | NULL | |
| Relacion | varchar(45) | YES | NULL | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> ALTER TABLE Trabaja_En ADD CONSTRAINT FOREIGN KEY (NumProyecto) REFERENCES Proyecto(NumProyecto) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.24 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE Trabaja_En ADD CONSTRAINT FOREIGN KEY (DniEmpleado) REFERENCES Subordinado(DniEmpleado) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.21 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe Trabaja_en;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DniEmpleado | varchar(45) | YES | MUL | NULL | |
| NumProyecto | tinyint | YES | MUL | NULL | |
| Horas | double | YES | NULL | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

Se modificó la tabla localizacionesDpto:

```
C:\windows\system32\cmd.exe - mysql -u root -p

mysql> describe Trabaja_en;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DniEmpleado | varchar(45) | YES  | MUL | NULL    |       |
| NumProyecto | tinyint    | YES  | MUL | NULL    |       |
| Horas       | double     | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> ALTER TABLE LocalizacionesDpto ADD CONSTRAINT FOREIGN KEY (NumeroDpto) REFERENCES Departamento(NumeroDpto) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.10 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE Proyecto ADD CONSTRAINT FOREIGN KEY (NumDptoProyecto) REFERENCES LocalizacionesDpto(NumeroDpto) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe localizacionesdpto;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| UbicacionDpto | varchar(45) | YES  |     | NULL    |       |
| NumeroDpto    | tinyint    | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.09 sec)

mysql>
```

Al igual que tabla proyecto:

```
C:\windows\system32\cmd.exe - mysql -u root -p

mysql> ALTER TABLE LocalizacionesDpto ADD CONSTRAINT FOREIGN KEY (NumeroDpto) REFERENCES Departamento(NumeroDpto) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.10 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE Proyecto ADD CONSTRAINT FOREIGN KEY (NumDptoProyecto) REFERENCES LocalizacionesDpto(NumeroDpto) ON UPDATE CASCADE ON DELETE CASCADE;
Query OK, 0 rows affected (2.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe localizacionesdpto;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| UbicacionDpto | varchar(45) | YES  |     | NULL    |       |
| NumeroDpto    | tinyint    | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.09 sec)

mysql> describe proyecto;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NombreProyecto | varchar(45) | YES  |     | NULL    |       |
| NumProyecto    | tinyint    | NO   | PRI | NULL    |       |
| UbicacionProyecto | varchar(45) | YES  |     | NULL    |       |
| NumDptoProyecto | tinyint    | NO   | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```


WorkBench:

