1. **ESTUDIO**
2. **Aprendiendo**

* **CREATE and DROP:**
* CREATE a new table

*CREATE TABLE t\_test*

*(a INTEGER PRIMARY KEY,*

*b VARCHAR(10))*

* DROP a table

*DROP TABLE t\_test*

* Composite primary key

*CREATE TABLE track(*

*album CHAR(10) NOT NULL,*

*dsk INTEGER NOT NULL,*

*posn INTEGER NOT NULL,*

*song VARCHAR(255),*

*PRIMARY KEY (album, dsk, posn)*

*)*

* *CREATE a foreign key*

*CREATE TABLE invoice(*

*cust\_no INTEGER,*

*whn DATE,*

*amt DECIMAL(10,2),*

*FOREIGN KEY(cust\_no) REFERENCES customer(id)*

*)*

* CREATE A VIEW

*CREATE VIEW v\_europe AS*

*SELECT name,*

*population AS pop*

*FROM world*

*WHERE region='Europe';*

*SELECT \* FROM v\_europe*

* Autonumber fields

*CREATE TABLE t\_test(*

*id INTEGER AUTO\_INCREMENT PRIMARY KEY,*

*name VARCHAR(10)*

*);*

*INSERT INTO t\_test(name) VALUES ('Andrew');*

*INSERT INTO t\_test(name) VALUES ('Gordon');*

*SELECT \* FROM t\_test;*

* ALTER TABLE .. ADD COLUMN

*ALTER TABLE a ADD COLUMN z INTEGER;*

*SELECT \* FROM a;*

* ALTER TABLE … DROP COLUMN

*ALTER TABLE a DROP COLUMN y;*

*SELECT \* FROM a;*

* ALTER TABLE … ADD constraint

*ALTER TABLE a ADD CHECK (y>2);*

* CREATE TABLE problems: Table already exists

*CREATE TABLE IF NOT EXISTS*

*t\_holiday(a INTEGER)*

* Rename column

*CREATE TABLE a(x INTEGER);*

*INSERT INTO a VALUES (2);*

*ALTER TABLE a CHANGE x y INTEGER;*

*SELECT \* FROM a*

* **INSERT and DELETE:**
* INSERT new records

*INSERT INTO t\_peep VALUES (1, 'andrew');*

*INSERT INTO t\_peep VALUES (2, 'gordon');*

*SELECT \* FROM t\_peep*

* UPDATE existing records

*UPDATE t\_peep*

*SET name = 'andy', id=39*

*WHERE id=1;*

*SELECT \* FROM t\_peep*

* DELETE records

*DELETE FROM t\_peep*

*WHERE id=2;*

*SELECT \* FROM t\_peep*

* INSERT … SELECT

*INSERT INTO t\_peep*

*SELECT population, name FROM world*

*WHERE region='Europe';*

*SELECT \* FROM t\_peep*

* INSERT: Not all fields need to be specified

*INSERT INTO t\_peep (id) VALUES (99);*

*SELECT \* FROM t\_peep*

* INSERT a date

*CREATE TABLE t\_x (x VARCHAR(5), y DATE);*

*INSERT INTO t\_x VALUES ('Ryka','1997-03-01');*

*INSERT INTO t\_x VALUES ('Impos','1997-09-30');*

*SELECT \* FROM t\_x*

* Explicitly enter a NULL

*INSERT INTO t\_peep VALUES (4677, NULL)*

* String contains a quote ‘

*INSERT INTO t\_q VALUES ('O''Brian');*

*SELECT \* FROM t\_q*

* **Meta Data:**
* What are my tables?

*show tables*

* What are the columns of the BBC table?

*show columns from bbc*

* Get the first 10 rows of the gisq.cia table.

*SELECT \* FROM bbc LIMIT 10*

* Get the 11th to the 20th rows of the cia table - by population.

*SELECT \* FROM bbc*

*ORDER BY population DESC*

*LIMIT 11, 10*

* What versión of the software am i using?

*SELECT version()*

* How can you determine the primary key using SQL?

*DESCRIBE casting*

* Return a sequential record count for all records returned

*DROP TABLE numbered\_bbc;*

*CREATE TABLE numbered\_bbc*

*(counter INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY*

*,name VARCHAR(50)*

*,region VARCHAR(60)*

*,area DECIMAL(10,0)*

*,population DECIMAL(11,0)*

*,gdp DECIMAL(14,0)*

*);*

*INSERT INTO numbered\_bbc (name, region, area,*

*population,gdp)*

*SELECT name, region, area, population, gdp*

*FROM gisq.bbc;*

*SELECT \* FROM numbered\_bbc*

1. **Revisando los tipos de datos**

|  |  |  |
| --- | --- | --- |
| **MODELO** | **SQL:2008** | **ORACLE** |
| ENTERO (N) | Int | Int |
| REAL (D, M) | decimal (D, M) | Number (D, M) |
| CARACTER | Char (1) | Char (1) |
| CADENA (N)  Fija  Flexible | Char (N)  Varchar (N) | Char(N)  Varchar2 (N) |
| HORA  FECHA  FECHA + HORA | Time  Date  Datetime | Time  Date  Timestamp |

1. **Aprendiendo a definir las restricciones sobre atributos y de clave de forma independiente**
   1. La sentencia ALTER TABLE … ADD CONSTRAINT puede añadir las siguientes restricciones sobre las columnas después de crear la tabla:

* UNIQUE
* CHECK
* Foreign key

Las restricciones PRIMARY KEY y NOT NULL solo pueden ser aplicadas a través de CREATE TABLE, y la restricción DEFAULT se aplica a través de ALTER COLUMN.



|  |  |
| --- | --- |
| CREATE TABLE games (  yr INT NOT NULL PRIMARY KEY,  city VARCHAR(20) UNIQUE  ); | CREATE TABLE games (  Yr INT NOT NULL,  City VARCHAR(20),  CONSTRAINT “PK\_GAMES” PRIMARY KEY (yr)  );  ALTER TABLE games  ADD CONSTRAINT “UK\_GAMES” UNIQUE (city) |
| CREATE TABLE Orderses  (O\_Id int NOT NULL PRIMARY KEY,  OrderNo int NOT NULL,  P\_Id int FOREIGN KEY REFERENCES Persons(P\_Id)  ) | CREATE TABLE orderses (  O\_Id INT NOT NULL,  OrderNo IN NOT NULL,  P\_Id INT NOT NULL,  CONSTRAINT “PK\_ORDENES” PRIMARY KEY (O\_Id)  );  ALTER TABLE orderses  ADD CONSTRAINT “FK\_ORDENES\_PERSONAS” FOREIGN KEY (P\_Id) REFERENCES Persons(P\_Id) |

1. **INVESTIGANDO SQL Developer**
   1. SQL Developer es un “Integrated development environment” (IDE) para trabajar con SQL en bases de datos Oracle, usa Java Development Kit.

La apariencia y funcionalidad es similar a la de otras herramientas de este tipo, por lo que es una buena opción si no tenemos especial predilección por otras herramientas.

Además, en las últimas versiones ha incorporado mejoras como permitir conectar con bases de datos no Oracle, como SQLServer, MySQL o Access. La conexión con MySQL o SQLServer se realiza a través de JDBC, y de manera bastante sencilla. Una vez establecida la conexión se pueden explorar los objetos de las bases de datos como si se tratara de una de Oracle, y ejecutar sobre ellas sentencias SQL, aunque en cuanto a funcionalidades más avanzadas como la creación de estructuras este tipo de conexión estará mucho más limitada.

* 1. Ventajas de SQL Developer (En inglés):
* Easy to use UI.
* Fairly quick software with right Java versions, etc.
* Formatting feature is good.
* Explain plan feature is great.
* Export SQL results to a spreadsheet. After a query is run, you are able to export the results to a spreadsheet
* Easily preview data columns on an Oracle table or view and the metadata on those columns.
* SQL Editor is color-coded so that you can tell easily what are keywords.
* You can set up SQL code templates to be able to use shortcut keys to format your SQL query easily in a readable format that you prefer.
* One of the things that SQL Developer is really good at is helping us view and export database structures to see if it needs some design optimization. Sometimes, as a developer I need to check that out.
* SQL Developer also offers stability in the management of query executions.
* And, one of the main advatages of SQL Developer over other options is the easy way that let you have multiple connections open, and change between them.

Desventajas de SQL Developer (En inglés):

* There are a fair number of bugs that are identified in the product regularly, but Oracle generally releases updates several times per year to address issues and introduce new features.
* Although you can collapse certain sections of code, it is not always reliable and sometimes auto-expands.
* Some settings are not retained from session to session. For example, I like specific columns to be expanded in my results so I can see the entire value.

**Instalando:** No se presentó ningun problema al instalar la herramienta, es muy sencilla de instalar.

**Arrancando:** Para establecer la conexión con el servidor de la escuela se deben colocar los siguientes datos:

* Usuario: bd#carné
* Password: bd#carné
* Hostname: granate.is.escuelaing.edu.co
* Port: 1521
* SID: orcl

La información que se encuentra en mi cuenta se puede ver por medio del menú de conexiones ubicado en la parte izquierda del software sqlDeveloper.

* 1. Musicians

En auto03.sql