Db2 Cheat Sheet for development

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Get the most recent version at
https://github.com/angoca/db2-cheat-sheet/Db2CheatSheetForDev.pdf

Execution of a file in the console (db2clp)

- Semi-colon separated sentences:

```
db2 -t
```

- At sign separated sentences (when there is SQL PL code):

```
db2 -td@
```

Define a terminator character

```
--#SET TERMINATOR @
```

List all databases (aliases)

```
LIST DB DIRECTORY
```

Connect to a database (alias)

```
CONNECT TO mydb
```

Disconnect from a database

```
CONNECT RESET
TERMINATE
```

Get values from the environment (registry values)

- Current timestamp

```
VALUES CURRENT TIMESTAMP
```

- Connected user

```
VALUES CURRENT USER
```

- Current database

```
VALUES CURRENT SERVER
```

List all tables

```
LIST TABLES
LIST TABLES FOR SCHEMA myuser
LIST TABLES FOR ALL
```

Change current schema

```
SET CURRENT SCHEMA otherschema
```

Change the isolation level

```
SET ISOLATION RR
```

List all tablespaces with their status

```
LIST TABLESPACES
```

Describe the estructure of the table

```
DESCRIBE TABLE mytable
```

Describe the result of a query

```
DESCRIBE SELECT * FROM mytable
```

Get help for a Db2 command

```
? command
```

Get help for a SQL code (SQLXXXX) or SQLstate (YYYYY)

```
? SQLXXX
? YYYYY
```

DDL

Create a schema

```
CREATE SCHEMA myschema
```

Create a table in a specific tablespace

```
CREATE TABLE mytable1 (mycol1
  SMALLINT NOT NULL, mycol2
  VARCHAR(16)) IN ts1 INDEX IN ts2
CREATE TABLE myschema.othertable
  (mycol1 SMALLINT)
```

Create a table like another one

```
CREATE TABLE mytable2 LIKE mytable1
  IN ts1 INDEX IN ts2
```

Comment on table and column

```
COMMENT ON TABLE mytable1 IS 'This
  is the comment of the table'
COMMENT ON COLUMN mytable1.mycol1
  IS 'Description of the field'
```

Declare a temporary tablel

```
DECALRE GLOBAL TEMPORARY TABLE
  mytemptab1 (col1 SMALLINT, col2
  TIMESTAMP, col3 VARCHAR(50))
```

Create a global temporary tablespace

```
CREATE GLOBAL TEMPORARY TABLE
  tmptable (col1 INTEGER)
```

Create an index

```
CREATE INDEX myidx ON mytable1
  (mycol1)
```

Create a primary key constraint

```
ALTER TABLE mytable1 ADD CONSTRAINT
  pkmytable PRIMARY KEY (mycol1)
```

Create a foreign key

```
ALTER TABLE mytable2 ADD CONSTRAINT
  fkmytable FOREIGN KEY (mycol1)
  REFERENCES mytable1 (mycol1)
```

Create a check constraint

```
ALTER TABLE mytable1 ADD CONSTRAINT
  chk CHECK (mycol2 in ('a', 'b',
  'c', 'd', 'e', 'f', 'g'))
```

Enforce a constraint

```
ALTER TABLE mytable2 ALTER FOREIGN
  KEY fkmytable ENFORCED
ALTER TABLE mytable1 ALTER CHECK
  chk ENFORCED
```

Not enforce a constraint

```
ALTER TABLE mytable2 ALTER FOREIGN
  KEY fkmytable NOT ENFORCED
```

Drop a table

```
DROP TABLE mytable
```

Rename a table

```
RENAME TABLE mytable2 AS
  myothertable
```

Truncate a table

```
TRUNCATE TABLE mytable1 IMMEDIATE
```

Create a sequence

```
CREATE SEQUENCE myseq AS INTEGER
```

Reiniciar secuencia

```
ALTER SEQUENCE myseq RESTART WITH
  15
```

Crete a stored procedure

```
CREATE OR REPLACE PROCEDURE myproc
  (IN val SMALLINT, OUT ret
  VARCHAR(16)) SPECIFIC myproc1
  BEGIN SET ret = (SELECT mycol2
  FROM mytable1 WHERE mycol1 =
  val); END @
```

Create a trigger

```
CREATE TRIGGER copy_value AFTER
  INSERT ON mytable1 REFERENCING
  NEW AS N FOR EACH ROW INSERT INTO
  mytable2 VALUES (N.mycol1,
  N.mycol2)
```

Create a view

```
CREATE VIEW VW1 AS SELECT mycol2
  FROM mytable1
```

DCL

Grant on a table

```
GRANT SELECT, INSERT ON TABLE
  mytable TO GROUP recur
```

Grant execution on a stored procedure

```
GRANT EXECUTE ON PROCEDURE
  myproc(SMALLINT, VARCHAR(16)) TO
  USER jdoe
GRANT EXECUTE ON SPECIFIC PROCEDURE
  myproc1 TO USER jdoe
```

Revoke on a table

```
REVOKE UPDATE, DELETE ON TABLE
  mytable FROM GROUP recur
```

DML

Insert values on a table

```
INSERT INTO mytable1 (mycol1,
  mycol2) VALUES (1, 'a')
INSERT INTO mytable1 VALUES (2,
  'b')
INSERT INTO mytable1 VALUES (3,
  'c'), (4, 'd'), (5, 'e') --Atomic
```

Insert certains columns

```
INSERT INTO mytabl1 (mycol1) VALUES
  (6)
```

Insert values from a select

```
INSERT INTO myothertable SELECT
  mycol1, mycol2 FROM mytable1
```

Update fields

```
UPDATE mytable1 SET mycol1 = 5,
  mycol2 = 'e' –all table
UPDATE mytable1 SET mycol2 = 'd'
  WHERE mycol1 = 7
```

Merge (upsert)

```
MERGE INTO mytable1 AS t USING
  (SELECT mycol1 FROM myothertable)
  s ON (t.mycol1 = s.mycol1) WHEN
  MATCHED THEN UPDATE SET mycol2 =
  'X' WHEN NOT MATCHED THEN INSERT
  VALUES (10, 'X')
```

Delete rows

```
DELETE FROM mytable1 –all table
DELETE FROM mytable1 WHERE mycol1 >
  5
```

Export

```
EXPORT TO myfile OF DEL SELECT *
  FROM mytable1
```

Import

```
IMPORT FROM myfile OF DEL INSERT
  INTO mytable1
```

Load

```
LOAD FROM myfile OF DEL INSERT INTO
  mytable1
```

Query the status of the load in a table

```
LOAD QUERY TABLE mytable1
```

Set integrity

```
SET INTEGRITY FOR mytable IMMEDIATE
  CHECKED
```

TODO INGEST

```
INGEST FROM FILE my_file.txt FORMAT
  DELIMITED INSERT INTO my_table
```

Obtener siguiente valor de secuencia

```
VALUES NEXT VALUE FOR myseq
INSERT INTO mytabl1 (mycol1) VALUES
  (NEXT VALUE FOR myseq)
```

TCL

Commit changes

```
COMMIT
```

Create a savepoint

```
SAVEPOINT sp1 ON ROLLBACK RETAIN
  CURSORS
```

Undo changes until savepoint

```
ROLLBACK TO SAVEPOINT sp1
```

Undo changes

```
ROLLBACK
```

Queries

Put a lock at table level

```
LOCK TABLE mytable1 IN EXCLUSIVE
  MODE
```

Execute a query without regard of commit rows

```
SELECT * FROM mytable WITH UR
```

Execute a query with only 5 rows

```
SELECT * FROM mytable FETCH FIRST 5
  ROWS ONLY
```

Perform a query to a dummy table (dual)

```
SELECT 'Valor cualquiera' FROM
  SYSIBM.SYSDUMMY1
```

Perform a query calling a function

```
SELECT HEX(mycol2) FROM mytable1
```

Call a function

```
VALUES HEX('AnyText')
```

Perform a cast

```
VALUES CAST('123' AS INTEGER)
```

Concatenate

```
VALUES 'AnyText' || 5
VALUES 'AnyText' concat 5
```

Escape a single quote in a text field

```
VALUES 'Sinead o''Connor'
```

Query the database catalog

```
SELECT * FROM SYSCAT.TABLES
SELECT * FROM SYSCAT.TABAUTH
SELECT * FROM SYSCAT.ROUTINES
```

Create a compound statement – Anonumous block

```
BEGIN DECLARE val SMALLINT; SET val
  = 1; WHILE (val <= 5) DO INSERT
  INTO mytable VALUES (val, val);
  SET val = val + 1; END WHILE; END
  @
```

Perform a reorg via ADMIN_CMD

```
CALL SYSPROC.ADMIN_CMD('REORG TABLE
  mytable')
```

Call a stored procedure with an IN and an OUTPUT parameter

```
CALL myproc(5, ?)
```