



FIGURE 1.0: TARGETED INCOMPLETE ERD

STEP 1: LAUNCH COMMAND LINE PROCESSOR (CLP)

STEP 2: CREATE DATABASE IN COMMAND LINE PROCESSOR (CLP)

db2 => CREATE DATABASE EMPDB [PRESS ENTER & WAIT SUCCESSFUL MESSAGE]

STEP 3: CONNECT TO NEWLY CREATED DATABASE

db2 => CONNECT TO EMPDB

STEP 4: CREATE INDEPENDENT TABLE FIRST -> DEPARTMENT

```

CREATE TABLE DEPARTMENT
(
    DEPTID INTEGER PRIMARY KEY NOT NULL,
    DEPTNAME VARCHAR(10) NOT NULL
);
  
```

STEP 5: CREATE DEPENDENT TABLE -> STAFF

```

CREATE TABLE STAFF
(
    STAFFID INTEGER NOT NULL,
    STAFFNAME VARCHAR(255) NOT NULL,
    DEPTID INTEGER NOT NULL,
    FOREIGN KEY (DEPTID) REFERENCES DEPARTMENT (DEPTID)
);
  
```

STEP 6: DESCRIBE DEPARTMENT TABLE

```
DESCRIBE TABLE DEPARTMENT;
```

STEP 7: INCREASE CHARACTER SIZE IN A TABLE

```
ALTER TABLE DEPARTMENT  
ALTER COLUMN DEPTNAME SET DATA TYPE VARCHAR(255);
```

STEP 8: DESCRIBE DEPARTMENT TABLE

```
DESCRIBE TABLE DEPARTMENT;
```

STEP 9: CHANGING ATTRIBUTE NAME IN A TABLE

```
ALTER TABLE DEPARTMENT  
RENAME COLUMN DEPTNAME TO DEPT_NAME;
```

STEP 10: DESCRIBE DEPARTMENT TABLE

```
DESCRIBE TABLE DEPARTMENT;
```

STEP 11: CHANGE DEPT_NAME BACK TO DEPTNAME

```
ALTER TABLE DEPARTMENT  
RENAME COLUMN DEPT_NAME TO DEPTNAME;
```

STEP 12: DESCRIBE DEPARTMENT TABLE

```
DESCRIBE TABLE DEPARTMENT;
```

STEP 13: ADD NEW COLUMN/ATTRIBUTE IN A TABLE

```
ALTER TABLE DEPARTMENT  
ADD COLUMN DEPTCODE VARCHAR(3);
```

STEP 14: DESCRIBE DEPARTMENT TABLE

```
DESCRIBE TABLE DEPARTMENT;
```

STEP 15: DROP COLUMN/ATTRIBUTE FROM A TABLE

```
ALTER TABLE DEPARTMENT  
DROP COLUMN DEPTCODE;
```

STEP 16: DESCRIBE DEPARTMENT TABLE

```
DESCRIBE TABLE DEPARTMENT;
```

STEP 17: REORGANIZE TABLE STRUCTURE AFTER TABLE MODIFICATION IS COMPLETELY DONE (COMPULSORY)

REORG TABLE DEPARTMENT;

STEP 18: ASSIGN MISSING PRIMARY KEY TO A STAFF TABLE

ALTER TABLE STAFF
ADD PRIMARY KEY (STAFFID);

STEP 19: ADD NEW COLUMN/ATTRIBUTE IN A TABLE

ALTER TABLE STAFF
ADD COLUMN STAFFIC VARCHAR(12);

STEP 20: SET NULLABLE TO EXISTING ATTRIBUTE

ALTER TABLE STAFF
ALTER COLUMN STAFFIC SET NOT NULL;

STEP 21: ASSIGN MISSING FOREIGN KEY TO DEPENDENT TABLE (APPLY IF YOU FORGOT TO ASSIGN FK. IGNORE IF YOU HAVE CREATED FK AT THE EARLY STAGE)

ALTER TABLE STAFF
ADD FOREIGN KEY (DEPTID) REFERENCES DEPARTMENT (DEPTID);

STEP 22: REORGANIZE TABLE STRUCTURE AFTER TABLE MODIFICATION IS COMPLETELY DONE (COMPULSORY)

REORG TABLE STAFF;

INSERTING DATA INTO TABLE

NOTE: YOU MUST INSERT DATA INTO INDEPENDENT TABLE FIRST THEN DEPENDENT TABLE. IN THIS TUTORIAL, INSERT INTO DEPARTMENT THEN CONTINUES WITH STAFF.

TWO WAYS TO INSERT DATA INTO TABLE:

1. WITH SPECIFYING ATTRIBUTE NAMES
2. WITHOUT SPECIFYING ATTRIBUTE NAMES

WITH ATTRIBUTE NAMES

```
INSERT INTO DEPARTMENT (DEPTID, DEPTNAME) VALUES (1, 'INFORMATION TECHNOLOGY'); COMMIT;
```

```
INSERT INTO DEPARTMENT (DEPTID, DEPTNAME) VALUES (2, 'FINANCIAL');  
COMMIT;
```

```
INSERT INTO DEPARTMENT (DEPTID, DEPTNAME) VALUES (3, 'HUMAN RESOURCES');  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (1234, 'SYAFIQ JASMI', '  
951022035030', 2);  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (0135, 'SYAFIQ JASMI', '  
891117145871', 2);  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (4889, 'NAJIHAH KHAIRIRI', '  
920912146048', 2);  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (2809, 'ZAITON JUSOH', '  
'920616115554', 2);  
COMMIT;
```

WITHOUT ATTRIBUTE NAMES

NOTE: IF YOU CHOOSE THIS METHOD, CAREFULLY ASSIGN THE VALUES POSITION. IT MUST FOLLOW THE ORDER OF THE ATTRIBUTES IN A TABLE STRUCTURE. MEANING THAT, YOU MUST HAVE THE KNOWLEDGE OF THE TABLE STRUCTURE BEFORE INSERTING THE VALUES BY EXECUTING 'DESCRIBE TABLE TABLE_NAME' COMMAND OR LOOKING AT THE DATABASE MODEL.

```
INSERT INTO DEPARTMENT VALUES (1, 'INFORMATION TECHNOLOGY');  
COMMIT;
```

```
INSERT INTO DEPARTMENT VALUES (2, 'FINANCIAL');  
COMMIT;
```

```
INSERT INTO DEPARTMENT VALUES (3, 'HUMAN RESOURCES');  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (1234, 'SYAFIQ JASMI', '  
951022035030', 2);  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (0135, 'SYAFIQ JASMI', '  
891117145871', 2);  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (4889, 'NAJIHAH KHAIRIRI', '  
920912146048', 2);  
COMMIT;
```

```
INSERT INTO STAFF (STAFFID, STAFFNAME, STAFFIC, DEPTID) VALUES (2809, 'ZAITON JUSOH', '  
'920616115554', 2);  
COMMIT;
```

UPDATING DATA

NOTE: UPDATING DATA USUALLY USED PRIMARY KEY OR ANY KEY ATTRIBUTE WHERE IT MUST BE SPECIFIED IN WHERE CLAUSE.

UPDATING SINGLE DATA

```
UPDATE STAFF SET STAFFNAME = 'FATIN HALIM' WHERE STAFFID = 1234;
```

UPDATING MULTIPLE DATA

```
UPDATE STAFF SET STAFFNAME = 'MOHD ALI MOHD ISA', DEPTID = 1 WHERE STAFFID = 1234;
```

DELETING DATA FROM A TABLE

NOTE: DELETING DATA USED PRIMARY KEY OR ANY KEY ATTRIBUTES WHERE IT MUST BE SPECIFIED IN WHERE CLAUSE.

```
DELETE FROM STAFF WHERE STAFFID = 1234;
```