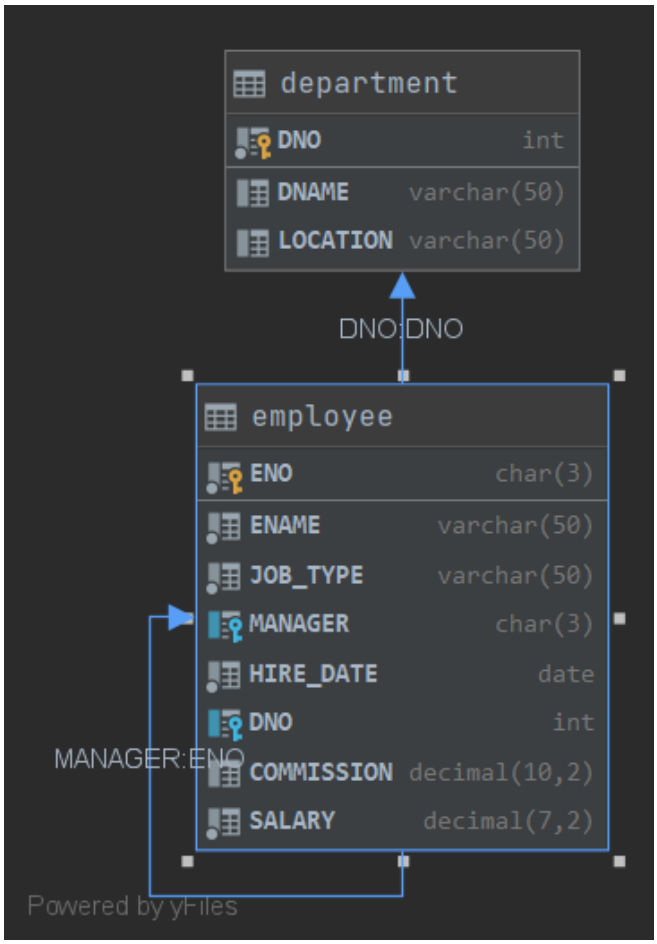
Creating Schema – **COMPANYDB**



creatingSchemas.sql

```
CREATE SCHEMA COMPANYDB;
USE COMPANYDB;

-- EMPLOYEE TABLE
CREATE TABLE EMPLOYEE(
    ENO CHAR(3),
    ENAME VARCHAR(50) NOT NULL,
    JOB_TYPE VARCHAR(50) NOT NULL,
    MANAGER CHAR(3),
    HIRE_DATE DATE NOT NULL,
```

```
    DNO INT,
    COMMISSION DECIMAL(10,2),
    SALARY DECIMAL(7,2) NOT NULL,
    PRIMARY KEY(ENO)
);

-- DEPARTMENT TABLE
CREATE TABLE DEPARTMENT(
    DNO INT NOT NULL,
    DNAME VARCHAR(50),
    LOCATION VARCHAR(50) DEFAULT 'New Delhi',
    PRIMARY KEY(DNO)
);


-- POPULATING DEPARTMENT TABLE
INSERT INTO DEPARTMENT(DNO,DNAME,LOCATION) VALUES
    (1,'Research','Chennai'),
    (2,'Adminstration','New Delhi'),
    (7,'Headquaters','New Delhi');

-- POPULATING EMPLOYEE TABLE
INSERT INTO EMPLOYEE VALUES
    (001, 'Georgi Facello', 'Senior Engineer', NULL, '1986-06-
26', 1, 580, 60117),
    (911, 'Shay Casley', 'Senior Engineer', NULL, '1988-06-
25', 1, 555, 66074),
    (667, 'Makato Cusworth', 'Senior Staff', NULL, '1990-06-
25', 2, 736, 66961),
    (004, 'Chirstian Koblick', 'Engineer', NULL, '1986-12-
01', 1, NULL, 40054),
    (339, 'Tenius Liedekerke', 'Engineer', NULL, '1989-11-
30', 1, 200, 46065),
    (005, 'Kyoichi Maliniak', 'Staff', NULL, '1989-09-
12', 2, NULL, 58326),
    (882, 'Fun Heuser', 'CEO', NULL, '1994-11-29' ,7 ,1500, 78228);


-- ASSIGNING MANAGER
```

```
UPDATE EMPLOYEE SET MANAGER=667 WHERE JOB_TYPE = 'Staff';
UPDATE EMPLOYEE SET MANAGER=001 WHERE JOB_TYPE = 'Engineer';
UPDATE EMPLOYEE SET MANAGER=882 WHERE JOB_TYPE = 'Senior Engineer';
UPDATE EMPLOYEE SET MANAGER=882 WHERE JOB_TYPE = 'Senior Staff';

-- ALTERING THE CREATED TABLE TO ADD FOREIGN KEYS
ALTER TABLE EMPLOYEE ADD FOREIGN KEY(DNO) REFERENCES DEPARTMENT(DNO);
ALTER TABLE EMPLOYEE ADD FOREIGN KEY(MANAGER) REFERENCES EMPLOYEE(ENO)
;
```

Resulting Tables:

```
mysql> USE COMPANYDB;
Database changed
mysql> SHOW COLUMNS FROM EMPLOYEE;
+------------+---------------+------+-----+---------+-------+
| Field      | Type          | Null | Key | Default | Extra |
+------------+---------------+------+-----+---------+-------+
| ENO        | char(3)       | NO   | PRI | NULL    |       |
| ENAME      | varchar(50)   | NO   |     | NULL    |       |
| JOB_TYPE   | varchar(50)   | NO   |     | NULL    |       |
| MANAGER    | char(3)       | YES  | MUL | NULL    |       |
| HIRE_DATE  | date          | NO   |     | NULL    |       |
| DNO        | int           | YES  | MUL | NULL    |       |
| COMMISSION | decimal(10,2) | YES  |     | NULL    |       |
| SALARY     | decimal(7,2)  | NO   |     | NULL    |       |
+------------+---------------+------+-----+---------+-------+
8 rows in set (0.12 sec)

mysql> SHOW COLUMNS FROM DEPARTMENT;
+----------+-------------+------+-----+-----------+-------+
| Field    | Type        | Null | Key | Default   | Extra |
+----------+-------------+------+-----+-----------+-------+
| DNO      | int         | NO   | PRI | NULL      |       |
| DNAME    | varchar(50) | YES  |     | NULL      |       |
| LOCATION | varchar(50) | YES  |     | New Delhi |       |
+----------+-------------+------+-----+-----------+-------+
3 rows in set (0.00 sec)

mysql>
```

Queries:

1. Query to display Employee Name, Job, Hire Date, Employee Number; for each employee with the Employee Number appearing first

```
mysql> SELECT ENO,ENAME,JOB_TYPE,HIRE_DATE
    -> FROM EMPLOYEE;
+-----+------------------+-----------------+------------+
| ENO | ENAME            | JOB_TYPE        | HIRE_DATE  |
+-----+------------------+-----------------+------------+
| 1   | Georgi Facello   | Senior Engineer | 1986-06-26 |
| 339 | Tenius Liedekerke | Engineer        | 1989-11-30 |
| 4   | Chirstian Koblick | Engineer        | 1986-12-01 |
| 5   | Kyoichi Maliniak | Staff           | 1989-09-12 |
| 667 | Makato Cusworth  | Senior Staff    | 1990-06-25 |
| 882 | Fun Heuser       | CEO             | 1994-11-29 |
| 911 | Shay Casley      | Senior Engineer | 1988-06-25 |
+-----+------------------+-----------------+------------+
7 rows in set (0.00 sec)
```

2. Query to display unique Jobs from the Employee Table.

```
mysql> SELECT DISTINCT JOB_TYPE
    -> FROM EMPLOYEE;
+-----------------+
| JOB_TYPE        |
+-----------------+
| Senior Engineer |
| Engineer        |
| Staff           |
| Senior Staff    |
| CEO             |
+-----------------+
5 rows in set (0.00 sec)

mysql>
```

3. Query to display the Employee Name concatenated by a Job separated by a comma.

```
mysql> SELECT CONCAT_WS(' , ',ENAME,JOB_TYPE) AS NAME_JOB
    -> FROM EMPLOYEE;
+----------------------------------+
| NAME_JOB                         |
+----------------------------------+
| Georgi Facello , Senior Engineer |
| Tenius Liedekerke , Engineer     |
| Chirstian Koblick , Engineer     |
| Kyoichi Maliniak , Staff         |
| Makato Cusworth , Senior Staff   |
| Fun Heuser , CEO                 |
| Shay Casley , Senior Engineer    |
+----------------------------------+
7 rows in set (0.00 sec)

mysql>
```

4. Query to display all the data from the Employee Table. Separate each Column by a comma and name the said column as THE_OUTPUT.

```
mysql> SELECT CONCAT_WS(' , ',ENO,ENAME,JOB_TYPE,MANAGER,HIRE_DATE,DNO,COMMISSION,SALARY) AS THE_OUTPUT
    -> FROM EMPLOYEE;
+-------------------------------------------------------------------------------+
| THE_OUTPUT                                                                    |
+-------------------------------------------------------------------------------+
| 1 , Georgi Facello , Senior Engineer , 882 , 1986-06-26 , 1 , 60117.00        |
| 339 , Tenius Liedekerke , Engineer , 1 , 1989-11-30 , 1 , 46065.00            |
| 4 , Chirstian Koblick , Engineer , 1 , 1986-12-01 , 1 , 40054.00              |
| 5 , Kyoichi Maliniak , Staff , 667 , 1989-09-12 , 2 , 58326.00                |
| 667 , Makato Cusworth , Senior Staff , 882 , 1990-06-25 , 2 , 736.00 , 66961.00 |
| 882 , Fun Heuser , CEO , 1994-11-29 , 7 , 78228.00                            |
| 911 , Shay Casley , Senior Engineer , 882 , 1988-06-25 , 1 , 66074.00         |
+-------------------------------------------------------------------------------+
7 rows in set (0.00 sec)

mysql>
```

5. Query to display the Employee Name and Salary of all the employees earning more than $45550.

```
mysql> SELECT ENAME, SALARY
    -> FROM EMPLOYEE
    -> WHERE EMPLOYEE.SALARY > 45550;
+-------------------+----------+
| ENAME             | SALARY   |
+-------------------+----------+
| Georgi Facello    | 60117.00 |
| Tenius Liedekerke | 46065.00 |
| Kyoichi Maliniak  | 58326.00 |
| Makato Cusworth   | 66961.00 |
| Fun Heuser        | 78228.00 |
| Shay Casley       | 66074.00 |
+-------------------+----------+
6 rows in set (0.00 sec)

mysql>
```

6. Query to display Employee Name and Department Number for the Employee No= 667.

```
mysql> SELECT ENAME,DNO
    -> FROM EMPLOYEE
    -> WHERE ENO = 667;
+-----------------+------+
| ENAME           | DNO  |
+-----------------+------+
| Makato Cusworth |    2 |
+-----------------+------+
1 row in set (0.00 sec)

mysql>
```

7. Query to display Employee Name and Salary for all employees whose salary is not in the range of $40000 and $60000.

```
mysql> SELECT ENAME, SALARY
    -> FROM EMPLOYEE
    -> WHERE SALARY > 40000 AND SALARY < 60000;
+-------------------+----------+
| ENAME             | SALARY   |
+-------------------+----------+
| Tenius Liedekerke | 46065.00 |
| Chirstian Koblick | 40054.00 |
| Kyoichi Maliniak  | 58326.00 |
+-------------------+----------+
3 rows in set (0.00 sec)

mysql>
```

8. Query to display Employee Name and Department No. of all the employees in Dept 10 and Dept 30 in the alphabetical order by name.

```
mysql> SELECT ENAME,DNO
    -> FROM EMPLOYEE
    -> WHERE DNO = 1 OR DNO = 7
    -> ORDER BY ENAME;
+-------------------+------+
| ENAME             | DNO  |
+-------------------+------+
| Chirstian Koblick |    1 |
| Fun Heuser        |    7 |
| Georgi Facello    |    1 |
| Shay Casley       |    1 |
| Tenius Liedekerke |    1 |
+-------------------+------+
5 rows in set (0.00 sec)

mysql>
```

9. Query to display Name and Hire Date of every Employee who was hired in 1986.

```
mysql> SELECT ENAME,HIRE_DATE
    -> FROM EMPLOYEE
    -> WHERE HIRE_DATE LIKE '1986______';
+-------------------+------------+
| ENAME             | HIRE_DATE  |
+-------------------+------------+
| Georgi Facello    | 1986-06-26 |
| Chirstian Koblick | 1986-12-01 |
+-------------------+------------+
2 rows in set (0.00 sec)

mysql>
```

10. Query to display Name and Job of all employees who have not assigned a supervisor.

```
mysql> SELECT ENAME, JOB_TYPE
    -> FROM EMPLOYEE
    -> WHERE MANAGER IS NULL;
+------------+----------+
| ENAME      | JOB_TYPE |
+------------+----------+
| Fun Heuser | CEO      |
+------------+----------+
1 row in set (0.00 sec)

mysql>
```

11. Query to display the Name, Salary and Commission for all the employees who earn commission.

```
mysql> SELECT ENAME,SALARY,COMMISSION
    -> FROM EMPLOYEE
    -> WHERE COMMISSION IS NOT NULL;
+-------------------+----------+------------+
| ENAME             | SALARY   | COMMISSION |
+-------------------+----------+------------+
| Georgi Facello    | 60117.00 |     580.00 |
| Tenius Liedekerke | 46065.00 |     200.00 |
| Makato Cusworth   | 66961.00 |     736.00 |
| Fun Heuser        | 78228.00 |    1500.00 |
| Shay Casley       | 66074.00 |     555.00 |
+-------------------+----------+------------+
5 rows in set (0.00 sec)

mysql>
```

12. Sort the data in descending order of Salary and Commission.

```
mysql> SELECT *
    -> FROM EMPLOYEE
    -> ORDER BY SALARY DESC, COMMISSION DESC;
+-----+-------------------+----------------+---------+------------+------+------------+----------+
| ENO | ENAME             | JOB_TYPE       | MANAGER | HIRE_DATE  | DNO  | COMMISSION | SALARY   |
+-----+-------------------+----------------+---------+------------+------+------------+----------+
| 882 | Fun Heuser        | CEO            | NULL    | 1994-11-29 |    7 |    1500.00 | 78228.00 |
| 667 | Makato Cusworth   | Senior Staff   | 882     | 1990-06-25 |    2 |     736.00 | 66961.00 |
| 911 | Shay Casley       | Senior Engineer| 882     | 1988-06-25 |    1 |     555.00 | 66074.00 |
| 1   | Georgi Facello    | Senior Engineer| 882     | 1986-06-26 |    1 |     580.00 | 60117.00 |
| 5   | Kyoichi Maliniak  | Staff          | 667     | 1989-09-12 |    2 |       NULL | 58326.00 |
| 339 | Tenius Liedekerke | Engineer       | 1       | 1989-11-30 |    1 |     200.00 | 46065.00 |
| 4   | Chirstian Koblick | Engineer       | 1       | 1986-12-01 |    1 |       NULL | 40054.00 |
+-----+-------------------+----------------+---------+------------+------+------------+----------+
7 rows in set (0.00 sec)

mysql>
```

13. Query to display Name of all the employees where the third letter of their name is ‘A’.

```
mysql> SELECT ENAME
    -> FROM EMPLOYEE
    -> WHERE ENAME LIKE '__A%';
+-------------+
| ENAME       |
+-------------+
| Shay Casley |
+-------------+
1 row in set (0.00 sec)

mysql>
```

14. Query to display Name of all employees either have two ‘R’s or have two ‘A’s in their name and are either in Dept No = 30 or their Manger’s Employee No = 7788.

```
mysql> SELECT * FROM EMPLOYEE
    -> WHERE (ENAME LIKE '%AA%' OR '%RR%') AND (DNO = 30 OR MANAGER = 7788);
Empty set, 1 warning (0.00 sec)

mysql>
```

15. Query to display Name, Salary and Commission for all employees whose Commission amount is greater than their Salary increased by 5%.

NOT PERFORMED DUE TO MORAL REASONS

16. Query to display the Current Date along with the day name.

```
mysql> SELECT DATE(NOW()) AS 'DATE',DAYNAME(NOW()) AS 'DAY';
+------------+---------+
| DATE       | DAY     |
+------------+---------+
| 2021-01-26 | Tuesday |
+------------+---------+
1 row in set (0.00 sec)

mysql>
```

17. Query to display Name, Hire Date and Salary Review Date which is the 1st Monday after six months of employment.

```
mysql> SELECT ENAME, HIRE_DATE,
    ->     DATE_ADD((DATE_ADD(HIRE_DATE, INTERVAL 6 MONTH )), INTERVAL
    ->     IF(WEEKDAY(DATE_ADD(HIRE_DATE, INTERVAL 6 MONTH )) = 0,0,7 - WEEKDAY(DATE_ADD(HIRE_DATE, INTERVAL 6 MONTH ))) DAY)
    ->     AS 'REVIEW DATE'
    -> FROM EMPLOYEE;
+------------------+------------+-------------+
| ENAME            | HIRE_DATE  | REVIEW DATE |
+------------------+------------+-------------+
| Georgi Facello   | 1986-06-26 | 1986-12-29  |
| Tenius Liedekerke | 1989-11-30 | 1990-06-04  |
| Chirstian Koblick | 1986-12-01 | 1987-06-01  |
| Kyoichi Maliniak | 1989-09-12 | 1990-03-12  |
| Makato Cusworth  | 1990-06-25 | 1990-12-31  |
| Fun Heuser       | 1994-11-29 | 1995-05-29  |
| Shay Casley      | 1988-06-25 | 1988-12-26  |
+------------------+------------+-------------+
7 rows in set (0.00 sec)

mysql>
```

18. Query to display Name and calculate the number of months between today and the date on which employee was hired of department ‘Research.

```
mysql> SELECT ENAME, ROUND(DATEDIFF(NOW(), HIRE_DATE) / 30) AS 'MONTHS WORKING'
    -> FROM EMPLOYEE
    -> WHERE DNO IN (SELECT DNO FROM DEPARTMENT WHERE DNAME='Research');
+------------------+----------------+
| ENAME            | MONTHS WORKING |
+------------------+----------------+
| Georgi Facello   |            421 |
| Tenius Liedekerke |            379 |
| Chirstian Koblick |            416 |
| Shay Casley      |            397 |
+------------------+----------------+
4 rows in set (0.11 sec)

mysql>
```

19. Query to display the following for each employee earns < Salary> monthly but wants < 3 * Current Salary >. Label the Column as Dream Salary.

```
mysql> SELECT ENAME, SALARY, 3*SALARY AS 'DREAM SALARY'
    -> FROM EMPLOYEE;
+-------------------+----------+--------------+
| ENAME             | SALARY   | DREAM SALARY |
+-------------------+----------+--------------+
| Georgi Facello    | 60117.00 |    180351.00 |
| Tenius Liedekerke | 46065.00 |    138195.00 |
| Chirstian Koblick | 40054.00 |    120162.00 |
| Kyoichi Maliniak  | 58326.00 |    174978.00 |
| Makato Cusworth   | 66961.00 |    200883.00 |
| Fun Heuser        | 78228.00 |    234684.00 |
| Shay Casley       | 66074.00 |    198222.00 |
+-------------------+----------+--------------+
7 rows in set (0.00 sec)

mysql>
```

20. Query to display Name with the 1st letter capitalized and all other letter lower case and length of their name of all the employees whose name starts with ‘J’, ’A’ and ‘M’.

```
mysql> SELECT ENAME
    -> FROM EMPLOYEE
    -> WHERE ENAME LIKE 'J%' OR ENAME LIKE 'A%' OR ENAME LIKE 'M%';
+-----------------+
| ENAME           |
+-----------------+
| Makato Cusworth |
+-----------------+
1 row in set (0.00 sec)

mysql>
```