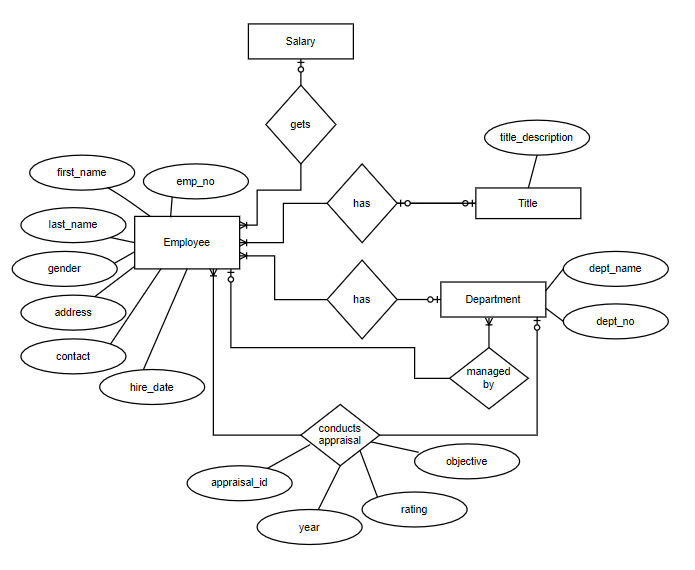
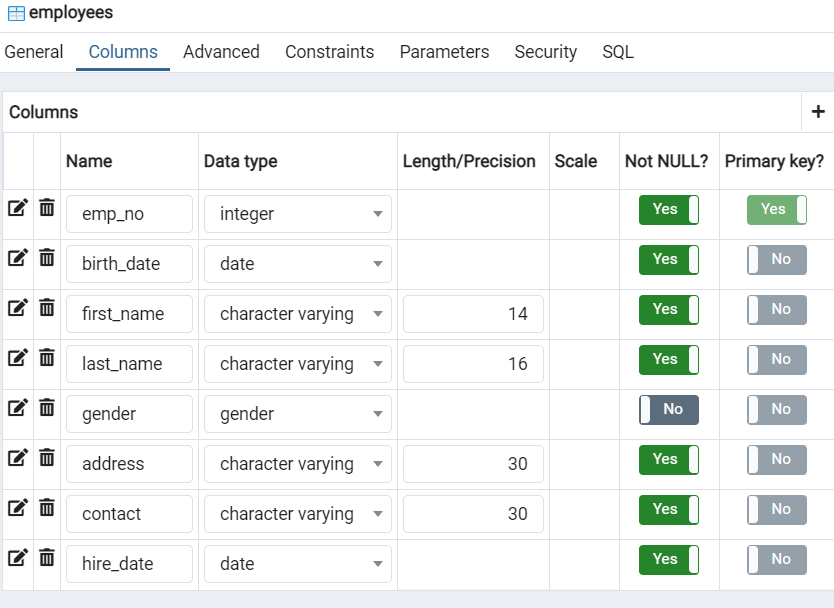
**ER Diagram:**

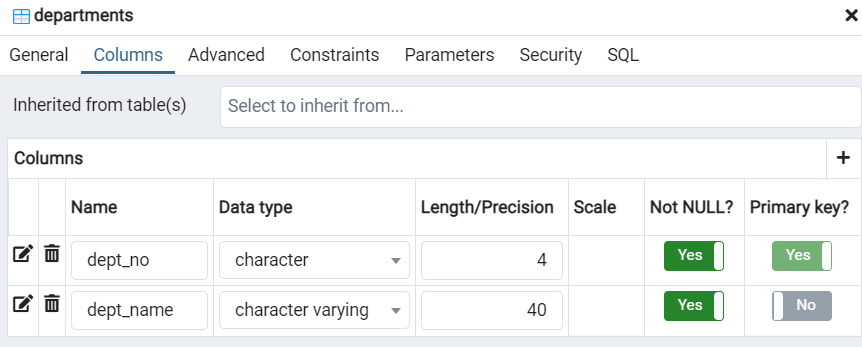


**Table Structure:**

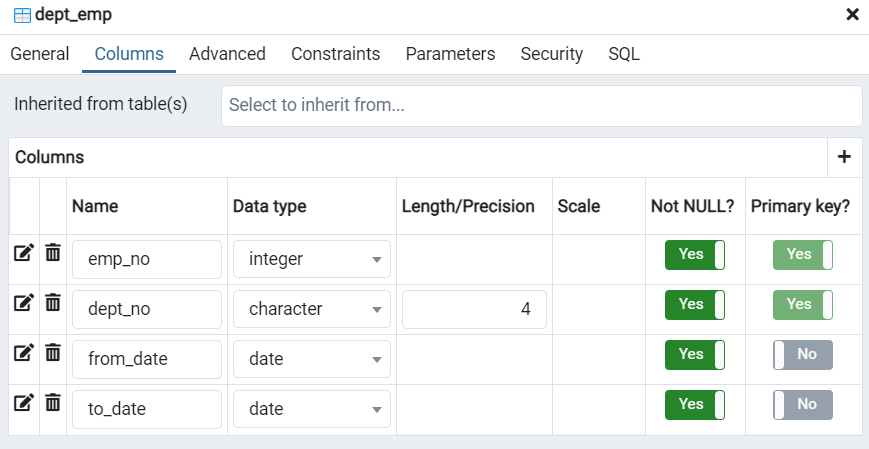
Employees Table



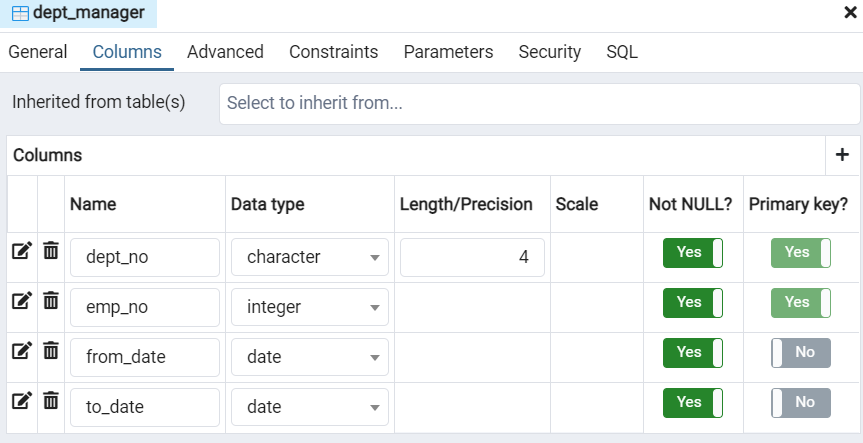
Departments Table



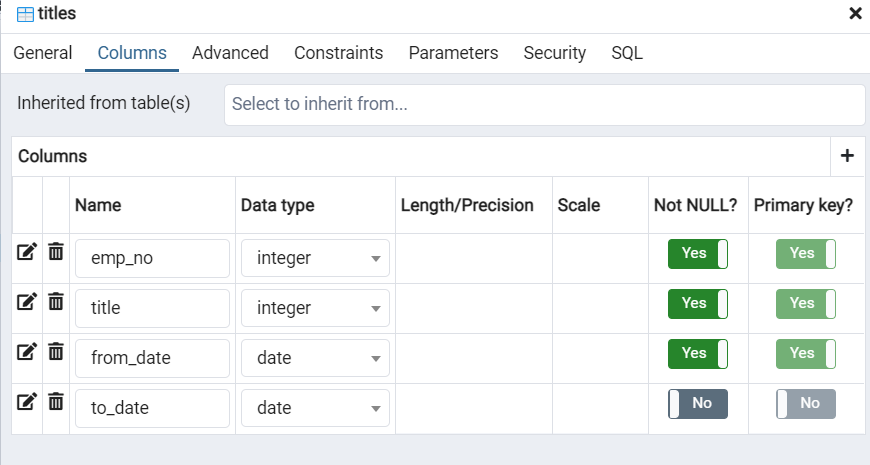
Department and Employee relation table



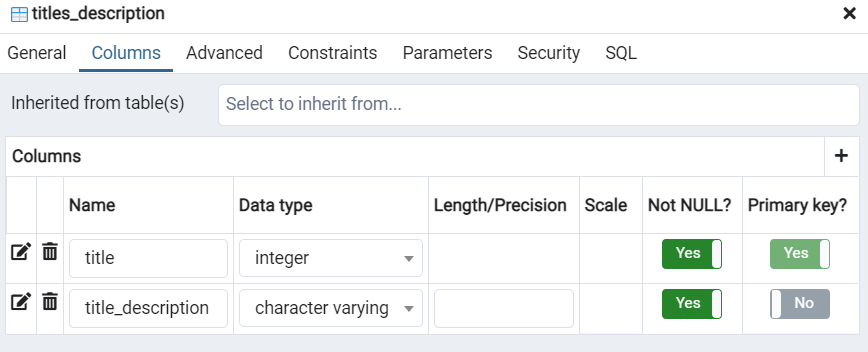
Department and Manager relation table



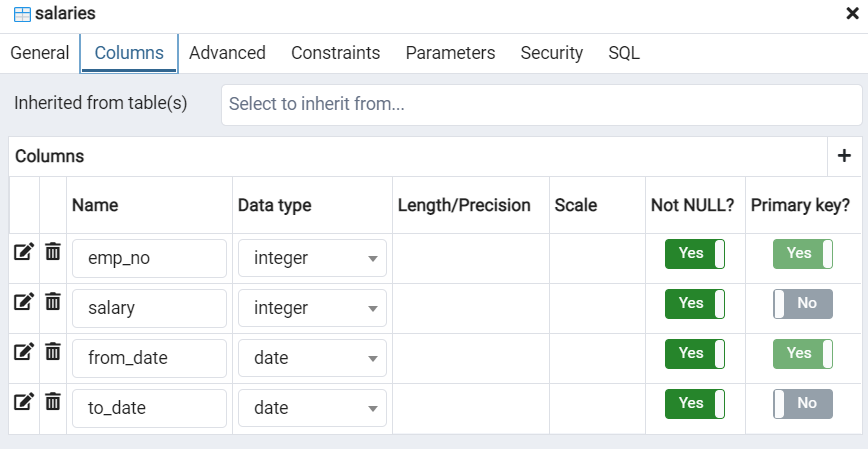
Titles table



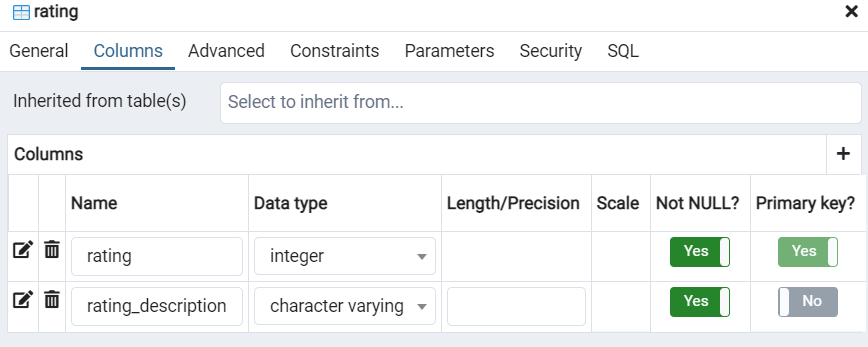
Title Description table



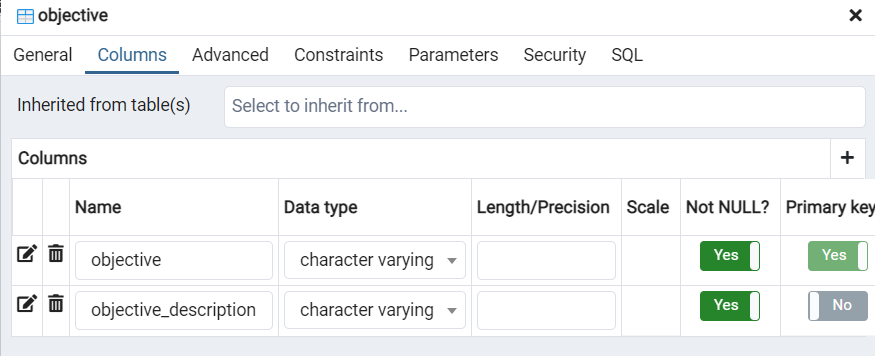
Salary Table



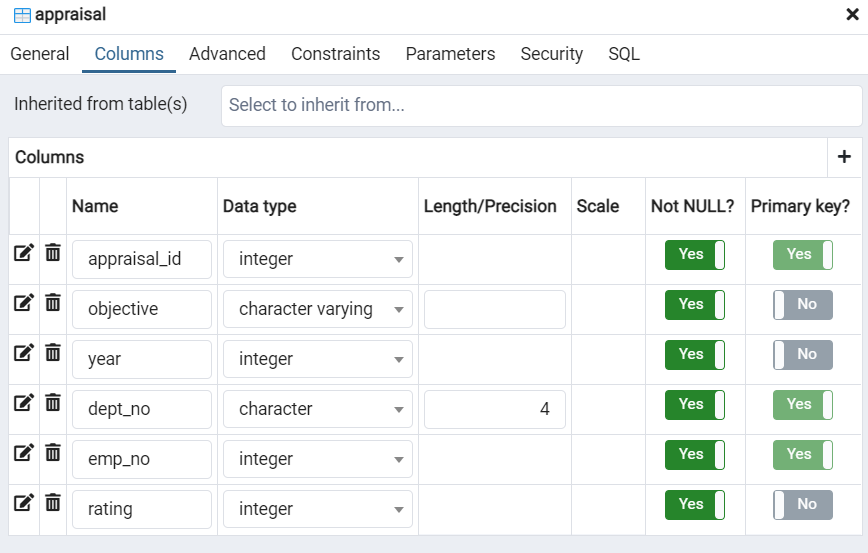
Rating Table



Objective Table



Appraisal Table



**Create Table Queries:**

Employees Table

CREATE TABLE public.employees

(

emp\_no integer NOT NULL,

birth\_date date NOT NULL,

first\_name character varying(14) COLLATE pg\_catalog."default" NOT NULL,

last\_name character varying(16) COLLATE pg\_catalog."default" NOT NULL,

gender gender,

address character varying(30) COLLATE pg\_catalog."default" NOT NULL,

contact character varying(30) COLLATE pg\_catalog."default" NOT NULL,

hire\_date date NOT NULL,

CONSTRAINT employees\_pkey PRIMARY KEY (emp\_no)

)

Departments Table

CREATE TABLE public.departments

(

dept\_no character(4) COLLATE pg\_catalog."default" NOT NULL,

dept\_name character varying(40) COLLATE pg\_catalog."default" NOT NULL,

CONSTRAINT departments\_pkey PRIMARY KEY (dept\_no),

CONSTRAINT departments\_dept\_name\_key UNIQUE (dept\_name)

)

Department and Employee Relation Table

CREATE TABLE public.dept\_emp

(

emp\_no integer NOT NULL,

dept\_no character(4) COLLATE pg\_catalog."default" NOT NULL,

from\_date date NOT NULL,

to\_date date NOT NULL,

CONSTRAINT dept\_emp\_pkey PRIMARY KEY (emp\_no, dept\_no),

CONSTRAINT dept\_emp\_dept\_no\_fkey FOREIGN KEY (dept\_no)

REFERENCES public.departments (dept\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE,

CONSTRAINT dept\_emp\_emp\_no\_fkey FOREIGN KEY (emp\_no)

REFERENCES public.employees (emp\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE

)

Department and Manager Relation Table

CREATE TABLE public.dept\_manager

(

dept\_no character(4) COLLATE pg\_catalog."default" NOT NULL,

emp\_no integer NOT NULL,

from\_date date NOT NULL,

to\_date date NOT NULL,

CONSTRAINT dept\_manager\_pkey PRIMARY KEY (emp\_no, dept\_no),

CONSTRAINT dept\_manager\_dept\_no\_fkey FOREIGN KEY (dept\_no)

REFERENCES public.departments (dept\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE,

CONSTRAINT dept\_manager\_emp\_no\_fkey FOREIGN KEY (emp\_no)

REFERENCES public.employees (emp\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE

)

Titles Table

CREATE TABLE public.titles

(

emp\_no integer NOT NULL,

title integer NOT NULL,

from\_date date NOT NULL,

to\_date date,

CONSTRAINT titles\_pkey PRIMARY KEY (emp\_no, title, from\_date),

CONSTRAINT titles\_emp\_no\_fkey FOREIGN KEY (emp\_no)

REFERENCES public.employees (emp\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE,

CONSTRAINT titles\_title\_fkey FOREIGN KEY (title)

REFERENCES public.titles\_description (title) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE

)

Title Description Table

CREATE TABLE public.titles\_description

(

title integer NOT NULL,

title\_description character varying COLLATE pg\_catalog."default" NOT NULL,

CONSTRAINT titles\_description\_pkey PRIMARY KEY (title)

)

Salary Table

CREATE TABLE public.salaries

(

emp\_no integer NOT NULL,

salary integer NOT NULL,

from\_date date NOT NULL,

to\_date date NOT NULL,

CONSTRAINT salaries\_pkey PRIMARY KEY (emp\_no, from\_date),

CONSTRAINT salaries\_emp\_no\_fkey FOREIGN KEY (emp\_no)

REFERENCES public.employees (emp\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE

)

Rating Table

CREATE TABLE public.rating

(

rating integer NOT NULL,

rating\_description character varying COLLATE pg\_catalog."default" NOT NULL,

CONSTRAINT rating\_pkey PRIMARY KEY (rating)

)

Objective Table

CREATE TABLE public.objective

(

objective character varying COLLATE pg\_catalog."default" NOT NULL,

objective\_description character varying COLLATE pg\_catalog."default" NOT NULL,

CONSTRAINT objective\_pkey PRIMARY KEY (objective)

)

Appraisal Table

CREATE TABLE public.appraisal

(

appraisal\_id integer NOT NULL,

objective character varying COLLATE pg\_catalog."default" NOT NULL,

year integer NOT NULL,

dept\_no character(4) COLLATE pg\_catalog."default" NOT NULL,

emp\_no integer NOT NULL,

rating integer NOT NULL,

CONSTRAINT appraisal\_pkey PRIMARY KEY (emp\_no, dept\_no, appraisal\_id),

CONSTRAINT appraisal\_dept\_no\_fkey FOREIGN KEY (dept\_no)

REFERENCES public.departments (dept\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE,

CONSTRAINT appraisal\_emp\_no\_fkey FOREIGN KEY (emp\_no)

REFERENCES public.employees (emp\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE,

CONSTRAINT appraisal\_fk\_dep\_no FOREIGN KEY (dept\_no)

REFERENCES public.departments (dept\_no) MATCH SIMPLE

ON UPDATE CASCADE

ON DELETE NO ACTION,

CONSTRAINT appraisal\_fk\_emp\_no FOREIGN KEY (emp\_no)

REFERENCES public.employees (emp\_no) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE NO ACTION,

CONSTRAINT appraisal\_objective\_fkey FOREIGN KEY (objective)

REFERENCES public.objective (objective) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE,

CONSTRAINT appraisal\_rating\_fkey FOREIGN KEY (rating)

REFERENCES public.rating (rating) MATCH SIMPLE

ON UPDATE NO ACTION

ON DELETE CASCADE

)

**Note:** *For SQL used, please refer to the Text file provided.*

**Select Statements:**

/\* Select query for fetching all employees managed by a particular manager \*/

select emp.first\_name, emp.last\_name, d.dept\_name from public.employees emp

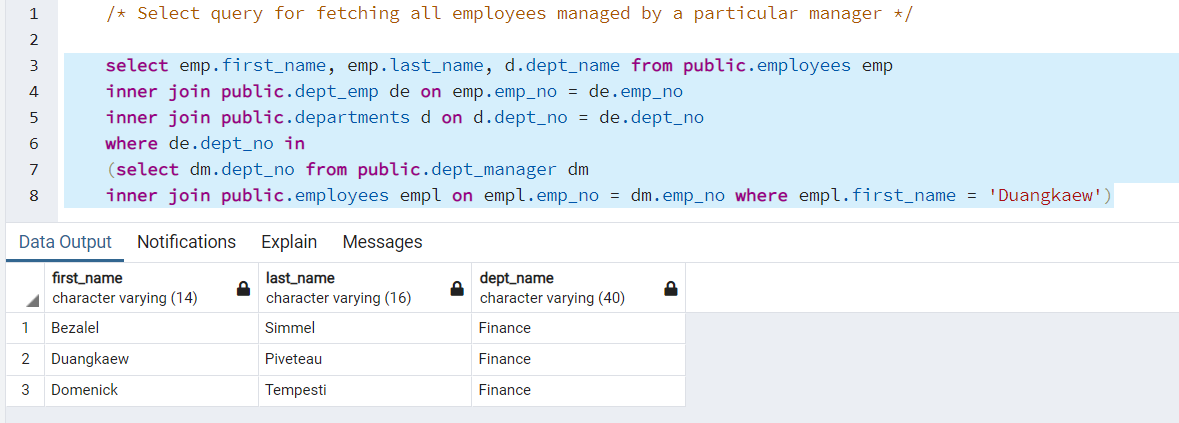
inner join public.dept\_emp de on emp.emp\_no = de.emp\_no

inner join public.departments d on d.dept\_no = de.dept\_no

where de.dept\_no in

(select dm.dept\_no from public.dept\_manager dm

inner join public.employees empl on empl.emp\_no = dm.emp\_no where empl.first\_name = 'Duangkaew')



/\* Select query for fetching all employees with top rating for the year 2020 \*/

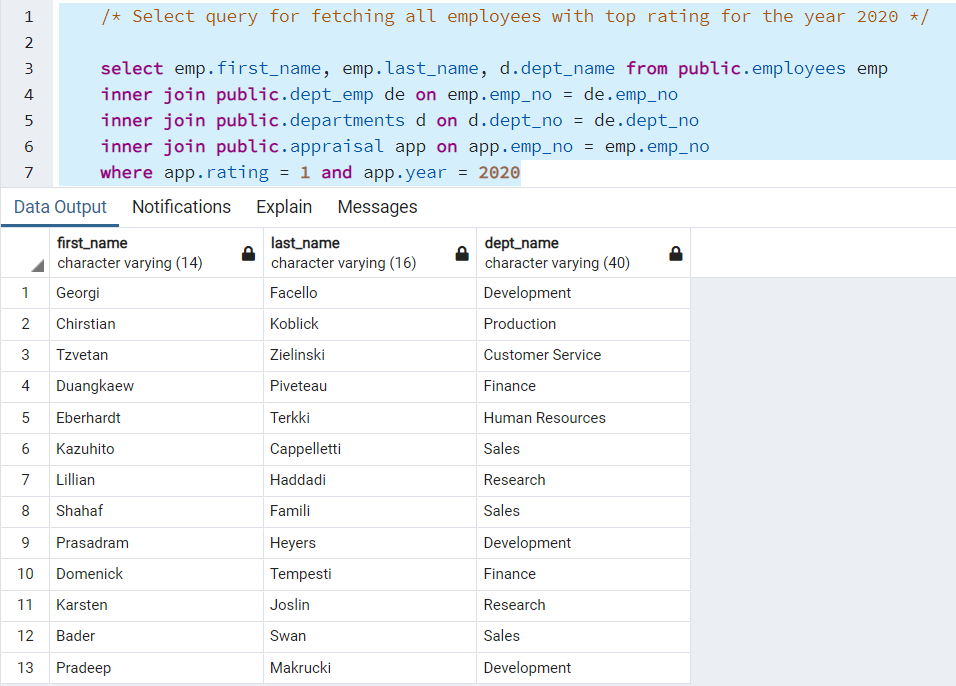
select emp.first\_name, emp.last\_name, d.dept\_name from public.employees emp

inner join public.dept\_emp de on emp.emp\_no = de.emp\_no

inner join public.departments d on d.dept\_no = de.dept\_no

inner join public.appraisal app on app.emp\_no = emp.emp\_no

where app.rating = 1 and app.year = 2020



/\* Select query for fetching all employees who are hired into the company after a particular date \*/

select emp.first\_name, emp.last\_name, d.dept\_name,emp.hire\_date from public.employees emp

inner join public.dept\_emp de on emp.emp\_no = de.emp\_no

inner join public.departments d on d.dept\_no = de.dept\_no

where emp.hire\_date >= '1995-01-01'

group by emp.first\_name, emp.last\_name, d.dept\_name,emp.hire\_date

order by emp.hire\_date desc

**Note:** *I have used 1st Jan 1995 instead of 1st Jan 2020*

