

Data Model

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Abstract

This document implements the Data Model.

1 Data Model Description

1. The company is organized into departmen.
Each deparment has a unique **name**, a unique **number**
and a particular employee who **manages** the department. we keep track
of the **start date**when that employee began mangin the deparment
A deparment may have several **locations**
2. A deparment **controls** a number of projects, each of whicj has a unique
name, a unique **number**, and a single **locations**
3. The database will store each employee's **name**,**Social Security number**,**address**,
salary, **sex (gender)**, and **birth date**.
An employee **is assigned** to one department, but may **work** on several
projects, which are not necessarily controlled by the same department. It
is required to keep track of the cur- rent **number of hours per week** that
an employee works on each project
***as well as the direct **supervisor** of each employee (who is another em-
ployee)***.

2 E-R Model

Data Model ...

3 Relational Model

Data Model Relational Model

4 Steps

1. `sudo ssh -i leonardodmm leonardodmm@104.198.244.0`
2. `sudo -u postgres createdb leonardodmm_empresa`
3. `\connect leonardodmm_empresa;`
4. `create table employee (ssn int, bdate varchar(80),fname varchar(80),minit varchar,lname varchar(80),salary float,sex varchar(15),depnumber int,super_ssn int);`
5. `alter table employee add constraint pk_ssn primary key (ssn);`
6. `alter table employee add constraint fk_super_ssn foreign key(super_ssn) references employee(ssn);`
7. `create table dependent (dependt_name varchar(100),sex varchar(15),bdate varchar(80),relationship varchar,essn int);`
8. `alter table dependent add constraint fk_essn foreign key(essn) references employee(ssn);`
9. `create table department (number int,name varchar(120),mgr_ssn int,dnumber int);`
10. `alter table department add constraint pk_number primary key(number);`
11. `alter table department add constraint fk_mgr_ssn foreign key(mgr_ssn) references employee(ssn);`
12. `create table dept_locations(dnumber int,location varchar);`
13. `alter table dept_locations add constraint pk_dnumber primary key(dnumber);`
14. `alter table department add constraint fk_dnumber foreign key(dnumber) references dept_locations(dnumber);`
15. `create table works_on(ssn int,pnumber int,hours varchar(100));`
16. `alter table works_on add constraint fk_ssn foreign key(ssn) references employee(ssn);`
17. `create table project(pnumber int,pname varchar(200),plocation varchar,dnumber int);`
18. `alter table project add constraint pk_pnumber primary key(pnumber);`
19. `alter table works_on add constraint fk_pnumber foreign key(pnumber) references project(pnumber);`
20. `alter table project add constraint fk_dnumber foreign key(dnumber) references department(number);`

21. alter table employee add constraint fk_depnumber foreign key(depnumber)
references department(number);

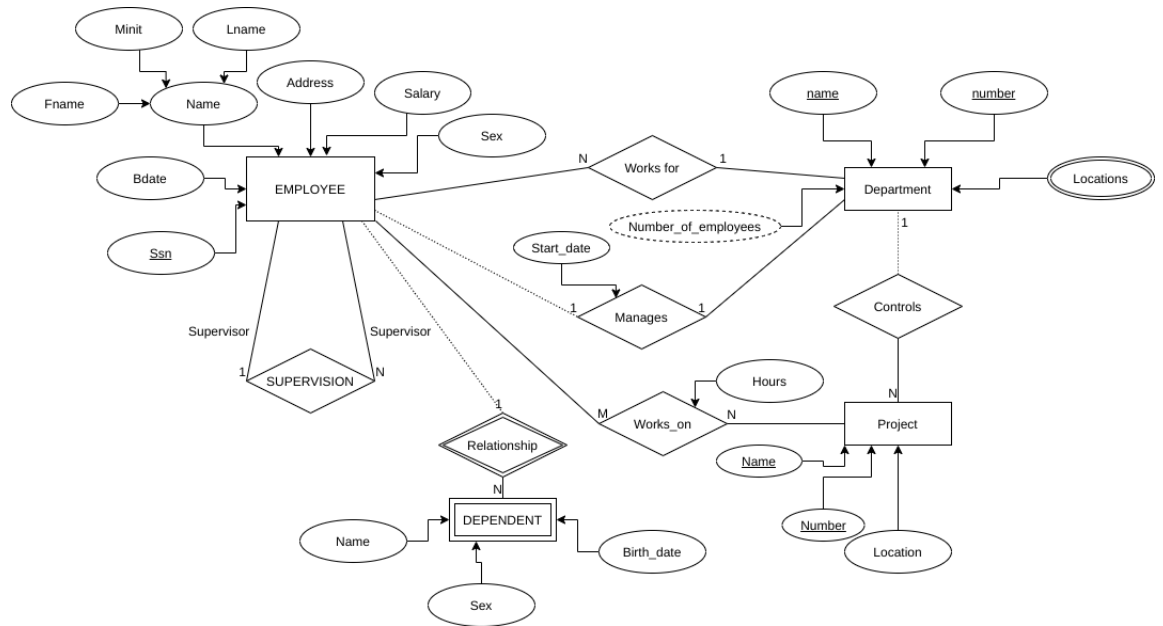


Figure 1: data model E-R Model

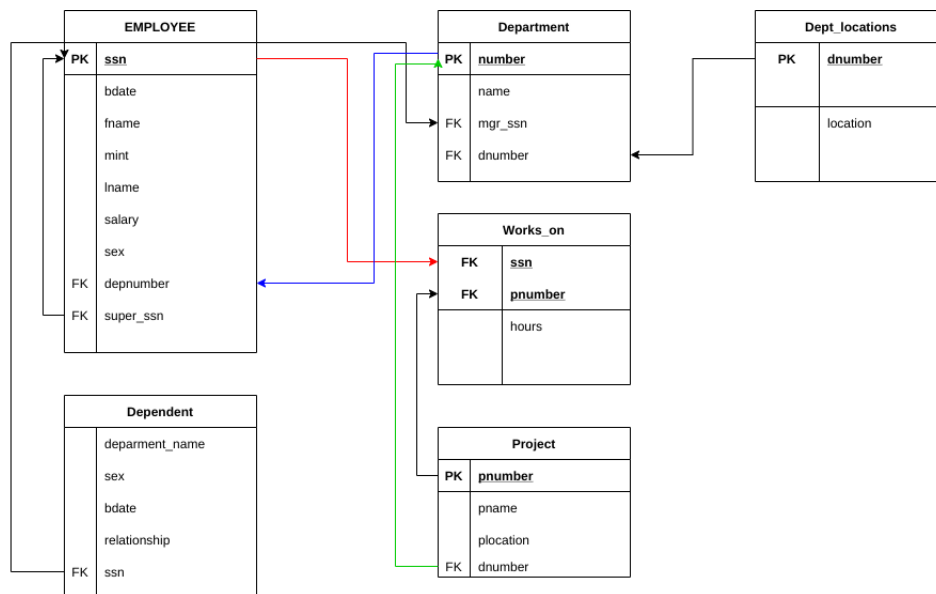


Figure 2: data model Relation Model