

Rapport - SAE - BD :

Bornes de recharge de véhicules électriques en Pays de la Loire

Liste des membres :

- Thibaud Laurens (s2c05a - Departement, Commune72)
- Membre2 (s2b08a - Amenageur, Commune49)
- Membre3 (s2b04a - Commune44, Commune85)
- Membre4 (s2b09b - Operateur, Commune53)

Exercice 1.1 :

-Membre4 :

-- Création de table du csv

```
CREATE TABLE tdd (  
  nom_amenageur VARCHAR2(128),  
  siren_amenageur NUMBER(9),  
  contact_amenageur VARCHAR2(128),  
  nom_operateur VARCHAR2(128),  
  contact_operateur VARCHAR2(128),  
  telephone_operateur VARCHAR2(128),  
  nom_enseigne VARCHAR2(128),  
  nom_station VARCHAR2(128),  
  implantation_station VARCHAR2(128),  
  adresse_station VARCHAR2(128),  
  code_insee_commune NUMBER(5),  
  Nombre_points_de_charge NUMBER(*),  
  puissance_nominale NUMBER(*),  
  date_mise_en_service DATE,  
  Date_de_mise_jour DATE,  
  datagouv_organization_or_owner VARCHAR2(128),  
  libelle_region VARCHAR2(128),  
  code_region NUMBER(2),  
  libelle_departement VARCHAR2(128),  
  libelle_commune VARCHAR2(128),  
  department NUMBER(2),  
  tranche_puissance NUMBER(*)  
);
```

-Membre3 :

-- Update department

```
update s2b09b.tdd
set libelle_departement = 'Maine-et-Loire' where LIBELLE_COMMUNE =
  'Allonnes';

update s2b09b.tdd
set libelle_departement = 'Mayenne' where LIBELLE_COMMUNE = 'Changé';

update s2b09b.tdd
set department = 72 where libelle_departement = 'Sarthe';

update s2b09b.tdd
set department = 53 where libelle_departement = 'Mayenne';

update s2b09b.tdd
set department = 44 where libelle_departement = 'Loire-Atlantique';

update s2b09b.tdd
set department = 85 where libelle_departement = 'Vendée';

update s2b09b.tdd
set department = 49 where libelle_departement = 'Maine-et-Loire';

commit;

--update code insee
update s2b09b.tdd d
set d.CODE_INSEE_COMMUNE = (select code_insee from basetd.commune c where
  d.libelle_commune = c.nom_commune fetch first row only);
```

-- Update nom_amenageur et contact_amenageur

```
update s2b09b.tdd d
set nom_amenageur = 'Charge Point' where contact_amenageur =
  'info@chargepoint.com';

update s2b09b.tdd d
set nom_amenageur = 'Allego' where contact_amenageur = 'info@allego.eu';

update s2b09b.tdd d
```

```
set nom_amenageur = 'Charge Guru' where contact_amenageur =  
    'info@chargeguru.com';  
  
update s2b09b.tdd d  
set nom_amenageur = 'Lidl' where contact_amenageur = 'kontakt@lidl.de' and  
    nom_amenageur is null ;  
  
update s2b09b.tdd d  
set nom_amenageur = 'Ionity' where contact_amenageur = 'info@ionity.eu';  
  
update s2b09b.tdd d  
set nom_amenageur = 'E-TOTEM', contact_amenageur = 'contact@e-totem.fr'  
    where contact_amenageur is null and nom_amenageur is null;  
  
update s2b09b.tdd d  
set contact_amenageur = 'no contact available' where contact_amenageur is  
    null;  
  
commit;
```

-Membre3 et Membre2 :

-- Update numero siren

```
update s2b09b.tdd t1
set t1.siren_amenageur = (
  case
  when exists (
    select distinct t2.siren_amenageur
    from s2b09b.tdd t2
    where t1.nom_amenageur = t2.nom_amenageur
    and t2.siren_amenageur is not null
  )
  then (
    select distinct t2.siren_amenageur
    from s2b09b.tdd t2
    where t1.nom_amenageur = t2.nom_amenageur
    and t2.siren_amenageur is not null
  )
  else 197865342 + (
    select count(t1.NOM_AMENAGEUR)
    from s2b09b.tdd t2
    where t1.nom_amenageur = t2.nom_amenageur
    group by t2.nom_amenageur
  )
  end
)
where t1.siren_amenageur is null;
```

-Membre2 :

-- Maj manuelle null code_insee

```
update s2b09b.tdd
set code_insee_commune = 85059
where libelle_commune = 'La Châtaigneraie';
update s2b09b.tdd
set code_insee_commune = 49012
where libelle_commune = 'Aubigné-sur-Layon';
update s2b09b.tdd
set code_insee_commune = 44088
where libelle_commune = 'Maisdon-sur-Sèvre';
update s2b09b.tdd
set code_insee_commune = 49326
where libelle_commune = 'Sarrigné';
update s2b09b.tdd
set code_insee_commune = 49338
where libelle_commune = 'Soulaines-sur-Aubance';
update s2b09b.tdd
set code_insee_commune = 49339
where libelle_commune = 'Soulaire-et-Bourg';
update s2b09b.tdd
set code_insee_commune = 49130
where libelle_commune = 'Écuillé';
update s2b09b.tdd
set code_insee_commune = 53037
where libelle_commune = 'Bouessay';
update s2b09b.tdd
set code_insee_commune = 85276
where libelle_commune = 'Saint-Vincent-Sterlanges';
update s2b09b.tdd
set code_insee_commune = 44066
where libelle_commune = 'Grandchamp-des-Fontaines';
update s2b09b.tdd
set code_insee_commune = 53122
where libelle_commune = 'Jublains';
update s2b09b.tdd
set code_insee_commune = 53150
where libelle_commune = 'Ménil';
update s2b09b.tdd
set code_insee_commune = 49362
where libelle_commune = 'Varrains';
update s2b09b.tdd
set code_insee_commune = 49182
where libelle_commune = 'Louresse-Rochemenier';
```

```
update s2b09b.tdd
set code_insee_commune = 53257
where libelle_commune = 'Saulges';
update s2b09b.tdd
set code_insee_commune = 72212
where libelle_commune = 'Moulins-le-Carbonnel';
update s2b09b.tdd
set code_insee_commune = 72225
where libelle_commune = 'Oisseau-le-Petit';
update s2b09b.tdd
set code_insee_commune = 53272
where libelle_commune = 'Villepail';
update s2b09b.tdd
set code_insee_commune = 44116
where libelle_commune = 'Paimbœuf';
update s2b09b.tdd
set code_insee_commune = 85285
where libelle_commune = 'Le Tablier';
update s2b09b.tdd
set code_insee_commune = 49329
where libelle_commune = 'Savennières';
```

-- Nom operateur null

```
update s2b09b.tdd
set nom_operateur = 'Chargepoint'
where contact_operateur = 'info@chargepoint.com'
and nom_operateur is null;
update s2b09b.tdd
set nom_operateur = 'Izivia'
where contact_operateur = 'sav@izivia.com'
and nom_operateur is null;
update s2b09b.tdd
set nom_operateur = 'Allego'
where contact_operateur = 'info@allego.eu'
and nom_operateur is null;
update s2b09b.tdd
set nom_operateur = 'Chargeguru'
where contact_operateur = 'info@chargeguru.com'
and nom_operateur is null;
update s2b09b.tdd
set nom_operateur = 'Lidl'
where contact_operateur = 'kontakt@lidl.de'
and nom_operateur is null;
update s2b09b.tdd
```

```
set nom_operateur = 'Ionity'  
where contact_operateur = 'info@ionity.eu'  
and nom_operateur is null;
```

-- Tel operateur null

```
update s2b09b.tdd  
set telephone_operateur = '0818943938'  
where nom_operateur = 'DRIVECO';  
update s2b09b.tdd  
set telephone_operateur = '+33972562680'  
where nom_operateur = 'Chargepoint';  
update s2b09b.tdd  
set telephone_operateur = 'no contact available'  
where nom_operateur = 'See You Sun';  
update s2b09b.tdd  
set telephone_operateur = '0428044205'  
where nom_operateur = 'E-TOTEM';  
update s2b09b.tdd  
set telephone_operateur = 'no contact available'  
where nom_operateur = 'ELECTRA';  
update s2b09b.tdd  
set telephone_operateur = '0800941740'  
where nom_operateur = 'UBITRICITY GMBH';  
update s2b09b.tdd  
set telephone_operateur = '+33450111848'  
where nom_operateur = 'Allego';  
  
commit;
```


Exercice 1.2 :

-Thibaud :

-- Modélisation conceptuel de données (Mocodo online)

```
OPERATEUR : idOperateur, nomOperateur, contactOperateur, telOperateur
:
COMMUNE : codeInsee, nomCommune
DANS_DEPARTEMENT, 1N DEPARTEMENT, 11 COMMUNE
DEPARTEMENT : codeDepartement, nomDepartement, codeRegion, nomRegion

PAR_OPERATEUR, 1N OPERATEUR, 11 STATION
STATION :
    idStation, nomStation, adresseStation, puissanceNominale, tranchePuissance, n
    brPointCharge, implantationStation, nomEnseigne, dateMiseEnService, dateMise
    Ajour, datagouvProprio
DANS_COMMUNE, 1N COMMUNE, 11 STATION
:
:

:
PAR_AMENAGEUR, 1N AMENAGEUR, 11 STATION
:
:
:

:
AMENAGEUR : idAmenageur, nomAmenageur, sirenAmenageur, mailAmenageur
:
:
:
```

Note : Dans la suite, tous les “_” des attributs seront supprimés et la lettre suivante écrite en majuscule. Hormis cela, les changements suivants seront appliqués :

contact_amenageur -> mailAmenageur

Nombre_points_de_charge -> nbrPointCharge

Date_de_mise_jour -> dateMiseAJour

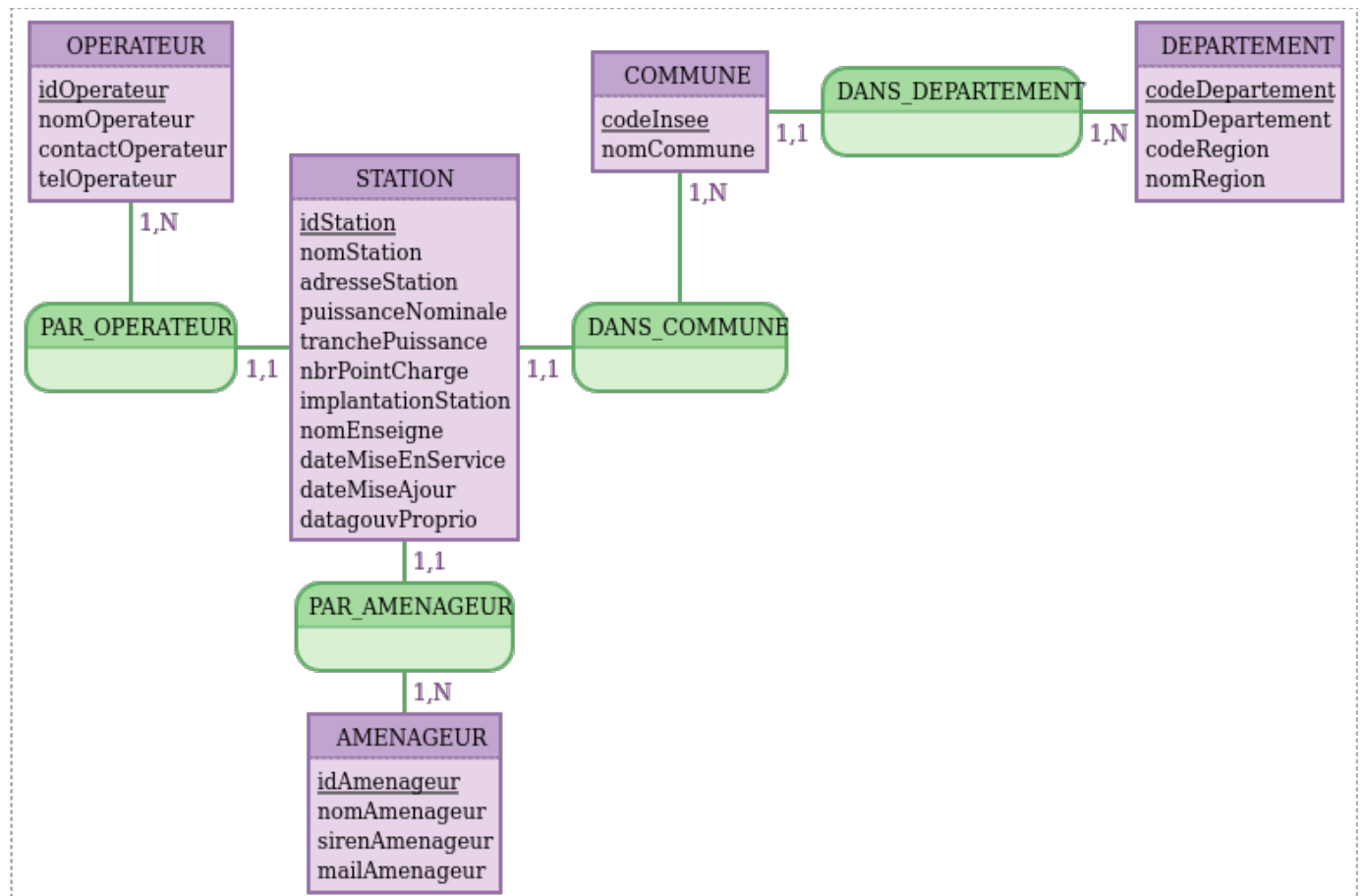
libelle_commune -> nomCommune

code_insee_commune -> codeInsee

libelle_departement -> nomDepartement

department -> nomDepartement

libelle_region -> nomRegion



Exercice 1.3 :

-Membre3 :

-- Creation table departement 44

```
CREATE TABLE commune44 (  
  PRIMARY KEY (codeInsee),  
  codeInsee NUMBER(5) NOT NULL,  
  nomCommune VARCHAR(128),  
  codeDepartement NUMBER(2) NOT NULL  
);  
  
CREATE TABLE station44 (  
  PRIMARY KEY (idStation),  
  idStation NUMBER generated as identity,  
  nomStation VARCHAR(128),  
  adresseStation VARCHAR(128),  
  puissanceNominale NUMBER,  
  tranchePuissance NUMBER,  
  nbrPointCharge NUMBER,  
  implantationStation VARCHAR(128),  
  nomEnseigne VARCHAR(128),  
  dateMiseEnService DATE,  
  dateMiseAjour DATE,  
  datagouvProprio VARCHAR(128),  
  idAmenageur NUMBER(9) NOT NULL,  
  codeInsee NUMBER(5) NOT NULL,  
  idOperateur NUMBER NOT NULL  
);  
ALTER TABLE commune44 ADD FOREIGN KEY (codeDepartement) REFERENCES  
  s2c05a.departement (codeDepartement);  
  
ALTER TABLE station44 ADD FOREIGN KEY (idOperateur) REFERENCES  
  s2b09b.operateur (idOperateur);  
ALTER TABLE station44 ADD FOREIGN KEY (codeInsee) REFERENCES commune44  
  (codeInsee);  
ALTER TABLE station44 ADD FOREIGN KEY (idAmenageur) REFERENCES  
  s2b08a.amenageur (idAmenageur);  
  
insert into commune44 (CODEINSEE, CODEDEPARTEMENT, NOMCOMMUNE)  
select distinct CODE_INSEE_COMMUNE, DEPARTMENT, LIBELLE_COMMUNE from  
  s2b09b.TDD where department = 44;
```

```

insert into station44(nomstation, adressestation, puissancenominale,
    tranchepuissance, nbrpointcharge, implantationstation, nomenseigne,
    datemiseenservice, datemiseajour, datagouvproprio, idamenageur,
    codeinsee, idoperateur) select distinct t.NOM_STATION,
    t.ADRESSE_STATION, t.PUISSANCE_NOMINALE, t.TRANCHE_PUISSANCE,
    t.NOMBRE_POINTS_DE_CHARGE, t.IMPLANTATION_STATION, t.NOM_ENSEIGNE,
    t.DATE_MISE_EN_SERVICE, t.DATE_DE_MISE_À_JOUR,
    t.DATAGOUV_ORGANIZATION_OR_OWNER, a.idAmenageur, c.codeInsee,
    o.idoperateur from s2b09b.tdd t, commune44 c, s2b08a.AMENAGEUR a,
    s2b09b.OPERATEUR o where t.NOM_OPERATEUR = o.NOMOPERATEUR and
    c.CODEINSEE = t.CODE_INSEE_COMMUNE and t.NOM_AMENAGEUR = a.NOMAMENAGEUR
    and t.department = 44;

```

-- Creation table departement 85

```

CREATE TABLE commune85 (
    PRIMARY KEY (codeInsee),
    codeInsee NUMBER(5) NOT NULL,
    nomCommune VARCHAR(128),
    codeDepartement NUMBER(2) NOT NULL
);

CREATE TABLE station85 (
    PRIMARY KEY (idStation),
    idStation NUMBER generated as identity,
    nomStation VARCHAR(128),
    adresseStation VARCHAR(128),
    puissanceNominale NUMBER,
    tranchePuissance NUMBER,
    nbrPointCharge NUMBER,
    implantationStation VARCHAR(128),
    nomEnseigne VARCHAR(128),
    dateMiseEnService DATE,
    dateMiseAJour DATE,
    datagouvProprio VARCHAR(128),
    idAmenageur NUMBER(9) NOT NULL,
    codeInsee NUMBER(5) NOT NULL,
    idOperateur NUMBER NOT NULL
);

ALTER TABLE commune85 ADD FOREIGN KEY (codeDepartement) REFERENCES
    s2c05a.departement (codeDepartement);

ALTER TABLE station85 ADD FOREIGN KEY (idOperateur) REFERENCES
    s2b09b.operateur (idOperateur);

```

```

ALTER TABLE station85 ADD FOREIGN KEY (codeInsee) REFERENCES commune85
    (codeInsee);
ALTER TABLE station85 ADD FOREIGN KEY (idAmenageur) REFERENCES
    s2b08a.amenageur (idAmenageur);

insert into commune85 (CODEINSEE, CODEDEPARTEMENT, NOMCOMMUNE)
select distinct CODE_INSEE_COMMUNE, DEPARTMENT, LIBELLE_COMMUNE from
    s2b09b.TDD where department = 85;

insert into station85(nomstation, adressestation, puissancenominale,
    tranchepuissance, nbrpointcharge, implantationstation, nomenseigne,
    datemiseenservice, datemiseajour, datagouvproprio, idamenageur,
    codeinsee, idoperateur) select distinct t.NOM_STATION,
    t.ADRESSE_STATION, t.PUISSANCE_NOMINALE, t.TRANCHE_PUISSANCE,
    t.NOMBRE_POINTS_DE_CHARGE, t.IMPLANTATION_STATION, t.NOM_ENSEIGNE,
    t.DATE_MISE_EN_SERVICE, t.DATE_DE_MISE_À_JOUR,
    t.DATAGOUV_ORGANIZATION_OR_OWNER, a.idAmenageur, c.codeInsee,
    o.idoperateur from s2b09b.tdd t, commune85 c, s2b08a.AMENAGEUR a,
    s2b09b.OPERATEUR o where t.NOM_OPERATEUR = o.NOMOPERATEUR and
    c.CODEINSEE = t.CODE_INSEE_COMMUNE and t.NOM_AMENAGEUR = a.NOMAMENAGEUR
    and t.department = 85;

```

-Membre4 :

-- Création table operateur ---

```
CREATE TABLE operateur (  
  PRIMARY KEY (idOperateur),  
  idOperateur NUMBER generated as identity,  
  nomOperateur VARCHAR(128),  
  contactOperateur VARCHAR(128),  
  telOperateur VARCHAR(128)  
);  
  
insert into OPERATEUR(nomoperateur, contactoperateur, teloperateur)  
select distinct NOM_OPERATEUR,CONTACT_OPERATEUR,TELEPHONE_OPERATEUR from  
  tdd;
```

-- Création tables Commune et Station du département de Mayenne ---

```
CREATE TABLE Commune53 (  
  PRIMARY KEY (codeInsee),  
  codeInsee NUMBER(5) NOT NULL,  
  nomcommune VARCHAR(128),  
  codeDepartement NUMBER(2) NOT NULL  
);  
  
CREATE TABLE Station53 (  
  PRIMARY KEY (idStation),  
  idStation NUMBER generated as identity,  
  nomStation VARCHAR(128),  
  adresseStation VARCHAR(128),  
  puissanceNominale NUMBER,  
  tranchePuissance NUMBER,  
  nbrPointCharge NUMBER,  
  implantationStation VARCHAR(128),  
  nomEnseigne VARCHAR(128),  
  dateMiseEnService DATE,  
  dateMiseAJour DATE,  
  datagouvProprio VARCHAR(128),  
  idAmenageur NUMBER(9) NOT NULL,  
  codeInsee NUMBER(5) NOT NULL,  
  idOperateur NUMBER NOT NULL  
);
```

```

ALTER TABLE Commune53 ADD FOREIGN KEY (codeDepartement) REFERENCES
    s2c05a.departement (codeDepartement);
ALTER TABLE Station53 ADD FOREIGN KEY (idOperateur) REFERENCES Operateur
    (idOperateur);
ALTER TABLE Station53 ADD FOREIGN KEY (codeInsee) REFERENCES commune53
    (codeInsee);
ALTER TABLE Station53 ADD FOREIGN KEY (idAmenageur) REFERENCES
    s2b08a.amenageur (idAmenageur);

insert into Commune53 (CODEINSEE, CODEDEPARTEMENT, NOMCOMMUNE)
select distinct CODE_INSEE_COMMUNE, DEPARTMENT, LIBELLE_COMMUNE from TDD
where department = 53;

insert into Station53 (nomStation, adresseStation, puissanceNominale,
    tranchePuissance, nbrPointCharge, implantationStation, nomEnseigne,
    dateMiseEnService, dateMiseAJour, datagouvProprio, idAmenageur,
    codeInsee, idOperateur)
select distinct t.NOM_STATION, t.ADRESSE_STATION, t.PUISSANCE_NOMINALE,
    t.TRANCHE_PUISSANCE, t.NOMBRE_POINTS_DE_CHARGE, t.IMPLANTATION_STATION,
    t.NOM_ENSEIGNE, t.DATE_MISE_EN_SERVICE, t.DATE_DE_MISE_À_JOUR,
    t.DATAGOUV_ORGANIZATION_OR_OWNER, a.idAmenageur, c.codeInsee,
    o.idoperateur
from tdd t, Commune53 c, s2b08a.AMENAGEUR a, OPERATEUR o where
    t.NOM_OPERATEUR = o.NOMOPERATEUR and c.CODEINSEE = t.CODE_INSEE_COMMUNE
and t.NOM_AMENAGEUR = a.NOMAMENAGEUR and c.codedepartement = 53;

```

-Thibaud :

-- Table Departement (create et alter)

```
create table Departement
as select distinct department codeDepartement,libelle_departement
nomDepartement,code_region codeRegion, libelle_region nomRegion
from s2b09b.tdd;

alter table Departement
add constraint Dep_PK Primary key (codeDepartement);
```

-- Table Commune72 (create et alter)

```
create table Commune72
as select distinct code_insee_commune codeInsee,libelle_commune
nomCommune,department codeDepartement
from s2b09b.tdd
where department=72;

alter table Commune72
add constraint Com_PK Primary Key (codeInsee);
```

-- Table Station72 (create, insert et alter)

```
CREATE TABLE station72 (
PRIMARY KEY (idStation),
idStation NUMBER generated as identity,
nomStation VARCHAR(128),
adresseStation VARCHAR(128),
puissanceNominale NUMBER,
tranchePuissance NUMBER,
nbrPointCharge NUMBER,
implantationStation VARCHAR(128),
nomEnseigne VARCHAR(128),
dateMiseEnService DATE,
dateMiseAJour DATE,
datagouvProprio VARCHAR(128),
idAmenageur NUMBER(9) NOT NULL,
codeInsee NUMBER(5) NOT NULL,
idOperateur NUMBER NOT NULL
);
```



```

insert into station72(nomstation, adressestation, puissancenominale,
    tranchepuissance, nbrpointcharge, implantationstation, nomenseigne,
    datemiseenservice, datemiseajour, datagouvproprio, idamenageur,
    codeinsee, idoperateur)

select distinct t.NOM_STATION, t.ADRESSE_STATION, t.PUISSANCE_NOMINALE,
    t.TRANCHE_PUISSANCE, t.NOMBRE_POINTS_DE_CHARGE, t.IMPLANTATION_STATION,
    t.NOM_ENSEIGNE, t.DATE_MISE_EN_SERVICE, t.DATE_DE_MISE_À_JOUR,
    t.DATAGOUV_ORGANIZATION_OR_OWNER, a.idAmenageur, c.codeInsee,
    o.idoperateur

from s2b09b.tdd t, Commune72 c, s2b08a.amenageur a, s2b09b.operateur o

where t.NOM_OPERATEUR = o.NOMOPERATEUR

and c.CODEINSEE = t.CODE_INSEE_COMMUNE

and t.NOM_AMENAGEUR = a.NOMAMENAGEUR

and c.departement=72;

ALTER TABLE commune72
    ADD FOREIGN KEY (codeDepartement) REFERENCES departement
        (codeDepartement);
ALTER TABLE station72
    ADD FOREIGN KEY (idOperateur) REFERENCES s2b09b.operateur (idOperateur);
ALTER TABLE station72
    ADD FOREIGN KEY (codeInsee) REFERENCES commune72 (codeInsee);
ALTER TABLE station72
    ADD FOREIGN KEY (idAmenageur) REFERENCES s2b08a.amenageur (idAmenageur);

```

- Membre2

-- Table Amenageur

```
CREATE TABLE amenageur (  
  PRIMARY KEY (idAmenageur),  
  idAmenageur number generated as identity,  
  sirenAmenageur NUMBER(9),  
  nomAmenageur VARCHAR(128),  
  mailAmenageur VARCHAR(128)  
);
```

```
insert into AMENAGEUR(sirenamenageur, nomamenageur, mailamenageur)  
select distinct SIREN_AMENAGEUR,NOM_AMENAGEUR,CONTACT_AMENAGEUR from tdd;
```

-- Table Commune49

```
CREATE TABLE commune49 (  
  PRIMARY KEY (codeInsee),  
  codeInsee NUMBER(5) NOT NULL,  
  nomCommune VARCHAR(128),  
  codeDepartement NUMBER(2) NOT NULL  
);
```

```
ALTER TABLE commune49 ADD FOREIGN KEY (codeDepartement) REFERENCES  
  s2c05a.departement (CODEDEPARTEMENT);
```

```
insert into commune49 (CODEINSEE, CODEDEPARTEMENT, NOMCOMMUNE)  
select distinct t.CODE_INSEE_COMMUNE,t.DEPARTMENT,t.LIBELLE_COMMUNE from  
  tdd t where t.department = 49;
```

-- Table Station49

```
CREATE TABLE station49 (  
  PRIMARY KEY (idStation),  
  idStation NUMBER generated as identity,  
  nomStation VARCHAR(128),  
  adresseStation VARCHAR(128),  
  puissanceNominale NUMBER,  
  tranchePuissance NUMBER,  
  nbrPointCharge NUMBER,  
  implantationStation VARCHAR(128),  
  nomEnseigne VARCHAR(128),  
  dateMiseEnService DATE,  
  dateMiseAJour DATE,  
  datagouvProprio VARCHAR(128),  
  idAmenageur NUMBER(9) NOT NULL,
```

```
codeInsee NUMBER(5) NOT NULL,  
idOperateur NUMBER NOT NULL  
);
```

```
ALTER TABLE station49 ADD FOREIGN KEY (idOperateur) REFERENCES  
s2b09b.operateur (idOperateur);
```

```
ALTER TABLE station49 ADD FOREIGN KEY (codeInsee) REFERENCES commune49  
(codeInsee);
```

```
ALTER TABLE station49 ADD FOREIGN KEY (idAmenageur) REFERENCES amenageur  
(idAmenageur);
```

```
insert into station49(nomstation, adressestation, puissance nominale,  
tranchepuissance, nbrpointcharge, implantationstation, nomenseigne,  
datemiseenservice, datemiseajour, datagouvproprio, idamenageur,  
codeinsee, idoperateur)
```

```
select distinct
```

```
t.NOM_STATION,t.ADRESSE_STATION,t.PUISSANCE_NOMINALE,t.TRANCHE_PUISSANCE  
,t.NOMBRE_POINTS_DE_CHARGE,t.IMPLANTATION_STATION,  
t.NOM_ENSEIGNE,t.DATE_MISE_EN_SERVICE,t.DATE_DE_MISE_À_JOUR,t.DATAGOUV_ORGA  
NIZATION_OR_OWNER,a.idAmenageur,c.codeInsee,o.idoperateur  
from tdd t, commune49 c, AMENAGEUR a, s2b09b.OPERATEUR o where  
t.NOM_OPERATEUR = o.NOMOPERATEUR and c.CODEINSEE = t.CODE_INSEE_COMMUNE  
and t.NOM_AMENAGEUR = a.NOMAMENAGEUR;
```

Exercice 1.4 :

-Membre3 :

-- Grant les droits aux autres du groupe

```
grant select, references on commune44 to s2b09b;
grant select, references on commune85 to s2b09b;
grant select, references on station44 to s2b09b;
grant select, references on station85 to s2b09b;

grant select, references on commune44 to s2b08a;
grant select, references on commune85 to s2b08a;
grant select, references on station44 to s2b08a;
grant select, references on station85 to s2b08a;

grant select, references on commune44 to s2c05a;
grant select, references on commune85 to s2c05a;
grant select, references on station44 to s2c05a;
grant select, references on station85 to s2c05a;

commit;
```

-Thibaud :

-- Grant droits pour les autres

```
grant select, references (codeDepartement) on departement to s2b09b;  
grant select, references (codeDepartement) on departement to s2b04a;  
grant select, references (codeDepartement) on departement to s2b08a;
```

```
grant select, references (codeinsee) on Commune72 to s2b09b;  
grant select, references (codeinsee) on Commune72 to s2b04a;  
grant select, references (codeinsee) on Commune72 to s2b08a;
```

```
grant select, references (idStation) on station72 to s2b09b;  
grant select, references (idStation) on station72 to s2b04a;  
grant select, references (idStation) on station72 to s2b08a;
```

```
commit;
```

-Membre4 :

-- Droits de selection sur les tables Operateur, Commune53 et Station53

```
GRANT SELECT, REFERENCES(idOperateur) ON OPERATEUR TO S2C05A;  
GRANT SELECT, REFERENCES(idOperateur) ON OPERATEUR TO S2B04A;  
GRANT SELECT, REFERENCES(idOperateur) ON OPERATEUR TO S2B08A;
```

```
GRANT SELECT, REFERENCES(codeinsee) ON Commune53 TO S2C05A;  
GRANT SELECT, REFERENCES(codeinsee) ON Commune53 TO S2B04A;  
GRANT SELECT, REFERENCES(codeinsee) ON Commune53 TO S2B08A;
```

```
GRANT SELECT, REFERENCES(idStation) on station53 to s2c05a;  
GRANT SELECT, REFERENCES(idStation) on station53 to s2b04a;  
GRANT SELECT, REFERENCES(idStation) on station53 to s2b08a;
```

```
COMMIT;
```

-Membre2 :

-- Droits de selection sur les tables Amenageur, commune49 et station49

```
grant select, references on AMENAGEUR to s2b04a; -- Membre3
grant select, references on AMENAGEUR to s2b09b; -- Membre4
grant select, references on AMENAGEUR to s2c05a; -- Thibaud

grant select, references on commune49 to s2b04a; -- Membre3
grant select, references on commune49 to s2b09b; -- Membre4
grant select, references on commune49 to s2c05a; -- Thibaud

grant select, references on station49 to s2b04a; -- Membre3
grant select, references on station49 to s2b09b; -- Membre4
grant select, references on station49 to s2c05a; -- Thibaud
```

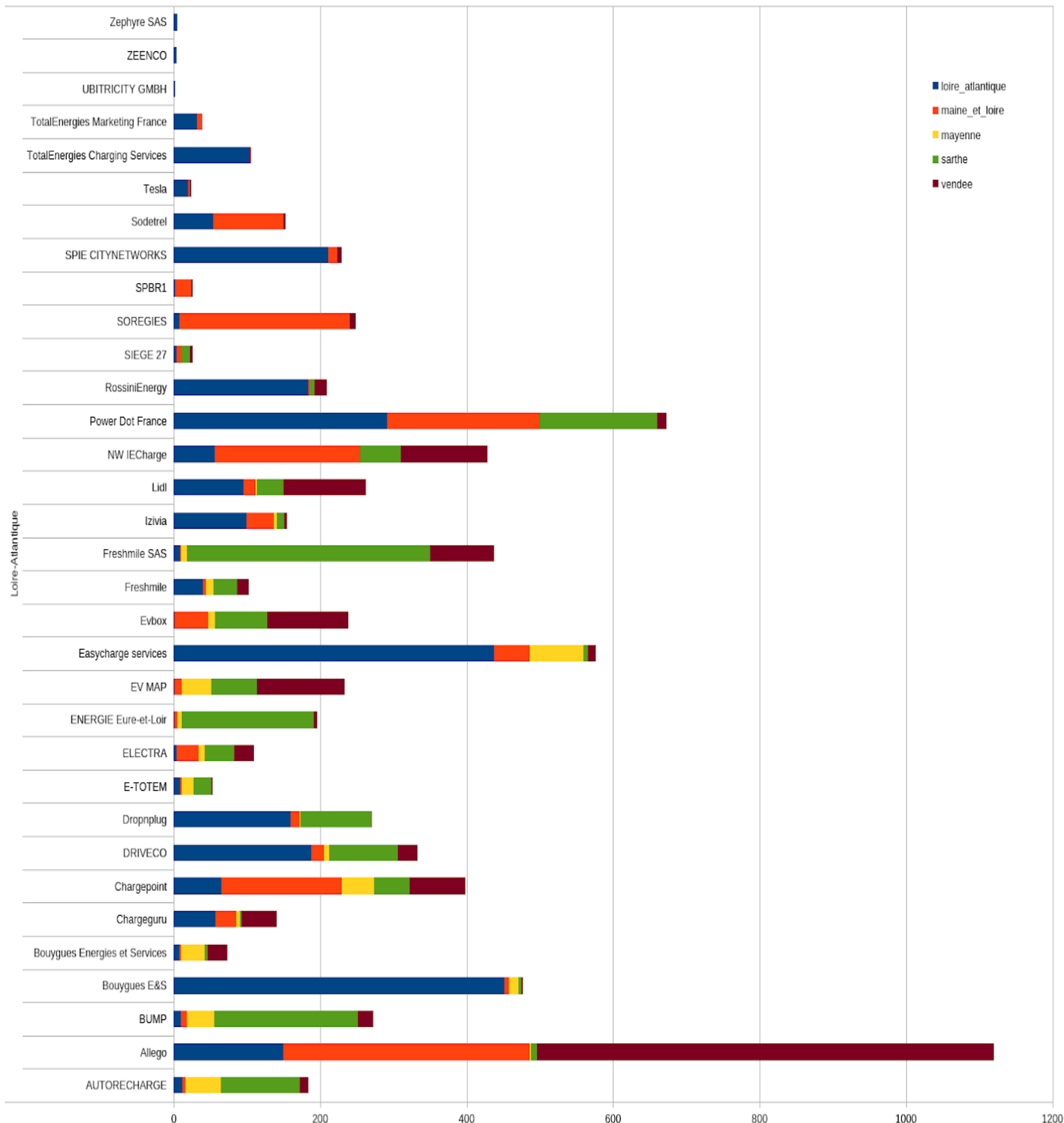
Exercice 1.5 et 1.6 :

1 - Affichez pour chaque opérateur le nombre de prises (points de charge) par département. - Membre3

```
with station as (  
  select *  
    from s2b08a.station49 s49  
union all  
  select *  
    from station44 s44  
union all  
  select *  
    from station85 s85  
union all  
  select *  
    from s2c05a.station72 s72  
union all  
  select *  
    from s2b09b.station53 s53  
) , commune as (  
  select *  
    from s2b08a.commune49  
union all  
  select *  
    from commune44  
union all  
  select *  
    from commune85  
union all  
  select *  
    from s2c05a.commune72  
union all  
  select *  
    from s2b09b.commune53  
)  
select d.nomDepartement, o.nomOperateur, sum(s.nbrPointCharge) AS  
  NbrPointdeChargeParDepEtOp from s2c05a.departement d, commune c, station  
  s, s2b09b.Operateur o
```


where $d.codeDepartement = c.codeDepartement$ and $c.codeInsee = s.codeInsee$
and $s.idOperateur = o.idOperateur$
group by $d.nomDepartement, o.nomOperateur$ order by
 $nomDepartement, nomOperateur$;

Graphique du nombre de bornes de charge par operateur et departement

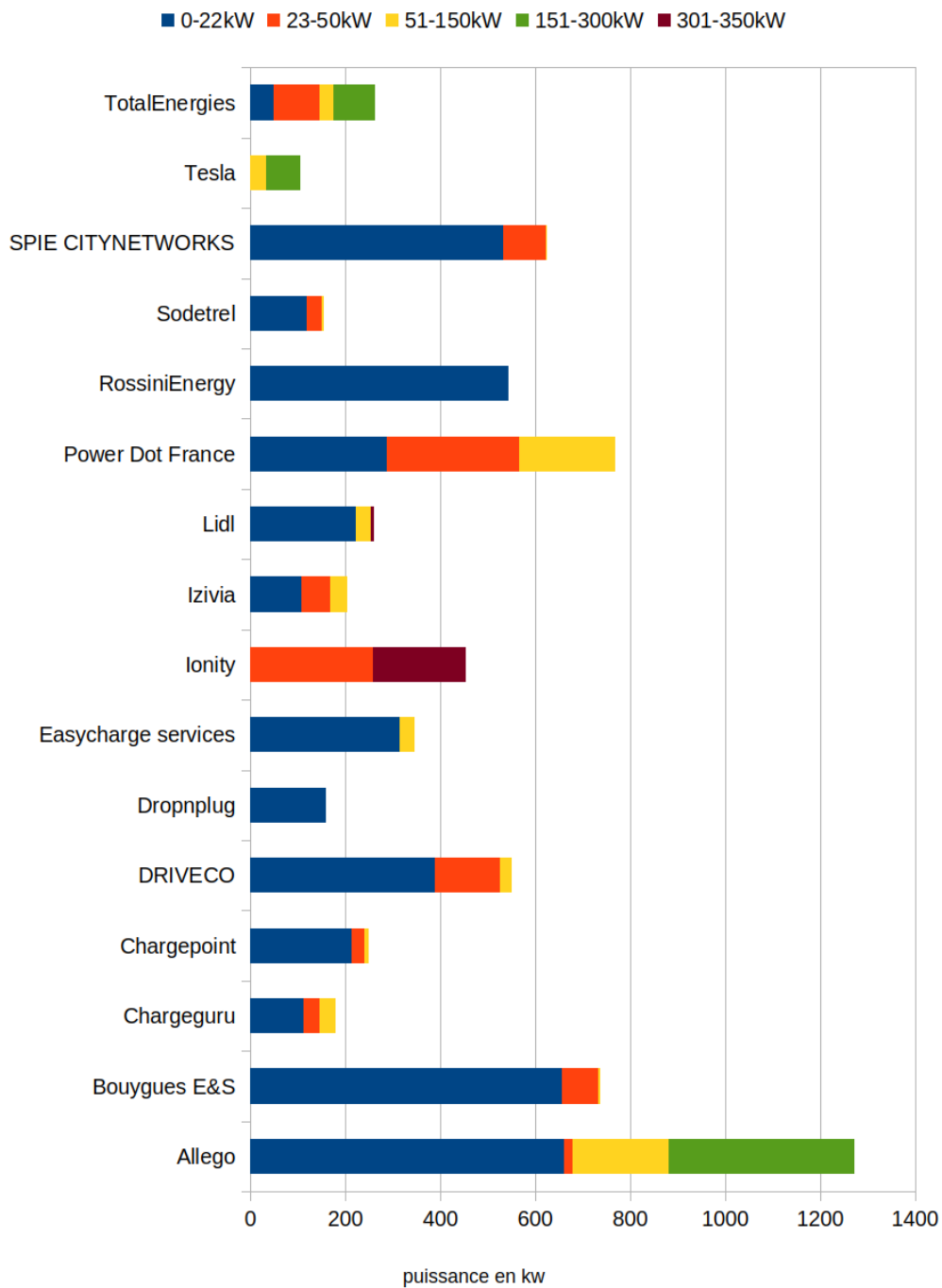


2 - Afficher pour chaque opérateur le nombre de prises avec la puissance nominale. - Thibaud

```
create or replace view station as select * from station72
union all (select * from s2b04a.station44)
union all (select * from s2b04a.station85)
union all (select * from s2b08a.station49)
union all (select * from s2b09b.station53);

select nomopérateur,sum(nbrpointcharge) nbPointsCharge,puissancenominale
from station s, s2b09b.opérateur op
where s.idopérateur=op.idopérateur
group by (nomopérateur,puissancenominale)
order by 1,2,3;
```

repartition de la puissance nominal des bornes pour les operateurs avec plus de 50 bornes



3 - Affichez pour chaque département la répartition des prises. C'est à dire en fonction des valeurs de la puissance nominale (22, 50, 43, 60, 120,...).

Dans ce cas vous prenez les 15 meilleures prises qui sont installées. -

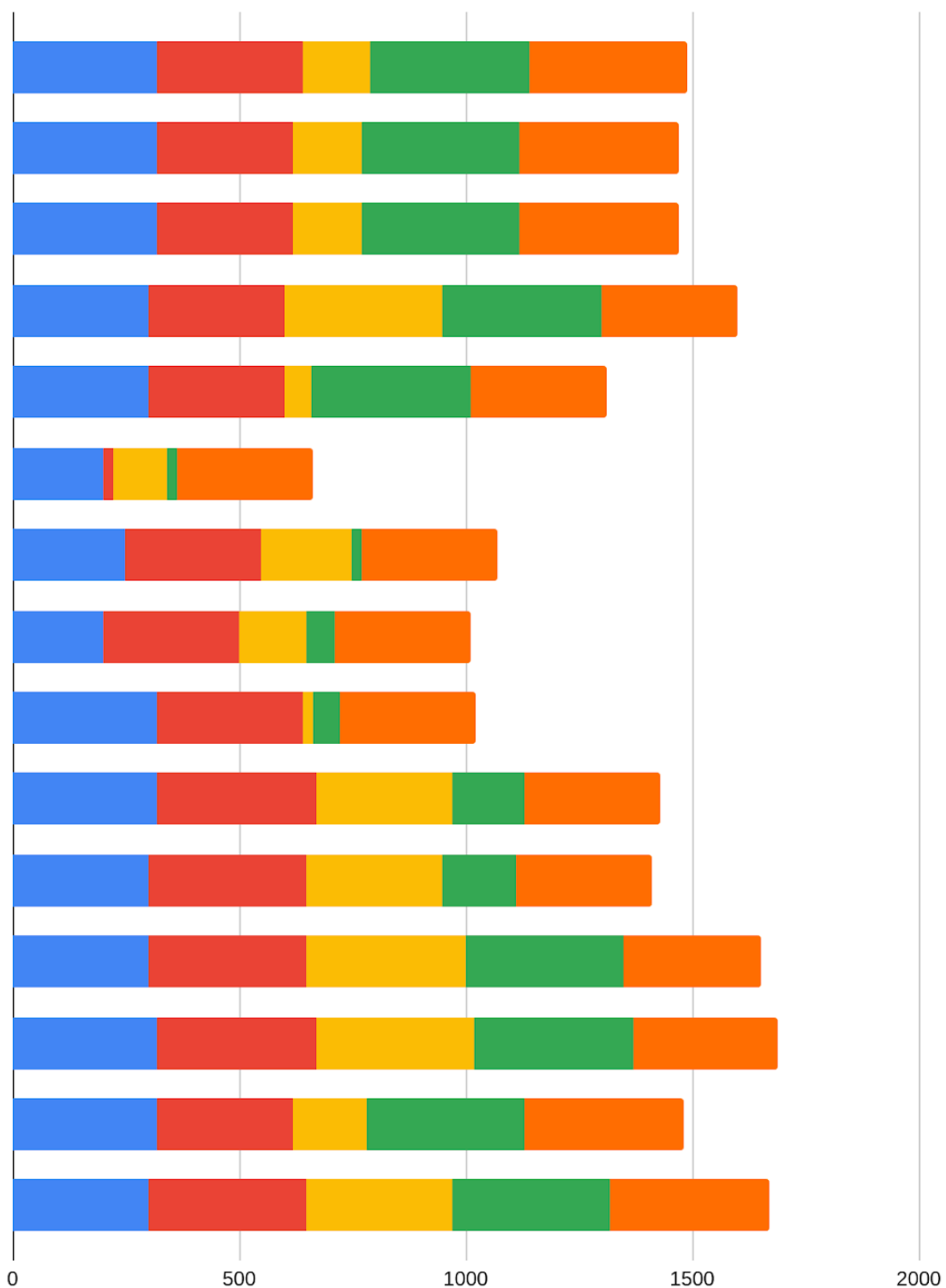
Membre2

```
with station as (  
  (select *  
    from station49 s49  
    order by s49.puissanceNominale desc  
    fetch first 15 rows only)  
  union all  
  (select *  
    from s2b04a.station44 s44  
    order by s44.puissanceNominale desc  
    fetch first 15 rows only)  
  union all  
  (select *  
    from s2b04a.station85 s85  
    order by s85.puissanceNominale desc  
    fetch first 15 rows only)  
  union all  
  (select *  
    from s2c05a.station72 s72  
    order by s72.puissanceNominale desc  
    fetch first 15 rows only)  
  union all  
  (select *  
    from s2b09b.station53 s53  
    order by s53.puissanceNominale desc  
    fetch first 15 rows only)  
) , commune as (  
  select CODEINSEE, codeDepartement  
    from commune49  
  union all  
  select CODEINSEE, codeDepartement  
    from s2b04a.commune44  
  union all  
  select CODEINSEE, codeDepartement
```

```
        from s2b04a.commune85
union all
        select CODEINSEE, codeDepartement
        from s2c05a.commune72
union all
        select CODEINSEE, codeDepartement
        from s2b09b.commune53
    )
select d.nomdepartement, s.adresseStation, s.puissanceNominale from station
    s
join commune c on s.CODEINSEE = c.CODEINSEE
join s2c05a.departement d on d.codedepartement = c.codeDepartement;
```

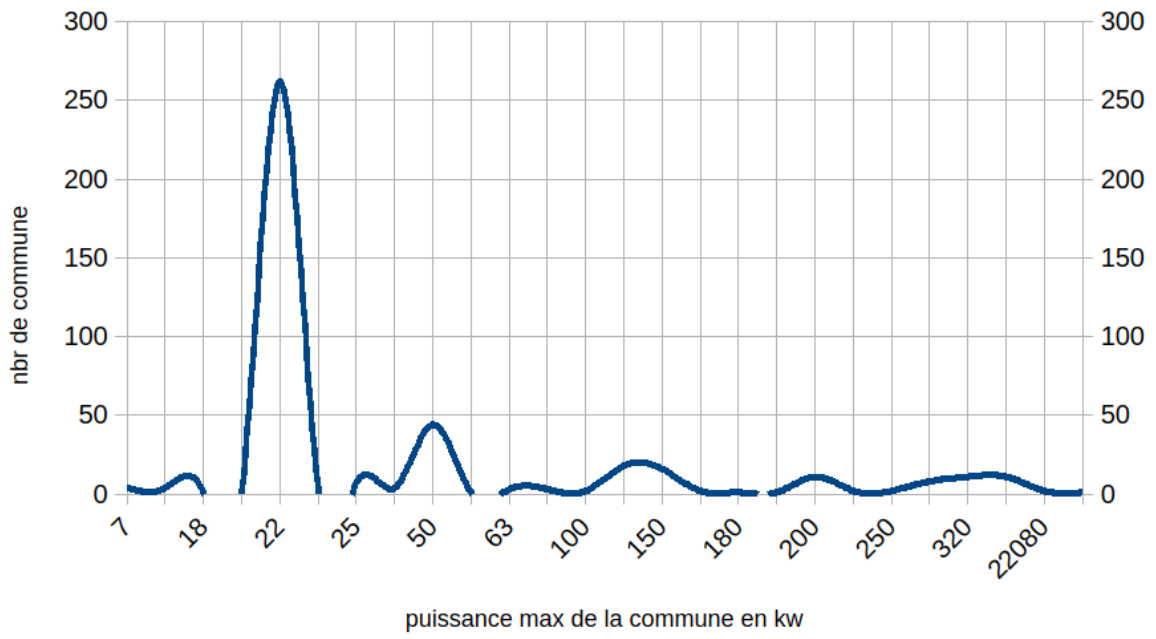
Loire-Atlantique, Maine-et-Loire, Mayenne, Sarthe et Vendée

Loire-Atlantique Maine-et-Loire Mayenne Sarthe Vendée



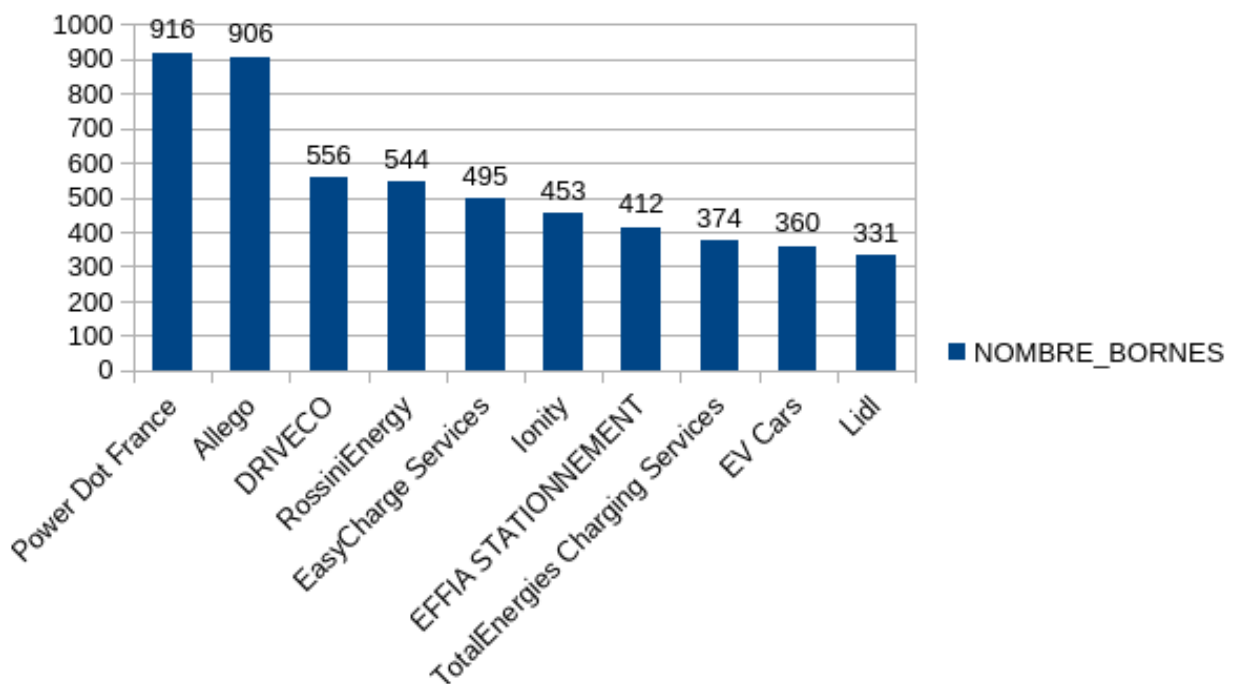
4 - Les bornes les plus puissantes de chaque commune - Membre4

```
with station as (  
  select *  
    from s2b08a.station49 s49  
union all  
  select *  
    from s2b04a.station44 s44  
union all  
  select *  
    from s2b04a.station85 s85  
union all  
  select *  
    from s2c05a.station72 s72  
union all  
  select *  
    from station53 s53  
) , commune as (  
  select *  
    from s2b08a.commune49  
union all  
  select *  
    from s2b04a.commune44  
union all  
  select *  
    from s2b04a.commune85  
union all  
  select *  
    from s2c05a.commune72  
union all  
  select *  
    from commune53  
)  
  
select distinct c.nomcommune, max(s.puissanceNominale) as PuissanceBorne  
  from station s  
join commune c on s.CODEINSEE = c.CODEINSEE  
group by c.nomcommune  
order by c.nomcommune;
```



5 - L'Aménageur qui a posé le plus de bornes - Membre4

```
with station as (  
  select *  
    from s2b08a.station49 s49  
  union all  
    select *  
    from s2b04a.station44 s44  
  union all  
    select *  
    from s2b04a.station85 s85  
  union all  
    select *  
    from s2c05a.station72 s72  
  union all  
    select *  
    from station53 s53  
)  
  
select distinct a.NomAmenageur, sum(nbrpointcharge) as Nombre_bornes  
from station s, s2b08a.amenageur a  
where s.idamenageur = a.idamenageur  
group by a.NomAmenageur  
order by Nombre_bornes desc  
fetch first 10 row only;
```



6 - Station(s) avec le plus de bornes par département - Thibaud

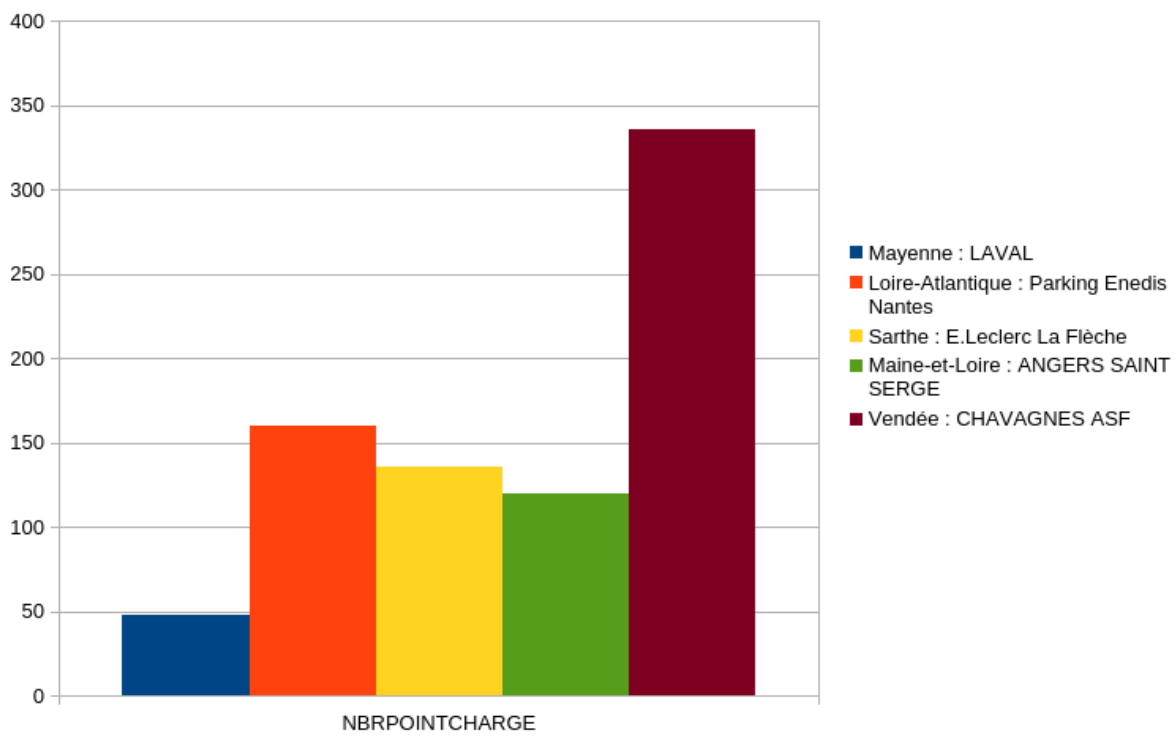
```
create or replace view station as select * from s2b04a.station44
union all (select * from s2b08a.station49)
union all (select * from s2b09b.station53)
union all (select * from s2b04a.station85)
union all (select * from station72);

create or replace view commune as select * from s2b04a.commune44
union all (select * from s2b08a.commune49)
union all (select * from s2b09b.commune53)
union all (select * from s2b04a.commune85)
union all (select * from commune72);

create or replace view intermediaire as select distinct
    d.nomdepartement,s.codeinsee,nomstation,adressestation,sum(nbrpointcharge)
    nbrPointCharge
from station s, commune c, departement d
where c.codeinsee=s.codeinsee and c.codedepartement=d.codedepartement
group by (d.nomdepartement,s.codeinsee,nomstation,adressestation)
order by 2;

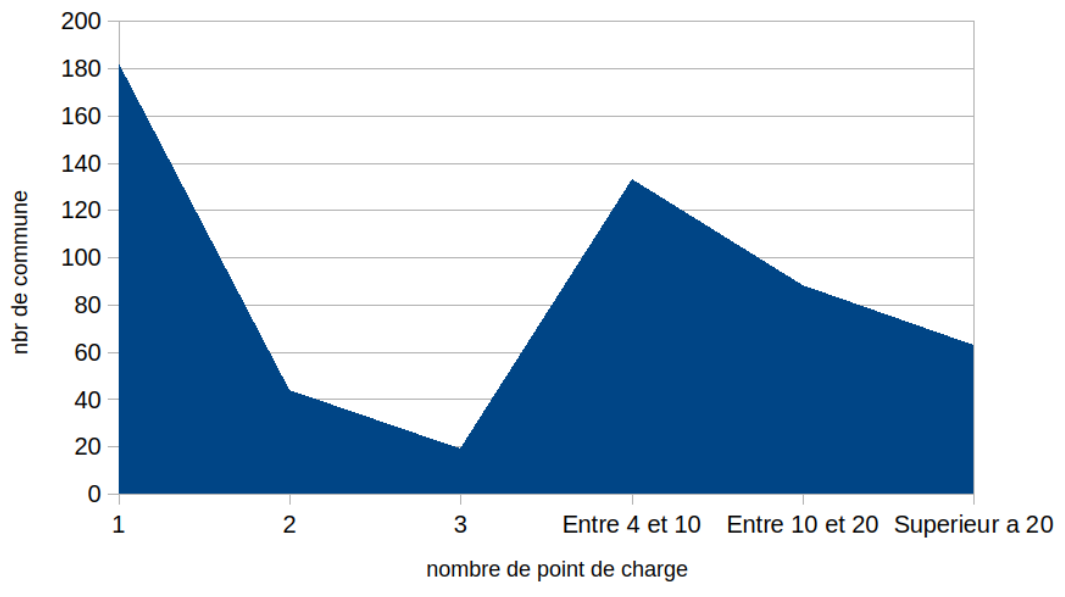
select nomdepartement,nomstation,nbrPointCharge
from intermediaire
where (nomdepartement,nbrPointCharge) in
(select nomdepartement,max(nbrPointCharge) nbrPointCharge
    from intermediaire
    group by nomdepartement);
```

Graphique des stations avec le plus de bornes par département



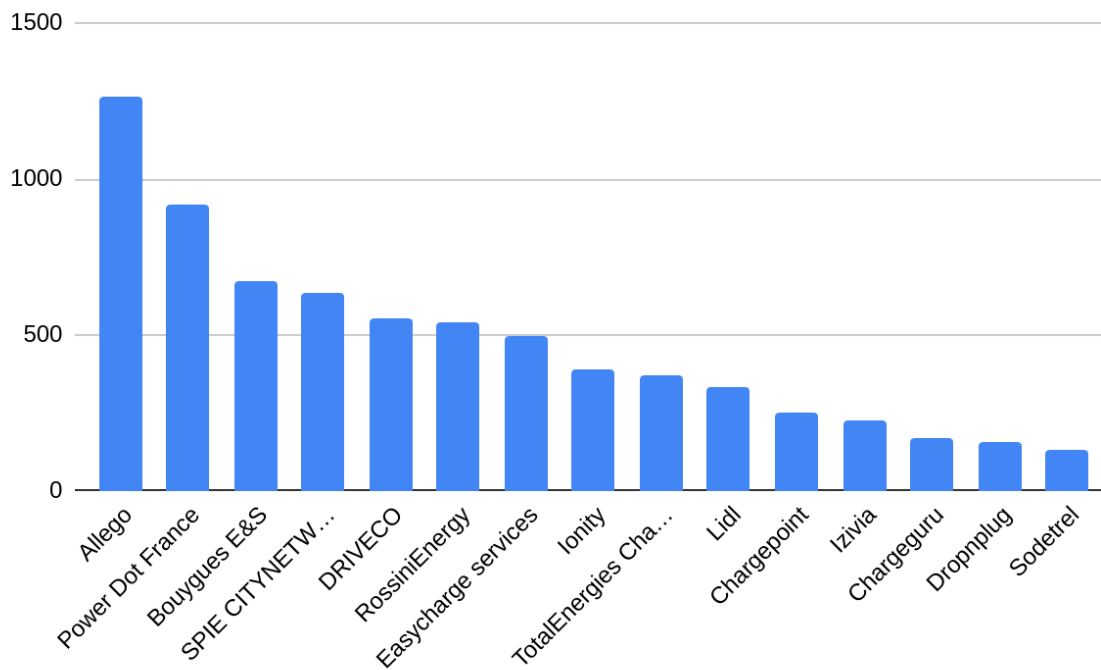
7 - Nombre de bornes par commune - Membre3

```
with station as (  
  select *  
    from s2b08a.station49 s49  
union all  
  select *  
    from station44 s44  
union all  
  select *  
    from station85 s85  
union all  
  select *  
    from s2c05a.station72 s72  
union all  
  select *  
    from s2b09b.station53 s53  
) , commune as (  
  select *  
    from s2b08a.commune49  
union all  
  select *  
    from commune44  
union all  
  select *  
    from commune85  
union all  
  select *  
    from s2c05a.commune72  
union all  
  select *  
    from s2b09b.commune53  
)  
select c.nomcommune , sum(s.nbrPointCharge) AS NbrPointdeChargeParCommune  
  from commune c , station s  
where c.codeInsee = s.codeInsee group by c.nomcommune order by nomcommune;
```



8 - Les 15 opérateurs ayant posé le plus de bornes - Membre2

```
with station as (  
  select nbrPointCharge, idOperateur  
    from station49  
  union all  
    select nbrPointCharge, idOperateur  
      from s2b04a.station44  
  union all  
    select nbrPointCharge, idOperateur  
      from s2b04a.station85  
  union all  
    select nbrPointCharge, idOperateur  
      from s2c05a.station72  
  union all  
    select nbrPointCharge, idOperateur  
      from s2b09b.station53  
)  
select o.nomOperateur, sum(s.nbrPointCharge) as nbrPointCharge  
from s2b09b.operateur o  
join station s on s.idOperateur = o.idOperateur  
group by o.nomOperateur  
order by nbrPointCharge desc;
```



Exercice 1.7 :

Note : un exemple complet où des vues sont créées par chaque utilisateur pour le(s) département(s) qu'ils a/ont en charge, puis regroupées en une vue globale sur le compte d'un des utilisateurs, est proposé dans la "[Vues requête n°4](#)".

-- Vues requête 1 - Membre3

```
create or replace view requete1Gbl as
with station as (
  select *
    from s2b08a.station49 s49
 union all
  select *
    from station44 s44
 union all
  select *
    from station85 s85
 union all
  select *
    from s2c05a.station72 s72
 union all
  select *
    from s2b09b.station53 s53
), commune as (
  select *
    from s2b08a.commune49
 union all
  select *
    from commune44
 union all
  select *
    from commune85
 union all
```

```

        select *
        from s2c05a.commune72
union all
        select *
        from s2b09b.commune53
    )
select d.nomDepartement, o.nomOperateur, sum(s.nbrPointCharge) AS
    NbrPointdeChargeParDepEtOp from s2c05a.departement d, commune c, station
    s, s2b09b.Operateur o
where d.codeDepartement = c.codeDepartement and c.codeInsee =
    s.codeInsee and s.idOperateur = o.idOperateur
group by d.nomDepartement, o.nomOperateur order by
    nomDepartement, nomOperateur;

create or replace view requetelDep44 as (select
    nomOperateur, NbrPointdeChargeParDepEtOp from requetelGbl where
    nomDepartement = 'Loire-Atlantique');

create or replace view requetelDep49 as (select
    nomOperateur, NbrPointdeChargeParDepEtOp from requetelGbl where
    nomDepartement = 'Maine-et-Loire');

create or replace view requetelDep53 as (select
    nomOperateur, NbrPointdeChargeParDepEtOp from requetelGbl where
    nomDepartement = 'Mayenne');

create or replace view requetelDep72 as (select
    nomOperateur, NbrPointdeChargeParDepEtOp from requetelGbl where
    nomDepartement = 'Sarthe');

create or replace view requetelDep85 as (select
    nomOperateur, NbrPointdeChargeParDepEtOp from requetelGbl where
    nomDepartement = 'Vendée');

```


-- Vues requête 2 - Thibaud

```
create or replace view station as select * from s2b04a.station44
union all (select * from s2b08a.station49)
union all (select * from s2b09b.station53)
union all (select * from s2b04a.station85)
union all (select * from station72);

create or replace view q2_FULL
as select nomopérateur,sum(nbrpointcharge) nbPointsCharge,puissancenominale
from station s, s2b09b.opérateur op
where s.idopérateur=op.idopérateur
group by (nomopérateur,puissancenominale)
order by 1,2,3;

create or replace view q2_SA
as select nomopérateur,sum(nbrpointcharge) nbPointsCharge,puissancenominale
from station72 s, s2b09b.opérateur op
where s.idopérateur=op.idopérateur
group by (nomopérateur,puissancenominale)
order by 1,2,3;

create or replace view q2_MA
as select nomopérateur,sum(nbrpointcharge) nbPointsCharge,puissancenominale
from s2b09b.station53 s, s2b09b.opérateur op
where s.idopérateur=op.idopérateur
group by (nomopérateur,puissancenominale)
order by 1,2,3;

create or replace view q2_ML
as select nomopérateur,sum(nbrpointcharge) nbPointsCharge,puissancenominale
from s2b08a.station49 s, s2b09b.opérateur op
where s.idopérateur=op.idopérateur
group by (nomopérateur,puissancenominale)
order by 1,2,3;

create or replace view q2_LA
as select nomopérateur,sum(nbrpointcharge) nbPointsCharge,puissancenominale
from s2b04a.station44 s, s2b09b.opérateur op
where s.idopérateur=op.idopérateur
group by (nomopérateur,puissancenominale)
order by 1,2,3;

create or replace view q2_VE
as select nomopérateur,sum(nbrpointcharge) nbPointsCharge,puissancenominale
```

```
from s2b04a.station85 s, s2b09b.operateur op
where s.idoperateur=op.idoperateur
group by (nomoperateur,puissancenominale)
order by 1,2,3;
```

-- Vues requête 3 - Membre2

```
create or replace view MeilleuresBornesDep as
with station as (
    (select *
     from station49 s49
     order by s49.puissanceNominale desc
     fetch first 15 rows only)
 union all
    (select *
     from s2b04a.station44 s44
     order by s44.puissanceNominale desc
     fetch first 15 rows only)
 union all
    (select *
     from s2b04a.station85 s58
     order by s58.puissanceNominale desc
     fetch first 15 rows only)
 union all
    (select *
     from s2c05a.station72 s72
     order by s72.puissanceNominale desc
     fetch first 15 rows only)
 union all
    (select *
     from s2b09b.station53 s53
     order by s53.puissanceNominale desc
     fetch first 15 rows only)
), commune as (
    select CODEINSEE, codeDepartement
    from commune49
 union all
    select CODEINSEE, codeDepartement
    from s2b04a.commune44
 union all
    select CODEINSEE, codeDepartement
    from s2b04a.commune85
 union all
```

```

        select CODEINSEE, codeDepartement
        from s2c05a.commune72
    union all
        select CODEINSEE, codeDepartement
        from s2b09b.commune53
    )
select d.nomdepartement, s.adresseStation, s.puissanceNominale from station
    s
join commune c on s.CODEINSEE = c.CODEINSEE
join s2c05a.departement d on d.codedepartement = c.codeDepartement;

create or replace view MeilleuresBornesDep49 as
select d.nomdepartement, s.adresseStation, s.puissanceNominale from
    station49 s
join commune49 c on s.CODEINSEE = c.CODEINSEE
join s2c05a.departement d on d.codedepartement = c.codeDepartement;

create or replace view MeilleuresBornesDep44 as
select d.nomdepartement, s.adresseStation, s.puissanceNominale from
    s2b04a.station44 s
join s2b04a.commune44 c on s.CODEINSEE = c.CODEINSEE
join s2c05a.departement d on d.codedepartement = c.codeDepartement;

create or replace view MeilleuresBornesDep85 as
select d.nomdepartement, s.adresseStation, s.puissanceNominale from
    s2b04a.station85 s
join s2b04a.commune85 c on s.CODEINSEE = c.CODEINSEE
join s2c05a.departement d on d.codedepartement = c.codeDepartement;

create or replace view MeilleuresBornesDep53 as
select d.nomdepartement, s.adresseStation, s.puissanceNominale from
    s2b09b.station53 s
join s2b09b.commune53 c on s.CODEINSEE = c.CODEINSEE
join s2c05a.departement d on d.codedepartement = c.codeDepartement;

create or replace view MeilleuresBornesDep72 as
select d.nomdepartement, s.adresseStation, s.puissanceNominale from
    s2c05a.station72 s
join s2c05a.commune72 c on s.CODEINSEE = c.CODEINSEE
join s2c05a.departement d on d.codedepartement = c.codeDepartement;

```

-- Vues requête 4 - Membre4

-- METHODE 1 : VUES PAR DEPARTEMENT PUIS REGROUPEMENT --

-- De l'utilisateur s2b09b (département 53) --

```
create or replace view q7_53
as select distinct c.nomcommune, max(s.puissanceNominale) as PuissanceBorne
from station53 s,commune53 c where s.CODEINSEE = c.CODEINSEE
group by c.nomcommune
order by c.nomcommune;
grant select on q7_53 to s2b08a;
```

-- De l'utilisateur s2b04a (département 85) --

```
create or replace view q7_85
as select distinct c.nomcommune, max(s.puissanceNominale) as PuissanceBorne
from station85 s,commune85 c where s.CODEINSEE = c.CODEINSEE
group by c.nomcommune
order by c.nomcommune;
grant select on q7_85 to s2b08a;
```

-- De l'utilisateur s2b04a (département 44) --

```
create or replace view q7_44
as select distinct c.nomcommune, max(s.puissanceNominale) as PuissanceBorne
from station44 s,commune44 c where s.CODEINSEE = c.CODEINSEE
group by c.nomcommune
order by c.nomcommune;
grant select on q7_44 to s2b08a;
```

-- De l'utilisateur s2c05a (département 72) --

```
create or replace view q7_72
as select distinct c.nomcommune, max(s.puissanceNominale) as PuissanceBorne
from station72 s,commune72 c where s.CODEINSEE = c.CODEINSEE
group by c.nomcommune
order by c.nomcommune;
grant select on q7_72 to s2b08a;
```

-- De l'utilisateur s2b08a (département 49) --

```
create or replace view q7_49
```

```
as select distinct c.nomcommune, max(s.puissanceNominale) as PuissanceBorne
from station49 s,commune49 c where s.CODEINSEE = c.CODEINSEE
group by c.nomcommune
order by c.nomcommune;
```

```
-- Reste la vue globale regroupant les 5 autres
```

```
Create or replace view Requête4GBL as (
```

```
select *
```

```
    from q7_49 d49
```

```
union all
```

```
    select *
```

```
        from s2b04a.q7_44 d44
```

```
union all
```

```
    select *
```

```
        from s2b04a.q7_85 d85
```

```
union all
```

```
    select *
```

```
        from s2c05a.q7_72 d72
```

```
union all
```

```
    select *
```

```
        from s2b09b.q7_53 d53
```

```
);
```

```
-- METHODE 2 : VUE GLOBALE EN UNE SEULE REQUETE --
```

```
Create or replace view Requête4GBL as with station as (
```

```
select *
```

```
    from s2b08a.station49 s49
```

```
union all
```

```
    select *
```

```
        from s2b04a.station44 s44
```

```
union all
```

```
    select *
```

```
        from s2b04a.station85 s85
```

```
union all
```

```
    select *
```

```
        from s2c05a.station72 s72
```

```
union all
```

```
    select *
```

```
        from station53 s53
    ), commune as (
        select *
            from s2b08a.commune49
        union all
            select *
            from s2b04a.commune44
        union all
            select *
            from s2b04a.commune85
        union all
            select *
            from s2c05a.commune72
        union all
            select *
            from commune53
    )
```

```
select distinct c.nomcommune, max(s.puissanceNominale) as PuissanceBorne
    from station s
join commune c on s.CODEINSEE = c.CODEINSEE
group by c.nomcommune
order by c.nomcommune;
```

-- Vues Requête 5 - Membre4

-- Vue Globale Requête 5 --

Create or replace view Requête5GBL as with station as (

select *

from s2b08a.station49 s49

union all

select *

from s2b04a.station44 s44

union all

select *

from s2b04a.station85 s85

union all

select *

from s2c05a.station72 s72

union all

select *

from station53 s53

), commune as (

select *

from s2b08a.commune49

union all

select *

from s2b04a.commune44

union all

select *

from s2b04a.commune85

union all

select *

from s2c05a.commune72

union all

select *

from commune53

)

select distinct a.NomAmenageur, sum(nbrpointcharge) as Nombre_bornes

from station s, s2b08a.amenageur a

where s.idamenageur = a.idamenageur


```
group by a.NomAmenageur
order by Nombre_bornes desc
fetch first 10 row only;
```

```
-- Vue departement 53 Requête 5 --
```

```
Create or replace view Requête5Dep53 as with station as (
```

```
select *
```

```
    from s2b08a.station49 s49
```

```
union all
```

```
    select *
```

```
        from s2b04a.station44 s44
```

```
union all
```

```
    select *
```

```
        from s2b04a.station85 s85
```

```
union all
```

```
    select *
```

```
        from s2c05a.station72 s72
```

```
union all
```

```
    select *
```

```
        from station53 s53
```

```
), commune as (
```

```
select *
```

```
    from s2b08a.commune49
```

```
union all
```

```
    select *
```

```
        from s2b04a.commune44
```

```
union all
```

```
    select *
```

```
        from s2b04a.commune85
```

```
union all
```

```
    select *
```

```
        from s2c05a.commune72
```

```
union all
```

```
    select *
```

```
        from commune53
```

```
)
```

```
select distinct a.NomAmenageur, sum(nbrpointcharge) as Nombre_bornes
```

```
from station s, s2b08a.amenageur a, commune c
where s.idamenageur = a.idamenageur and c.codeinsee = s.codeinsee and
      c.codedepartement = 53
group by a.NomAmenageur
order by Nombre_bornes desc
fetch first 10 row only;
```

```
-- Vue departement 72 Requête 5 --
```

```
Create or replace view Requête5Dep72 as with station as (
```

```
select *
```

```
      from s2b08a.station49 s49
```

```
union all
```

```
select *
```

```
      from s2b04a.station44 s44
```

```
union all
```

```
select *
```

```
      from s2b04a.station85 s85
```

```
union all
```

```
select *
```

```
      from s2c05a.station72 s72
```

```
union all
```

```
select *
```

```
      from station53 s53
```

```
), commune as (
```

```
select *
```

```
      from s2b08a.commune49
```

```
union all
```

```
select *
```

```
      from s2b04a.commune44
```

```
union all
```

```
select *
```

```
      from s2b04a.commune85
```

```
union all
```

```
select *
```

```
      from s2c05a.commune72
```

```
union all
```

```
select *
```

```
      from commune53
```

```
)
```

```
select distinct a.NomAmenageur, sum(nbrpointcharge) as Nombre_bornes
from station s, s2b08a.amenageur a, commune c
where s.idamenageur = a.idamenageur and c.codeinsee = s.codeinsee and
      c.codedepartement = 72
group by a.NomAmenageur
order by Nombre_bornes desc
fetch first 10 row only;
```

```
-- Vue departement 85 Requête 5 --
```

```
Create or replace view Requête5Dep85 as with station as (
```

```
select *
```

```
      from s2b08a.station49 s49
```

```
union all
```

```
select *
```

```
      from s2b04a.station44 s44
```

```
union all
```

```
select *
```

```
      from s2b04a.station85 s85
```

```
union all
```

```
select *
```

```
      from s2c05a.station72 s72
```

```
union all
```

```
select *
```

```
      from station53 s53
```

```
), commune as (
```

```
select *
```

```
      from s2b08a.commune49
```

```
union all
```

```
select *
```

```
      from s2b04a.commune44
```

```
union all
```

```
select *
```

```
      from s2b04a.commune85
```

```
union all
```

```
select *
```

```
      from s2c05a.commune72
```

```
union all
```

```
select *
  from commune53
)
```

```
select distinct a.NomAmenageur, sum(nbrpointcharge) as Nombre_bornes
  from station s, s2b08a.amenageur a, commune c
 where s.idamenageur = a.idamenageur and c.codeinsee = s.codeinsee and
       c.codedepartement = 85
 group by a.NomAmenageur
 order by Nombre_bornes desc
 fetch first 10 row only;
```

```
-- Vue departement 44 Requête 5 --
```

```
Create or replace view Requête5Dep44 as with station as (
```

```
select *
  from s2b08a.station49 s49
union all
  select *
  from s2b04a.station44 s44
union all
  select *
  from s2b04a.station85 s85
union all
  select *
  from s2c05a.station72 s72
union all
  select *
  from station53 s53
), commune as (
  select *
  from s2b08a.commune49
union all
  select *
  from s2b04a.commune44
union all
  select *
  from s2b04a.commune85
union all
```

```

        select *
        from s2c05a.commune72
union all
        select *
        from commune53
)

select distinct a.NomAmenageur, sum(nbrpointcharge) as Nombre_bornes
from station s, s2b08a.amenageur a, commune c
where s.idamenageur = a.idamenageur and c.codeinsee = s.codeinsee and
       c.codedepartement = 44
group by a.NomAmenageur
order by Nombre_bornes desc
fetch first 10 row only;

-- Vue departement 49 Requête 5 --

Create or replace view Requête5Dep49 as with station as (
select *
    from s2b08a.station49 s49
union all
    select *
    from s2b04a.station44 s44
union all
    select *
    from s2b04a.station85 s85
union all
    select *
    from s2c05a.station72 s72
union all
    select *
    from station53 s53
), commune as (
select *
    from s2b08a.commune49
union all
    select *
    from s2b04a.commune44
union all

```

```
select *
  from s2b04a.commune85
union all
  select *
  from s2c05a.commune72
union all
  select *
  from commune53
)
```

```
select distinct a.NomAmenageur, sum(nbrpointcharge) as Nombre_bornes
  from station s, s2b08a.amenageur a, commune c
 where s.idamenageur = a.idamenageur and c.codeinsee = s.codeinsee and
       c.codedepartement = 49
 group by a.NomAmenageur
 order by Nombre_bornes desc
 fetch first 10 row only;
```

-- Vues requête 6 - Thibaud

```
create or replace view q6_FULL
as select nomdepartement,nomstation,nbrPointCharge
from intermediaire
where (nomdepartement,nbrPointCharge) in
(select nomdepartement,max(nbrPointCharge) nbrPointCharge
from intermediaire
group by nomdepartement);
```

```
create or replace view q6_LA
as select * from q6_FULL
where nomdepartement='Loire-Atlantique';
```

```
create or replace view q6_MA
as select * from q6_FULL
where nomdepartement='Mayenne';
```

```
create or replace view q6_SA
as select * from q6_FULL
where nomdepartement='Sarthe';
```

```
create or replace view q6_VE
as select * from q6_FULL
where nomdepartement='Vendée';
```

```
create or replace view q6_ML
as select * from q6_FULL
where nomdepartement='Maine-et-Loire';
```

-- Vues requête 7 - Membre3

```
create or replace view requete7Gbl as
with station as (
select *
  from s2b08a.station49 s49
union all
  select *
  from station44 s44
union all
  select *
  from station85 s85
union all
  select *
  from s2c05a.station72 s72
union all
  select *
  from s2b09b.station53 s53
), commune as (
select *
  from s2b08a.commune49
union all
  select *
  from commune44
union all
  select *
  from commune85
union all
  select *
  from s2c05a.commune72
union all
  select *
  from s2b09b.commune53
)
select c.codeDepartement,c.nomcommune,sum(s.nbrPointCharge) AS
  NbrPointdeChargeParCommune from commune c, station s
where c.codeInsee = s.codeInsee group by c.codeDepartement, c.nomcommune
order by nomcommune;
```



```
create or replace view requete7Dep44 as (select nomCommune,  
    NbrPointdeChargeParCommune from requete7Gbl where codeDepartement =  
    44);  
  
create or replace view requete7Dep49 as (select nomCommune,  
    NbrPointdeChargeParCommune from requete7Gbl where codeDepartement =  
    49);  
  
create or replace view requete7Dep53 as (select nomCommune,  
    NbrPointdeChargeParCommune from requete7Gbl where codeDepartement =  
    53);  
  
create or replace view requete7Dep72 as (select nomCommune,  
    NbrPointdeChargeParCommune from requete7Gbl where codeDepartement =  
    72);  
  
create or replace view requete7Dep85 as (select nomCommune,  
    NbrPointdeChargeParCommune from requete7Gbl where codeDepartement =  
    85);
```

-- Vues requête 8 - Membre2

```
create or replace view MeilleuresBornesOp as
with station as (
    select *
      from station49 s49
    union all
    select *
      from s2b04a.station44
    union all
    select *
      from s2b04a.station85
    union all
    select *
      from s2c05a.station72
    union all
    select *
      from s2b09b.station53
)
select o.nomOperateur, sum(s.nbrPointCharge) as nbrPointCharge
from s2b09b.operateur o
join station s on s.idOperateur = o.idOperateur
group by o.nomOperateur
order by nbrPointCharge desc
fetch first 15 rows only;

create or replace view MeilleuresBornesOp49 as
select o.nomOperateur, sum(s.nbrPointCharge) as nbrPointCharge
from s2b09b.operateur o
join station49 s on s.idOperateur = o.idOperateur
group by o.nomOperateur
order by nbrPointCharge desc
fetch first 15 rows only;

create or replace view MeilleuresBornesOp44 as
select o.nomOperateur, sum(s.nbrPointCharge) as nbrPointCharge
from s2b09b.operateur o
join s2b04a.station44 s on s.idOperateur = o.idOperateur
group by o.nomOperateur
order by nbrPointCharge desc
fetch first 15 rows only;

create or replace view MeilleuresBornesOp85 as
```

```
select o.nomOperateur, sum(s.nbrPointCharge) as nbrPointCharge
from s2b09b.operateur o
join s2b04a.station85 s on s.idOperateur = o.idOperateur
group by o.nomOperateur
order by nbrPointCharge desc
fetch first 15 rows only;
```

```
create or replace view MeilleuresBornesOp53 as
select o.nomOperateur, sum(s.nbrPointCharge) as nbrPointCharge
from s2b09b.operateur o
join s2b09b.station53 s on s.idOperateur = o.idOperateur
group by o.nomOperateur
order by nbrPointCharge desc
fetch first 15 rows only;
```

```
create or replace view MeilleuresBornesOp72 as
select o.nomOperateur, sum(s.nbrPointCharge) as nbrPointCharge
from s2b09b.operateur o
join s2c05a.station72 s on s.idOperateur = o.idOperateur
group by o.nomOperateur
order by nbrPointCharge desc
fetch first 15 rows only;
```

```
select * from MeilleuresBornesOp;
select * from MeilleuresBornesOp44;
select * from MeilleuresBornesOp49;
select * from MeilleuresBornesOp53;
select * from MeilleuresBornesOp72;
select * from MeilleuresBornesOp85;
```

Exercice 2 :

Jeu de données choisi :

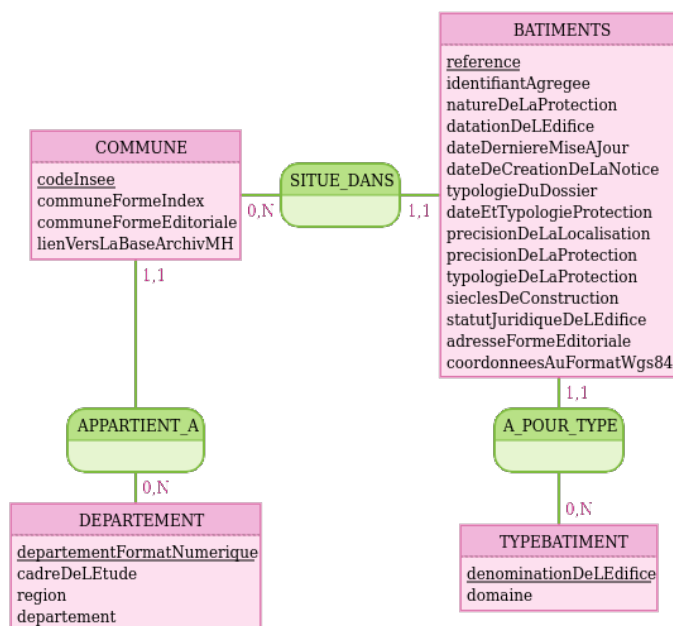
<https://www.data.gouv.fr/fr/datasets/immeubles-protoges-au-titre-des-monuments-historiques-2/>

Mocodo :

COMMUNE: codeInsee, communeFormeIndex, communeFormeEditoriale, lienVersLaBaseArchivMH
SITUE_DANS, 0N *COMMUNE*, 11 *BATIMENTS*
BATIMENTS: reference, identifiantAgregée, natureDeLaProtection, datationDeLEdifice, dateDerniereMiseAJour, dateDeCreationDeLaNotice, typologieDuDossier, dateEtTypologieProtection, precisionDeLaLocalisation, precisionDeLaProtection, typologieDeLaProtection, sieclesDeConstruction, statutJuridiqueDeLEdifice, adresseFormeEditoriale, coordonneesAuFormatWgs84

APPARTIENT_A, 0N *DEPARTEMENT*, 11 *COMMUNE*
 :
A_POUR_TYPE, 0N *TYPEBATIMENT*, 11 *BATIMENTS*

DEPARTEMENT: departementFormatNumerique, cadreDeLEtude, region, departement
 :
TYPEBATIMENT: denominationDeLEdifice, domaine



Si nécessaire:

```
create table Do_Not_Touch_MH
(
Reference                                     VARCHAR2 (256) ,
Nature_de_la_protection                       VARCHAR2 (256) ,
Commune_forme_index                           VARCHAR2 (256) ,
Datation_de_l_edifice                         VARCHAR2 (256) ,
Denomination_de_l_edifice                     VARCHAR2 (256) ,
Date_derniere_mise_a_jour                     Date,
Date_de_creation_de_la_notice                 Date,
Domaine                                       VARCHAR2 (256) ,
Typologie_du_dossier                          VARCHAR2 (256) ,
Date_et_typologie_protection                  VARCHAR2 (256) ,
Departement_format_numerique                   number (3) ,
Cadre_de_l_etude                              VARCHAR2 (256) ,
Identifiant_Agregee                           VARCHAR2 (256) ,
COG_Insee                                     number (5) ,
Lien_vers_la_base_Archiv_MH                   VARCHAR2 (256) ,
Precision_de_la_localisation                  VARCHAR2 (256) ,
Precision_de_la_protection                    VARCHAR2 (256) ,
Typologie_de_la_protection                    VARCHAR2 (256) ,
Région                                        VARCHAR2 (256) ,
Département                                  VARCHAR2 (256) ,
Siecles_de_construction                       VARCHAR2 (256) ,
Statut_juridique_de_l_edifice                  VARCHAR2 (256) ,
Adresse_forme_editoriale                       VARCHAR2 (256) ,
Commune_forme_editoriale                       VARCHAR2 (256) ,
coordonnees_au_format_WGS84                   VARCHAR2 (256)
)
```

-- Création des tables normalisées à partir de DO_NOT_TOUCH_MH

```
CREATE TABLE DEPARTEMENT (
departementFormatNumerique NUMBER(2) PRIMARY KEY,
region VARCHAR2(256),
departement VARCHAR2(256)
);
```

```
CREATE TABLE COMMUNE (
cogInsee NUMBER(5) PRIMARY KEY,
communeFormeIndex VARCHAR2(256),
communeFormeEditoriale VARCHAR2(256),
lienVersLaBaseArchivMh VARCHAR2(256),
departementFormatNumerique NUMBER(2),
```

```

CONSTRAINT fk_commune_departement FOREIGN KEY (departementFormatNumerique)
    REFERENCES DEPARTEMENT(departementFormatNumerique)
);

CREATE TABLE TYPEBATIMENT (
denominationDeLEdifice VARCHAR2(256) PRIMARY KEY,
domaine VARCHAR2(256)
);

CREATE TABLE BATIMENTS (
reference VARCHAR2(256) PRIMARY KEY,
identifiantAgregé VARCHAR2(256),
natureDeLaProtection VARCHAR2(256),
datationDeLEdifice VARCHAR2(256),
dateDerniereMiseAJour DATE,
dateDeCreationDeLaNotice DATE,
typologieDuDossier VARCHAR2(256),
dateEtTypologieProtection VARCHAR2(256),
precisionDeLaLocalisation VARCHAR2(256),
precisionDeLaProtection VARCHAR2(256),
typologieDeLaProtection VARCHAR2(256),
sieclesDeConstruction VARCHAR2(256),
statutJuridiqueDeLEdifice VARCHAR2(256),
adresseFormeEditoriale VARCHAR2(256),
coordonneesAuFormatWgs84 VARCHAR2(256),
cogInsee NUMBER(5),
denominationDeLEdifice VARCHAR2(256),
departementFormatNumerique NUMBER(2),
CONSTRAINT fk_batiment_commune FOREIGN KEY (cogInsee)
    REFERENCES COMMUNE(cogInsee),
CONSTRAINT fk_batiment_type FOREIGN KEY (denominationDeLEdifice)
    REFERENCES TYPEBATIMENT(denominationDeLEdifice),
CONSTRAINT fk_batiment_departement FOREIGN KEY (departementFormatNumerique)
    REFERENCES DEPARTEMENT(departementFormatNumerique)
);

```

-- Insertion des données depuis DO_NOT_TOUCH_MH

```

-- D'abord les départements
INSERT INTO DEPARTEMENT(departementFormatNumerique,region,departement)
SELECT DISTINCT
Departement_format_numerique,
Région,
Département
FROM DO_NOT_TOUCH_MH;

```

```

-- Puis les communes
INSERT INTO COMMUNE
SELECT DISTINCT
COG_Insee,
Commune_forme_index,
Commune_forme_editoriale,
Lien_vers_la_base_Archiv_MH,
Departement_format_numerique
FROM DO_NOT_TOUCH_MH;

-- Ensuite les types de bâtiments
INSERT INTO TYPEBATIMENT
SELECT DISTINCT
Denomination_de_l_edifice,
Domaine
FROM DO_NOT_TOUCH_MH;

-- Enfin les bâtiments
INSERT INTO BATIMENTS
SELECT
Reference,
Identifiant_Agregee,
Nature_de_la_protection,
Datation_de_l_edifice,
Date_derniere_mise_a_jour,
Date_de_creation_de_la_notice,
Typologie_du_dossier,
Date_et_typologie_protection,
Precision_de_la_localisation,
Precision_de_la_protection,
Typologie_de_la_protection,
Siecles_de_construction,
Statut_juridique_de_l_edifice,
Adresse_forme_editoriale,
coordonnees_au_format_WGS84,
COG_Insee,
Denomination_de_l_edifice,
Departement_format_numerique
FROM DO_NOT_TOUCH_MH;

```