

Rapport Tps Base de Donnée

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TP1 :

1.1): Création des tables

```
CREATE DATABASE PARC_DB;
USE PARC_DB;
CREATE TABLE Segment(
    indIP VARCHAR(11) NOT NULL PRIMARY KEY ,
    nomSegement VARCHAR(20),
    etage TINYINT(1)
);
CREATE TABLE Salle(
    nSalle VARCHAR(7) PRIMARY KEY NOT NULL ,
    nomSalle VARCHAR(20),
    nbPoste TINYINT(2),
    indIP VARCHAR(11)
);
CREATE TABLE Poste(
    nbPoste TINYINT(2) PRIMARY KEY NOT NULL,
    nomPoste VARCHAR(20),
    indIP VARCHAR(11),
    ad VARCHAR(3) ,
    typePoste VARCHAR(9),
    nSalle VARCHAR(7),
    CONSTRAINT adCons CHECK( ad BETWEEN 0 AND 255 )
);
CREATE TABLE Logiciel(
    nLog VARCHAR(6) PRIMARY KEY,
    nomLog VARCHAR(20),
    dataAch DATETIME ,
    version VARCHAR(7) ,
    typeLog VARCHAR(9),
    prix DECIMAL(6,2),
    CONSTRAINT LogCons CHECK( prix >= 0 )
);
CREATE TABLE Installer(
    nbPoste TINYINT(2),
    nLog VARCHAR(5),
    numIns INTEGER(5) PRIMARY KEY NOT NULL,
    dateIns TIMESTAMP DEFAULT CURRENT_TIMESTAMP ,
    delai SMALLINT
);
CREATE TABLE Types(
    typeLP VARCHAR(9) PRIMARY KEY,
    nomType VARCHAR(20)
);
```

1.2) : Description des tables

```
DESCRIBE Installer;  
DESCRIBE Logiciel ;  
DESCRIBE Poste ;  
DESCRIBE Salle ;  
DESCRIBE Segment ;  
DESCRIBE Types ;
```

```
mysql> source /home/kokoudevops/Documents/BD/descParc.sql
```

Field	Type	Null	Key	Default	Extra
nbPoste	tinyint	YES		NULL	
nLog	varchar(5)	YES		NULL	
numIns	int	NO	PRI	NULL	
dateIns	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED on update CURRENT_TIMESTAMP
delai	smallint	YES		NULL	

5 rows in set (0,00 sec)

Field	Type	Null	Key	Default	Extra
nLog	varchar(6)	NO	PRI	NULL	
nomLog	varchar(20)	YES		NULL	
dataAch	datetime	YES		NULL	
version	varchar(7)	YES		NULL	
typeLog	varchar(9)	YES		NULL	
prix	decimal(6,2)	YES		NULL	

6 rows in set (0,00 sec)

Field	Type	Null	Key	Default	Extra
nbPoste	tinyint	NO	PRI	NULL	
nomPoste	varchar(20)	YES		NULL	
indIP	varchar(11)	YES		NULL	
ad	varchar(3)	YES		NULL	
typePoste	varchar(9)	YES		NULL	
nSalle	varchar(7)	YES		NULL	

6 rows in set (0,00 sec)

Field	Type	Null	Key	Default	Extra
nSalle	varchar(7)	NO	PRI	NULL	
nomSalle	varchar(20)	YES		NULL	
nbPoste	tinyint	YES		NULL	
indIP	varchar(11)	YES		NULL	

4 rows in set (0,00 sec)

Field	Type	Null	Key	Default	Extra
indIP	varchar(11)	NO	PRI	NULL	
nomSegement	varchar(20)	YES		NULL	
etage	tinyint(1)	YES		NULL	

3 rows in set (0,00 sec)

Field	Type	Null	Key	Default	Extra
typeLP	varchar(9)	NO	PRI	NULL	
nomType	varchar(20)	YES		NULL	

2 rows in set (0,00 sec)

1.3) : Suppression des tables

```
DROP TABLE Installer;  
DROP TABLE Logiciel ;  
DROP TABLE Poste ;  
DROP TABLE Salle ;  
DROP TABLE Segment ;  
DROP TABLE Types ;
```

```
mysql> source /home/kokoudevops/Documents/BD/dropParc.sql  
Query OK, 0 rows affected (0,05 sec)  
  
Query OK, 0 rows affected (0,00 sec)  
  
Query OK, 0 rows affected (0,00 sec)  
  
Query OK, 0 rows affected (0,01 sec)  
  
Query OK, 0 rows affected (0,00 sec)  
  
Query OK, 0 rows affected (0,00 sec)  
  
mysql> source /home/kokoudevops/Documents/BD/descParc.sql  
ERROR 1146 (42S02): Table 'PARC_DB.Installer' doesn't exist  
ERROR 1146 (42S02): Table 'PARC_DB.Logiciel' doesn't exist  
ERROR 1146 (42S02): Table 'PARC_DB.Poste' doesn't exist  
ERROR 1146 (42S02): Table 'PARC_DB.Salle' doesn't exist  
ERROR 1146 (42S02): Table 'PARC_DB.Segment' doesn't exist  
ERROR 1146 (42S02): Table 'PARC_DB.Types' doesn't exist  
mysql>
```

TP2 :

2.1) : Insertion

```
INSERT INTO Segment VALUES("130.120.80","Brin",0);  
INSERT INTO Segment VALUES("130.120.81","Brin",1);  
INSERT INTO Segment VALUES("130.120.82","Brin",2);  
  
INSERT INTO Salle VALUES("s01","Salle 1",3,"130.120.80");  
INSERT INTO Salle VALUES("s02","Salle 2",2,"130.120.80");  
INSERT INTO Salle VALUES("s03","Salle 3",2,"130.120.80");  
INSERT INTO Salle VALUES("s011","Salle 11",2,"130.120.81");  
INSERT INTO Salle VALUES("s012","Salle 12",1,"130.120.81");  
INSERT INTO Salle VALUES("s021","Salle 21",2,"130.120.82");  
INSERT INTO Salle VALUES("s022","Salle 22",0,"130.120.83");  
INSERT INTO Salle VALUES("s023","Salle 23",0,"130.120.83");
```

```

INSERT INTO Poste VALUES("p1","Poste 1","130.120.80","01","TX","s01");
INSERT INTO Poste VALUES("p2","Poste 2","130.120.80","02","UNIX","s01");
INSERT INTO Poste VALUES("p3","Poste 3","130.120.80","03","TX","s01");
INSERT INTO Poste VALUES("p4","Poste 4","130.120.80","04","PCWS","s02");
INSERT INTO Poste VALUES("p5","Poste 5","130.120.80","05","PCWS","s02");
INSERT INTO Poste VALUES("p6","Poste 6","130.120.80","06","UNIX","s03");
INSERT INTO Poste VALUES("p7","Poste 7","130.120.80","07","TX","s03");
INSERT INTO Poste VALUES("p8","Poste 8","130.120.81","01","UNIX","s11");
INSERT INTO Poste VALUES("p9","Poste 9","130.120.81","02","TX","s11");
INSERT INTO Poste VALUES("p10","Poste
10","130.120.81","03","UNIX","s12");
INSERT INTO Poste VALUES("p11","Poste
11","130.120.82","01","PCNT","s21");
INSERT INTO Poste VALUES("p12","Poste
12","130.120.82","02","PCWS","s21");

INSERT INTO Logiciel VALUES("Log1","Oracle 6","1995-05-
13","6.2","UNIX",3000);
INSERT INTO Logiciel VALUES("Log2","Oracle 8","1999-09-
15","8i","UNIX",5600);
INSERT INTO Logiciel VALUES("Log3","SQL Server","1998-04-
12","7","PCNT",2700);
INSERT INTO Logiciel VALUES("Log4","Front Page","1997-06-
03","5","PCWS",500);
INSERT INTO Logiciel VALUES("Log5","WinDev","1997-05-
12","5","PCWS",750);
INSERT INTO Logiciel VALUES("Log6","SQL*Net",NULL,"2.0","UNIX",500);
INSERT INTO Logiciel VALUES("Log7","I. I. S.","2002-04-
12","2","PCNT",810);
INSERT INTO Logiciel VALUES("Log8","DreamWeaver","2003-09-
21","2.0","BeOS",1400);

INSERT INTO Types VALUES("TX","Terminal X-Window");
INSERT INTO Types VALUES("UNIX","Système Unix");
INSERT INTO Types VALUES("PCNT","PC Windows NT");
INSERT INTO Types VALUES("PCWS","PC Windows");
INSERT INTO Types VALUES("NC","Network Computer");

```

2.2): Séquences

```

ALTER TABLE Installer ADD COLUMN numIns INT AUTO_INCREMENT PRIMARY KEY;

INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p2","log1","2003-05-15",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p2","log2","2003-09-17",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p4","log5",NULL,NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p6","log6","2003-05-20",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p6","log1","2003-05-20",NULL);

```

```

INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p8","log2","2003-05-19",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p8","log6","2003-05-20",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p11","log3","2003-04-20",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p12","log4","2003-04-20",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p11","log7","2003-04-20",NULL);
INSERT INTO Installer (nPoste,nLog,dateIns,delai)
VALUES("p7","log7","2002-04-01",NULL);

```

2.3): Modification

```

UPDATE Segment SET etage=0 WHERE IndIP="130.120.80";
UPDATE Segment SET etage=1 WHERE IndIP="130.120.81";
UPDATE Segment SET etage=2 WHERE IndIP="130.120.82";

UPDATE Logiciel SET prix= prix*0.9 WHERE typeLog="PCNT"

```

On remarque bien que les prix on diminués de 10% pour les Logiciel concernés

```

ERROR 1146 (42S02): Table 'PARC_DB.Segmement' doesn't exist
mysql> SELECT * FROM Segment;
+-----+-----+-----+
| indIP      | nomSegement | etage |
+-----+-----+-----+
| 130.120.80 | Brin        | 0     |
| 130.120.81 | Brin        | 1     |
| 130.120.82 | Brin        | 2     |
+-----+-----+-----+
3 rows in set (0,00 sec)

mysql> SELECT nLog, typeLog, prix FROM Logiciel;
+-----+-----+-----+
| nLog | typeLog | prix    |
+-----+-----+-----+
| Log1 | UNIX    | 3000.00 |
| Log2 | UNIX    | 5600.00 |
| Log3 | PCNT    | 2430.00 |
| Log4 | PCWS    | 500.00  |
| Log5 | PCWS    | 750.00  |
| Log6 | UNIX    | 500.00  |
| Log7 | PCNT    | 729.00  |
| Log8 | BeOS    | 1400.00 |
+-----+-----+-----+
8 rows in set (0,00 sec)

```

TP3 :

3.1): Ajout :

```
ALTER TABLE Segment ADD nbSalle TINYINT(2) DEFAULT 0 ;
ALTER TABLE Segment ADD nbPoste TINYINT(2) DEFAULT 0 ;
ALTER TABLE Logiciel ADD nbInstall TINYINT(2) DEFAULT 0 ;
ALTER TABLE Poste ADD nbLog TINYINT(2) DEFAULT 0 ;
```

3.2):Modification:

```
ALTER TABLE Salle MODIFY COLUMN nomSalle VARCHAR(30) ;
ALTER TABLE Segment MODIFY COLUMN nomSegment VARCHAR(15) ;
ALTER TABLE Segment MODIFY COLUMN nomSegment VARCHAR(14) ; /*elle
marche bien chez moi car les enregistrements déjà existantes sont
inférieur à 14 caractères : */
ALTER TABLE Logiciel ADD UNIQUE (nomLogiciel);
```

3.3):Contraintes:

```
ALTER TABLE Poste ADD CONSTRAINT fk_poste_indIP_Segment FOREIGN KEY
(indIP) REFERENCES Segment(indIP);
ALTER TABLE Poste ADD CONSTRAINT fk_poste_nSalle_Salle FOREIGN KEY
(nSalle) REFERENCES Salle(nSalle);
ALTER TABLE Poste ADD CONSTRAINT fk_poste_typePoste_Types FOREIGN KEY
(typePoste) REFERENCES Types(typeLP);
ALTER TABLE Installer ADD CONSTRAINT fk_inst_nPoste_Poste FOREIGN KEY
(nPoste) REFERENCES Poste(nPoste);
ALTER TABLE Installer ADD CONSTRAINT fk_inst_nLog_Logiciel FOREIGN KEY
(nLog) REFERENCES Logiciel(nLog);
```

3.4):Contraintes:

```
ALTER TABLE Salle ADD CONSTRAINT fk_salle_indIP_Segment FOREIGN KEY
(indIP) REFERENCES Segment1(indIP);
ALTER TABLE Logiciel ADD CONSTRAINT fk_Logiciel_typeLog_Types FOREIGN
KEY (typeLog) REFERENCES Types1(typeLP);
```

```
DELETE FROM Salle WHERE nSalle="s22" OR nSalle="s23";
INSERT INTO Types ( typeLP,nomType ) VALUES("BeOS","système Be");
```

TP4 :

4.1 Création dynamique de table

```
CREATE TABLE Softs AS
    SELECT nomLog as nomSoft, version, prix
    FROM Logiciel;

CREATE TABLE PCSeuls AS
    SELECT nPoste as nP, nomPoste as nomP, indIP as seg, ad, typePoste
    as typeP, nSalle as salle
    FROM Poste
    WHERE typePoste in ('PCWS', 'PCNT');
```

4.2 Requête monotable

```
SELECT typePoste FROM Poste WHERE nPoste ="p8";
SELECT nomLog FROM Logiciel WHERE nomLog="UNIX";
SELECT nomPoste, indIP, nSalle FROM Poste WHERE typePoste in ('PCWS',
'UNIX');
SELECT nomPoste, indIP, nSalle FROM Poste WHERE indIP="130.120.80" ORDER
BY nSalle ASC;
SELECT nLog FROM Installer WHERE nPoste="p6";
SELECT nPoste FROM Installer WHERE nLog="log1";
SELECT nomPoste, concat(indIP, '.', ad) FROM Poste WHERE typePoste="TX";
```

4.3 fonctions et groupements

```
SELECT nPoste, sum(numIns) as numIns FROM Installer GROUP BY nPoste;
SELECT nSalle, count(nPoste) as nPoste FROM Poste GROUP BY nSalle;
SELECT nLog, nPoste, sum(numIns) as numIns FROM Installer GROUP BY nLog,
nPoste;
SELECT typeLog, AVG(prix) as prixMoyen FROM Logiciel WHERE
typeLog="UNIX";
SELECT nomLog, dataAch FROM Logiciel ORDER BY dataAch DESC LIMIT 1;
SELECT nPoste FROM Installer GROUP BY nPoste HAVING COUNT( DISTINCT
nLog) = 2;
SELECT count(nPoste) FROM Installer WHERE np GROUP BY nPoste HAVING
COUNT( DISTINCT nLog) = 2;
```