

DBMS Lab Exercise-2 DDL Constraints

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Consider the following employee database, where the primary keys are underlined.

employee (employee_name, street, city)

company (company_name, city)

works (employee_name, company_name, salary)

manages (employee_name, manager_name)

Queries:

1. First create tables without constraints

2. Add the primary Key constraints (Underlined attributes are primary keys)

```
create table employee(ename varchar(20),street varchar(20),city varchar(20));
```

```
create table company(cname varchar(20),city varchar(20));
```

```
create table works(ename varchar(20),cname varchar(20), salary number(8));
```

```
create table manages(ename varchar(20),mname varchar(20));
```

```
desc employee;
```

```
desc company;
```

```
desc works;
```

```
desc manages;
```

```
alter table employee
```

```
add constraint pkemployee primary key (ename);
```

```
alter table company
```

```
add constraint pkcompany primary key (cname);
```

```
alter table works
```

```
add constraint pkworks primary key (ename);
```

```
alter table manages
```

```
add constraint pkmanages primary key (ename);
```

Table created.

Table created.

Table created.

Table created.

TABLE EMPLOYEE

Column	Null?	Type
ENAME	-	VARCHAR2(20)
STREET	-	VARCHAR2(20)
CITY	-	VARCHAR2(20)

Download CSV

3 rows selected.

TABLE COMPANY

Column	Null?	Type
CNAME	-	VARCHAR2(20)
CITY	-	VARCHAR2(20)

Download CSV

TABLE WORKS

Column	Null?	Type
ENAME	-	VARCHAR2(20)
CNAME	-	VARCHAR2(20)
SALARY	-	NUMBER(8,0)

[Download CSV](#)

3 rows selected.

TABLE MANAGES

Column	Null?	Type
ENAME	-	VARCHAR2(20)
MNAME	-	VARCHAR2(20)

[Download CSV](#)

2 rows selected.

3. Add the Foreign Keys wherever it is applicable.

```
alter table works
```

```
add constraint fkcname
```

```
foreign key (cname) references company(cname);
```

```
alter table manages
```

```
drop constraint pkmanages;
```

```
alter table manages
```

```
add constraint fkename
```

foreign key (ename) references employee(ename);

Table altered.

Table altered.

Table altered.

4. The attributes city and manager name cannot be null.
5. Make the salary Decimal, 7 digits maximum with 2 digits to the right of the decimal place
6. Insert a new column in employee called PAN which is unique
7. Insert a new column 'Age' in employee and ensure that the values must lie between 25 and 60 (both inclusive)
8. Drop the not null constraint for the attribute 'city'
9. Set the default constraint to the attribute 'city' with the value 'Chennai'.
10. Drop the primary key constraint in the table 'company'

alter table employee

modify city varchar(20) not null;

alter table company

modify city varchar(20) not null;

alter table manages

modify mname varchar(20) not null;

desc employee;

desc company;

desc works;

desc manages;

alter table works modify salary number(7,2);

alter table employee add pan varchar(10);

alter table employee add constraint uemployee unique(pan);

```
alter table employee add age number(2);  
alter table employee add constraint chemployee check(age>=25 AND age<60);  
desc employee;  
desc company;  
desc works;  
desc manages;  
alter table employee  
modify city varchar(20);  
alter table company  
modify city varchar(20);  
alter table employee  
modify city default 'Chennai';  
alter table company  
modify city default 'Chennai';  
desc employee;  
desc company;  
desc works;  
desc manages;  
alter table works drop constraint fkcname;  
alter table company  
drop constraint pkcompany;
```

Table altered.

Table altered.

Table altered.

Table altered.

Table altered.

Table altered.

Table altered.

TABLE EMPLOYEE

Column	Null?	Type
ENAME	NOT NULL	VARCHAR2(20)
STREET	-	VARCHAR2(20)
CITY	NOT NULL	VARCHAR2(20)

Download CSV

3 rows selected.

TABLE COMPANY

Column	Null?	Type
CNAME	NOT NULL	VARCHAR2(20)
CITY	NOT NULL	VARCHAR2(20)

Download CSV

2 rows selected.

TABLE WORKS

Column	Null?	Type
ENAME	NOT NULL	VARCHAR2(20)
CNAME	-	VARCHAR2(20)
SALARY	-	NUMBER(8,0)

Download CSV

3 rows selected.

TABLE MANAGES

Column	Null?	Type
ENAME	-	VARCHAR2(20)
MNAME	NOT NULL	VARCHAR2(20)

Download CSV

2 rows selected.

Table altered.

Table altered.

Table altered.

Table altered.

Table altered.

TABLE EMPLOYEE

Column	Null?	Type
ENAME	NOT NULL	VARCHAR2(20)
STREET	-	VARCHAR2(20)
CITY	NOT NULL	VARCHAR2(20)
PAN	-	VARCHAR2(10)
AGE	-	NUMBER(2,0)

Download CSV

5 rows selected.

5 rows selected.

TABLE COMPANY

Column	Null?	Type
CNAME	NOT NULL	VARCHAR2(20)
CITY	NOT NULL	VARCHAR2(20)

Download CSV

2 rows selected.

TABLE WORKS

Column	Null?	Type
ENAME	NOT NULL	VARCHAR2(20)
CNAME	-	VARCHAR2(20)
SALARY	-	NUMBER(7,2)

Download CSV

3 rows selected.

TABLE MANAGES

Column	Null?	Type
ENAME	-	VARCHAR2(20)
MNAME	NOT NULL	VARCHAR2(20)

Download CSV

2 rows selected.

Table altered.

Table altered.

Table altered.

Table altered.

TABLE EMPLOYEE

Column	Null?	Type
ENAME	NOT NULL	VARCHAR2(20)
STREET	-	VARCHAR2(20)
CITY	NOT NULL	VARCHAR2(20)
PAN	-	VARCHAR2(10)
AGE	-	NUMBER(2,0)

Download CSV

5 rows selected.

TABLE COMPANY

Column	Null?	Type
CNAME	NOT NULL	VARCHAR2(20)
CITY	NOT NULL	VARCHAR2(20)

Download CSV

2 rows selected.

TABLE WORKS

Column	Null?	Type
ENAME	NOT NULL	VARCHAR2(20)
CNAME	-	VARCHAR2(20)
SALARY	-	NUMBER(7,2)

Download CSV

3 rows selected.

TABLE MANAGES

Column	Null?	Type
ENAME	-	VARCHAR2(20)
MNAME	NOT NULL	VARCHAR2(20)

Download CSV

2 rows selected.

Table altered.

Table altered.

Whole code:

```
create table employee(ename varchar(20),street varchar(20),city varchar(20));
create table company(cname varchar(20),city varchar(20));
create table works(ename varchar(20),cname varchar(20), salary number(8));
create table manages(ename varchar(20),mname varchar(20));

desc employee;
desc company;
desc works;
desc manages;

alter table employee
add constraint pkemployee primary key (ename);
alter table company
add constraint pkcompany primary key (cname);
alter table works
add constraint pkworks primary key (ename);
alter table manages
add constraint pkmanages primary key (ename);
alter table works
add constraint fkcname
foreign key (cname) references company(cname);
alter table manages
drop constraint pkmanages;
alter table manages
add constraint fkename
foreign key (ename) references employee(ename);
```

```
alter table employee
modify city varchar(20) not null;

alter table company
modify city varchar(20) not null;

alter table manages
modify mname varchar(20) not null;

desc employee;

desc company;

desc works;

desc manages;

alter table works modify salary number(7,2);

alter table employee add pan varchar(10);

alter table employee add constraint uemployee unique(pan);

alter table employee add age number(2);

alter table employee add constraint chemployee check(age>=25 AND age<60);

desc employee;

desc company;

desc works;

desc manages;

alter table employee
modify city varchar(20);

alter table company
modify city varchar(20);

alter table employee
modify city default 'Chennai';

alter table company
modify city default 'Chennai';

desc employee;

desc company;
```

```
desc works;
```

```
desc manages;
```

```
alter table works drop constraint fkcname;
```

```
alter table company
```

```
drop constraint pkcompany;
```