

People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
National Higher School of Artificial Intelligence

DATABASE LAB WEEK1-2 REPORT

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Week 1-LAB 2: Tables and Constraints Creation

Part I: Creating TableSpaces and Users

1/ create table spaces

```
CREATE TABLESPACE INTERVENTION1_TBS
DATAFILE 'INTERVENTION1_TBS_data.dbf'
SIZE 1m;

CREATE TABLESPACE INTERVENTION1_TempTBS
DATAFILE 'INTERVENTION1_TempTBS_data.dbf'
SIZE 1m;
```

```
SQL> CREATE TABLESPACE INTERVENTION1_TBS
2 DATAFILE 'INTERVENTION1_TBS_data.dbf'
3 SIZE 1m;
```

TABLESPACE created.

```
SQL> CREATE TABLESPACE INTERVENTION1_TempTBS
2 DATAFILE 'INTERVENTION1_TempTBS_data.dbf'
3 SIZE 1m;
```

TABLESPACE created.

```
SQL> CREATE USER DBAINTERVENTION IDENTIFIED BY MyPassword;
```

2-3/creating user

```
SQL> CREATE USER DBAINTERVENTION IDENTIFIED BY MyPassword;
```

USER created.

```
SQL> GRANT ALL PRIVILEGES TO DBAINTERVENTION ;
```

Grant succeeded.

```
SQL> GRANT CONNECT TO DBAINTERVENTION;
```

Grant succeeded.

```
... SQL> GRANT UNLIMITED TABLESPACE TO DBAINTERVENTION ;
```

Grant succeeded.

4/creation of tables

```
SQL> CREATE TABLE CUSTOMER1(
2     CUSTOMERNUMBER NUMBER(10) not null,
3     CIV     VARCHAR2(10) NOT NULL,
4     FIRSTNAME VARCHAR2(50) NOT NULL,
5     LASTNAME  VARCHAR2(50) NOT NULL,
6     BIRTHDATE date ,
7     ADDRESS  VARCHAR2(80) NOT NULL,
8     TELPROF  NUMBER(10) ,
9     TELPRIV  NUMBER(10) ,
10    FAX      NUMBER(15)
11 );
```

TABLE created.

```
SQL> CREATE TABLE Employee1(
2     EMPLOYEENUMBER NUMBER(10) not null,
3     LASTNAMEEMP VARCHAR2(50) NOT NULL,
4     FIRSTNAMEEMP VARCHAR2(50) NOT NULL,
5     CATEGORY VARCHAR2(50) NOT NULL,
6     SALARY NUMBER(15)
7 );
```

TABLE created.

```
SQL> create table brand1(
2 BRANDNUMBER number(10) not null,
3 BRAND VARCHAR2(50) NOT NULL,
4 COUNTRY  VARCHAR2(50) NOT NULL
5
6 );
```

Table created.

```
SQL> create table MODEL1 (
2     MODELNUMBER number(5) not null,
3     MODEL varchar(30) not null,
4     BRANDNUMBER number(5) not null
5
6 );
```

Table created.

```
SQL> create table VEHICLE1 (
2     VEHICLENUMBER number(3)not null,
3     CUSTOMERNUMBER number(3)not null,
4     MODELNUMBER number(3)not null,
5     REGISTRATIONNUMBER number(20)not null,
6     YEARR number(4)not null
7 );
```

Table created.

```
SQL> create table INTERVENTION1(
 2  INTERVENTIONNUMBER number(10) not null,
 3  VEHICLENUMBER number(10) not null,
 4  INTERVENTIONTYPE VARCHAR2(50) NOT NULL,
 5  INTERVSTARTDATE date,
 6  INTERVENDDATE date ,
 7  INTERVCOST number(15)
 8 );
```

Table created.

```
SQL> create table PARTICIPANTS1 (
 2  INTERVENTIONNUMBER number(2),
 3  EMPLOYEENUMBER number(2),
 4  STARTDATE date,
 5  ENDDATE date
 6  );
```

Table created.

5/ the constraints

```
SQL> alter table customer1 add constraint pk_customer1 PRIMARY KEY (CUSTOMERNUMBER);
```

Table altered.

```
SQL> ALTER TABLE Employee1
 2 ADD CONSTRAINT PK_Employee1 PRIMARY KEY (EMPLOYEENUMBER);
```

TABLE altered.

```
SQL> ALTER TABLE brand1
 2 ADD CONSTRAINT PK_BRANDNUMBER1 PRIMARY KEY (BRANDNUMBER);
```

TABLE altered.

```
SQL> ALTER TABLE MODEL1
 2 ADD CONSTRAINT PK_MODEL1 PRIMARY KEY (MODELNUMBER);
```

TABLE altered.

```
SQL> ALTER TABLE MODEL1
 2 ADD FOREIGN KEY (BRANDNUMBER) REFERENCES BRAND1(BRANDNUMBER) on delete cascade;
```

TABLE altered.

```
SQL> ALTER TABLE VEHICLE1
2 ADD CONSTRAINT PK_VEHICLE1 PRIMARY KEY (VEHICLENUMBER);
```

TABLE altered.

```
SQL> ALTER TABLE vehicle1
2 ADD CONSTRAINT FK_CUSTOMERNUMBER1
3 FOREIGN KEY (CUSTOMERNUMBER) REFERENCES customer1(CUSTOMERNUMBER) on delete cascade;
```

TABLE altered.

```
SQL> ALTER TABLE vehicle1
2 ADD CONSTRAINT FK_MODELNUMBER1 FOREIGN KEY (MODELNUMBER) REFERENCES MODEL1(MODELNUMBER) on delete cascade;
```

TABLE altered.

```
SQL> ALTER TABLE INTERVENTION1
2 ADD CONSTRAINT PK_INTERVENTION1 PRIMARY KEY ( INTERVENTIONNUMBER);
```

TABLE altered.

```
SQL> ALTER TABLE INTERVENTION1
2 ADD CONSTRAINT fk_vehicle1 FOREIGN KEY (VEHICLENUMBER) REFERENCES vehicle1(VEHICLENUMBER) on delete cascade;
```

TABLE altered.

```
SQL> ALTER TABLE PARTICIPANTS1
2 ADD CONSTRAINT PK_PARTICIPANTS PRIMARY KEY (INTERVENTIONNUMBER,EMPLOYEENUMBER);
```

TABLE altered.

```
SQL> ALTER TABLE PARTICIPANTS1
2 ADD constraint fk_employee_number FOREIGN KEY (EMPLOYEENUMBER) REFERENCES EMPLOYEE1(EMPLOYEENUMBER) on delete cascade;
```

TABLE altered.

```
SQL> ALTER TABLE PARTICIPANTS1
2 ADD constraint fk_intervention_number FOREIGN KEY (INTERVENTIONNUMBER) REFERENCES INTERVENTION1(INTERVENTIONNUMBER) on delete cascade;
```

TABLE altered.

6/ the problems I faced:

- creating the user and giving him the access to the tablespaces.
- getting to use new datatypes.
- error ORA-12154

7/how I solved it:

- searching for the solution of the errors especially ORA-12154
- reading articles and documents and cheat sheets (the ones on the classroom)

8/ adding attribute:

```
SQL> alter table Employee1 add dateinstalation date;
```

Table altered.

9/not null to category and salary

```
SQL> alter table Employee1 modify CATEGORY VARCHAR2(50) not null;
```

Table altered.

```
SQL> DESC Employee1
```

Name	Null?	Type
EMPLOYEENUMBER	NOT NULL	NUMBER(10)
LASTNAMEEMP	NOT NULL	VARCHAR2(50)
FIRSTNAMEEMP	NOT NULL	VARCHAR2(40)
CATEGORY	NOT NULL	VARCHAR2(50)
SALARY	NOT NULL	NUMBER(15)
DATEINSTALATION		DATE

10/resize

```
SQL> alter table Employee1 modify FIRSTNAMEEMP VARCHAR2(40);
```

Table altered.

11/drop column

```
SQL> alter table Employee1 drop column dateinstalation;
```

Table altered.

```
SQL> DESC Employee1
```

Name	Null?	Type
EMPLOYEENUMBER	NOT NULL	NUMBER(10)
LASTNAMEEMP	NOT NULL	VARCHAR2(50)
FIRSTNAMEEMP	NOT NULL	VARCHAR2(40)
CATEGORY	NOT NULL	VARCHAR2(50)
SALARY	NOT NULL	NUMBER(15)

12/rename the column

```
SQL> alter table CUSTOMER1 RENAME column ADDRESS to CUSTOMERADDRESS ;
```

Table altered.

```
SQL> --Q12
```

```
SQL> DESC CUSTOMER1;
```

Name	Null?	Type
CUSTOMERNUMBER	NOT NULL	NUMBER(10)
CIV	NOT NULL	VARCHAR2(10)
FIRSTNAME	NOT NULL	VARCHAR2(50)
LASTNAME	NOT NULL	VARCHAR2(50)
BIRTHDATE		DATE
CUSTOMERADDRESS	NOT NULL	VARCHAR2(80)
TELPROF		NUMBER(10)
TELPRIV		NUMBER(10)
FAX		NUMBER(15)

13/ add constraint to check on date

```
SQL> --Q13
```

```
SQL> alter table CUSTOMER1 add CONSTRAINT checkCIV check(CIV IN ('Mr','Miss','Mrs'));
```

Table altered.

```
SQL> alter table Employee1 add constraint checkCATEGORY check(CATEGORY in ('Mechanic','Assistant'));
```

Table altered.

```
SQL> alter table INTERVENTION1 add CONSTRAINT checkdateoo check(INTERVSTARTDATE<INTERVENDDATE);
```

Table altered.

14/insert to tables

```
SQL> select * from CUSTOMER1;
```

	CUSTOMERNUMBER	CIV	FIRSTNAME	LASTNAME	BIRTHDATE	CUSTOMERADDRESS	TELPROF	TELPRIV	FAX
<input checked="" type="checkbox"/>	1	Miss	Cherifa	MAHBOUBA	08-AUG-57	CITE 1013 LOGTS BT 61 Alger	561381813	562458714	
<input checked="" type="checkbox"/>	2	Miss	Lamia	TAHMI	31-DEC-55	CITE BACHEDJARAHA BATIMENT 38 -Bach Djerrah- Alger	562467849	561392487	
<input checked="" type="checkbox"/>	3	Miss	Ghania	DIAF AMROUNI	31-DEC-55	43, RUE ABDERRAHMANE SBAA BELLE VUE-EL HARRACH-ALGER	523894562	619430945	562784254
<input checked="" type="checkbox"/>	4	Mrs	Chahinaz	MELEK	27-JUN-55	HLM AISSAT IDIR CAGE 9 3EME ETAGE-EL HARRACH ALGER	634613493	562529463	
<input checked="" type="checkbox"/>	5	Mrs	Noura	TECHTACHE	22-MAR-49	16, ROUTE EL DJAMILA-AIN BENIAN-ALGER	562757834		562757843
<input checked="" type="checkbox"/>	6	Miss	Widad	TOUATI	14-AUG-65	14 RUE DES FRERES AOUDIA-EL MOURADIA-ALGER	561243967	561401836	
<input checked="" type="checkbox"/>	7	Miss	Faiza	ABLOUL	28-OCT-67	CITE DIPLOMATIQUE BT BLEU 14B N 3 DERGANA- ALGER	562935427	561486203	
<input checked="" type="checkbox"/>	8	Miss	Assia	HORRA	08-DEC-63	32 RUE AHMED OUAKED-DELY BRAHIM-ALGER	561038500		562466733
<input checked="" type="checkbox"/>	9	Miss	Souad	MESBAH	30-AUG-72	RESIDENCE CHABANI-HYDRA- ALGER	561024358		
<input checked="" type="checkbox"/>	10	Miss	Houda	GROUDA	20-FEB-50	EPSP THNIET ELABED BATNA	562939495	561218456	

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```
SQL> select * from EMPLOYEE1;
```

	EMPLOYEEENUMBER	LASTNAMEEMP	FIRSTNAMEEMP	CATEGORY	SALARY	DATEINSTALATION
<input checked="" type="checkbox"/>	53	LACHEMI	Bouzid	Mechanic	25000	
<input checked="" type="checkbox"/>	54	BOUCHEMLA	Elias	Assistant	10000	
<input checked="" type="checkbox"/>	55	HADJ	Zouhir	Assistant	12000	
<input checked="" type="checkbox"/>	56	OUSSEDIK	Hakim	Mechanic	20000	
<input checked="" type="checkbox"/>	57	ABAD	Abdelhamid	Assistant	13000	
<input checked="" type="checkbox"/>	58	BABACI	Tayeb	Mechanic	21300	
<input checked="" type="checkbox"/>	59	BELHAMIDI	Mourad	Mechanic	19500	
<input checked="" type="checkbox"/>	60	IGOUDJIL	Redouane	Assistant	15000	
<input checked="" type="checkbox"/>	61	KOULA	Bahim	Mechanic	23100	
<input checked="" type="checkbox"/>	62	RAHALI	Ahcene	Mechanic	24000	

Page 1 of 2 | 1-10 of 20 rows

SQL> select * from model1;

Select all rows	Save as:	CSV		
MODELNUMBER	MODEL	BRANDNUMBER		
2	Diablo	1		
4	NSX	10		
5	Classe C	14		
6	Safrane	17		
7	400 GT	20		
8	Esprit	12		
9	605	15		
10	Prévia	19		
11	550 Maranello	7		
12	Bentley-Continental	3		

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SQL> select * from brand1;

Select all rows	Save as:	CSV		
BRANDNUMBER	BRAND	COUNTRY		
1	LAMBORGHINI	ITALIE		
2	AUDI	ALLEMAGNE		
3	ROLLS-ROYCE	GRANDE-BRETAGNE		
4	BMW	ALLEMAGNE		
5	CADILLAC	ETATS-UNIS		
6	CHRYSLER	ETATS-UNIS		
7	FERRARI	ITALIE		
8	HONDA	JAPON		
9	JAGUAR	GRANDE-BRETAGNE		
10	ALFA-ROMEO	ITALIE		

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SQL> select *from vehicle1;

Select all rows	Save as:	CSV		
VEHICLENUMBER	CUSTOMERNUMBER	MODELNUMBER	REGISTRATIONNUMBER	YEARR
1	2	6	12519216	1992
2	9	20	124219316	1993
3	17	8	1452318716	1987
4	6	12	3145219816	1998
5	16	23	1278919816	1998
6	20	6	3853319735	1997
7	7	8	1453119816	1998
8	16	14	8365318601	1986
9	13	15	3087319233	1992
10	20	22	9413119935	1999

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Some of the intervention1

SQL> INSERT INTO INTERVENTION1 VALUES (1, 3, 'Réparation', TO_DATE('2006-02-25 09:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-02-26 12:00:00','YYYY-MM-DD HH24:MI:SS'), 30000);

1 row created.

Commit complete.

SQL> INSERT INTO INTERVENTION1 VALUES (2, 21, 'Réparation', TO_DATE('2006-02-23 09:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-02-24 18:00:00','YYYY-MM-DD HH24:MI:SS'), 10000);

1 row created.

Commit complete.

SQL> INSERT INTO INTERVENTION1 VALUES (3, 25, 'Réparation', TO_DATE('2006-04-06 14:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-04-09 12:00:00','YYYY-MM-DD HH24:MI:SS'), 42000);

1 row created.

Commit complete.

SQL> INSERT INTO INTERVENTION1 VALUES (4, 10, 'Entretien', TO_DATE('2006-05-14 09:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-05-14 18:00:00','YYYY-MM-DD HH24:MI:SS'), 10000);

1 row created.

Commit complete.

SQL> INSERT INTO INTERVENTION1 VALUES (5, 6, 'Réparation', TO_DATE('2006-02-22 09:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-02-25 18:00:00','YYYY-MM-DD HH24:MI:SS'), 40000);

1 row created.

Commit complete.

SQL> INSERT INTO INTERVENTION1 VALUES (6, 14, 'Entretien', TO_DATE('2006-03-03 14:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-03-04 18:00:00','YYYY-MM-DD HH24:MI:SS'), 7500);

1 row created.

Commit complete.

SQL> INSERT INTO INTERVENTION1 VALUES (7, 1, 'Entretien', TO_DATE('2006-04-09 09:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-04-09 18:00:00','YYYY-MM-DD HH24:MI:SS'), 8000);

1 row created.

Commit complete.

SQL> INSERT INTO INTERVENTION1 VALUES (8, 17, 'Entretien', TO_DATE('2006-05-11 14:00:00','YYYY-MM-DD HH24:MI:SS'), TO_DATE('2006-05-12 18:00:00','YYYY-MM-DD HH24:MI:SS'), 9000);

1 row created.

[illegible]

15- problems:

- the constraint of civ, where the table doesn't contain names Mrs,Mr and so on so the constraint stopped this data.
- the constraint refuse Mécanicien (it has to be mechanic)
- lardjoun karim is not either a assistant or mechanic and we can't leave it as null
- we can't insert polo since the brand which it's number is 45 does not exist
- Couldn't insert (19, 3904318515, 77, 18, and 1985) to vehicle's table because model number 77 doesn't exist.
- couldn't insert (24, 1789519816, 9, 80, 1998) to vehicle's table because model number 88 doesn't exist.
- vehicle number 77 does not exist

16-solutions:

- changed the tables from Mme, M. to Mrs. and Mr. according to the constraint.
- changed the values from Mécanicien to mechanic
- I made lardjoun karim a mechanic and inserted it
- didn't insert polo
- didn't insert the values where the model number is 77 and 88

17/adding 5000 to employee 'badi'

64	BADI	Hatem	Assistant	19000
----	------	-------	-----------	-------

```
SQL> --Q17
SQL> UPDATE Employee1
  2 SET SALARY= SALARY+5000
  3 WHERE LASTNAMEEMP='BADI' AND FIRSTNAMEEMP='Hatem' ;

1 row updated.

Commit complete.
```

18/ adding 5 days

```
SQL> UPDATE INTERVENTIONS SET INTERVSTARTDATE=INTERVSTARTDATE+5 WHERE extract (month from INTERVSTARTDATE)=2;

4 rows updated.
```

19/ deletion of model 'Serie 5'

```
SQL> DELETE FROM MODEL1 WHERE MODEL='Série 5';

1 row deleted.

Commit complete.
```

20/ any problems:

- In question number 18 the constraint violated so we had to disable it and reactive it after finishing.
- In number 19 we had to add on cascade.