



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

INTRODUCTION TO DATABASE

SECTION-D

Project Title -Covid Vaccine Distribution

Submitted to:

Kawser Irom Rushee

Submitted By:

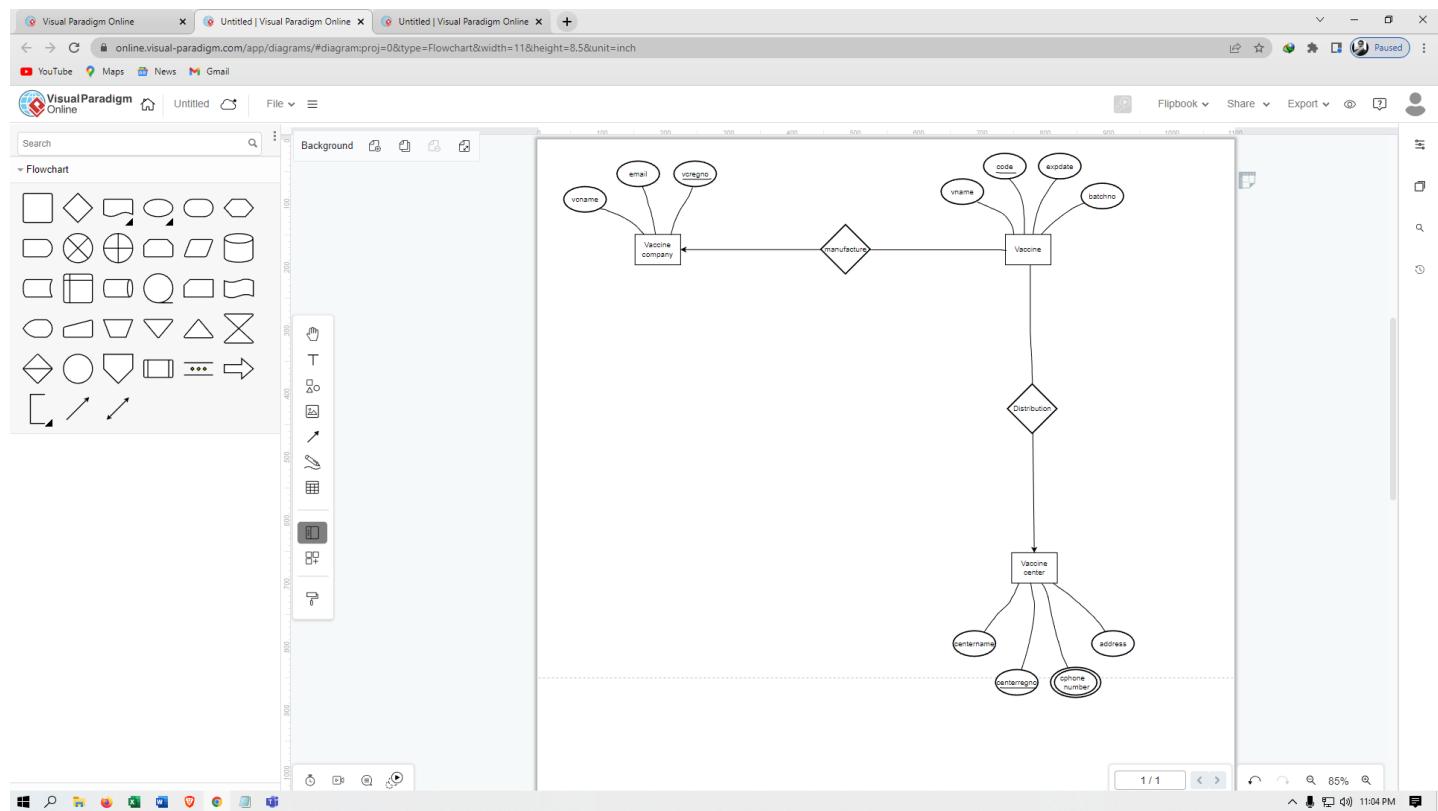
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2. Raufull Islam Rauf	21-45779-3
3. Fatima Adon	21-45840-3
4. Sadia Afrose	21-45820-3

2- ER Diagram Scenario of midterm.

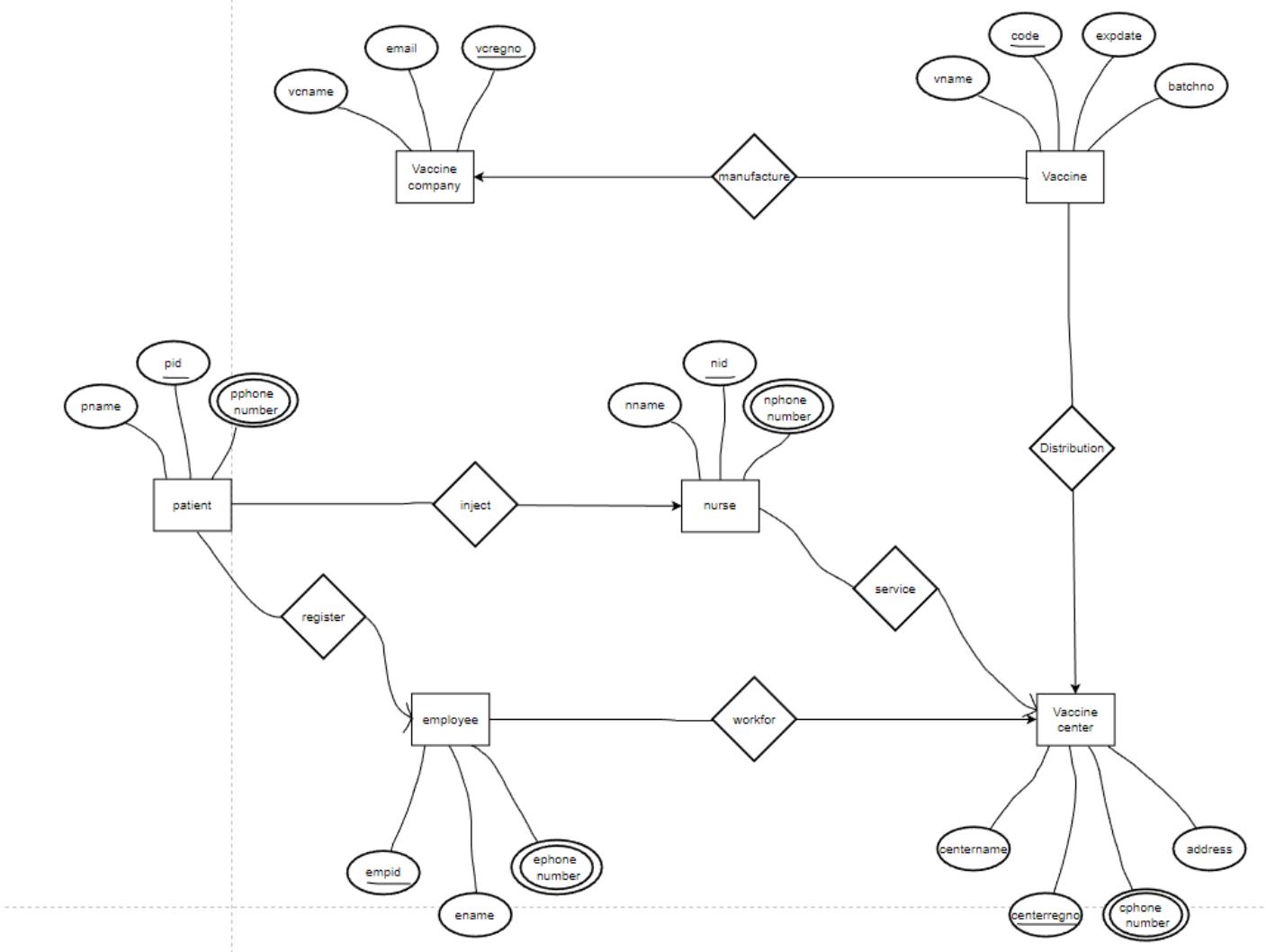
CASE STUDY

The vaccine company wants to create a system to record the procedure of the distribution of vaccines.

A vaccine company manufacture many vaccines. vaccine company is identified by vcregno . The system also stores vcname and email.The manufactured vaccine is identified by code . vaccine name, expdate ,batchno also store by the system .The vaccine is distributed in the many vaccine centers. The vaccine center is indentified by centerregno. The center also has center name, phonenumbe maybe multiple, address. A vaccine center has many employees. The employees work for the vaccine center.The employees identified by empid.The system also stores name , phonenumbe may be multiple.Nurses also serve for a vecine center.Nurse is identified by nid . name, phonenumbe maybe multiple are also stored. The patients get injected with a vaccine by a nurse. Patients are identified by pid .the system also stores patients name ,phonenumbe maybe multiple.The patients are registered by an employee.



3- ER Diagram of Midtrem



4- Normalization of Database and Functional Dependencies(Normalization of the ER diagram)

MANUFACTURE

UNF: vcname, email, vcregno, name ,code, expdate, batchno,

1NF: vcregno, code, vcname, email, expdate, batchno

2NF: 1st: vcregno, vcname ,email

2nd: code, name, expdate, batchno

3rd: code, vcregno,

3NF: 1st: vcregno, vcname

2nd: vcname, email,

3rd: code, name, batchno,

4th: batchno, expdate

5th: code, vcregno,

DISTRIBUTION

UNF: code, name, expdate, batchno, centrename, centreregno, phone number, address

1NF: code, centreregno, cphonenumbers, name, expdate, batchno, centrename, address

2NF:1st: code, name, batchno

2nd: centreregno, cphonenumbers, centrename, address

3rd: centreregno, code

3NF:1st: code, name, batchno

2nd: batchno, expdate

3rd: centreregno, cphonenumbers, centrename

4th: centrename, address

WORKFOR:

UNF: empid, ename, ephonenumbers, centrename, centreregno, cphonenumbers, address

1NF: empid, centreregno, ephonenumbers, cphonenumbers, ename, centrename, address

2NF: 1st: empid, ephonenumber, ename

2nd: centreregno, cphonenumbers, centrename, address

3rd: empid, centreregno,

3NF: 1st: empid, ephonenumber, ename

2nd: centreregno, cphonenumbers, centrename

3rd: centrename, address

4th: centreregno, empid

REGISTER:

UNF: pname, pid, pphonenumbers, empid, ename, ephonnum

1NF: pid, empid, pphonenumbers, ephonnum, pname, ename

2NF: 1st: pid, pphonenumbers, name

2nd: empid, ephonnum, ename

3NF: 1st: empid, pid,

2nd: pid, pphonenumbers, pname

3rd: empid, ephonnum, ename

INJECT:

UNF: pid, pname, pphonenumbers, nname, nid, nphonenumbers

1NF: pid, pphonenumbers, nid, nphonenumbers, nname

2NF:1st: nid, pid

2nd: pid, pphonenumbers, pname

3rd: nid, nphonenumbers, nname

3NF:1st: nid, pid

2nd: pid, pphonenumbers, pname

3rd: nid, nphonenumbers, nname

SERVICE:

UNF: nid, nname ,nphonenumbers, centrename, centreregno, cphonenumbers, address

1NF: nid, centreregno, nphonenumbers, cphonenumbers, cname, address, nname

2NF:1st: nid, nphonenumbers, nname

2nd: centreregno, cphonenumbers, cname, address

3rd: centreregno, nid

3NF:1st: nid, nphonenumbers, nname

2nd: centreregno, cphonenumbers, cname,

3rd: cname, address

4th: centreregno, nid

FINAL TABLE-

1. vcregno,vcname
2. vcname,email
3. code,vname,batchno
4. batchno,expdate
5. code,vcregno
6. centreregno, cphonenumber,centrename
7. centrename,address
8. eid,ephonenumber,ename
9. centreregno, eid
10. eid,pid
11. pid,pphonenumber,pname
12. nid, pid
13. nid, nphonenumber,nname
14. centreregno, nid

5- Table Creation

SQL Commands +
127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

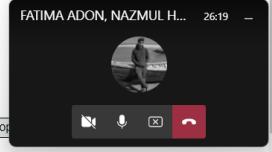
Autocommit Display 100

```
1.  
create table vcreg(vcrgno number(10)constraint vcp primary key, vcname varchar2(20), constraint fkv foreign key(vcname) references vcompany(vcname));  
insert into vcreg values (1111,'Pfizer');  
insert into vcreg values(1112,'Bangovax');  
insert into vcreg values(1113,'Moderna');  
insert into vcreg values(1114,'Sinopharm');  
insert into vcreg values(1115,'Astrageneca');  
drop table vcreg
```

Results Explain Describe Saved SQL History

Table created.

0.04 seconds



SQL Commands +
127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 100

```
2.  
select *  
from vcreg  
  
create table vcompany(vcname varchar2(15) constraint vcop primary key, email varchar2(32));  
insert into vcompany values('Pfizer','pfizer.vac@outlook.com');  
insert into vcompany values('Bangovax','bangovax.bd@outlook.com');  
insert into vcompany values('Moderna','moderna.oxu@outlook.com');  
insert into vcompany values('Sinopharm','sinopharm.cn@outlook.com');  
insert into vcompany values('Astrageneca','astrageneca.in@outlook.com');
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds



SQL Commands +

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
select *  
from vaccine  
  
4.  
  
create table vbatchno(batchno varchar2(20) constraint vbt primary key, expdate date);  
insert into vbatchno values('543a21', '20-Jan-2023');  
insert into vbatchno values('f12kd5', '10-Mar-2023');  
insert into vbatchno values('12dqe2', '17-Feb-2023');  
insert into vbatchno values('qq234a', '6-Jan-2023');  
insert into vbatchno values('p0294v', '11-Oct-2023');  
  
drop table vbatchno
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

Language: en-us Application Express 2.1 0 0 39 Copyright © 1999, 2006, Oracle. All rights reserved.

SQL Commands +

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
5.  
  
create table vaccine(code number(12)constraint vac primary key, vname varchar2(15), batchno varchar2(20),constraint fkb foreign key(batchno) references vbatchno);  
insert into vaccine values(33345,'Pfizer','543a21');  
insert into vaccine values(12758,'Bangovax','f12kd5');  
insert into vaccine values(78723,'Moderna','12dqe2');  
insert into vaccine values(45345,'Sinopharm','qq234a');  
insert into vaccine values(99321,'Astrageneca','p0294v');  
  
drop table vaccine  
  
select *  
from vaccine
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

FATIMA ADON, NAZMUL H... 35:35

Language: en-us

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
create table centerreg(centerregno number(12), cphno varchar2(11), primary key(centerregno, cphno), cname varchar(25), constraint fkc foreign key(cname) references center(cname));
insert into centerreg values(2221, '01939422321','Kurmitola');
insert into centerreg values(2222, '01431022352','CMH');
insert into centerreg values(2223, '01845422309','Rajarbagh');
insert into centerreg values(2224, '01739422908','Kushtia');
insert into centerreg values(2225, '01339424567','Gazipur');

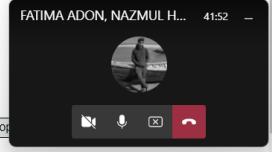
drop table centerreg

select *
from centerreg
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds



SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
drop table vbatchno

select *
from vbatchno

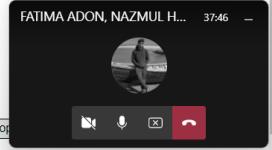
5.

create table vcode(vcregno number(18), code number(12), primary key(vcregno,code));
insert into vcode values(1111,33345);
insert into vcode values(1112,12758);
insert into vcode values(1113,78723);
insert into vcode values(1114,45345);
insert into vcode values(1115,99321);
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds



SQL Commands +

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
from center
8.

create table employee(empid number(10), ephno varchar2(11),ename varchar2(20), primary key(empid,ephno));
insert into employee values(7771, '01882512441','Fatima Adon');
insert into employee values(7772, '01793414256','Sadia Afrose');
insert into employee values(7773, '01874984270', 'Rauf Isalm Shuvo');
insert into employee values(7774,'01866205717', 'Nazmul Hasan Emon');
insert into employee values(7775,'01634234234','Sakib Zaman');

drop table employee
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

FATIMA ADON, NAZMUL H... 44:5 -



Language: en-us

SQL Commands +

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
create
from centerreg
7.

create table center(cname varchar2(25) constraint cnk primary key, address varchar2(30));
insert into center values('Kurmitola', 'Ka/124, Kurmitola');
insert into center values ('CMH', '12/a Cantonment Area');
insert into center values ('Rajarbagh', '127/ga, Jatrabari');
insert into center values ('Kushtia', '1/a Amlapara');
insert into center values ('Gazipur', '16/3, DUET');

drop table center
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

FATIMA ADON, NAZMUL H... 40:16 -



Language: en-us

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
FROM employee
9.

create table centeremp(centerregno number(12),empid number(10), primary key(centerregno, empid));
insert into centeremp values(2221,7771);
insert into centeremp values(2222,7772);
insert into centeremp values(2223,7773);
insert into centeremp values(2224,7774);
insert into centeremp values(2225,7775);

drop table centeremp

select *
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

FATIMA ADON, NAZMUL H... 45:37 -

Language: en-us

12:49 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
10.

create table register(empid number(10), pid number(10), primary key(empid,pid));
insert into register values(7771,4441);
insert into register values(7772,4442);
insert into register values(7773,4443);
insert into register values(7774,4444);
insert into register values(7775,4445);

drop table register

select *
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

FATIMA ADON, NAZMUL H... 47:01 -

Language: en-us

12:50 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
12.

create table inject(nid number(10), pid number(10), primary key(nid,pid));
insert into inject values(8881,4441);
insert into inject values(8882,4442);
insert into inject values(8883,4443);
insert into inject values(8884,4444);
insert into inject values(8885,4445); drop table inject

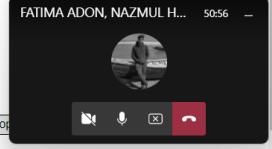
drop table inject

select *
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds



SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
11.

create table patient(pid number(10),pname varchar2(32),pphno varchar2(11), primary key(pid,pphno));
insert into patient values(4441,'Shahruk Khan', '01983443431');
insert into patient values(4442,'Shakib Khan', '01382233438');
insert into patient values(4443,'Saif Ali Khan', '01883443845');
insert into patient values(4444,'Salman Khan', '01183783436');
insert into patient values(4445,'Amir Khan', '01483444551');

drop table patient

select *
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds



SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
13.

create table nurse(nid number(10),nname varchar2(32),nphno varchar2(11), primary key(nid,nphno));
insert into nurse values(8881,'Rohima Akter', '01987651481');
insert into nurse values(8882,'Sharmin Begum', '01889818739');
insert into nurse values(8883,'Rokeya Islam', '01353423484');
insert into nurse values(8884,'Antara Akter', '01787651245');
insert into nurse values(8885,'Bilkish Begum', '01487624341'); drop table nurse

drop table nurse

select *
from nurse
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

Table created.

0.01 seconds

FATIMA ADON, NAZMUL H... 52:32 -

Language: en-us

12:56 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
select *
from nurse

14.

create table service(centerregno number(10), nid number(10), primary key(centerregno, nid));
insert into service values(2221,8881);
insert into service values(2222,8882);
insert into service values(2223,8883);
insert into service values(2224,8884);
insert into service values(2225,8885);

drop table service
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

Table created.

0.01 seconds

FATIMA ADON, NAZMUL H... 54:49 -

Language: en-us

12:58 PM 8/17/2022

6- Data -Insertion

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
insert into vcompany values('Bangovax','bangovax.bd@outlook.com');
insert into vcompany values('Moderna','moderna.oxu@outlook.com');
insert into vcompany values('Sinopharm','sinopharm.cn@outlook.com');
insert into vcompany values('Astrageneca','astrageneca.in@outlook.com');

drop table vcompany

select *
from vcompany

3.
create table vaccine(code number(12)constraint vac primary key, vname varchar2(15), batchno varchar2(20),constraint fkb foreign key(batchno) references vbatchno(batchno),cname varchar(25));
```

The results section displays the data inserted into the 'vcompany' table:

VCNAME	EMAIL
Pfizer	pfizer.vac@outlook.com
Bangovax	bangovax.bd@outlook.com
Moderna	moderna.oxu@outlook.com
Sinopharm	sinopharm.cn@outlook.com
Astrageneca	astrageneca.in@outlook.com

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved.

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
insert into vcreg values(1113,'Moderna');
insert into vcreg values(1114,'Sinopharm');
insert into vcreg values(1115,'Astrageneca');

drop table vcreg

select *
from vcreg

2.

create table vcompany(vcname varchar2(15) constraint vcon primary key, email varchar2(32));
```

The results section displays the data inserted into the 'vcreg' table:

VCREGNO	VCNAME
111	Pfizer
112	Bangovax
113	Moderna
114	Sinopharm
115	Astrageneca

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved.

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

4.

```
create table vbatchno(batchno varchar2(20) constraint vbt primary key, expdate date);
insert into vbatchno values('543a21', '28-Jan-2023');
insert into vbatchno values('f12kd5', '18-Mar-2023');
insert into vbatchno values('12dqe2', '17-Feb-2023');
insert into vbatchno values('qq234a', '6-Jan-2023');
insert into vbatchno values('p0294v', '11-Oct-2023');

drop table vbatchno

select *
from vbatchno
```

Results Explain Describe Saved SQL History

BATCHNO	EXPDATE
543a21	20-JAN-23
f12kd5	10-MAR-23
12dqe2	17-FEB-23
qq234a	06-JAN-23
p0294v	11-OCT-23

5 rows returned in 0.02 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 3330 -

12:37 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
create table vaccine(code number(12)constraint vac primary key, vname varchar2(15), batchno varchar2(20),constraint fkb foreign key(batchno) references vbatchno(batchno));
insert into vaccine values(33345,'Pfizer','543a21');
insert into vaccine values(12758,'Bangovax','f12kd5');
insert into vaccine values(78723,'Moderna','12dqe2');
insert into vaccine values(45345,'Sinopharm','qq234a');
insert into vaccine values(99321,'Astrageneca','p0294v');

drop table vaccine

select *
from vaccine
```

4.

Results Explain Describe Saved SQL History

CODE	VNAME	BATCHNO
33345	Pfizer	543a21
12758	Bangovax	f12kd5
78723	Moderna	12dqe2
45345	Sinopharm	qq234a
99321	Astrageneca	p0294v

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 36:59 -

12:40 PM 8/17/2022

SQL Commands

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
create table centerreg(centerregno number(12), cphno varchar2(11), primary key(centerregno, cphno), cname varchar(25), constraint fkc foreign key(cname)
references center(cname));
insert into centerreg values(2221, '01939422321','Kurmitola');
insert into centerreg values(2222, '01431022352','CMH');
insert into centerreg values(2223, '01845422309','Rajarbagh');
insert into centerreg values(2224, '01739422908','Kushtia');
insert into centerreg values(2225, '01339424567','Gazipur');

drop table centerreg

select *
from centerreg
```

Results Explain Describe Saved SQL History

CENTERREGNO	CPHNO	CNAME
2221	01939422321	Kurmitola
2222	01431022352	CMH
2223	01845422309	Rajarbagh
2224	01739422908	Kushtia
2225	01339424567	Gazipur

5 rows returned in 0.00 seconds

[CSV Export](#)

Language: en-us



SQL Commands

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
create table vcode(vcregno number(12), code number(12), primary key(vcregno, code));
insert into vcode values(1111,33345);
insert into vcode values(1112,12758);
insert into vcode values(1113,78723);
insert into vcode values(1114,45345);
insert into vcode values(1115,99321);

drop table vcode

select *
from vcode

6.
```

Results Explain Describe Saved SQL History

VCREGNO	CODE
1111	33345
1112	12758
1113	78723
1114	45345
1115	99321

5 rows returned in 0.00 seconds

[CSV Export](#)

Language: en-us



SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
8.

create table employee(empid number(10), ephno varchar2(11),ename varchar2(20), primary key(empid,ephno));
insert into employee values(7771, '01882512441','Fatima Adon');
insert into employee values(7772, '01793414256','Sadia Afrose');
insert into employee values(7773,'01874984270', 'Rauf Islam Shuvo');
insert into employee values(7774, '01866205717', 'Nazmul Hasan Emon');
insert into employee values(7775,'01634234234','Sakib Zaman');

drop table employee

select *
from employee
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

EMPID	EPHNO	ENAME
7771	01882512441	Fatima Adon
7772	01793414256	Sadia Afrose
7773	01874984270	Rauf Islam Shuvo
7774	01866205717	Nazmul Hasan Emon
7775	01634234234	Sakib Zaman

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

12:47 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
7.

create table center(cname varchar2(25) constraint cnk primary key, address varchar2(30));
insert into center values('Kurmitola', 'Ka/124, Kurmitola');
insert into center values ('CMH', '12/a Cantonment Area');
insert into center values ('Rajarbagh', '127/ga, Jatrabari');
insert into center values ('Kushtia', '1/a Amlapara');
insert into center values ('Gazipur', '16/3, DUET');

drop table center

select *
from center
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

CNAME	ADDRESS
Kurmitola	Ka/124, Kurmitola
CMH	12/a Cantonment Area
Rajarbagh	127/ga, Jatrabari
Kushtia	1/a Amlapara
Gazipur	16/3, DUET

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

12:45 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
g.
create table centeremp(centerregno number(12),empid number(10), primary key(centerregno, empid));
insert into centeremp values(2221,7771);
insert into centeremp values(2222,7772);
insert into centeremp values(2223,7773);
insert into centeremp values(2224,7774);
insert into centeremp values(2225,7775);

drop table centeremp

select *
from centeremp;
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

CENTERREGNO	EMPID
2221	7771
2222	7772
2223	7773
2224	7774
2225	7775

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 46:16 -

12:49 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
10.
create table register(empid number(10), pid number(10), primary key(empid,pid));
insert into register values(7771,4441);
insert into register values(7772,4442);
insert into register values(7773,4443);
insert into register values(7774,4444);
insert into register values(7775,4445);

drop table register

select *
from register;
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

EMPID	PID
7771	4441
7772	4442
7773	4443
7774	4444
7775	4445

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 47:37 -

12:51 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
create table patient(pid number(10),pname varchar2(32), pphno varchar2(11), primary key(pid,pphno));
insert into patient values(4441,'Shahruk Khan', '01983443431');
insert into patient values(4442, 'Shakib Khan', '01382233438');
insert into patient values(4443, 'Saif Ali Khan', '01883443845');
insert into patient values(4444, 'Salman Khan', '01183783436');
insert into patient values(4445, 'Amir Khan', '01483444551');

drop table patient

select * from patient
```

12

Results Explain Describe Saved SQL History

PID	PNAME	PPHNO
4441	Shahruk Khan	01983443431
4442	Shakib Khan	01382233438
4443	Saif Ali Khan	01883443845
4444	Salman Khan	01183783436
4445	Amir Khan	01483444551

5 rows returned in 0.01 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 5007 -

12:53 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
create table inject(nid number(10), pid number(10), primary key(nid,pid));
insert into inject values(8881,4441);
insert into inject values(8882,4442);
insert into inject values(8883,4443);
insert into inject values(8884,4444);
insert into inject values(8885,4445);

drop table inject

select * from inject
```

Results Explain Describe Saved SQL History

NID	PID
8881	4441
8882	4442
8883	4443
8884	4444
8885	4445

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 51:42 -

12:55 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
insert into nurse values(8881,'Rohima Akter', '01987651481');
insert into nurse values(8882, 'Sharmin Begum', '01889818739');
insert into nurse values(8883, 'Rokeya Islam', '01353423484');
insert into nurse values(8884, 'Antara Akter', '01787651245');
insert into nurse values(8885, 'Bilkish Begum', '01487624341');

drop table nurse

select *
from nurse

14.

create table service(centerregno number(10), nid number(10), primary key(centerregno, nid));
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

NID	NNAME	NPHNO
8881	Rohima Akter	01987651481
8882	Sharmin Begum	01889818739
8883	Rokeya Islam	01353423484
8884	Antara Akter	01787651245
8885	Bilkish Begum	01487624341

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 53:30 -

12:57 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
14.

create table service(centerregno number(10), nid number(10), primary key(centerregno, nid));
insert into service values(2221,8881);
insert into service values(2222,8882);
insert into service values(2223,8883);
insert into service values(2224,8884);
insert into service values(2225,8885);

drop table service

select *
from service;
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

CENTERREGNO	NID
2221	8881
2222	8882
2223	8883
2224	8884
2225	8885

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us

FATIMA ADON, NAZMUL H... 55:35 -

12:59 PM 8/17/2022

7- Joining -

(Equi-Join)

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
-> equi-join

1. select reg.*, com.email
from vcreg reg, vcompany com
where reg.vcname = com.vcname;

2. select *
from centerreg cr ,center c
where cr.cname=c cname;

-> outer-join
1. select *
```

Results Explain Describe Saved SQL History

CENTERREGNO	CPHNO	CNAME	CNAME	ADDRESS
2221	01939422321	Kurmitola	Kurmitola	Ka/124, Kurmitola
2222	01431022352	CMH	CMH	12/a Cantonment Area
2223	01845422309	Rajarbagh	Rajarbagh	127/ga, Jatrabari
2224	01739422908	Kushtha	Kushtha	1/a Amlapara
2225	01339424567	Gazipur	Gazipur	16/3, DUET

5 rows returned in 0.05 seconds [CSV Export](#)

Application Express 2.1.0.0.39
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Language: en-us

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```
Joining

-> equi-join

1. select reg.*, com.email
from vcreg reg, vcompany com
where reg.vcname = com.vcname;

2. select *
from vaccine v,vbatchno vb
where v.batchno=vb. batchno;
```

Results Explain Describe Saved SQL History

VCREGNO	VCNAME	EMAIL
1111	Pfizer	pfizer.vac@outlook.com
1112	Bangovax	bangovax.bd@outlook.com
1113	Moderna	moderna.oxu@outlook.com
1114	Sinopharm	sinopharm.cn@outlook.com
1115	Astrazeneca	astrazeneca.in@outlook.com

5 rows returned in 0.00 seconds [CSV Export](#)

FATIMA ADON, NAZMUL ... 01:36:49 -
Language: en-us

Outer-Join-

User: SCOTT

Home > SQL > SQL Commands

```
Autocommit Display 100
from centerreg cr ,center c
where cr.cname=c cname;

-> outer-join

1. select *
from nurse n,inject i,patient p
where n.nid=i.nid and i.pid= p.pid;

2. select e.* ,p.pid, p.pname
from employee e,register i,patient p
where e.empid=i.empid and i.pid= p.pid;
```

Save Run

Results Explain Describe Saved SQL History

EMPID	EPHNO	ENAME	PID	PNAME
7771	01882512441	Fatima Adon	4441	Shahrulk Khan
7772	01793414256	Sadia Afrose	4442	Shakib Khan
7773	01874984270	Rauf Islam Shuvo	4443	Saif Ali Khan
7774	01866205717	Nazmul Hasan Emon	4444	Salman Khan
7775	01634234234	Sakib Zaman	4445	Amir Khan

5 rows returned in 0.00 seconds CSV Export

Application Express 2.1.0.0.39

Language: en-us

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1:48 PM
8/17/2022

User: SCOTT

Home > SQL > SQL Commands

```
Autocommit Display 100
2. select *
from centerreg cr ,center c
where cr.cname=c cname;

-> outer-join

1. select *
from nurse n,inject i,patient p
where n.nid=i.nid and i.pid= p.pid;

2. select e.* ,p.pid, p.pname
from employee e,register i,patient p
```

Save Run

Results Explain Describe Saved SQL History

NID	NNAME	NPHNO	NID	PID	PNAME	PPHNO
8881	Rohima Akter	01987651481	8881	4441	4441	Shahrulk Khan
8882	Sharmi Begum	01889818739	8882	4442	4442	Shakib Khan
8883	Rokeya Islam	01353423484	8883	4443	4443	Saif Ali Khan
8884	Antara Akter	01787651245	8884	4444	4444	Salman Khan
8885	Bilkish Begum	01487624341	8885	4445	4445	Amir Khan

5 rows returned in 0.00 seconds CSV Export

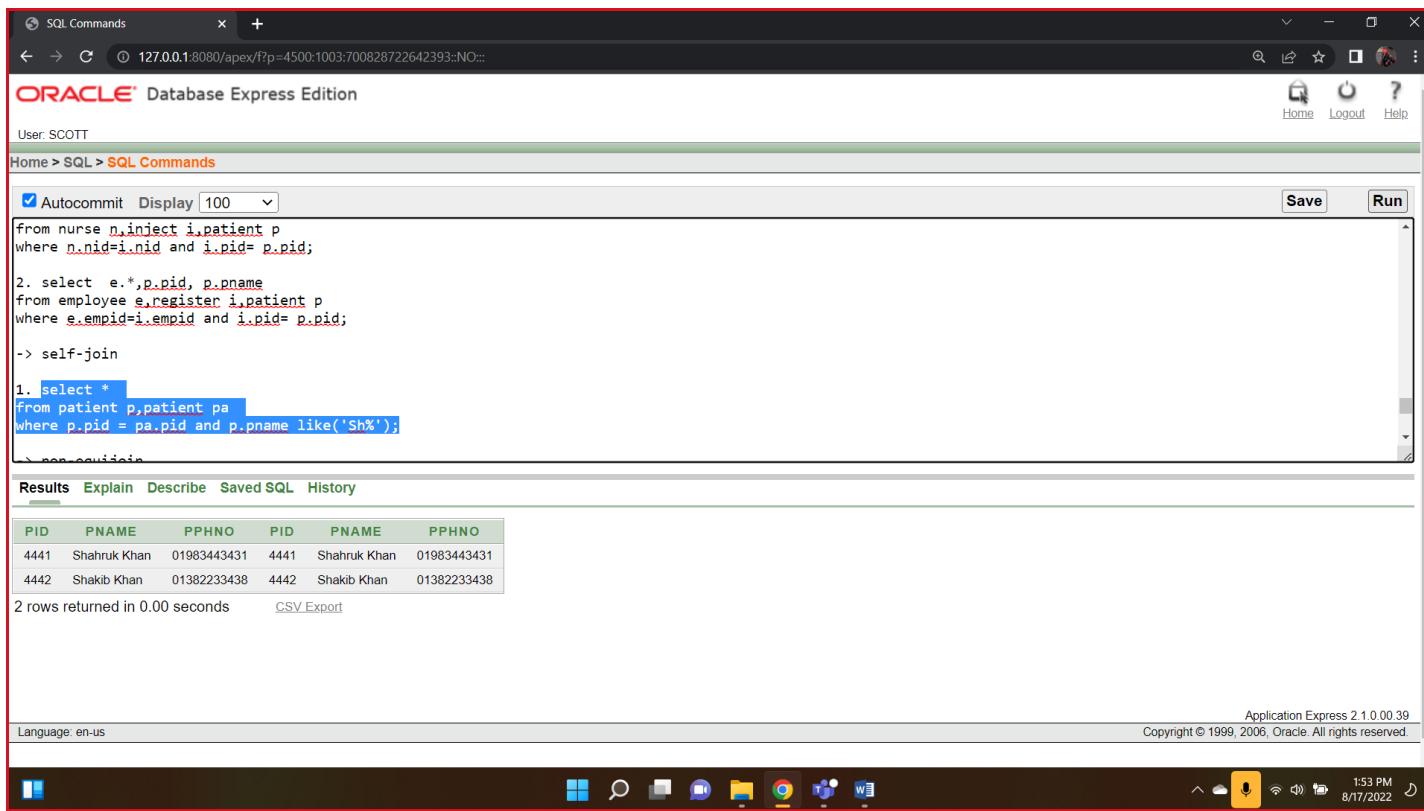
Application Express 2.1.0.0.39

Language: en-us

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1:48 PM
8/17/2022

Self-Join-



The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL code entered is:

```
from nurse n,inject i,patient p
where n.nid=i.nid and i.pid= p.pid;

2. select e.* ,p.pid, p.pname
from employee e,register i,patient p
where e.empid=i.empid and i.pid= p.pid;

-> self-join

1. select *
from patient p,patient pa
where p.pid = pa.pid and p.pname like('Sh%');

-- no ouidain
```

The results section displays the following data:

PID	PNAME	PPHNO	PID	PNAME	PPHNO
4441	Shahruk Khan	01983443431	4441	Shahruk Khan	01983443431
4442	Shakib Khan	01382233438	4442	Shakib Khan	01382233438

2 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39
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Non-equi-Join

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The query entered is:

```
where p.pid = pa.pid and p.pname like('Sh%');
-- non-equijoin
1. select *
from vaccine v,vbatchno vb
where v.batchno=vb.batchno(+);
```

The results section displays a table with the following data:

CODE	VNAME	BATCHNO	BATCHNO	EXDATE
33345	Pfizer	543a21	543a21	20-JAN-23
12758	Bangovax	f12kd5	f12kd5	10-MAR-23
78723	Moderna	12dqe2	12dqe2	17-FEB-23
45345	Sinopharm	qq234a	qq234a	06-JAN-23
99321	Astrageneca	p0294v	p0294v	11-OCT-23

5 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us Application Express 2.1 0 00.39
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8- Sub-Query-

The screenshot shows two separate sessions of the Oracle Database Express Edition SQL Commands interface.

Session 1 (Top):

- User: SCOTT
- SQL Query:

```
Sub-Query
1. select *
from inject
where nid=(select nid from nurse where nid=8881);

2. select *
from vaccine
where batchno =(select batchno
from vbatchno
where batchno='f12kd5');
```
- Results:

CODE	VNAME	BATCHNO
12758	Bangovax	f12kd5

1 rows returned in 0.00 seconds [CSV Export](#)

Session 2 (Bottom):

- User: SCOTT
- SQL Query:

```
Sub-Query
1. select *
from inject
where nid=(select nid from nurse where nid=8881);

2.
```
- Results:

NID	PID
8881	4441

1 rows returned in 0.00 seconds [CSV Export](#)

Both sessions show the Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved. at the bottom right.

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```

3. select *
from centerreg
where cname >ALL(select cname
from centerreg
where centerregno= 2222) and cname like('K%');

4. select *
from patient
where pid IN(select pid
from patient
where pid <> 4444) and pname like ('S%');

```

Results Explain Describe Saved SQL History

PID	PNAME	PPHNO
4441	Shahruk Khan	01983443431
4442	Shakib Khan	01382233438
4443	Saif Ali Khan	01883443845

3 rows returned in 0.00 seconds [CSV Export](#)

FATIMA ADON, NAZMUL ... 02:13:07 - 

Language: en-us

Copy

2:16 PM 8/17/2022

SQL Commands +

127.0.0.1:8080/apex/f?p=4500:1003:700828722642393::NO::

ORACLE® Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit

```

1. select nid =(select nid from nurse where nid=8881);

2. select *
from vaccine
where batchno =(select batchno
from vbatchno
where batchno='f12kd5');

3. select *
from centerreg
where cname >ALL(select cname
from centerreg
where centerregno= 2222) and cname like('K%');

```

Results Explain Describe Saved SQL History

CENTERREGNO	CPHNO	CNAME
2221	01939422321	Kurnitola
2224	01739422908	Kushtia

2 rows returned in 0.00 seconds [CSV Export](#)

FATIMA ADON, NAZMUL ... 02:12:58 - 

Language: en-us

Copy

2:16 PM 8/17/2022

9- View

(Complex View)

SQL Commands x + Presenting... Give control Stop presenting

User: SCOTT

ORACLE Database Express Edition

Home > SQL > SQL Commands

Autocommit Display 50 Save Run

```
select code, vname
from vaccine
where batchno = 'qq234a';

select *
from VacView

2. Complex View

create view EXPView AS
select vname, MAX(expdate) MAXEXP, MIN(expdate) MINEXP
from vaccine vc, vbatchno vno
where vc.batchno = vno.batchno
group by vname;
```

Results Explain Describe Saved SQL History

View created.

0.03 seconds

FATIMA ADON, NAZMUL ... 01:02:59

Language: en-us

5:14 PM 8/17/2022

SQL Commands x + Presenting... Give control Stop presenting

User: SCOTT

ORACLE Database Express Edition

Home > SQL > SQL Commands

Autocommit Display 50 Save Run

```
select *
from VacView

2. Complex View

create view EXPView AS
select vname, MAX(expdate) MAXEXP, MIN(expdate) MINEXP
from vaccine vc, vbatchno vno
where vc.batchno = vno.batchno
group by vname;

select *
from EXPView;
```

Results Explain Describe Saved SQL History

VNAME	MAXEXP	MINEXP
Bangovax	10-MAR-23	10-MAR-23
Sinopharm	06-JAN-23	06-JAN-23
Moderna	17-FEB-23	17-FEB-23
Astrageneca	11-OCT-23	11-OCT-23
Pfizer	20-JAN-23	20-JAN-23

5 rows returned in 0.03 seconds CSV Export

Language: en-us

FATIMA ADON, NAZMUL ... 01:03:30

5:14 PM 8/17/2022

Simple -View-

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL code entered is:

```
-- alter table vaccine modify batchno not null;
select constraint_name, column_name from user_cons_columns where table_name = 'VACCINE';
--> View
1. Simple View
create view VacView AS
select code, vname
from vaccine
where batchno = 'qq234a';
```

The results show the message "View created." and execution time "0.03 seconds". A video player window in the background shows a person speaking.

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL code entered is identical to the previous screenshot:

```
-- alter table vaccine modify batchno not null;
select constraint_name, column_name from user_cons_columns where table_name = 'VACCINE';
--> View
1. Simple View
create view VacView AS
select code, vname
from vaccine
where batchno = 'qq234a';
```

The results show the message "View created." and execution time "0.03 seconds". A video player window in the background shows a person speaking.

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL code entered is identical to the previous screenshots, including the addition of a select statement:

```
-- alter table vaccine modify batchno not null;
select constraint_name, column_name from user_cons_columns where table_name = 'VACCINE';
--> View
1. Simple View
create view VacView AS
select code, vname
from vaccine
where batchno = 'qq234a';
select *
from VacView;
```

The results show the output of the query:

CODE	VNAME
45345	Sinopharm

1 rows returned in 0.04 seconds. A video player window in the background shows a person speaking.

10- Add a Constraint -

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL editor contains the following code:

```
4. select *
from patient
where pid IN(select pid
from patient
where pid <> 4444) and pname like ('S%');

-> add constraint

1. alter table vaccine add constraint kcl unique(vname);
2. alter table vaccine modify batchno not null;

describe vaccine
```

The results section shows the output of the executed commands:

```
Table altered.

0.04 seconds
```

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL editor contains the following code:

```
1. select cname
from centerreg
where centerregno= 2222 and cname like('K%');

4. select *
from patient
where pid IN(select pid
from patient
where pid <> 4444) and pname like ('S%');

-> add constraint

1. alter table vaccine add constraint kcl unique(vname);
```

The results section shows the output of the executed commands:

```
Table altered.

0.11 seconds
```

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

QUERY

GRANT create table, create sequence, create view TO scott

1.

```
create table vcreg(vcrego number(10)constraint vcp primary key,  
vcname varchar2(20), constraint fky foreign key(vcname) references  
vcompany(vcname));  
insert into vcreg values (1111,'Pfizer');  
insert into vcreg values(1112,'Bangovax');  
insert into vcreg values(1113,'Moderna');  
insert into vcreg values(1114,'Sinopharm');  
insert into vcreg values(1115,'Astrageneca');
```

```
drop table vcreg
```

```
select *  
from vcreg
```

2.

```
create table vcompany(vcname varchar2(15) constraint vcop primary  
key, email varchar2(32));  
insert into vcompany values('Pfizer','pfizer.vac@outlook.com');  
insert into vcompany values('Bangovax','bangovax.bd@outlook.com');  
insert into vcompany values('Moderna','moderna.oxu@outlook.com');
```

```
insert into vcompany values('Sinopharm','sinopharm.cn@outlook.com');  
insert into vcompany  
values('Astrageneca','astrageneca.in@outlook.com');
```

```
drop table vcompany
```

```
select *  
from vcompany
```

3.

```
create table vaccine(code number(12)constraint vac primary key,  
vname varchar2(15), batchno varchar2(20),constraint fkb foreign  
key(batchno) references vbatchno(batchno));  
insert into vaccine values(33345,'Pfizer','543a21');  
insert into vaccine values(12758,'Bangovax','f12kd5');  
insert into vaccine values(78723,'Moderna','12dqe2');  
insert into vaccine values(45345,'Sinopharm','qq234a');  
insert into vaccine values(99321,'Astrageneca','p0294v');
```

```
drop table vaccine
```

```
select *  
from vaccine
```

4.

```
create table vbatchno(batchno varchar2(20) constraint vbt primary key,  
expdate date);  
insert into vbatchno values('543a21', '20-Jan-2023');
```

```
insert into vbatchno values('f12kd5', '10-Mar-2023');
insert into vbatchno values('12dqe2', '17-Feb-2023');
insert into vbatchno values('qq234a', '6-Jan-2023');
insert into vbatchno values('p0294v', '11-Oct-2023');
```

```
drop table vbatchno
```

```
select *
from vbatchno
```

5.

```
create table vcode(vcregno number(10), code number(12), primary
key(vcregno,code));
insert into vcode values(1111,33345);
insert into vcode values(1112,12758);
insert into vcode values(1113,78723);
insert into vcode values(1114,45345);
insert into vcode values(1115,99321);
```

```
drop table vcode
```

```
select *
from vcode
```

6.

```
create table centerreg(centerregno number(12), cphno varchar2(11),
primary key(centerregno, cphno), cname varchar(25), constraint fkc
foreign key(cname) references center(cname));
```

```
insert into centerreg values(2221, '01939422321','Kurmitola');
insert into centerreg values(2222, '01431022352','CMH');
insert into centerreg values(2223, '01845422309','Rajarbagh');
insert into centerreg values(2224, '01739422908','Kushtia');
insert into centerreg values(2225, '01339424567','Gazipur');
```

```
drop table centerreg
```

```
select *
from centerreg
```

7.

```
create table center(cname varchar2(25) constraint cnk primary key,
address varchar2(30));
insert into center values('Kurmitola', 'Ka/124, Kurmitola');
insert into center values ('CMH', '12/a Cantonment Area');
insert into center values ('Rajarbagh', '127/ga, Jatrabari');
insert into center values ('Kushtia', '1/a Amlapara');
insert into center values ('Gazipur', '16/3, DUET');
```

```
drop table center
```

```
select *
from center
```

8.

```
create table employee(empid number(10), ephno varchar2(11),ename  
varchar2(20), primary key(empid,ephno));  
insert into employee values(7771, '01882512441','Fatima Adon');  
insert into employee values(7772, '01793414256','Sadia Afrose');  
insert into employee values(7773,'01874984270', 'Rauf Isalm Shuvo');  
insert into employee values(7774,'01866205717', 'Nazmul Hasan  
Emon');  
insert into employee values(7775,'01634234234','Sakib Zaman');
```

drop table employee

```
select *  
from employee
```

9.

```
create table centeremp(centerregno number(12),empid number(10),  
primary key(centerregno, empid));  
insert into centeremp values(2221,7771);  
insert into centeremp values(2222,7772);  
insert into centeremp values(2223,7773);  
insert into centeremp values(2224,7774);  
insert into centeremp values(2225,7775);
```

drop table centeremp

```
select *  
from centeremp;
```

10.

```
create table register(empid number(10), pid number(10), primary key(empid,pid));
insert into register values(7771,4441);
insert into register values(7772,4442);
insert into register values(7773,4443);
insert into register values(7774,4444);
insert into register values(7775,4445);
```

drop table register

```
select *
from register
```

11.

```
create table patient(pid number(10),pname varchar2(32), pphno
varchar2(11), primary key(pid,pphno));
insert into patient values(4441,'Shahruk Khan', '01983443431');
insert into patient values(4442,'Shakib Khan', '01382233438');
insert into patient values(4443,'Saif Ali Khan', '01883443845');
insert into patient values(4444,'Salman Khan', '01183783436');
insert into patient values(4445,'Amir Khan', '01483444551');
```

drop table patient

```
select *
from patient
```

12.

```
create table inject(nid number(10), pid number(10), primary key(nid,pid));
```

```
insert into inject values(8881,4441);
```

```
insert into inject values(8882,4442);
```

```
insert into inject values(8883,4443);
```

```
insert into inject values(8884,4444);
```

```
insert into inject values(8885,4445);
```

```
drop table inject
```

```
select *  
from inject
```

13.

```
create table nurse(nid number(10),nname varchar2(32),nphno  
varchar2(11), primary key(nid,nphno));
```

```
insert into nurse values(8881,'Rohima Akter', '01987651481');
```

```
insert into nurse values(8882,'Sharmin Begum', '01889818739');
```

```
insert into nurse values(8883,'Rokeya Islam', '01353423484');
```

```
insert into nurse values(8884,'Antara Akter', '01787651245');
```

```
insert into nurse values(8885,'Bilkish Begum', '01487624341');
```

```
drop table nurse
```

```
select *  
from nurse
```

14.

```
create table service(centerregno number(10), nid number(10), primary  
key(centerregno, nid));  
insert into service values(2221,8881);  
insert into service values(2222,8882);  
insert into service values(2223,8883);  
insert into service values(2224,8884);  
insert into service values(2225,8885);
```

drop table service

```
select *  
from service;
```

Joining

-> equi-join

1. select reg.*, com.email
from vcreg reg, vcompany com

```
where reg.vcname = com.vcname;
```

```
2. select *  
from centerreg cr ,center c  
where cr.cname=c cname;
```

-> outer-join

```
1. select *  
from nurse n,inject i,patient p  
where n.nid=i.nid and i.pid= p.pid;
```

```
2. select e.* ,p.pid, p.pname  
from employee e,register i,patient p  
where e.empid=i.empid and i.pid= p.pid;
```

-> self-join

```
1. select *  
from patient p,patient pa  
where p.pid = pa.pid and p.pname like('Sh%');
```

-> non-equijoin

```
1. select *  
from vaccine v,vbatchno vb  
where v.batchno=vb.batchno(+);
```

Sub-Query

1. select *
from inject
where nid =(select nid from nurse where nid=8881);

2. select *
from vaccine
where batchno =(select batchno
from vbatchno
where batchno='f12kd5');

3. select *
from centerreg
where cname >ALL(select cname
from centerreg
where centerregno= 2222) and cname like('K%');

4. select *
from patient
where pid IN(select pid
from patient
where pid <> 4444) and pname like ('S%');

-> add constraint

1. alter table vaccine add constraint kcl unique(vname);

2. alter table vaccine modify batchno not null;

```
-select constraint_name, column_name from user_cons_columns  
where table_name = 'VACCINE';
```

-> View

1. Simple View

```
create view VacView AS  
select code, vname  
from vaccine  
where batchno = 'qq234a';
```

```
select *  
from VacView
```

2. Complex View

```
create view EXPView AS  
select vname, MAX(expdate) MAXEXP, MIN(expdate) MINEXP  
from vaccine vc, vbatchno vno  
where vc.batchno = vno.batchno  
group by vname;
```

```
select *  
from EXPView
```

